

What We Heard Report 2022



Summary of First Nations and Local Government Engagements on the B.C. Flood Strategy Intentions Paper (Fall 2022)



ALDERS HILL

Disclaimer

This “What We Heard Report” summarizes and themes discussions at engagement sessions between October and December 2022 and provides recommendations based on participant responses during engagements. The views and opinions expressed in the report represent those of individual participants and do not necessarily reflect the views of the Government of British Columbia. The “What We Heard Report” is provided for information, discussion, and policy recommendation purposes.

Executive Summary

The atmospheric river event of 2021 showed British Columbians what First Nations have known for generations: we all have to work together and with nature to ensure our collective well-being. Without strong bonds between us, our well-being is threatened by increasingly impactful natural events. To support collaboration and relationship-building, representatives from First Nations communities and local governments around B.C. came together with Ministry of Forests and Ministry of Emergency Management and Climate Readiness staff to discuss the B.C. Flood Strategy Intentions Paper and consider how to best move forward.

It takes more than just people to strengthen relationships: systems must change to facilitate this process. Both local governments and First Nations feel restricted by funding bottlenecks at higher levels of government, along with inter-jurisdictional and regulatory barriers, and insufficient communication. Furthermore, current government spending is not enough to cover the significant burden of flood management. As water impacts communities differently, it can make establishing shared priorities for regional funding challenging. In other areas, the provincial Local Government Act and the federal Indian Act can make it logistically onerous to develop the necessary relationships for flood management, leading to a lack of capacity and training. In some instances, a 'respond-rather-than-prepare' approach to flood planning heightens barriers to collaboration as people scramble to respond when disasters strike, seemingly more often in the face of climate change. For these reasons and many others, participants seek provincial guidance and support to facilitate the equitable distribution of flood planning resources with an emphasis on action.

It was shared by many participants that water basin-based flood mitigation would result in more equitable flood planning. Since water itself knows no boundaries, water collaboration tables require some fluidity and an awareness of their relationship to neighbouring water basins. Although various water-tables are currently in operation, no standardized approach to water-basin scale flood management exists. Given this lack of standardization, care should be taken during the planning phases at collaborative tables to ensure a coordinated approach is taken amongst partners.



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The Process

Alderhill uses an Indigenous planning and decision-making process called Enowkinwixw, which is based on the Syilx creation story called “How Food was Given” or “The Four Food Chiefs’ Story.” Enowkinwixw sets out specific ways and protocols at the beginning of discussions that allow participants to honour one another's voices in shared decision-making. In Enowkinwixw, participants are divided into four perspective groups: Tradition, Relationship, Action and Innovation, which allows for people of like perspectives to discuss issues and then come back to the group with tailored ideas. Through this process, space is provided to honour Indigenous and non-Indigenous voices without fitting them into a colonial box. It is also important to note that “the Enowkinwixw approach maintains that existing life forms in the natural world have status, rights and privileges that are equal to humans and all those benefits must be recognized and protected.”¹

The Four Food Chiefs Story

Before people came to be, there were animal people who roamed the earth. One day, the Creator came down and said to the Four Food Chiefs, “There is going to be a new being that walks this earth and I want you to figure out how this being will survive.” Then he put the being between the Chiefs and left.

The Four Food Chiefs are Skemxist, Chief Black Bear, who was chief of the four-legged and winged animals; Siya, Chief Saskatoon Berry who was chief of all the plants that grew above ground; Spitlem, Chief Bitterroot, who was chief of all the plants that grew below ground; N'tyiyixw, Chief Spring Salmon, who was chief of all the animals in the water.

The chiefs all looked at the being that was left in the center and said, “This is the most pitiful being I have ever seen. How is it supposed to survive? It has an empty head and no fur to keep it warm or teeth to eat and can't even run away if it needed to.”

The chiefs looked to Chief Black Bear, who was the eldest of the chiefs and said, “You're the oldest, you tell us what you're going to do.” So, Chief Black Bear thought about it and thought about it. Finally he said, “I will lay down my life for this being and it can use my body for whatever it needs to survive.”

The other chiefs looked at each other and said that they too would give up their lives for this being. So Chief Black Bear laid his body on the ground and told the chiefs, “I will lay my life down now and it is up to you to sing me back to life.”

¹ Sam, M. *Oral narratives, customary laws and indigenous water rights in Canada (T)*. University of British Columbia (2013), Page 5.

Chief Black Bear lay down and the chiefs gathered around to sing their songs to bring him back to life. The chiefs finished their songs; Chief Black Bear didn't come back to life. So all of the other animals and plants and fish and winged ones came to sing their song. And still, Chief Black Bear didn't come back to life.

All of the animal people stood around Chief Black Bear and Fly came buzzing around, trying to get past everyone and saying, "Please, let me sing my song, I want to sing my song." All of the animal people swatted fly away saying, "Go away, no one wants to hear your song. All you do is bug people and eat crap. Go away." But Fly managed to get through the people and came to sit on Chief Black Bear's ear and there he sang his song.

Chief Black Bear rose and came back to life.

All of our laws are held in our stories and language. Our stories tell us how we must govern ourselves and make good decisions for the good of all living things. Alderhill Planning Inc. takes its direction from these creation stories when it comes to communicating, planning and making important decisions.

This story tells us many things, but some of the most important teachings that we carry forward in this work are to ensure that we capture as many voices, perspectives and experiences as possible and to create a space that honours all of those perspectives, even if we have different perspectives. Even if we do not like each other, it is important to remember that everyone and everything has purpose and all of those perspectives are required to bring back life.



Using this approach, from October to December 2022, Alderhill and the B.C. Ministry of Forests co-hosted seven engagement sessions with four virtual sessions and three in person. The engagements brought together First Nations and local government representatives with provincial and federal staff to discuss a way forward for the B.C. Flood Strategy. The contents of the engagements were developed through a thorough gap analysis of the first draft of the Province's then titled Discussion Paper (publicly released in October 2022 as an Intentions Paper), previous What We Heard Reports from round one of the B.C. Flood engagements (January, February, June and July 2021), and additional recommendations from First Nations partners. The 2022 engagements were planned at the water basin scale in combination with the geographies of First Nations language groups in B.C. in the hopes that regional and local water-management connections could be forged and strengthened. This approach is based on the knowledge that the process of planning is

itself an action towards better governance. The water and language regions are listed below:

<i>Virtual</i>	<i>In person</i>
October 21st: Salishan, Wakashan Language Families (South Coastal regions and Vancouver Island)	November 15th (Prince George): Athabaskan-Eyak-Tlingit/Na-Dene, Algonquin and Salishan Language Families (Mackenzie River - including the Peace, Fort Nelson, and Liard River basins, Taku River Basin, Yukon River Basin, Fraser River Basin - including the Quesnel, Chilcotin, and Nechako River basins)
November 1st: Athabaskan-Eyak-Tlingit/Na-Dene, Tsimshianic, Haida Language Families (Stikine River, Nass River, Skeena River Basins, Haida Gwaii)	November 29th (Chilliwack): Salishan, Athabaskan-Eyak-Tlingit/ Na-Dene, Ktunaxa Language Families (Coastal Regions, including Vancouver Island, and Fraser River Basin)
December 8th: Salishan, Wakashan Language Families (Lower Mainland, South Coast, and Vancouver Island)	December 6th (Kelowna): Ktunaxa and Salishan Language Families (Columbia River Basin and Thompson River basin)
December 9th: All water basins and language groups (review and final engagement)	

In total, 121 local government and First Nations representatives took part in the Fall 2022 Alderhill engagements, including:

- Emergency Management Coordinators for First Nations and local governments;
- Emergency Technicians and First Responders;
- Resource Managers;
- Researchers;
- City Planners;
- Band Councilors and Chiefs;
- Regional Leadership Representatives; and
- Government Liaisons

In an effort to make this process as transparent and accessible as possible, especially for those who were unable to attend, we posted anonymized notes from each engagement session on the [Alderhill BC Flood Project webpage](#). Data from these notes was assessed using thematic analysis to compile the report below, including detailed recommendations for the B.C. Flood Strategy.

1. Background & Context

From 2020 to 2023, the Province and Alderhill have engaged with First Nations and local government representatives to address feedback received in the first round of engagement, especially in the areas of relationship building, place-based knowledge, and collaborative practices. Through this report, the feedback from participants provides more information and recommendations that will help the Province as it takes the next steps towards finalizing the B.C. Flood Strategy.

This report and the engagement sessions are the latest steps forward for the Province after beginning engagements with Alderhill in 2020. This report builds off these previous sessions, *Addressing the New Normal: 21st Century Disaster Management in British Columbia (The Abbott/Chapman Report)*² and B.C.'s Climate Preparedness and Adaptation Strategy. Furthermore, this report may also be of assistance to the Emergency Planning Secretariat in drafting guidance on how the Province should continue working with First Nations, acknowledging the 9 principles³ which have anchored this phase of engagement.

Reconciliation & Building Trust

Reconciliation means different things to different people. Some perspectives were offered by the Honourable Jody Wilson-Raybould, Canada's first Indigenous Minister of Justice and Attorney General, in her [Principles respecting the Government of Canada's relationship with Indigenous peoples](#) which outline key approaches to and understandings of reconciliation:

"Reconciliation is an ongoing process through which Indigenous peoples and the Crown work cooperatively to establish and maintain a mutually respectful framework for living together, with a view to fostering strong, healthy, and sustainable Indigenous nations within a strong Canada. As we build a new future, reconciliation requires recognition of rights and that we all acknowledge the wrongs of the past, know our true history, and work together to implement Indigenous rights."

² Abbot, G., and Chapman, M., (2018). A Report for Government and British Columbians: Addressing the New Normal: 21st Century Disaster Management in British Columbia: Report and findings of the BC Flood and Wildfire Review: an independent review examining the 2017 flood and wildfire seasons. Retrieved from <https://www2.gov.bc.ca/assets/gov/public-safety-and-emergency-services/emergency-preparedness-response-recovery/embc/bc-flood-and-wildfire-review-addressing-the-new-normal-21st-century-disaster-management-in-bc-web.pdf>

³ Emergency Planning Secretariat's Engagement Principles for BC Flood Strategy 2021. *A Guide to Engage First Nations Communities and Peoples: Engagement Principles to Support Development of the B.C. Flood Strategy Planning*: Principles: 1. Place based engagement; 2. water basin engagement (First Nations alongside local, provincial and federal governments); 3. consider cumulative effects of climate change; 4. align with UNDRIP, DRIPA, and the TRC Calls to Action; 5. ensure cultural values are represented in the B.C. Flood Strategy; 6. Encourage collaborative sessions; 7. Make space for direct connection with Rights and Title holders; 8. Need for government to government tables; 9. Enhance communications with First Nations during the development of the strategy.

When considering what reconciliation means in the context of flood management, key documents outline approaches and guidance that can inform best practices, including the Principles mentioned above, the Truth and Reconciliation Commission's [*Calls to Action*](#), the [*Final Report of the National Inquiry into Missing and Murdered Indigenous Women and Girls*](#), and the [*United Nations Declaration on the Rights of Indigenous Peoples*](#). While these documents can inform the framework of the approach across many sectors, working directly with Indigenous peoples in a meaningful and inclusive way that acknowledges and respects Indigenous rights will always be a leading strategy.

Many participants acknowledged that they would like to be better at building relationships to mitigate, manage, and prepare for floods. In some cases, participants felt that systemic racism continues to create barriers to relationship building, further traumatizing and sidelining First Nations partners. It is clear that diverse cultural values must be welcomed and better reflected in The Strategy so that progress can be measured against an inclusive and holistic baseline. Because of their connection with and responsibility to the land and water, First Nations see the impacts: the loss of land, the movement of water, and shifts to the environment that cause ripples and waves throughout natural and human systems. This holistic knowledge must be reflected in planning and implementation.

Communities are most resilient when they come together. While having a plan is very important when emergencies happen, the core of any approach is supported by people helping people. Indigenous communities, municipalities, and regional districts all have community members who show up, help out, and do their best when emergencies happen and continue building relationships along the way. Some communities are more collaborative, while others march to the beat of their own drum. Throughout the sessions, there were many examples of community members breaking down barriers to be inclusive and accommodating to their neighbouring jurisdictions in decision-making and planning. In other areas, however, members did not collaborate because the work required to build trust and advance those relationships had yet to be done.

"Local governments need more guidance for what the implications of UNDRIP are to them."⁴

For those relationships that need more care and attention, one First Nations participant reminded the group that building trust and relationships between First Nations and local governments takes time. They suggested reaching out to start the conversation, and building the relationship slowly from there, as it does not need to begin with a huge act or commitment.⁵

One local government representative desired more opportunities to collaborate with First Nations and felt stuck in the legislative framework waiting for direction but was not always sure where to get it from. Legally, the participant felt that direction should be coming from

⁴ November 29 Session.

⁵ October 21 Session.



the provincial government, but moral obligations also factor into their work.⁶ Relationships need to be built on trust in order to move forward, but those relationships are not always being developed on the side of the local government.⁷

"I see UNDRIP and DRIPA coming into all of our work plans. We need to do meaningful engagements on Rights and Title and we need to be more equitable... Our policy does not account for cultural values within the landscape, I hope there is a shift here to address this issue."⁸

- B.C. Government participant

One participant shared a positive experience they had with building trust and advancing reconciliation between a municipality and a local First Nation. A consultant was brought in to facilitate two one-day learning seminars for each group to understand the roles, strengths and weaknesses of themselves and the other group. The participant noted that "It's been almost like enemies for a long time but it could be more in the right direction now."⁹ Within a short time, the groups identified mutual areas where they could support each other, including improving water systems by sharing a qualified person to work on valves, and promoting the shared use of a hydrovac machine so that each community did not have to shoulder the expense alone.

While some groups are walking together in the right direction, other relationships remain strained because some Indigenous participants do not always feel heard in government engagement processes.¹⁰ When it comes to building trust, one participant felt that First Nations want to see exactly where their input is going and how it will be used. The participant expressed frustration that the government is continually asking First Nations for their perspectives and preferences, but the information provided is not always reflected in reports that come back to First Nations. Because of this, there is concern that the feedback given was not taken into consideration during the planning phases for work projects. The participant shared that in some cases, it was clear that industry and recreation groups were having their concerns considered because their comments and concerns appear in government reports, while the voices of Indigenous rights and title holders continue to be missing.¹¹

"They have capital projects, emergency management assistance projects, but where are those opportunities where provinces could work better with Nations as we move towards better alignment with the Declaration Act?"¹²

⁶ October 21 Session.

⁷ October 21 Session.

⁸ December 6 Session.

⁹ December 9 Session.

¹⁰ October 21 Session.

¹¹ October 21 Session.

¹² December 8 Session.

In other cases, reports such as the [Abbott/Chapman Report](#) with strong Indigenous feedback have been provided to government, however, a participant¹³ noted that government reporting on the progress of the recommendations has stopped, leaving the participant to wonder whether those past reports are being used in building the current flood strategy. A representative from the Province confirmed that they are building off of previous work but no specific reports were identified.¹⁴

To build trust and advance reconciliation among community members, relationships must be made and nurtured today so that when emergencies arise, people know who to call and where to go. Building relationships means working together and respecting each partner's perspectives, and leveraging each other's strengths while supporting weaknesses. Part of planning is undoubtedly the technical aspect with maps and logistics, but the human element and strength of relationships during response and rebuilding cannot be understated. Fostering reconciliation with our neighbours is no longer something that is 'nice to have,' every community is needed to help one another persevere and rebuild after disaster strikes.

Trauma & Racism

One participant felt that the story the Government of Canada has perpetuated over the last 150 years is full of negative stereotypes, including that First Nations people are worthless and drunk.¹⁵ With 150 years of negative impacts on First Nations people, there are still many survivors alive who carry trauma and pain. The participant reflected that the Prime Minister may be speaking words of reconciliation, but it does not always feel like those words are resonating with people who deal directly with First Nations.¹⁶ There are many people in Canada who do not know the tragic history of residential schools and how this has affected First Nations, but they need to start learning and acknowledging the harms of the past in order to change their behaviour and embrace truth and reconciliation, including gaining a new perspective about First Nations as hardworking and vibrant people.¹⁷

"The councillor last night asked me, "how do we get out of the Indian Act? The Coquihalla took in \$10 million in tolls, yet there is no conversation of redistribution. It's crushing, dictating his life and what he can do for his people and family."¹⁸

In addition to the ongoing racism endured by Indigenous people, families and communities have also suffered trauma when police come into communities and remove children after a flood hits and there is an evacuation order in place. This can trigger a trauma response for

¹³ December 8 Session.

¹⁴ November 29 Session.

¹⁵ October 21 Session.

¹⁶ October 21 Session.

¹⁷ October 21 Session.

¹⁸ December 6 Session.

residential school survivors and their families, and there is a greater need for cultural sensitivity training for flood response.¹⁹

One participant noted that both the B.C. Flood Strategy and the Sendai Framework were missing some key features, including a definition of cultural values and indicators for a human health components.²⁰ Components could include measurable initiatives such as food security and food sovereignty given that they relate to supporting the wellbeing, resilience and self-determination of Indigenous peoples. For example, if one community had robust food security and food sovereignty initiatives, how does this impact the resiliency of that community during a natural disaster? If another community does not have these initiatives, how does that impact their resilience? In this way we can see that food security and food sovereignty have key roles to play in supporting the resilience of Indigenous people during natural disasters. It is important to utilize health indicators such as these to guide policy and investment opportunities.

One participant offered that at present, they did not see the role of Indigenous people in the flood strategy or how they would engage in it, and believed that roles and intersections need to be further defined, particularly around food security and sovereignty, and a closer examination of the impacts and trauma on humans during flooding events.²¹

In some cases, governments have spent considerable time and money supporting certain projects, but have ignored the non-economic values that relate to reconciliation, like cultural awareness training for staff working with First Nations. Furthermore, one participant highlighted that more funding has flowed to projects like dikes that reinforce the status quo but not to habitat restoration for critical stocks like salmon that are relied on by some First Nations communities as their primary food source.²²

"Local governments need more guidance for what the implications of UNDRIP are to them."²³

While the United Nations *Declaration on the Rights of Indigenous Peoples Act* (UNDRIP) is often brought up these days, one participant believed that the messaging around it is not always reaching and resonating with the general public.²⁴ One participant shared stories of evacuees who were not treated well when they were trying to find a place to stay, and were offered old blankets and told to sleep on the floor. It is important to consider how people are treated after a traumatic event and make sure that they have the right support in place as they work to rebuild their lives. Another participant shared that given the severe flooding that occurred, there are still many people who have not made it home due to bridges being

¹⁹ One participant from the October 21 session shared a funding stream that supports training in this area: <https://www.ubcm.ca/cepf/indigenous-cultural-safety-and-cultural-humility-training>

²⁰ December 6 Session.

²¹ December 6 Session.

²² October 21 Session.

²³ November 29 Session.

²⁴ October 21 Session.

destroyed and back roads being blocked, leading to a highly traumatized population that are still in the process of trying to remedy the damage that has been done.²⁵

Indigenous Knowledge

When it comes to bridging Indigenous Knowledge with other data on flood hazards, one participant shared that cultural monitors were out on the land during clean-up in addition to having environmental monitors. This was critical when assessing old village sites with ancestral remains in the cemetery, as some of the remains were found mistakenly being used to rebuild roads. If a community member were to come across ancestral remains being used in this way, its impact would be harmful.²⁶

Incidents of finding ancestral remains were not uncommon. Some were tested and found to be 12,000 years old, while in another case, the bones of a child were found but due to flooding impacts a date could not be determined. Following the discovery of the disturbed remains, ceremonies were held. In addition to having cultural monitors present to support protocol around ancestral remains, Indigenous Knowledge was also used to support people with *brushing off* daily or weekly and beginning the day with morning prayers to start people off in a good way.²⁷

*"Settlers always act surprised when they see disasters.
Your experience in this area is 150 years long, and ours is over 10,000 years."*²⁸

One participant mentioned Sumas Lake as one recent example of development that did not consider Indigenous Knowledge or future consequences. While the Sumas people moved up the mountain knowing it would flood again, the municipality allowed zoning for development and dikes, however, this will not solve the root of the problem.²⁹

Traditional knowledge should not just be included in the aftermath of flooding events but also in proactive planning. This can be challenging as trust is often a major issue for First Nations when it comes to sharing information with governments, as there is uncertainty about what the government will do with that knowledge, how will they store it, and in what ways the information may be used in the future.

One example that was provided from the Fraser Canyon area was from the 1980s when Indigenous Knowledge was shared with the government. The government then used it against First Nations in court when trying to twin the train tracks. Because of this, many First Nations from the Interior region are skeptical and distrustful of sharing Indigenous Knowledge because of the uncertainty around how it will be used in the future. Internally,

²⁵ October 21 Session.

²⁶ October 21 Session.

²⁷ October 21 Session.

²⁸ December 6 Session.

²⁹ November 29 Session.



some First Nations have created their own repositories and governance protocols to guide the management of this information, but there is still an unwillingness to share with government.³⁰

“When my EPS office collects information, we have a protocol that the information is ours [the First Nation’s]. FPIC [free prior and informed consent] is information-based. Whoever’s information it is, they retain ownership.”³¹

³⁰ October 21 Session.

³¹ November 29 Session.

2. Impacts of Flooding

While some communities are impacted by a single type of flooding, other communities along the coast with nearby rivers can be impacted by many different threats, including sea and rivers rising, coastal storms and winds that can compound flooding impacts on land and sensitive habitats.³² One participant described the impacts of flooding in their community, recalling that:

"Water used to zigzag but now it erodes from the back and goes straight through the land. There are 20 acres of gravel moving down the river now, every year the gravel gets pushed further, fills up river beds, shifting how the river flows and eroding banks on the other side."³³

In this way, the participant has been living with the real-life impacts of flooding and has a firsthand look at how it changes over time. Many stories such as this one were shared by participants as they grappled with the devastating effects of flood impacts. In some cases, participants called for the approach to flood management to support the water and the direction it wants to flow, and build infrastructure to suit nature rather than try to combat or control the effects of nature. The stories that participants shared emphasized the success of projects that work *with* nature rather than against it, and resulted in minimized impacts on humans who were caught up in the emergency event.

When it comes to flood impacts, First Nations have seen impacts on land, culture, and now, insurance. Due to colonization, some reserve lands are located within floodplains with people being at risk and often unable to make insurance claims. One participant recalled that a First Nation had organized their own flood insurance to protect their members, but the deductible was so high that no one could afford it, sometimes the price was similar to the cost of the repair itself. The participant felt that because some First Nations were living in these flood-prone areas due to no fault of their own, a program should be in place to support First Nations to make claims during flooding events.³⁴

Loss of Land

One First Nations participant shared that in their community, the density of traditional plants is not as high as in the past due to erosion and loss of land.³⁵ Another noted the huge impact that floods have had on drainage and the degradation of soil which has negatively impacted the stability of water basins. Other damage that was noted included damage to fish populations, medicines, berries like saskatoons, and water sources like wells.

³² November 1 Session.

³³ December 6 Session.

³⁴ December 9 Session.

³⁵ November 15 Session.

In the past, one Elder recalled that her community would hunt and pick food within the floodplain but this does not occur anymore due to flooding and erosion.³⁶

For one participant, there has been a loss of cottonwood forests and roadways due to erosion on the reserve. In another instance, some homes along the Fraser River would have been lost, but the government brought in rip-rap and planted trees so the land is no longer eroding. One Elder remarked that the river near her house continues to creep closer with erosion.³⁷ In the northwest, one participant reported that one of their reserves is eroding each year due to logging roads and the nearby highway, while another reserve has restricted access for one week per year during the flooding season.³⁸

One First Nations participant noted that there are different hazards that can contribute to floods, including logging. They provided an example of Sowchea Bay where logging was done that cleared the forest, resulting in several years of significant flooding that has put residents on edge. They pointed out that when people are stressed, they are not making good decisions. To respond to issues like this, they suggested we must consider processes that guide us to be more proactive, to mitigate, and find safe places for people to go so they are not living in an area that is high risk.³⁹

Impacts on Fish

Following a flood incident, we start to talk about building back better or building back the status quo. For one local government representative who was working in a First Nation following a flood, they were communicating the community-driven and nation-specific concerns about the impacts of the sediment load on the salmon spawning in the stream beds to the provincial recovery team. Despite the hatchery counts being very low, the representative reported that the provincial 'boots on the ground' during recovery had their efforts focused solely on infrastructure and would not broaden their operational parameters to prioritize recovery of the salmon habitat. While the Ministry of Forests was collaborating with the Ministry of Water, Land and Resource Stewardship, the Lower Fraser Fishing Alliance, the Department of Fisheries and Oceans, and other First Nations organizations on fish recovery, this participant did not see or feel that support. Given that salmon are critical as a primary food source for the local nation, the impact on communities was immeasurable and yet this person felt that there was insufficient effort or coordination to act on the threat or inspect a neighbouring river system nearby to see if it was also severely impacted.⁴⁰

Beyond their value to First Nations, salmon are also an indicator species and are very important for measuring climate change. This incident demonstrated to a local government representative that there is a real disconnect between the agencies that are doing the

³⁶ November 15 Session.

³⁷ November 15 Session.

³⁸ November 1 Session.

³⁹ November 15 Session.

⁴⁰ November 1 Session.

monitoring and the Province's commitments to UNDRIP.⁴¹ One participant shared that floods have put further pressure on stocks after years of mismanagement of west coast fisheries by the Government of Canada and the Department of Fisheries and Oceans, noting that Steelhead, Fraser Coho, and Chinook have all been impacted with many stocks hanging on by a thread.⁴²

Some participants supported the idea of removing sediment from waterways to support fish and flood management while others pointed to studies for specific waterways that did not support sediment removal as an effective method for controlling flooding, including the Fraser River. For those who supported the idea, they noted that sediment removal could be beneficial for localized flooding and also for traditional fishing spots where sediment has built up. One participant shared that there were communities that used to regularly dredge in certain areas in the 1950s until the Province prohibited it decades later due to opposing views about its impact on spawning grounds. Following the prohibition, the participant reported that many communities experienced flooding and a loss of salmon.⁴³

"The communities know their river and waterways best and how to manage it maybe better than some experts. There should be more respect given within traditional territories [for First Nations] to manage their waterways that are being clogged full of sediment."⁴⁴

One participant from Seabird Island was impacted by the floods due to a fire, which was then exacerbated by a huge rainfall that caused mudslides on either side of the community with people caught in between. In many places, these impacts can still be seen between Seabird Island and Hope as crews are still in the process of cleaning up the devastation. Beyond impacts to infrastructure like roads and homes, flooding has also impacted access to traditional foods for berry picking and waterways for fishing. Some of the tributaries that fish used to migrate to have also been impacted and more work must be done to restore these areas.⁴⁵

Forestry & Agricultural Land Reserves

A participant from Merritt identified that impacts from flooding were tied to both wildfires and deforestation from pine beetles and logging. This meant that when heavy rains happened in the summer of 2022, major mudslides occurred because there were no trees in place to stabilize the floor of the forest with connections between tree roots. The participant indicated that many Elders and other First Nations members had been discussing replanting to counter deforestation and wanted to know where the Ministry of Forests stood on that

⁴¹ November 1 Session.

⁴² October 21 Session.

⁴³ November 29 Chilliwack Session, page 6.

⁴⁴ November 29 Session.

⁴⁵ October 21 Session.

issue.⁴⁶ Government representatives acknowledged the concern and shared that they had received feedback about concerns with the broader water basin management and were looking at impacts that have been caused by different types of land uses. The provincial representative confirmed that the Ministry of Forests has been working on legislation and regulations, in addition to evaluating its processes and supporting pilot programs on forest landscape planning to consider how the forestry sector could best incorporate these ideas to address some of the concerns that were raised. Among these concerns were hydrophobic soils, which are soils that have become dried out to the point that they no longer absorb water and water will run off the soil instead of absorbing into it and rehydrating the land.⁴⁷

One local government participant shared their concern about municipalities that have a rural and urban divide, with rural areas following rules for Agricultural Land Reserves (ALR) despite these decisions negatively impacting the urban areas within a municipality. For example, the participant shared that they observed clear-cutting of trees in one ALR area despite a watercourse being nearby. They believe that because it was ALR, the trees were permitted to be cut. Given this, the participant felt that the regulation of the forestry sector and ALR should be tightened up, noting that some municipalities such as Delta and Langley are putting in tree protection laws and local governments should be sharing these lessons amongst themselves for a unified approach.⁴⁸

"Is the Ministry of Forests the right ministry to be carrying the ball on this given conflict of interest in terms of doing forestry work and what that means for reducing forest level areas and practices? There's a new minister for Emergency Management and Climate Readiness - should they be looking at this topic instead?"⁴⁹

One participant felt that the harvest of timber was the biggest impact on flooding in their area. They linked the loss of old growth stands and their unique microclimates that create a different landscape for root depth and water retention compared to hydrophobic soils.⁵⁰

⁴⁶ October 21 Session.

⁴⁷ October 21 Session.

⁴⁸ November 29 Session.

⁴⁹ December 9 Session.

⁵⁰ December 6 Session.

3. *Naqsmist*⁵¹ | Challenges Yet to be Resolved

Cost Sharing

Financing climate change adaptation requires a more invested effort from the Province because downloading responsibility onto local governments is not feasible when many cannot meet the current outcomes without substantial provincial assistance. For example, if a local government community is caught in a small-scale emergency event, approval from a provincial government regional manager is required to confirm that the costs fit within the framework for the disaster recovery financial model before funding can be provided. In this way, participants felt local government communities are still beholden to the Province and its funding decisions, with the cost mechanism for how local government fits into that conversation requiring further consideration.⁵²

One local government representative felt that while relationship building is important in every context, if we cannot finance the outcomes from those relationship discussions at the local government level, we will not achieve resiliency. One participant mentioned that it would be quite expensive to bring orphaned dikes back to provincial regulation standards⁵³. For smaller communities, that cost is unachievable because their revenue comes from property taxes that cannot fund projects of that size without the support of other funding partners.⁵⁴

Given the limited resources and capacity of smaller local government communities, First Nations, and regional districts, many will not have the financial resources to implement some flood reduction solutions. Participants felt that the provincial government must continue to work towards equitable support and recognize that larger communities will have different resources and needs, as well as work to even the playing field and recognize alternate programs that can support communities of different sizes.

At times, one community may have a high-priority item that requires cost-sharing with a neighbouring jurisdiction but if that item is low on the neighbouring jurisdiction's priority list, the project will never move forward without a cost-sharing agreement. This can leave communities in a vulnerable position without provincial coordination to make strategic investments. At the provincial level, participants felt there should be some consideration about prioritizing funding for partners for flood hazards and ways to mitigate the risk.⁵⁵

⁵¹ *'Many Coming Together as One'* in syilx.

⁵² November 1 Session.

⁵³ According to the Provincial government, the Preliminary analysis of the Orphan Dike Report's Risk Assessment Matrix (based on quantitative scores of likelihood and consequence of failure) and regional staff input indicates the cost to upgrade these 13 high-risk orphan dikes is approximately \$300 million (\$900 million to upgrade all 89).

⁵⁴ November 1 Session.

⁵⁵ November 1 Session.

One local government representative shared that in Haida Gwaii they partnered with the regional district to generate an expensive tsunami risk outlook that focused on rising sea levels. At a cost of \$500,000, the final product is anticipated to confirm that the sea level is rising due to climate change and this will increase the risk of tsunamis, along with identifying key elevation points. The criticism of this project is that this information is already commonly available and that while there will be some interesting mapping around specific risk areas, there is no funding available to address any mitigation structures that could protect the coast. Finally, if there was funding available, the next challenge would be prioritizing where to build structures because all of Haida Gwaii is at risk and it is not feasible to consider building a seawall. While mandating local governments to address these issues gives them many powers, failing to provide adequate funding for local governments to do the work means that their hands are tied in many ways.⁵⁶

Local governments and First Nations must come together to consider their visions for the future and the planning required to achieve goals while being open to cost-sharing and resource collaborations as they identify mutual challenges and opportunities. When looking at water basin planning and governance bodies or societies, this must include First Nations and be representative of all parties. One example that was provided noted a document that was produced following the atmospheric river event in 2021 that did not include a requirement to include First Nations. Participants expressed that the Province needs to be a leader in this area and ensure that First Nations are consistently included in discussions to leverage resources.⁵⁷

"The federal and provincial governments always pass the buck; the Province's responsibility stops at the reserve boundaries. How does that relationship work between the Province and the federal government?"⁵⁸

One participant from a municipality in the Lower Mainland shared that their flood strategy was last updated in 1986 even though the southern half of their municipality is in a floodplain. One reason for this delay is that the community is not ready to discuss the flood strategy, as the community is polarized between its northern and southern residents. While some updates to flood strategies have been made through city council reports, they have not been transcribed into bylaws at the local level.⁵⁹ Some examples of that polarization include residents not supporting a dike in their neighbourhood because it could affect their view, while others refusing to support a dike because they will not benefit from its protection.

"There is so much knowledge that can be transferred over to adjacent municipalities but we're not sharing as much as we could be; we're only looking at our communities and our needs. Even at those regional meetings, the sharing isn't there."⁶⁰

⁵⁶ November 1 Session.

⁵⁷ November 1 Session.

⁵⁸ December 6 Session.

⁵⁹ November 29 Session.

⁶⁰ November 29 Session.

Jurisdictional Challenges & Coordination

A local government participant shared their knowledge of a brief history of flood jurisdiction in B.C., noting that in the past floodplain mapping and policy were directed by the Province with accompanying standards. However, in 2003 local governments became responsible for both mapping and land use decisions in the floodplain, but funding was not provided to support this transition and the lengthy processes required to properly undertake the work. In the past, municipalities would approach a ministry to provide standards and criteria, but with the shift in jurisdictional responsibilities, many municipalities were at a loss without guidance and subject matter experts to support their new responsibilities. While another local government representative pointed out that projects that respond to flooding are now within the local government's jurisdiction, there are many responsibilities that other government leaders and stakeholders in each area must share. A strategy to address current challenges must be fulsome and include the requirement that each ministry updates its regulations.⁶¹

*"The moment it crosses the boundary I don't know what my next step is.
I feel powerless and like there's not much I can do."⁶²*

As we consider how local governments and First Nations can work together on issues of mutual concern, one local government participant highlighted the jurisdictional challenges that are present because local governments are creatures of provincial statute; while First Nations are constitutional partners with governance systems that predate the creation of Canada. In this way, the enabling legislation for local governments fundamentally excludes First Nations from any seat or voice at the table in any context unless the First Nation is a Treaty Nation.⁶³ One participant felt that this reality comes into play in emergency management frequently due to 120 years of core enabling legislation that has systematically excluded First Nations from conversations at the local government level. The participant felt that we must be alive to the fact that the provincial *Local Government Act* makes it very difficult for heavily regulated civic governments to move forward and build relationships with First Nations.⁶⁴ Other participants also cited similar concerns as it relates to regional districts being unable to provide services to First Nations unless they were a Treaty nation that agreed to join the Regional District.⁶⁵

Given that some local government representatives shared positive experiences about their ability to work with First Nations neighbours while others noted that their hands were tied, the lack of engagement with First Nations by some local governments may have less to do

⁶¹ November 15 Session.

⁶² December 6 Session.

⁶³ November 1 Session.

⁶⁴ November 1 Session.

⁶⁵ December 9 Session.

with concrete legislative barriers and more to do with a narrow legislative and policy interpretation. In this way, explicit guidance from the Province to local government bodies to work with First Nations could offer assurance and direction to local governments that they should be coordinating and working together with First Nations.⁶⁶

"We have advantages as regional districts because there are lots of communities at the table. There are five First Nations communities I'd love to have in all of our conversations. But you have to be a Treaty Nation and Treaties are not working in our region. They are colonial tools."⁶⁷

Some municipalities have found ways to build relationships with First Nations communities and work together on issues of mutual concern, while others have a long way to go. One participant reflected how these relationships are built is very important, and colonial governments must continue to consider how First Nations can be recognized as an equal partner amongst all the other levels of government. This is an important step as governments begin to turn their minds to the implementation of the *Declaration on the Rights of Indigenous Peoples Act* and what that will look like on the land.⁶⁸

"A regional coordinated approach goes a lot further, but we don't have that meeting place right now. The way the funding has worked we are doing it separately. We need to break down the existing relationship of competition."⁶⁹

At the regional level, the Ministry of Emergency Management and Climate Readiness (EMCR) continues to engage with the regional district areas, however, regional districts often have a small tax base with no response capabilities and no infrastructure to protect, however, are still actively responsible for emergencies.⁷⁰ Compounding these challenges, many regional districts are understaffed. One participant suggested that data and reports should be generated at a water basin level, while mitigation and decision-making should occur at the regional level, with governance being flexible to the area and interests of different water basins in B.C..⁷¹

One of the challenges with flood risk management is that there are different needs at different levels between local, regional, and provincial governments and between different water basins. A participant felt that at the regional level, an approach that looks at water and river basins makes sense given this is where water connects with the land. However,

⁶⁶ Part 7 of the *Local Government Act* provides that Treaty First Nations have the option to join a regional district, at which point the regional district can provide services to the First Nation. Regional districts are unable to provide fee-based services to First Nations or other communities unless that First Nation is a Treaty Nation and has agreed to join the regional district. Despite this, the *Local Government Act* does not state that a regional district cannot be a good neighbour and engage in discussions around flood response, planning and mitigation. Regardless if a First Nation or community is formally part of a regional district, the district can talk or engage with anyone they choose.

⁶⁷ December 9 Session.

⁶⁸ November 1 Session.

⁶⁹ November 29 Session.

⁷⁰ November 15 Session.

⁷¹ November 15 Session.

another participant felt that this approach can present challenges for coordination and collaboration with intersecting jurisdictions and interests where the river basin is very large. Therefore, in some instances, smaller water basin nesting may be preferable. While looking at the problem on a provincial scale adds important depth and context, we must also consider how different scales tie together because coastal processes do not stop at municipal or water basin boundaries.⁷²

"When we are considering the issue of water basin management, we cannot look at the issue from the perspective of a single jurisdiction because water connects and impacts many neighbouring jurisdictions. If one community decides on a particular approach without considering its neighbours, this could result in another nearby community being flooded."⁷³

When it comes to coordinating multiple partners, another participant shared that because there is a large cluster of water oversight bodies, one central group such as the [Canada Water Agency](#) needs to be involved to help coordinate. They also informed participants of a newly established [Water Table](#) through the First Nations Fisheries Council to help bring together up to 15 First Nations delegates and provincial representatives from major water basins across B.C.. These parties will meet to discuss and identify shared strategic priorities and interests related to fresh water and co-develop the [B.C. Watershed-Security Strategy](#) and associated action plans. One First Nations participant felt that for floodplain management, a larger First Nations organization such as the B.C. Assembly of First Nations may be a good starting point to share information amongst First Nations.⁷⁴

"Many problems would be solved if the Province took up the majority of the work instead of leaving it to local governments to chase funds and data. It is a massive project but so many things could get solved if things are done on a provincial scale."⁷⁵

One participant was seeking greater communication and coordination to remedy what they felt was a huge disconnect. They identified that to access Disaster Financial Assistance (DFA) the Ministry of Transportation and Infrastructure standards needed to be met. The lack of clarity around standards meant that rebuilding after a major incident was delayed.⁷⁶

Provincial and federal processes need to be more responsive to approvals for designs that can help local governments and First Nations respond to flood risks. One participant reported that at times, they are in approvals processes spanning two years that are delaying important work. In other cases, government entities do not understand the practical differences between on and off reserve and will try to bring structures that do not work on reserve and can end up creating more problems than the ones they came to solve.⁷⁷

⁷² October 21 Session.

⁷³ November 1 Session.

⁷⁴ November 15 Session.

⁷⁵ December 8 Session.

⁷⁶ December 6 Session.

⁷⁷ October 21 Session.

A participant felt that government programs have improved in recent years with funding protections, mapping, assessments, planning, and forecasting incremental costs associated with structures - and these supports must continue. In the Intentions Paper, capacity, training, and guidance were all flagged. One important piece among these is having guidance for people to look for innovative approaches, including innovative housing designs.⁷⁸

"In Chilliwack, there are a lot of homes that have basements that are designed to flood. During the atmospheric river they had flooding because the groundwater level is so saturated. They just know everything has to be built up higher. The building codes get updated and get higher and higher."⁷⁹

One participant shared that updates to the B.C. Building Code would help municipalities that had not yet been able to consider an appropriate flood control level. In the view of the participant, "right now it feels like personal preference versus science."⁸⁰ It was their belief that if provincial building codes were updated, new homes would not be permitted to build suites in the basement and this could be one effective preventative measure to protect private property. Another participant felt that the B.C. Building Code made it very challenging to implement site-specific flood mitigation plans.⁸¹

Clarity on Legislation, Regulation & Decision-Making

In the experience of one First Nations participant, residents can be told by governments what to do and how it relates to the relevant legislation, but how that is communicated can sometimes set communities up for failure.⁸² Many participants from different areas shared their concerns and information related to a number of different legislative and regulatory obstacles and opportunities for reform:

- B.C. [Development Cost Charges](#): Municipalities can update their bylaws to use Development Cost Charges to support funding for flood costs.
- B.C. [Dike Maintenance Act](#): a critical lens is required to revisit this Act; there is an imminent risk of failure for many orphaned dikes for which there is no established local diking authority. Lack of policy to deal with orphaned dikes, enforcement, and auditing of the Act. Critical policy conflict between the Act and the federal *Fisheries Act*.
- [Federal Disaster Financial Assistance Arrangements](#): The Disaster Financial Assistance and Compensation Regulation of the provincial Emergency Program Act

⁷⁸ October 21 Session.

⁷⁹ November 29 Session.

⁸⁰ November 29 Session.

⁸¹ November 29 Session.

⁸² November 15 Session.

is underpinned by financing from the DFAA which can cause issues, in that DFAA does not support the Sendai Framework limiting what B.C.'s Disaster Financial Assistance program will cover.

- B.C. [Flood Hazard Area Land Use Management Guidelines](#): Advises what local governments should be doing and informs decision-making, however, it has not been updated in a long time and does not reflect where we are today.
- B.C. Forest Management Practices: How will these interact with water basin management and flood control?
- B.C. [Local Government Act](#): This can prevent regional districts from providing fee-based services to First Nations communities.
- B.C. [Water Sustainability Act \(WSA\)](#): Concern about the temporary nature of emergency response; desire to look at the long-term aspects and lack of flexibility. First Nations are not defined as 'local government' in the B.C. Water Sustainability Regulation of the WSA, and thus are not entitled to undertake emergency instream works during flooding.

Given these intersecting, complementary and conflicting jurisdictions, there are bound to be some challenges. A participant further articulated their frustrations:

"We've had different instances where we get off to a good start on things, and then a regulatory agency comes along and identifies a barrier, says 'No, you can't do that.' From a provincial government aspect, the most important part is defining a pathway, and people being able to understand it and move forward would make a huge difference, especially as groups get together and try to move forward."⁸³

One of the largest regional districts in the province was represented by a participant at a session and they shared that it felt a bit unfair that the Province expected them to lead in mitigating risks on what is primarily Crown land. They were concerned that the Province "wants us to chase small grants to do mitigation work on land they are responsible for, and the Province needs to step up and take responsibility for its own Crown land and not download its responsibilities onto local governments and First Nations. A river may pass through a regional district or municipality but that river impacts everyone and is majority Crown land."⁸⁴

Participants shared many stories of jurisdictional challenges that shone a light on misalignment and a lack of coordination in some areas. For example, one participant felt that the Department of Fisheries and Oceans Canada does not support the removal of trees on dikes, however, inspectors do not permit trees on dikes. In this way, federal and provincial regulatory bodies require alignment so that municipalities can move forward with improvements to their systems. Another example that was provided involved YVR airport and Transport Canada wanting to remove marshland to limit birds in the area, but the municipality City of Richmond is trying to improve dikes and protect and increase the

⁸³ December 9 Session.

⁸⁴ December 9 Session.

marshland. In this way, federal ideas are contrasting with local needs and coordination is falling short. Another jurisdictional challenge that was highlighted is that the Ministry of Environment and the Ministry of Forests have the same jurisdiction but, at times, can have conflicting mandates, values, and goals within their respective jurisdictions.⁸⁵

Many participants throughout the sessions shared their challenges and successes working with their neighbours as everyone tried to navigate jurisdictional barriers. A variety of concerns have been captured above and highlight the complexity and fundamental barriers that must be resolved for partners to properly collaborate and protect their communities from risk.

Capacity & Training

Capacity issues continue to hinder many First Nations communities because some do not have the resources or technical expertise to manage the variety of issues that are brought up by federal and provincial governments. As one participant acknowledged, colonial governments have staff at many different levels that are able to respond with teams of people to support sorting through a particular challenge, while some First Nations may only have the Chief, council members, and a secretary.⁸⁶ In some cases, First Nations may receive funding to hire a specialist for one issue, but when the funding runs out, capacity is diminished yet again. There was an acknowledgement from a government representative that capacity development and funding are constant needs and that the way government funding is released does not always enable long-term stability that builds capacity.⁸⁷

One participant from the Lower Mainland shared that due to freshet, their municipality felt very unprepared because of a lack of staff and resources which resulted in having to pull staff from other departments who were untrained. While the municipality was able to offer sandbags and other resources, they did not have the people power to do the work.⁸⁸

"Where the city does not have the capacity to operationally manage the land, how do we support private property owners who are there to do what is needed now?"⁸⁹

A further concern was stated regarding the government dictating the hourly rates that First Nations can bill to assist with the cleanup after a flood, highlighting that low government rates have hindered First Nations' ability to retain staff and build capacity (it was unclear whether this was due to federal or provincial government rates). Due to low hourly rates, the participant stated that First Nations no longer have regular workers this year or have any workers coming back from last year because they have found higher-paying jobs that First

⁸⁵ October 21 Session.

⁸⁶ October 21 Session.

⁸⁷ October 21 Session.

⁸⁸ November 29 Session.

⁸⁹ December 6 Session

Nations could not provide due to low government rates. This raises questions about fairness during flooding events and what that means in terms of access to resources and how decisions are made. One capacity gap that was noted by the participant is finding people who are trained and can help with mitigation, suggesting that scholarships or grants would help people enter the field and gain expertise in natural disaster response.⁹⁰

"We don't have the capacity and opportunity to bring someone in who is knowledgeable. We have our perspective and what we know is our desire, but we don't have the technical theories behind it."⁹¹

A representative from Indigenous Services Canada noted that engagement is a problem facing many smaller First Nations that have limited capacity to engage in conversations around flood risk management. To support them, we should consider the creation of shared resources and capacity that can represent smaller First Nations. Another participant offered that First Nations need innovation with own-source revenue so that they can stop relying on old colonial structures and systems that create systemic barriers.⁹²

"When we reach out to First Nations, the first thing we hear is a lack of capacity to engage. Proactive participation is not easy for First Nations to resource."⁹³

Resources and capacity are fundamental to implementing Article 19 in UNDRIP which speaks to free, prior, and informed consent.⁹⁴ While some consultants are employed to support First Nations and increase their capacity, many will take the funds but do not deliver what is needed to move communities forward. Given this, funding initiatives should be created and accessible for First Nations to pursue and understand water basin issues at a larger scale across territories.⁹⁵ As First Nations take on more self-government roles, they must consider if they have the resources and capacity to provide the services they want. Recruitment, job development, co-mentorship, and long-term or temporary funding are all things to be considered, along with the availability of a stable funding model that is multi-generational instead of funding that addresses single issues in the short term.⁹⁶

Short-term and temporary funding for capacity can leave communities right back where they started when the funding runs out. Grant funding may assist in the short-term, but they often support consultants to do the work, however, capacity is not built in the community for the next time an issue arises. Governments need to stop looking at capacity building as

⁹⁰ October 21 Session.

⁹¹ November 29 Session.

⁹² October 21 Session.

⁹³ December 8 Session.

⁹⁴ United Nations *Declaration on the Rights of Indigenous Peoples*, Article 19: States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free, prior, and informed consent before adopting and implementing legislative or administrative measures that may affect them.

⁹⁵ October 21 Session.

⁹⁶ October 21 Session.

a project that starts and stops, but rather continues and builds over time.⁹⁷ In this way, one participant emphasized the importance of writing part-time and full-time roles of Indigenous community members into budgets and proposals to tap into and build on existing capacity. The knowledge of community members is valuable, and people should not be expected to work for free on projects, therefore acknowledging contributions with honorariums or other compensation for their time is an important piece to attracting and retaining capacity.⁹⁸

When it comes to capacity building around flooding, some First Nations communities have been able to partner with their local regional district associations to share resources. In other cases, smaller communities may lack access to technology (such as the internet) which can limit their ability to access funding support for capacity. One participant suggested that government representatives should arrange meetings in communities to communicate what funding is available. As well, support communities to fill out forms to streamline access to support and create a template to help people access capacity funding.⁹⁹ First Nations want governments to come and sit with them, get to know them, and hear what they have to say. Once they see and listen to what people are saying, governments can see what is a reality and what is a dream. Showing up in person to have conversations with First Nations can show that governments have good intentions and are doing the work with a good mind and a good heart.¹⁰⁰

In addition to funding, training was also noted as important for increasing capacity. A participant from a First Nation shared that during flood season, they usually help neighbouring First Nations along with the EMCR, the volunteer Fire Department, and the regional district. Between all of these groups, about 20 volunteers will show up to help but the only opportunity they have to assist with is sandbagging. As a result, volunteer numbers have started to fade because people do not want to sandbag every day. While the community always steps up in an emergency situation, being able to provide training to people so that they can assist in different ways would be helpful and encourage greater volunteer participation.¹⁰¹ Another participant felt that “there needs to be ongoing training, completed in a collaborative way, to maintain skills,”¹⁰² highlighting that one-off opportunities only go so far and that a greater range of skills offers incentives for volunteers to return.

One of the key challenges for capacity building is that communities are constantly addressing situations that are happening in the present, making it hard to build capacity for the future. While communities are often tied up in recovery and response, support in prevention initiatives is needed as well.¹⁰³ While it can be hard to initiate work on something that has yet to happen, one participant shared a prevention initiative involving role-playing

⁹⁷ October 21 Session.

⁹⁸ October 21 Session.

⁹⁹ October 21 Session.

¹⁰⁰ October 21 Session.

¹⁰¹ November 1 Session.

¹⁰² November 29 Session.

¹⁰³ October 21 Session.

and scenario solving-based emergency training. By role-playing an emergency, participants were able to consider what they would have to do during an actual emergency and which key relationships they would be relying on. The training was a huge success and many relationships were made that will benefit their emergency response in the future.¹⁰⁴

Inequality

In the experience of one participant, reconciliation and equality are not reflected in agreements that governments have with First Nations, which leads to a strain on capacity.¹⁰⁵ One example was provided by a participant who shared that their employment position is funded through Fisheries and Oceans Canada, but the agreement amount has not changed in 20 years despite inflation. Historically they could fund 20 projects, but now can only fund three projects due to the increased cost of living. The participant noted they were not alone and other staff are encountering challenges in getting fair pay increases that reflect their expertise and contributions as well.¹⁰⁶

Inequality is being felt in many areas, particularly around pay, with one participant noting that some federal employees receive regular pay increases, which is contrasted with their own budget where they can wait for years without an increase. It is realities such as these that continue to shape the relationships between First Nations and the federal government, making it difficult to build trust and respect between parties.¹⁰⁷

One participant from a First Nations community in the Fraser Valley shared that they have been in discussion with their local municipality for years. The municipality has continued to promise to build a dike near the community but it still has not happened, leaving the participant to question what it will take to get the project done.¹⁰⁸ A municipal representative responded and stated that it comes down to resources and funding, noting that when their municipality gets approval for funding it only goes so far as to build back what was lost but there is not enough funding to make improvements. In this way, the municipal participant felt that they were not empowered to 'build back better' but rather just "building back for another flood event to happen again and wipe everything out and that cycle just continues."¹⁰⁹

¹⁰⁴ December 6 Session.

¹⁰⁵ October 21 Session.

¹⁰⁶ October 21 Session.

¹⁰⁷ October 21 Session.

¹⁰⁸ November 29 Session.

¹⁰⁹ November 29 Session.

4. *Alahgoh 'uts'ut'en*¹¹⁰ | We All Work Together

First Nations, Local & Regional Governments

"How do we transition from past decisions that have created a lot of flood risk to a new way where we are reducing the risk over time?"¹¹¹

One local government representative shared their experience working closely with a neighbouring First Nation where they engaged in joint projects together and the First Nation was able to bring their Indigenous Knowledge into projects.¹¹² The municipality also did studies that looked directly at the band lands as well to support the scarce capacity the First Nation had to offer, and ensured that the limited contributions that the First Nation was able to make were leveraged into something that was felt to be valuable and reflected the priorities of their Nation. The participant felt that it is important to structure projects so that partnerships and collaborations are prioritized from the outset, which offers a shared learning process through these mutually beneficial projects.

"We send [First Nations] all the mapping and invite them to the table. I'm not seeing any animosity or difficulties in conversations, but there is so much complexity to their history that you have to pause and give space. You need to leave doors open."¹¹³

Planning a project that acknowledges the time needed to build relationships and trust helps minimize stress and allows for the creation of realistic timelines. Taking the time to build relationships between local government and First Nations is important because flooding is not going away and there needs to be longevity in relationships and knowledge exchange to inform many future generations of projects, not just the next project with a funding timeline tied to it.¹¹⁴

"Trust can be built through communication. Nations have the knowledge but are afraid to share it."¹¹⁵

On Vancouver Island, a First Nation works closely with their local municipalities, however, given that the river is on reserve land, mitigation is the primary responsibility of the Nation.¹¹⁶ In terms of their relationship with their federal and provincial counterparts, it feels at times that it is a one-way street and is restrictive, with meaningful investments in mitigation lacking and ongoing challenges with collaboration. As was heard from other

¹¹⁰ *'We All Work Together'* in Dakelh.

¹¹¹ November 29 Session.

¹¹² November 1 Session.

¹¹³ December 9 Session.

¹¹⁴ November 1 Session.

¹¹⁵ November 29 Session.

¹¹⁶ October 21 Session.

participants throughout the sessions, the First Nation felt supported during flooding events, but the recovery efforts have not demonstrated the same level of commitment that is required to address outstanding issues. While getting funding for response initiatives is not an issue, the participant felt there is no real action on prevention and the approach taken by B.C. is to react, instead of plan ahead.

"Everyone's saying we're about prevention and mitigation, so why isn't anyone doing anything?"¹¹⁷

One First Nation has encountered so many bureaucratic and time-consuming hurdles trying to work with EMCR that they are cutting them out of recovery efforts because they need to move projects forward and are looking for partnership opportunities with regional districts and other local communities instead. One example that was provided in regard to challenges with EMCR included that the First Nation has had claims sitting with EMCR for a year that have not been processed. The First Nation has resources of its own, so has been able to move forward despite not being compensated, but smaller Nations cannot wait this long to be supported.¹¹⁸

"Acknowledging that municipalities usually stick to their boundaries, I look beyond my boundary because it's part of my responsibility even though flooding doesn't occur on Tsawwassen Nation treaty lands. It is my responsibility to look beyond my border and jurisdiction. Each jurisdiction has to step up and take on their responsibility."¹¹⁹

A representative from the City of Chilliwack shared that they felt municipalities and First Nations are at different stages, with the municipality completing floodplain mapping but also recognized that more needs to be done in that area, along with data collection, Laser Imaging, Detection and Ranging (LiDAR).¹²⁰¹²¹ Like many participants, the representative voiced concern over the turnaround time for funding approvals and supported sustained, long-term funding that provides stability for project development and staffing.

Thinking about water governance is complex; water has a memory and it wants to go where it was used to going, and where it makes new areas of flow, those patterns will remain. In some areas of B.C., such as the territory of the Cowichan Tribes, multi-jurisdictional challenges are not faced in the same way as large river basins, but rather require looking at the confluence of three rivers. With these rivers converging on their territories, the rivers must be understood so that their flooding can be planned for, including considerations, such as housing, that could be affected by flooding. In Richmond, these same considerations come up given that they are at the end of the river and need to be aware of upstream implications. Ultimately, each area has to consider the unique elements of its

¹¹⁷ December 6 Session.

¹¹⁸ October 21 Session.

¹¹⁹ December 9 Session.

¹²⁰ October 21 Session.

¹²¹ October 21 Session.

environment to be able to decide on the best prevention and response tools to employ, while also considering how the decisions that are made will impact others downstream or upstream. In this way, having a regional approach was preferred by some participants to see the bigger picture because water systems are so connected, with the acknowledgement that looking at issues at the local scale is still important.¹²²

Many participants across sessions favoured regional or water basin approaches but desired provincial guidance to standardize approaches. In one instance, a participant felt that leaving the flood strategy to municipalities was not the best approach, citing pressure from developers that could lead to poor decision-making for flood planning. However, they also remarked that when trying to navigate issues at the provincial level, “the rules will not allow for good local outcomes.”¹²³

“The Flood strategy seems too narrow and a water basin approach is needed, but there is no coordinated, political mechanism on a water basin scale.”¹²⁴

One participant wondered about the connection between flood governance, water basin levels and local government, noting that they believed there was movement happening at the provincial level with government-to-government tables, but local government has not been included in these discussions. Another participant agreed with the connection between water levels and local government, pointing to the Thompson-Nicola Regional District and how it does not appear they have been involved with the municipality of Merritt on water-related issues.¹²⁵

“Water basin-scale planning starts at the headwaters.”¹²⁶

To get organized, there is a need for a central point of collaboration to ensure that everyone is brought to the table to share information. This will help parties to see what is happening in other basins and how that will impact others. It will also identify where parties are duplicating efforts, and where there may be suggestions for monitoring and tracking in other communities that would benefit from that type of information.¹²⁷

“The different water basin groups, they know their own water basin, but we need to bring them together to share about each other’s water basin and their innovations. We need to bring each other together and stop thinking we each know what to do. The buck doesn’t stop anywhere. The rivers keep flowing.”¹²⁸

¹²² October 21 Session.

¹²³ December 6 Session.

¹²⁴ December 8 Session.

¹²⁵ October 21 Session.

¹²⁶ December 6 Session.

¹²⁷ November 15 Session.

¹²⁸ November 15 Session.

It was shared by one participant that in the aftermath of the November 2021 floods, the companies and contractors that came in to help with restoration and debris cleanup in the Merritt area worked well with First Nations communities. Still, when it came to working with government ministries, the relationship was strained and one participant felt that these entities did not work well to support and collaborate with First Nations, and the participant felt that governments did not want to engage with First Nations who wanted to collaborate.¹²⁹

"Do not be afraid of offending, that is creating division. Just reach out. We all say wrong things at times but that happens between all people. Come with the right intentions and come to collaborate."¹³⁰

While technical experts bring specialized value in many areas, there is also a desire for dialogue and collaboration beyond these experts that would include the diverse voices of youth, Elders, and knowledge holders to provide a grounding perspective. First Nations must ensure that people who are working for their Nation are not only getting the work done, but also fostering the potential in young people to start building them up for specific roles in their communities, from hunters to people who will fish.¹³¹

Another First Nations participant reminded their group that while flooding is the focus of the conversation, drought also has an impact that affects water and hazardous materials. We must broaden our thinking to include rivers, waterways, and the land to ensure we are taking a 360-degree perspective. In this way, the participant felt that we need a land and water approach that is holistic, involving all groups, overlapping water basins and subject matter experts for droughts, floods, wildfires, and hazardous materials that fit within a larger emergency strategy.¹³²

This holistic theme was raised again in another session when one participant emphasized that governments' approach to issues cannot be piecemeal, but has to look at a problem holistically. When we are talking about flooding we cannot just focus on the floodplain, we must look at the issue starting at the top of the mountain where trees have been burned down and how this has cascading effects down to the floodplain. One participant reflected that "the decisions we make today will impact the seventh generation, just like residential schools."¹³³

Another participant remarked that in their municipality there is conflicting data, and no one knows which pieces of information are correct. In that instance, there were flood assessments done by two different groups which came up with contradictory findings. As such, a third report was drafted to try and mesh the two existing reports together, but they are struggling to understand what their actual risk is.¹³⁴

¹²⁹ October 21 Session.

¹³⁰ November 29 Session.

¹³¹ October 21 Session.

¹³² November 15 Session.

¹³³ October 21 Session.

¹³⁴ December 6 Session.

"There can't be a one size fits all approach with any of this work. We need to recognize that all partners across the province have different needs, resources, capabilities, funding and political will. Legislation and regulations are, at times, well suited to one section of the province, but not in other cases."¹³⁵

One local government representative spoke about the need for more regional planning with other local governments, First Nations, and industry representatives. They felt there is a need for each party to understand the strengths of other communities and stakeholders, including their challenges and where they are at with floodplain mapping. Collaboration of this nature helps with systemic mapping and monitoring to consistently understand what is happening with the river and its flow levels.¹³⁶ One participant suggested that we look to Pemberton as a model for regional or water basin approaches, noting that the Pemberton Diking District meets often to discuss work in the valley and helps to facilitate consensus between the affected parties.¹³⁷

Communications within & between First Nations Communities

In one community, there is a community-to-community forum with local First Nations that meet once per month.¹³⁸ They have been developing this relationship for years and now can all work together. There is an acknowledgement that everything that happens to one community will happen to the other, so they all have common views but bring different perspectives to the table. Following the establishment of the forum, their local MLAs joined the table which has been working well because they are aware of what is going on and can advocate for the community.¹³⁹

Another strategy that has been effective in the community involves hosting a monthly engagement meeting that follows the Chief and Council meeting. A participant shared that this has been really helpful and has accomplished a lot in just two years. Every month a different theme or issue is featured for discussion at the meeting which is chaired and coordinated by the Chief given that they are ultimately responsible for all of the portfolio areas.¹⁴⁰

In one First Nations community, they do not discriminate between on and off-reserve members, and also include leased land owners on-reserve and those who live adjacent to the boundaries. The First Nation has brought in everybody because they are all considered part of the community and should be taken care of. By bringing in the First Nations Emergency Services Society (FNESS), municipalities, regions and agencies through the

¹³⁵ December 9 Session.

¹³⁶ November 15 Session.

¹³⁷ November 29 Session.

¹³⁸ November 29 Session.

¹³⁹ November 29 Session.

¹⁴⁰ November 15 Session.

planning process, the First Nation was able to be proactive and prepared for any hazard. Generators were purchased due to past power outages caused by the wind, and trees were planted on the lakeshore to give the community a wind break. The generators have been used for the community hall and medical services to make sure that support is available for people with disabilities at the medical clinic. Furthermore, a generator was also hooked up to their sewer and water plant, while another generator was used to support their community-owned internet and phone company so that if the power goes out, they are ready for emergencies and can continue to communicate with one another.¹⁴¹

One First Nations participant advised that FNESS has been instructed to take on a coordinating role between the Province and First Nations, using regional representatives that work within different districts. FNESS assists with putting flood protection plans in place and is working with the First Nation and the Province to get a firehall and a search and rescue centre set up. FNESS has assisted the First Nation with applying for funding, and bringing many different partners together, including municipal, regional, and fire teams to support their plans.¹⁴²

While relationships between First Nations, local, regional, provincial, and federal governments are important to build, First Nations participants also acknowledged that relationships between some neighbouring First Nations communities must also be built. Some may assume that nearby First Nations act in unison and are on the same page about certain issues, but this is not always the case. Due to colonization and residential schools, some relationships continue to be fractured and can be marked by a lack of trust and willingness to gather together to discuss action items that could move communities forward. In other cases, neighbouring communities may get together but it may be more about rebuilding relationships and participating in cultural activities rather than participating in decision-making tables on specific issues.¹⁴³

"They don't come talk to me, so we don't have a very good relationship with them for emergencies. They didn't call us to see if we were okay. In my mind, we are all human, we all live by the water."¹⁴⁴

Many First Nations are taking the initiative to prepare for the next emergency event and are considering the best ways to focus on prevention. One participant shared that to prepare for the future and build capacity, Seabird Island is getting involved in emergency planning and is hosting monthly community meetings to discuss issues within their territory and what can be done to mitigate and respond to the next challenge, including collaborating with government to find solutions. As many other participants have echoed, the participant advised that the focus needs to be on prevention rather than reaction.¹⁴⁵

¹⁴¹ November 15 Session.

¹⁴² November 15 Session.

¹⁴³ November 15 Session.

¹⁴⁴ November 27 Session.

¹⁴⁵ October 21 Session.

Standardization in Approach & Communications

One local government participant considered how governments should be designing communications going out to the community around engagement and technical aspects, and what kind of information should be shared, including things like a decision-making matrix for evacuation orders.¹⁴⁶ Given that only a local government or First Nation can issue an evacuation order for a community, any decision-making matrix around that Order is the local government's responsibility to share. They felt that what governments are using to make decisions should not be a secret, but rather the information needs to be presented in a way that clearly and accurately reflects the risk. One example provided looked at Interior Health and the matrix they use to decide when to evacuate hospitals. The participant emphasized that we need to feel comfortable and confident with the factors that we used in order to share them publicly, pointing out that if we are not feeling confident in sharing how decisions are made, should we be making these decisions at all?¹⁴⁷

There was also a desire for a provincial minimum standard for hazard assessment and measurement because there is currently no way for municipalities to audit hazard assessments given political interests can be coupled with a lack of staff capacity. Given this, minimum guidelines should be set by professionals when work of this nature is being done by municipalities.¹⁴⁸

"The provincial guidelines should be expanded with factors such as mapping and professional reliance. Additionally, there is an inherent conservatism in the guidelines for engineers which is not ideal when building resilience for communities."¹⁴⁹

The standardization of guidelines and embedded processes for the review of strategic plans, flood-related tools and assessments are also important so that they can remain living documents that are continually reviewed and updated despite varying political and property interests.¹⁵⁰ It will be important to periodically check in with the public by doing engagements to ensure that priority issues are being identified and addressed through evolving guidelines and processes that respond to a changing environment.¹⁵¹

Finally, several participants brought up the use of LiDAR technology and predictive modelling with some pushing for its increased use, while others expressed hesitation and felt that elected officials struggle with the associated communication challenges to the public and being able to adequately understand the risk. They believed that care should be

¹⁴⁶ November 15 Session.

¹⁴⁷ November 15 Session.

¹⁴⁸ November 15 Session.

¹⁴⁹ December 8 Session.

¹⁵⁰ November 15 Session.

¹⁵¹ November 15 Session.

given when using this type of technology because real or perceived land values can be damaged based on the data and information flowing from LiDAR.¹⁵²

One participant highlighted the balance between having a legal responsibility to local government versus to the citizens, and how releasing information that could potentially damage property values could lead to liability and litigation.¹⁵³ Another participant shared that their municipality had done floodplain mapping, but the elected officials did not want to release the information to the public. In this example, the participant cited people's concerns about insurance coverage and suggested that national flood insurance is needed to help those who are caught in the middle,¹⁵⁴ with another participant stating this kind of assistance should also be made available to First Nations whose reserves were put in floodplains due to historic colonial policy.¹⁵⁵

Alerting & Communicating with the Public

Hazard Alerts

For one municipality, it decided to change its communications on flood alert levels a few years ago for certain areas because residents advised that they would not leave unless they were in imminent danger. As such, every Spring local government representatives knock on doors to see if there are any new people that are living in these neighbourhoods that need to be advised that they are in a floodplain and provide them with relevant information that tells them how the city will care for and prepare residents. The local government representative shared that without this local knowledge about the neighbourhood's preferences, the participant would have elected to evacuate that area for the last three years in a row.¹⁵⁶

In a First Nations community, their approach leading up to the winter season was to provide hazard notices to residents that ice was forming on the river and that it was more dangerous than before because the ice hadn't stabilized yet. In the Spring when the ice melts and there is an increased risk of flooding, residents receive notices to make them aware of the situation but also highlight that residents do not need to act. Communicating in this way gives residents the heads up and builds capacity for resilience because now the individual has information and can make a choice; they can gather their thoughts and make a plan based on what they know. This may include establishing muster points for families who may be separated due to school and work, or deciding to vacate the area until the risk is mitigated.¹⁵⁷

¹⁵² November 15 Session.

¹⁵³ November 15 Session.

¹⁵⁴ November 29 Session.

¹⁵⁵ December 9 Session.

¹⁵⁶ November 15 Session.

¹⁵⁷ November 15 Session.

In rural and northern communities, we must also be mindful that not everyone has a computer and internet connection, with one participant reporting that 50% of their community does not have the internet.¹⁵⁸ In communities that are limited in these ways, we have to think outside the box about how to communicate with residents. One example provided was establishing an alert system that calls landlines and sends text alerts to residents. Another participant noted that people living in a state of poverty or who are elderly may not have a phone or internet and could benefit from another medium of communication such as bulletin boards at community hubs or grocery stores.¹⁵⁹

Disclosure of Hazard Information

If resources are available, it would also be helpful to have a person stationed at a community hub to answer questions and help navigation through processes. With tight budgets and limited resources, we have to be creative about how we connect with people and get the word out. One participant suggested an effective way to gather people is to host a block party and offer free food. While this may be effective, these kinds of informal gatherings can be challenging to secure funding for within the confines of budgets and formal employment roles that people work in.¹⁶⁰ Another participant suggested that when people pay their property taxes, there should be a section where they can subscribe to local updates or provide information on where to find information.¹⁶¹

One participant agreed that governments need to be transparent to the public, but it is also important to make sure that the public can understand the information that is shared. There needs to be consideration around what the public needs to know to make sound decisions. One provincial government participant felt that the easiest tool for people to understand is maps because they can see where their home is and they don't need to be a technical engineer to translate the information.¹⁶²

A local government participant felt that when we share information with communities, we need to be clear about our intent and our reason for acting: is it to preserve a home or river bank, or to protect from erosion? One example provided described when some diking was put down the center of a residential street, which left some residents on one side of the dike upset that their homes were not being protected and thought they were being sacrificed. In reality, there was no room for the diking along the shoreline, so it had to be put in the middle of the street. In that situation, clarity of intent would have gone a long way toward mitigating negative community perceptions.¹⁶³

Some participants discussed having publicly accessible flood plain maps, with one participant calling for new guidelines that show the pre and post-dike involvement for specific areas. Another participant noted that with the release of such information, many

¹⁵⁸ November 15 Session.

¹⁵⁹ November 15 Session.

¹⁶⁰ November 15 Session.

¹⁶¹ November 29 Session.

¹⁶² November 15 Session.

¹⁶³ November 15 Session.

people worry about the impact it will have on land values so municipalities can be hesitant to use and endorse the flood plain maps.¹⁶⁴ This perspective was shared by many participants throughout the sessions and is detailed further below in the section titled 'Community-led retreat'.

One participant felt that many communities have a lot of information on flood risk adaptation and that the best way to enhance this information is to collaborate with Indigenous Nations and empower knowledge holders to provide their perspectives on this information back to the Province. It is important that data is not just held within the Province, but is also shared with the Nation.¹⁶⁵

One First Nations participant emphasized the importance of having effective communications prior to an emergency incident.¹⁶⁶ They shared their priorities when preparing their communications strategy, which included:

- Opening with a traditional greeting and weather trajectories;
- Providing information about the ministries that will be responding and with what equipment;
- Including a quote from leadership with messaging that includes supportive, timely, and accurate information;
- Follow up with direction (Stay out of the lake); and
- Send the communication to leadership, then the press, and then to social media. It is important for community members to receive this information internally instead of reading it in the press.

Another participant wanted an understanding of what the concrete actions will be coming out of the B.C. Flood Strategy and desired greater communication from the Province regarding the current tools that are available for use, besides the River Forecast Centre. They felt that when an emergency event happens they need to know which other communities are on the river, who to contact if they need help, and how a warning system is set up. The participant wanted the Province to take a lead on connecting neighbouring communities to help with equipment and other needs.¹⁶⁷

¹⁶⁴ December 6 Session.

¹⁶⁵ October 21 Session.

¹⁶⁶ December 6 Session.

¹⁶⁷ December 9 Session.

5. *Naut'sa mawt*¹⁶⁸ | Tools & Approaches to Manage Flood Risk

Hazard, Risk & Vulnerability Analysis in Action

When it comes to hazards and risks, the most vulnerable members in our communities must be given due consideration when we think about the best approaches to meet them where they are at. One First Nations participant offered that while there are provincial agencies and bodies that are responsible for people with health, mobility and other challenges, this information is not shared with the local authority that is trying to support these individuals and understand who and where they are. A local government representative agreed and felt that transparency must happen between the government and residents, but also within government in the event of an emergency where an equity-denied population that is already being serviced by a ministry could be assisted and connected with existing services. One example provided was that if there is a house fire in a low-income building where many of the residents are already clients of the Ministry of Social Development and Poverty Reduction, emergency responders should be able to have relevant information to help those individuals get in touch with their caseworkers early in the process so that they can be provided with the right services during an emergency event.¹⁶⁹

While people living with challenges may require special services and support during an emergency event, one First Nations participant shared that many of the emergency support services providers are volunteers, not experts in a particular field or government agency staff, and can only provide limited services. While these volunteers should not be expected to understand the complex challenges of every resident they are assisting, we can try to educate them as much as possible on how to work with those who need help and how to take care of themselves after the emergency event. To support a comprehensive response, communities need representatives at local and provincial levels who work with people with unique needs and are connected to other ministries such as Mental Health and Addictions, and Social Development and Poverty Reduction. One local government participant further explored layers of risk and mobilization, noting that there is one person within their jurisdiction of 80,000 people that is on a 24-hour medical machine. While special attention can be paid to that resident to understand what risk level they are comfortable with before being transported out of the area, there are not enough resources for that kind of attention to be given to each resident.¹⁷⁰

Over the last two years, a hazard, risk, and vulnerability analysis (HRVA) process separated one region into seven electoral areas and invited all First Nations, local authorities, provincial agencies, and residents to participate on committees and identify risk levels, consequences, and hazards for their area. While the information was broad, it was helpful

¹⁶⁸ *'Working Together as One'* in Hul'qumin'num.

¹⁶⁹ November 15 Session.

¹⁷⁰ November 15 Session.

and did build relationships in the community so that in times of high risk when people are being impacted, those relationships were already well established. When we consider First Nations' participation in an HRVA, their Indigenous Knowledge of the land and weather can further enhance the effectiveness of this analysis.¹⁷¹ One participant felt that there is an opportunity to bring the HRVA process and traditional Indigenous knowledge together, noting that it is important to appropriately hold knowledge of cultural sites and consider this kind of knowledge when drafting foundational documents like HRVA that inform the cycle of planning.¹⁷²

A First Nations participant added that the last step of an HRVA is a World Cafe event that brings together all the different agencies and groups in the room to present the outcome of the process. This allows residents the opportunity to comment on the process and share information, bringing together high-risk, high-resiliency, and subject-matter experts to take a 'whole of society' approach because everyone has a role in and responsibility for this work.¹⁷³

The Province shared that they do plan to do a provincial risk assessment and will be doing engagement on broader provincial HRVA over the next couple of years.¹⁷⁴ One participant emphasized that engagement on provincial flood risk assessment should be a priority with local governments and First Nations because currently no one is implementing the Flood Hazard Area Land Use Management Guidelines and this is creating a barrier to reducing future coastal flood risk. The participant concluded that municipalities have tried to take the lead and it has been extremely challenging because of varied interpretations and complicated local government policy interventions.¹⁷⁵

When it comes to consultants applying known standards to flood projects, one participant agreed that the Province does give guidelines, however, there are still inconsistencies in the interpretations of consultants which creates challenges. The participant observed that it would be helpful if the Province provided a baseline recommended risk-based methodology that could set a good standard for different jurisdictions to follow and modify according to their own local risks. They further added that a current challenge across jurisdictions is disagreement over methodology because "the engineers that local governments usually have on hand are civil engineers and are not experienced in flooding."¹⁷⁶ Given this inexperience coupled with inconsistencies around methodology, it is creating difficulties when local governments are trying to give consultants consistent direction unless there is an experienced engineer involved. Despite the available funding, if this disparity continues, there will be varying results and quality when it comes to planning.¹⁷⁷

¹⁷¹ November 15 Session.

¹⁷² November 29 Session.

¹⁷³ November 15 Session.

¹⁷⁴ November 29 Session.

¹⁷⁵ December 8 Session.

¹⁷⁶ December 8 Session.

¹⁷⁷ December 8 Session.

In terms of the identification and mitigation of hazards and risk, some participants brought up the use of evacuation centres. One participant mentioned tsunami evacuation centres and felt that some of these structures should be recognized as mitigation structures instead of emergency response because some people are being evacuated on a regular basis to higher elevations and often have nowhere to go for shelter or food. In this way, access to a reliable centre would provide basic necessities for people whose lives are disrupted by flooding.¹⁷⁸ In one session, a participant advised that their First Nations community is looking at an evacuation centre that doubles as a cultural centre to promote mixed-use infrastructure.¹⁷⁹ Another participant emphasized the need for evacuation centres that were open to everyone after First Nations members were denied access to a centre with occupants advising that the emergency centre was only open to members of that particular community.¹⁸⁰

Floodplain Mapping

For communities and neighbourhoods that were developed in floodplains, reinvestment and rebuilding is very challenging because structures need to be raised high off the ground. One local government representative shared that they completed their floodplain mapping and bylaws but there are still many unanswered questions.¹⁸¹ For example, they did not look at smaller water bodies or at properties that are currently being developed. If this information is not on the maps, it can present challenges in communicating risk to the public, especially where there are multiple maps and potential issues. Another challenge shared was narrowing the scope of floodplain mapping due to budget issues, meaning municipalities are only looking at the larger issues but are not turning their minds to smaller scales that can still impact properties. While one participant felt that floodplain mapping may never get to the smaller scales described, another participant emphasized that it was important to look at smaller scales for property development to identify erosion risks and potential blockages.¹⁸²

At the local government level, floodplain mapping is essential for land use planning, building permitting, and emergency management preparation, mitigation, response and recovery. To support local governments in considering how they can move reconciliation forward, additional information on floodplain mapping as it relates to Indigenous culture, heritage and commerce values would be welcomed and of great assistance to local governments.¹⁸³

A regional district participant felt that the Province should be the lead agency for floodplain mapping as this allows for consistent standards and approaches across the province,

¹⁷⁸ November 1 Session.

¹⁷⁹ December 9 Session.

¹⁸⁰ December 8 Session.

¹⁸¹ November 15 Session.

¹⁸² November 15 Session.

¹⁸³ November 15 Session.

including how data and information is produced, retained, and updated. This standardization would enable larger local governments and First Nations with the financial and staffing resources to undertake this work.¹⁸⁴

"A top-down approach would be helpful through leadership from the Province. For example, by developing standardized floodplain maps and sharing that information with the public."¹⁸⁵

One participant from a regional district shared that it can be hard to collaborate with First Nations on funding streams for floodplain mapping because they have to go to many different bodies for funding. Because of these delays, the participant felt that it would take them 10 years of funding program applications to do a detailed flood mapping of the regional district. Given these barriers, grants should support collaborative relationships between different bodies, such as First Nations, regional districts, and local governments.¹⁸⁶

Planning for floodplain management will require tripartite and government-to-government approaches between First Nations governments, local governments, and the provincial government, as each of these parties is in a position to undertake activities that can mitigate or aggravate the sustainable function of a floodplain.¹⁸⁷ One participant felt that the Province in particular has an important leading role because of their jurisdiction around resource extraction activities, including forestry, mining, oil and gas, and hydro damming which can have an aggravating effect on floodplains. Another participant shared that when the legislation is modernized, they believed the best fit for a coordinating body would be the Ministry of Emergency Management and Climate Readiness, given that they have the facilities, space, and operational arms.¹⁸⁸

Community-led Retreat

A regional district participant felt that where there are areas at risk, First Nations, local governments, and the Province must look into the future when floodplain residents put their properties up for sale and step up to purchase the property at a fair market value and remove the building. Over time, the area will become unpopulated and able to be used as a recreational site or 'rewilding' which is a form of ecological restoration that involves supporting the land to go back to its natural state.¹⁸⁹

"They are only thinking about the short term and not the seven generations."¹⁹⁰

¹⁸⁴ November 15 Session.

¹⁸⁵ December 9 Session.

¹⁸⁶ December 9 Session.

¹⁸⁷ November 15 Session.

¹⁸⁸ November 15 Session.

¹⁸⁹ November 15 Session.

¹⁹⁰ November 29 Session.

One provincial government participant expressed some hesitation around local elected politicians who have development or realty backgrounds because at times decisions can be made for zoning that may benefit the politician or their constituents, but these decisions are not being considered at a higher level or with a long term strategy in mind.¹⁹¹ Given this, one participant felt that local government should not be responsible for decisions that have long-term consequences.¹⁹²

Another participant expressed a similar view and shared that it was a political reality that they have elected officials and a community who are concerned they will lose property value and not be able to sell if floodplain maps are released.¹⁹³ In this way, the participant highlighted that the withholding of floodplain mapping and the inability for the Province to create standardized floodplain mapping across the province continues to put citizens, engineers, and buyers at risk while developers and realtors cash in.¹⁹⁴ Despite these articulated concerns, the participant observed that this was a “really challenging and complex situation politically that is not addressed in the Intentions Paper.”¹⁹⁵

“It’s called ‘High River’ for a reason. There is a reason I cannot get flood insurance and it is because I live in a flood zone. That is a fact.”¹⁹⁶

A local government participant felt that we have to look at how development impacts flooding, including looking at the trees that are being taken down and therefore unable to soak up excess water. The participant acknowledged the tension between maintaining the tree population in urban areas and the need for development due to the increasing housing shortage.¹⁹⁷ Ultimately, development in floodplains needs to stop, and housing needs to be densified in the right areas with zoning requirements and guidance coming from the Province.¹⁹⁸

“We don’t let water be water. We talk about mitigations and flood protections when we need to focus on letting water be water and have its space. We’re in the way. We’ve developed where we shouldn’t be. Managed retreat is something there is currently no support for.”¹⁹⁹

When it comes to some First Nations who are living on reserves, there can be a sense of hopelessness in that, the land they have been allocated is all they have. One participant offered that some First Nations are having conversations with provincial and federal governments on possible relocations because there is nowhere to go and no way to build dikes.²⁰⁰

¹⁹¹ November 29 Session.

¹⁹² November 29 Session.

¹⁹³ December 9 Session.

¹⁹⁴ December 9 Session.

¹⁹⁵ December 9 Session.

¹⁹⁶ December 6 Session.

¹⁹⁷ November 29 Session.

¹⁹⁸ November 29 Session.

¹⁹⁹ December 9 Session.

²⁰⁰ October 21 Session.

"For Indigenous communities, there are many stories about what it means to take care of the land instead of fighting against it as we grapple with understanding the trauma that comes with the loss of land due to climate change."²⁰¹

A Ministry of Forests representative shared that they are beginning to engage with the federal government on floodplain mapping with four areas in the province which have begun those conversations with First Nations to determine what the process will look like moving forward and who will own the data. First Nations are empowered to decide what that will look like, either at a community level or whether some broader principles can be applied.²⁰²

For those who have become aware that their home may be underwater within 20 years, the homeowner has no means other than a government-sponsored program to relocate. We must carefully consider how the delivery of such a program would occur to manage the broader emotional and societal toll that it would take on residents, particularly in smaller communities.²⁰³

"Post-disaster it is about B.C. releasing Crown land where communities can retreat. There is a big education component that is required. Education would help to de-sensitize this conversation."²⁰⁴

While a traditional approach to risk mitigation in some circumstances may look at protecting property from floods and fighting against water levels, in other circumstances this may not be the most feasible solution. One example that was provided considered a \$6 million dollar project to protect four homes, versus compensating and relocating homeowners to build homes in a new location outside of the floodplain, as was seen in the North Ruckle neighbourhood in Grand Forks. Due to peoples' connection to land, a community-led and managed retreat can be a sensitive topic to discuss.²⁰⁵

"We're getting funding that keeps people in places where they are exposed to risk, but we are not getting funding for land acquisition."²⁰⁶

One participant shared that Vancouver has some areas that are designated for retreat flooding, including some athletic and agricultural fields that have an internal drainage system which allows for water retention and helps prevent flooding onto private property.²⁰⁷ Other participants added that these types of arrangements offer storage capacity during

²⁰¹ November 1 Session.

²⁰² October 21 Session.

²⁰³ November 1 Session.

²⁰⁴ November 29 Session.

²⁰⁵ November 1 Session.

²⁰⁶ December 9 Session.

²⁰⁷ November 29 Chilliwack Session, page 11.

significant events and agreements can be made with farmers to formalize this type of arrangement.²⁰⁸ In this way, property that has been identified for flooding can be prepared (e.g. planting crops that can sustain flooding). Repurposing specific areas like this creates nature-based infrastructure that, over time, people will become familiar with. For example, people will enjoy a tennis court for most of the year but will come to realize that during significant flooding events its main function is a retention pond.²⁰⁹ One participant observed that if areas were allowed to flood through a managed retreat, it is often contentious to designate specific areas because this can affect people's homes and livelihoods. However, if governments were to zone an area to allow for passive water to spread out, we could be better protected through this approach.²¹⁰

While a First Nations representative shared that they are supportive of community-led retreats and those conversations have been had in their community, a local government representative was of the view that rehoming as a resilience strategy is 'basically a form of expropriation'. While a community-led retreat does not meet the formal definition of expropriation, it may feel that way for some community members who do not support the community-led retreat and feel forced to leave their homes. The local government representative shared that due to flooding, some homes may be in an active landslide area but regulation has not kept up with folks who are in that situation which has left them living in an at-risk area without the availability of immediate support in the event of a landslide.²¹¹ Given that regulations have not kept up with people living in high-risk areas, it appears timely that managed retreats are considered for some areas.

A First Nations participant felt that the federal government was moving at a snail's pace on community retreat due to lack of support from the Province. In some cases, communities want to retreat but need support to do that. In other cases, the participant believed the federal government wants to move communities much further than they want to go.²¹²

Nature-Based Solutions

One of the lessons learned during a partnership between a local government and First Nations community revolved around water quality as it related to flood control. This resulted in investment in natural solutions like wetlands which reduces the force of flooding, and also increases water quality for First Nations while bringing back a lot of traditional food sources and medicinal plants. With this in mind, attention should be paid to building capacity and funding to undertake those types of innovative projects like wetlands and adding riprap to shorelines. Space needs to be made for innovation and pilot projects where proponents have the flexibility to explore new ideas without fear of having their funding pulled back if they cannot guarantee that the project will work. When we are trying

²⁰⁸ November 29 Chilliwack Session, page 11.

²⁰⁹ November 29 Chilliwack Session, page 12.

²¹⁰ October 21 Session.

²¹¹ November 1 Session.

²¹² November 29 Session.

something new, no one will want to take on that risk if the funding agency states that the proponent must guarantee that the project will work once completed.²¹³

"Diking is so expensive and we continually do it so you have to think, maybe stop putting people in the floodplain and allow some room for the river and the environment."²¹⁴

An example that was provided detailed the establishment of vegetation and highlighted that there are a lot of operating costs involved in setting it up and maintaining it over five to ten years to make sure that the vegetation establishment is successful.²¹⁵ Projects like this can be challenging to fund when the funding parameters often state that once the project is finished, it is up to the proponents to fund the project's maintenance. Given this reality for some nature-based solutions, project funding needs to have the longevity to consider and include operational and maintenance costs so that natural solutions are given the same footing as an infrastructure project to succeed. To support the idea of nature-based solutions, another participant shared that they saw a presentation from the City of Calgary that used natural assets for flood risk reduction instead of a big infrastructure project that would have achieved the same result.²¹⁶

Another approach mentioned was the Living Dike Project, an innovative project that has become popularized in the Netherlands.²¹⁷ This project boasts a new way of doing things and aims to re-establish a marsh and consider biological environmental factors, First Nations archaeology and cultural considerations. In a similar way, rain gardens have also become popularized in some areas such as boulevards, however, in some cases people do not have the time, skill, or knowledge to maintain them properly and need to be supported or incentivized to maintain these important community resources.²¹⁸

"There is a desire to include nature-based solutions in doing this. However, there are no guidelines on how to do this. With funding specifications following the traditional dike design, but those getting funded want something different. This is a grey area, so someone has to come forward with clarity on how to adopt such measures."²¹⁹

When it comes to weighing the benefits of diking versus green infrastructure, one participant felt that we have already invested so much in the infrastructure and building on floodplains that the opportunity to do anything differently may be lost, noting that the community impact costs are too high to move diking infrastructure inland. One example to consider is the [Sturgeon Bank Sediment Enhancement Pilot Project](#), which looked at using a

²¹³ November 1 Session.

²¹⁴ November 29 Session.

²¹⁵ November 1 Session.

²¹⁶ November 1 Session.

²¹⁷ November 29 Session.

²¹⁸ November 29 Session.

²¹⁹ December 9 Session.

natural buffer to counter sea level rise and storm surges. This Project was a partnership led by Ducks Unlimited Canada and Raincoast Conservation Foundation, Tsawwassen First Nation, Lower Fraser Fisheries Alliance, Fisheries and Oceans Canada, and the Province. Its purpose is to mimic natural processes on the river to improve buffering while also enhancing a natural asset. Moving forward, it will be important for communities and organizations to look for opportunities of this nature.²²⁰

*"We tend to favour structural solutions as they can be quantified when making a cost/benefit analysis. Nature-based solutions may be missing because they don't seem to have the same "value" as hard structures. It seems easy to build a business case for investment in hard structures, but more difficult to build a business case for nature-based solutions."*²²¹

A representative from the provincial government noted that the approach to building and maintaining dikes is that they must protect against 100 and 200-year flood events as per the provincial standard. However, they offered that some of the feedback that has been received points out that this standard makes the cost of doing any work impossibly high because of the requirement to achieve this high standard of protection. In this way, the representative considered that while it is critical to protect people at a high level when we are investing in solutions, there should be room for more incremental solutions that might not protect at the same level, but could collectively offer better resilience.²²²

*"Business cases shouldn't be financial alone. Sacred values and nature also have value. We should consider that work needs to be done and put things back to restore nature."*²²³

Dikes

One participant advised that the 2003 *Dike Maintenance Act* saw the Province take a step back from applying resources and managing these issues, with entities outside of the provincial government taking on the challenges themselves, leaving communities to live with the consequences of those actions.²²⁴ In Richmond, the city has invested hundreds of millions of dollars to create its own draining and diking utility, and this proved successful in handling the atmospheric river event despite their systems being pushed to the max.

*"That is what the orphan dike policy is trying to figure out right now, what defines them, who owns them, etc."*²²⁵

²²⁰ October 21 Session.

²²¹ December 8 Session.

²²² November 1 Session.

²²³ December 8 Session.

²²⁴ October 21 Session.

²²⁵ December 6 Session.

Richmond continues to invest \$20-30 million worth of work in the ground every year and the city representative believed this was required so that the municipality does not fall behind, as they believe the Province has with significant underfunding with their flood response.²²⁶ While some participants felt that more assessments were needed, the municipal representative believed that there is enough information available about where the risk lies and that another in-depth analysis will further delay action.²²⁷

"We were completing a dike inspection this year and maintenance of those has conflicting jurisdictional interests. A lack of understanding on how to maintain them given conflicting interests with fishers and others. We do some emergency repairs, but in terms of an annual maintained program, that has been stalled due to regulatory and cross-jurisdictional conflicts."²²⁸

One participant shared that because their reserve is in a floodplain, they are not allowed to build any more houses even though there are many people living in one house just to be able to live in their community. If a proper dike was built, they could build more houses for the community of 600 members which currently only has 200 living on-reserve. The participant remarked that their mother is the oldest band member in their community but cannot live on her own reserve because of the housing demand.²²⁹

One municipal representative noted that in their area there are three different dikes but they have a First Nations community that is not protected by any of the dikes. When the municipality has considered raising the dikes, they are unsure if they should proceed or if they should consult with the First Nations community and move the dikes to offer protection to the community. In this way, the municipality acknowledges that what they do will have an impact on their neighbours and emphasized that municipalities are looking to the Province for guidance and connection across communities.²³⁰

For future investments, one participant believed that priorities should look at short-term mitigation like tiger dams and the protection of people and assets.²³¹ For the longer term, we must consider how climate change will impact us and what permanent solutions need to be in place. If the 150 and 300-year floods recently occurred, is the 500-year flood as far away as we think it is?²³²

²²⁶ October 21 Session.

²²⁷ October 21 Session.

²²⁸ December 9 Session.

²²⁹ December 9 Session.

²³⁰ November 29 Session.

²³¹ October 21 Session.

²³² October 21 Session.



"We need clarity on 'what can a local authority do versus a First Nation?' We need clarity on local residents' jurisdiction versus what First Nations need to do to build a dike."²³³

International Examples

When thinking of different approaches, we should be looking internationally at what other groups have done. In southeast Asia, there are rivers spanning several countries that are struggling with upstream decisions. One idea would be to coordinate our efforts by having a platform to share information in real-time, allowing upstream and downstream actors to notify their neighbours of any changes to the environment that could affect them. A representative from the Ministry of Forests confirmed that they are looking at international approaches and will be attending a session in the United States in November 2022 and bringing Indigenous representation to attend as well.²³⁴

In neighbouring Alberta, one participant shared that they create water basin commissions made up of a board of directors with representation from all of the communities, industries, and provincial governments. In addition to this, they also set up water conservation and management within each of the water basins.²³⁵

Another participant shared an international perspective from the United Kingdom for strategic shoreline management planning whereby the coast was broken up into segments and work was done within each jurisdiction to develop a strategic and high-level plan. In this way, the approach is not restrictive as each jurisdiction is free to implement its own preferred strategy, but a framework is established that each segment fits within to show the broader picture.²³⁶

Funding

Funding is an area that is always in demand, from the dollar amounts to the structure and governance of funding mechanisms. Funding applicants and recipients alike often express frustration with the processes required to secure financial support for projects that are much needed in their communities. Given the cross-jurisdictional nature of flooding, the funding mechanisms themselves can create barriers for partners to collaborate and innovate.

One provincial government participant felt that managing the different types of funding presents major challenges for communities that do not have a dedicated person to apply

²³³ November 29 Session.

²³⁴ October 21 Session.

²³⁵ December 9 Session.

²³⁶ October 21 Session.

for available funds.²³⁷ Another participant agreed and noted that this is not only true for mitigation funding but also implementation and consultation funding that are often on tight and unreasonable timelines to complete the programs or projects within a year. All the funds should be pooled into one place for communities to access on an as-needed basis because the current model is not sustainable to address community needs. When we look at regional operations, the only access to funding in that sphere is for emergency and recovery funding. For First Nations, smaller communities and regional districts, having a 'one-stop shop' for funding is important.²³⁸

"The federal government and the Province should not give funding to [municipalities] if they will not work with local Indigenous communities. There are lots of projects that have tons of money, but where is the Indigenous relationship? You owe us a collaborative relationship." ²³⁹

Another participant observed that colonial governments have stripped the land of resources, leaving some First Nations without any monetary resources to support projects and staff. It was suggested that there should be revenue streams where First Nations can get funding to invest in infrastructure so that they can start building capacity to address environmental issues, including hiring women, people of colour, 2SLGBTQQIA+, and differently-abled folks.²⁴⁰

One participant believed that the adjudication of funding programs should rely on a calculation that looks at the return on investment.²⁴¹ Another participant felt that taking a traditional approach to cost evaluations will not adequately take cultural values into consideration and that must be incorporated into the assessment.²⁴²

Grant Funding versus Sustainable Long-Term Funding

Many participants shared their frustration with grant funding and the instability that comes with year-to-year funding. One participant wants governments to grow their funding streams beyond grant application processes because it is challenging to always need to have projects 'shovel-ready' and grants can be expensive to write.²⁴³ Another participant felt that grants were "sometimes helpful and sometimes not."²⁴⁴ They emphasized that operational funding was preferred instead of grants which require significant staff time. Furthermore, their organization did not have the capacity to fulfill the work that flowed from the grants, or the mitigation measures and implementation of actions that came out of reporting from grant work. Many participants throughout the sessions echoed the need for sustained funding versus piecemeal grants.

²³⁷ November 15 Session.

²³⁸ November 15 Session.

²³⁹ December 8 Session.

²⁴⁰ October 21 Session.

²⁴¹ November 29 Session.

²⁴² December 6 Session.

²⁴³ November 29 Session.

²⁴⁴ December 9 Session.

In one community, a participant shared that providing assistance to rural and remote coastal communities should include a funding conversation at the provincial level that focuses on steady operational funding (for example, \$100,000 per community) that could be available for communities to secure development planners on an ongoing basis. As one local government representative noted, they do not have the in-house capacity to take the information from consultant reports and apply that to their zoning and development work; this would require professionals with the right background and experience to support the development of rules and frameworks that are manageable at a small community level. Over time, this upfront investment would pay huge dividends in terms of recovery costs, but these costs would be best covered through an operational funding program versus one-off grant funding. Given that some small local governments do not have enough tax revenue to meet their current infrastructure and operational needs for drinking water, sewage, and recycling, asking their constituents to invest in disaster risk reduction would be very challenging.²⁴⁵

One success story that was shared involved the Northern Development Initiative Trust (NDIT) which has a program funded by grants coming from original source revenues from the Province.²⁴⁶ They provide operational capacity to local governments to enable them to hire people like grant writers and share economic development coordinators. While this model would not support things like costly mitigation structures, this funding model would support other strategies like employing people with expertise in planning and zoning to support local governments in developing frameworks that are manageable for small communities.²⁴⁷

NDIT has enough flexibility in their funding structure that communities are able to pool their resources into a society that has been established on the island, which includes representation from First Nations. For example, each community receives \$50,000 and can contribute its portion to hire one grant writer for all of Haida Gwaii, knowing that each community could not afford to hire their own grant writer just for their community. Funding streams like this could support communities to have shared resources like hiring people to support harmonizing development, planning and permitting for water basin areas that would likely have commonalities and create steady capacity on an ongoing basis. There needs to be new funding identified to support societies like this.²⁴⁸

"They need to provide the funding for each water basin to come together in their own way."²⁴⁹

One participant observed that many municipalities do not have the taxation base to do their desired modelling work and projects because the primary funding source for policy work is grant funding. Due to this, when municipalities are doing this work, they "are forced

²⁴⁵ October 21 Session.

²⁴⁶ October 21 Session.

²⁴⁷ October 21 Session.

²⁴⁸ October 21 Session.

²⁴⁹ November 29 Session.



to do things that might be out of sequence for what they are capable of doing due to conditions within grants.”²⁵⁰

In another instance, a participant with grant coordination experience in Alberta shared that competitive grant programs are not strategic and that communities that were able to apply for funding for engineers were favoured. Based on this experience, the participant felt that “we need to administer a more equitable model and ensure that communities have the capacity to spend the funding once it is received.”²⁵¹ The participant highlights a challenge with administering grants and how funding could be used in a different way to produce strategic results.

²⁵⁰ December 8 Session.

²⁵¹ December 8 Session.

Conclusion

What is the best approach and balance to take when considering flood management? While many participants weighed in favour of water basin and regional approaches, participants emphasized that local priorities and knowledge must always be taken into account. This balance is challenging to achieve, but for those groups that are making headway, their successes are leading the way for others to follow in their footsteps as the Province considered its next course of action on flood management and emergency response.

Across communities, residents can have opposing views about how to move forward with a local flood strategy. If left unresolved, this polarization can result in paralysis that continues to put members of the community at risk. Participants shared stories where they were able to overcome this paralysis and move forward with their neighbours, encouraging people to foster and expand relationships in their flood network to learn about different methods and opportunities to solve problems that continue to affect people across many communities.

'How do we rebuild our sense of community?' is something that came up and is important not only for this project but for all the work that is done. Some relationships between First Nations and local government are good but many are also broken. During the sessions, participants would say 'it just starts with reaching out' and 'we work so much better together' but it is hard to rebuild once trust has been broken, although that does not mean it will never happen again.²⁵²

In some cases, communities and neighbourhoods have been developed in floodplains which presents a risk to the public but also means that building back better in another location would require significant investment. Floodplain mapping is an important tool to make this information more available to the public but there is uncertainty around the financial and legal implications of releasing such information.

"Can you imagine if all of a sudden your home was worth nothing? This is affecting their livelihood. The political pressure we get on a local government level from those landowners or the community is not supported by funding mechanisms or provincial solutions. If we had funding for land acquisition, we could work towards nature-based solutions."²⁵³

Community-led managed retreat is a complicated option to consider for communities facing flood risk. While some areas may be designated for safe flooding, when we look at areas where people have settled on floodplains, moving people out of their homes would likely require compensation and is a topic further complicated by peoples' connection to their homes and land.

²⁵² Session witnesses - Lydia Pengilley and Addison Fosbery, Alderhill Planning.

²⁵³ December 9 Session.



"There are ancient village sites at the mouths of some rivers. The Elders will not leave the area as they feel a connection to the land. Retreat may not be an option for them."²⁵⁴

Many participants felt that the Province has a large role to play in providing guidance, setting standards, and helping coordinate efforts with partners. There will need to be a balance struck in this work when applying technical solutions alongside traditional Indigenous knowledge to strengthen relationships moving forward. Across jurisdictions and communities, people have opposing views about how to do so; this is an inherent part of all governance. For the B.C. Flood Strategy to be successful, it will have to address this challenge head-on.

"We all have hope. We all have that in common. I often say it's all I have. But I say as long as you can spend time with other people that have hope, it's a good day."²⁵⁵

²⁵⁴ December 8 Session.

²⁵⁵ December 6 Session.

Intentions Paper Recommendations

The recommendations below have been compiled based on the engagement sessions between October and December 2022. To support clarity and alignment, these recommendations have been organized under the current four program areas of the [B.C. Flood Strategy Intentions Paper](#).

Program Area 1: Understanding Flood Risks

Action 1.1: Work with other levels of government to advance flood maps to better inform flood construction levels and development decisions

- a. In addition to floodplain mapping, an assessment of issues should start at higher elevations to understand the cascading effects downstream.
- b. Consider expanding tsunami modelling to identify and mitigate risk as development pressure grows.
- c. There should be liability protection introduced under a public interest rationale to protect groups who release floodplain mapping. Groups that collect and release accurate information/data in good faith should not fear litigation for sharing information related to hazards and risks.

Action 1.2 Conduct a province-wide flood risk assessment

- a. Take a holistic approach to understand risks around flooding, including oceans, rivers, storms, droughts, wildfires, pine beetles, and other potential compounding hazards.
- b. Monitor impacts from a variety of indicators including erosion, damage to fish populations, medicines including berries and other foods, the health of forests, flooding and drought levels, and industry harms including logging impacts. Expand Indigenous guardianship programs to support monitoring efforts.
- c. Risk assessments should include a consideration of Agricultural Land Reserves and private property owners and the role they can play in emergency response as it relates to the temporary storage of excess water.
- d. Establish provincial levels for acceptable risk, especially as it relates to debris flow hazards. Move away from a piecemeal approach that lacks sustainability.

Action 1.3 Strengthen dike regulatory programs

- a. Small communities require financial support to bring orphaned dikes back up to regulation standards.
- b. The B.C. Dike Maintenance Act requires revising with a critical lens. There is an imminent risk of failure for many orphaned dikes that fall under provincial responsibility and a lack of policy to deal with orphaned dikes, enforcement, and auditing of the Act, all of which should be addressed.
- c. Examine the relationship between the B.C. Dike Maintenance Act and the federal Fisheries Act and consider how critical policy conflicts are negatively impacting the potential for positive outcomes.

Action 1.4 Increase public awareness of flood risks

- a. All relevant data, including floodplain mapping, should be stored in the same place and be accessible; create a centralized source of data for all municipalities, First Nations, and other partners to use.
 - Create a central agency that can provide guidance on where approvals can be obtained for different projects.
 - Provide neutral and objective experts to support First Nations and smaller local government communities to interpret data and provide training to build capacity.
- b. Create simplified guidelines and models to help communities understand their flood risk.
 - Provide two maps to show the best-case and worst-case scenarios (dikes, rivers, storms, freshet)
 - Consider how to take Geographic Information System (GIS) data and put it in a form that is more palatable for the public.
 - Consider a web-based mapping tool such as the Comox Valley Regional District mapping tool that shows a flooding scenario from the year 2100 that can be used by engineers and property owners.
 - Educate and create response capabilities for homeowners about structures threatened by water; create resources that support homeowners to be aware and accountable for erosion and river bank stabilization where it could affect other homes.
- c. Support community-to-community forums that bring together local government and other representatives for information sharing and decision-making.
 - Communicate information about floodplain guidelines and provide avenues for members of the public to ask questions.

- Create a central point of collaboration to ensure that all water-basin partners are brought to the table to share information.
 - Create funding opportunities for public education and mitigation initiatives at the community level, including neighbourhood preparedness plans.
- d. Consider different avenues to get information out to the public, including the Ministry of Emergency Management and Climate Readiness, the British Columbia Assembly of First Nations, the Union of BC Indian Chiefs, and the Alliance of BC Modern Treaty Nations.
- e. Encourage public education across the province regarding First Nations Traditional Ecological Knowledge as it relates to floods. Each First Nation should be supported to put together a package of flood information that reflects traditional information they are comfortable sharing with the broader public.
- f. Real estate agents should be required to disclose flood risks to buyers.
- g. Communicate how the Flood strategy will be integrated with the Ministry of Emergency Management and Climate Readiness in 2023.
- h. Create flexible funding opportunities for community engagements to meet the community where they are at and encourage participation. Non-traditional engagements (block party, community picnics) should be supported to make space for non-traditional approaches that will increase attendance.
- i. Place cameras along key rivers to monitor current conditions. Similar to the DriveBC website, allow this information to be widely available online and easily accessible.

Action 1.5 Support applied research and training

- a. Support training, mentorship, and apprentices in different areas, including 'train the trainer' initiatives to build capacity and allow for information sharing and transfer.
- b. There must be ongoing collaborative training in flood preparedness and response to learn new skills and maintain existing abilities.
- c. Replicate groups such as the Thompson River Okanagan Regional Drought Management Team to bolster data collection and inform the analysis.
- d. Encourage training sessions and workshops aimed at the engineering community to promote shared understanding and coordination for mapping.
- e. Support training for neighbouring communities to build trust and relationships, especially for those communities with unresolved historic rifts.

- f. The Province must recognize the non-economic values related to reconciliation, such as cultural awareness training for government staff.

Program Area 2: Strengthening Flood Governance

Action 2.1: Improve First Nations involvement in flood resilience decision-making.

- a. To promote longevity in relationships with First Nations and other governments, it is important to make space at the beginning of a project for partnerships and collaboration to set the right foundation and have a shared learning process together.
 - Ensure invitations are provided for First Nations to sit at partnership tables related to emergency response plans for their respective regions.
- b. Develop the relationships between government and First Nations today so that these partners can learn to collaborate together before a major event happens.
- c. Government partners must work face-to-face in First Nations communities to understand what can be achieved and what is out of scope. It is important for government representatives to see, hear, and understand realities on the ground so that they can appreciate the logistical and technical barriers that often cannot be anticipated without being physically present.
- d. Government needs to actively listen to First Nations and demonstrate their commitment to meaningful change by incorporating First Nations' feedback into reports and taking action on priority issues.
 - Engage with diverse voices, including youth, Elders, and Knowledge Holders, and support mentorship opportunities.
 - Report regularly on what is being done to further recommendations from past reports.
- e. Communities can enhance their involvement in emergency planning by hosting monthly community meetings to discuss issues, prepare, and respond to the next challenge.
 - Local governments and First Nations need to build relationships to understand and strengthen their local and regional approach.
 - Provide funding and capacity to support First Nations decision-making that is made with Free, Prior, and Informed Consent.

- f. Improve the transparency of the Flood Hazard Area Land Use Management guidelines and include best practices that support Indigenous Traditional Knowledge.
- g. Build protections for the safe-guarding of Indigenous Knowledge into the B.C. Flood Strategy so that it can be incorporated into planning.
- h. Fund cultural monitors following a disaster to ensure local cultural protocols are followed if items of cultural significance are found during the cleanup.

Action 2.2: Review and modernize provincial legislation, regulations, and policies to address flood risks

- a. Ensure the Declaration on the Rights of Indigenous Peoples Act and UNDRIP are woven into every workplan.
- b. Legislation, regulations, and policies must be harmonized to be complementary and support cross-jurisdictional relationships between First Nations, local government, the Province, and Canada, including:
 - Local governments, non-Treaty First Nations, and regional districts must have barriers to collaboration removed from the Local Government Act.
 - Consider guidance documents to counter varied interpretations of the Local Government Act that exclude First Nations that are non-Treaty.
 - Larger Crown corporations with relevant information should be required to share data that will support the implementation of the B.C. Flood Strategy, acknowledging and respecting applicable privacy legislation. This includes government agencies that hold important information about vulnerable citizens who would benefit from being connected with relevant services that would support them during emergencies and recovery.
 - Remove barriers for regional districts attempting to do mitigation work, including the requirement of electoral consent and referendum.
 - Dissolve the one-tier system that emerged out of the federal funding structure that was then moved to the Union of British Columbia Municipalities. First Nations are not in a position to apply for funding because their lands are not equally eligible, making regional collaboration very difficult.
- c. Examine the relationship between Disaster Financial Assistance and the Ministry of Transportation and Infrastructure to consider how a lack of clarity around standards is delaying funding for rebuilding after an incident has occurred.

- d. Consider the Abbott-Chapman report and recommendations to inform the Flood Strategy.

e. Legislative and Policy Areas Requiring Further Examination

B.C. [Dike Maintenance Act](#): requires revising with a critical lens. There is an imminent risk of failure for many orphaned dikes that fall under provincial responsibility and a lack of policy to deal with orphaned dikes, enforcement, and auditing of the Act, all of which should be addressed.

Examine the relationship between the B.C. Dike Maintenance Act and the federal Fisheries Act and consider how critical policy conflicts are negatively impacting the potential for positive outcomes.

B.C. Forest Management Practices: How will this interact with water basin management and flood control?

B.C. [Flood Hazard Area Land Use Management Guidelines](#): Advises what local governments should be doing and informs decision-making, however, it has not been updated in a long time and does not reflect where we are today.

B.C. [Local Government Act](#): Consider how this can prevent local governments from working with First Nations communities due to S. 7 "Incorporation of municipality in conjunction with resource development".

B.C. [Water Sustainability Act](#): Concern about the temporary nature of emergency response; desire to look at the long-term aspects and lack of flexibility. First Nations communities are not included in the definition of local government within this Act and thus cannot avail themselves of any of the options for completion of low-risk instream work as defined under Section 39.1 of the BC Water Sustainability Regulation.

[Federal Disaster Financial Assistance Arrangements](#): Provincial governments decide what amounts and types of financial assistance are to be provided to those who have experienced loss, however the federal DFAA sets out which costs are eligible to be cost-shared between federal and provincial governments. This can limit the ability of provincial governments to support people who have experienced disaster-related loss.

Action 2.3: Review and modernize technical guidance

- a. For engineering design guidelines, include better definitions to ensure consistent points of reference are submitted by the Province and professional bodies for engineers and geoscientists.
- b. To support permitting and regulatory coordination, a coordinating body would be helpful to support parties to navigate their options and a path forward.

- c. Modernized building codes are needed to support flood-resilient approaches to housing that work *with* nature (e.g. houseboats that can rise and fall with water levels).
- d. A standardized approach to the B.C. Flood Hazard Area Land Use Management Guidelines are needed because the professional reliance and approach used by local governments and First Nations are not always consistent. Additional factors such as professional reliance and mapping should be added to the Guidelines.
- e. Flood Hazard Area Land Use Management Guidelines require further clarity for local governments that are unsure of their applicability and how to achieve compliance.
- f. Fund specialized technical staff in smaller communities to alleviate overload on community planners. Provide in-house resources and expertise such as geotechnical analysis.
- g. Create dedicated resources for Hazard, Risk, and Vulnerability Analysis process and use information from this process to inform the Ministry of Emergency Management and Climate Readiness mitigation funding priorities.

Program Area 3: Enhancing Flood Preparedness, Response, & Recovery

Action 3.1: Enhance flood forecasting capabilities and early warning systems

- a. Restore and expand hydrometric stations across B.C., especially in the north.
- b. Support and expand partnerships like the River Forecast Centre and the First Nations Emergency Services Society to expand information sharing and resources with communities, especially smaller communities with limited capacity.
- c. Monitoring large water systems (flow discharge rates, flood mapping) is important, however, monitoring smaller systems is also essential to feed accurate data into models that show the larger system.
- d. Monitor impacts and changes to the land in a variety of ways, including the density of traditional plants, erosion, degradation of soils, and fish populations.
 - Monitor impacts and changes to the land near industry activities such as logging and transportation routes.
- e. Consider the best way to communicate risks, hazards, and evacuation information to communities when there is a weather event pending.

Action 3.2: Enhance flood preparedness by developing and exercising flood response emergency plans at multiple scales

- a. Consider more opportunities for regional and neighbourhood planning to bring together local governments and First Nations to understand strengths and opportunities.
- b. Practice emergency response approaches at different levels with local, water-basin, regional, and provincial levels to understand potential scenarios before emergency events occur.
- c. Have reciprocal agreements between communities for emergency events so citizens can understand what responsibilities have arisen when a disaster strikes.
- d. Dam and dike proponents should be responsible for developing, implementing and funding the emergency plans and hazard mitigations for their respective structures.
 - Industry proponents must be accountable and held responsible for water contamination that may occur during emergency events and take proactive measures to avoid and contain contamination.

Action 3.3: Enhance emergency response activities

- a. Police must exercise greater cultural sensitivity while assisting with evacuation orders in First Nations communities. Every action must be taken to ensure that children are not taken away from their parents without notification or consent and that families are kept together during the evacuation process.
- b. Ensure those tasked with disaster recovery are taking culturally appropriate approaches, especially as it relates to primary food sources for First Nations communities. Guidance on the prioritization and preservation of important sustenance and cultural value for emergency responders is desired.
- c. To counter high staff turnover and consistent contact with the same staff members, the Province should host occasional regional meetings to allow for networking and sharing ideas.
- d. Prioritize the creation of centralized and multi-member evacuation centres in advance of disaster events to avoid some community members, such as First Nations, from being denied access to evacuation centres by non-Indigenous community members who have been wrongly informed they do not have to share resources with neighbouring First Nation communities.
- e. Expand the First Nations Emergency Services Society's ability to teach and train people for emergency response.

- f. Greater resources should be allocated to:
- Emergency planning and response teams
 - Collaboration between flood assessment units and assessors
 - Subject matter expertise to support mitigation and asset management
 - Flood control and technical expertise
 - Public engagements and crisis communications
 - Engineers including hydrologists
 - Streamlined flood deployment resources
 - Hiring regional and local government employees

Action 3.4: Enhance pre-disaster recovery planning and post-disaster recovery, including “Build Back Better”

- a. After a disaster has occurred, ensure that different kinds of supports are available to help people (physical health, mental health, housing, transportation, food). If people are supported during the recovery phase between disaster events, their resiliency for future events will increase.
- b. To support and restore a linear corridor along rivers impacted by flooding, consider growing cottonwood forests.
- c. For First Nations whose communities were relocated to floodplains, members should be entitled to receive options for flood insurance and relocation.
- d. Fund grant writers to help smaller communities access funding for pre and post-disaster recovery and building back better.
- e. Government funding provided to First Nations to hire recovery assistance workers must be on-par with local rates to be able to effectively recruit and retain candidates and build capacity.
- f. Create full-time and part-time positions for Indigenous peoples in funding proposals and work plans to ensure these positions are properly funded and included during planning and implementation.

Program Area 4: Investing for Flood Resilience

Across all investment areas:

- a. Governments must consider reorienting their approach to solutions and make space for creative and innovative ideas that may not easily fit into pre-existing funding and reporting requirements.
 - Consider projects that are long-term and return landscapes back to their natural state, such as habitat restoration and species reintroduction.
 - Value and include healthy habitats and people as indicators for project success.
 - When funding projects, governments must consider the long-term costs of maintenance and which party will pay because these implications can impact First Nations and other smaller communities that may not have the resources to pay for the maintenance.
- b. 3-5+ year funding cycles provide stability for strategic timelines. Remove short timelines and inconsistent funding to eliminate project anxiety and fears that funding will not be renewed.
- c. Incentivize collaboration and cost-sharing amongst partners seeking grant funding by prioritizing collaboration as a preferred criterion on grant funding applications.
 - For example, creating a funding opportunity that can be accessed by local governments, First Nations, and regional districts and including collaboration as a preferred approach for the approval and distribution of funds. In this way, funding can be regionally based and allow communities to come together and work collaboratively on a project that affects them all.
- d. There should be a 'one-stop shop' for funding for all partners, including First Nations, regional districts, and local governments.

Action 4.1: Enhance investments in flood avoidance

- a. Smaller municipalities require updated IT systems, programs, and training to receive and utilize technical flood-related information.
- b. The Province should expand programs to finance LiDAR mapping and multi-hazard predictive modelling for communities.
- c. B.C. and Canada should fund a year-round Emergency Coordinator position for each First Nation to support flood prevention and response.
- d. While big infrastructure projects are important in some circumstances, when considering investment allocations, do not undervalue 10-20 smaller projects and the significant cumulative impact over time.

- e. Federal and Provincial Disaster Financial Assistance Programs must support the concept of Build Back Better.
- f. Funded initiatives should be created for First Nations and other communities to pursue and understand water basin issues at a larger scale across territories.

Action 4.2: Enhance investments in flood accommodation

- a. The Province should invest in flood projects that work *with* nature, such as habitat restoration. Prioritize natural resilience with projects that are nature-based and climate adaptive, including natural infrastructure projects.
- b. Smaller First Nations would benefit from the creation of shared resources that empower them to develop their own-source revenue projects to support self-determination for flood planning, response, and recovery.

Action 4.3: Enhance investments in flood protection

- a. Funding for training and capacity building should be on a continuum that grows over time. Capacity funding that starts and stops leaves communities right back where they started.
- b. Funding for First Nations to build capacity over time; funding that is multi-generational instead of funding that addresses a single issue in the short term.
 - Government must provide sustained funding to enhance First Nations' capacity to respond to flood events. For programs that have been in existence for many years, funding commitments must be re-examined to ensure they reflect present-day realities; funding must increase over time and take inflation and the cost of living into account.
- c. Funding for scholarships and grants for First Nations would help people enter the field to help with mitigation and response.
- d. Governments should take profits from the natural resource sector and invest them in revenue streams for First Nations' infrastructure and capacity-building initiatives.

Action 4.4: Enhance investments in community-led retreat

- a. Consider investing or retaining skilled mediators and facilitators to support community conversations on community-led retreat given that navigating community conversations around managed retreat are challenging and triggering for many people who participate.
- b. The Province should provide direction and guidance around community consultation for community-led retreat. Consider:



- Short, medium, and long-term priority areas and communities where decisions must be made.
 - Buying out homeowners and/or assisting with relocation
- c. The Province and Canada must work together to move community-led retreat forward for communities that are supportive of this approach.
- With the free, prior, and informed consent of the Indigenous peoples impacted, the Crown should consider the release of lands to communities where they can retreat.