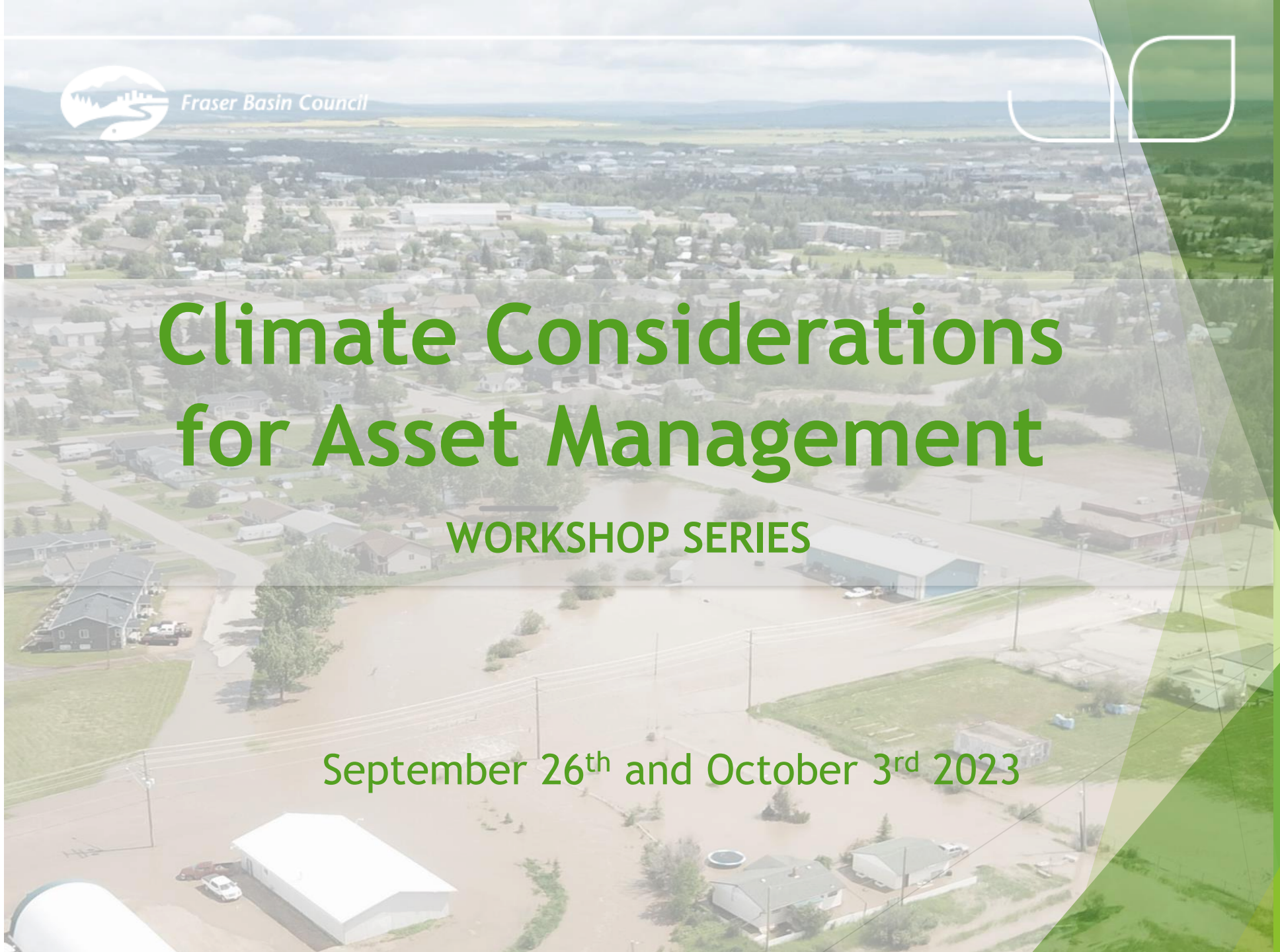


Climate Considerations for Asset Management

WORKSHOP SERIES

September 26th and October 3rd 2023

What is the Fraser Basin Council?

- We are a charitable non-profit society established in 1997
- We support governments, businesses, and community organizations in advancing collaborative solutions to sustainability issues
- Facilitator and Strategic Convener, Educator, Program Manager

About the Northeast Climate Resilience Network (NECRN)

- A collective of six local and regional authorities which came together in 2018 in response to the urgent need to prepare for future climate risk.
- Aims to improve collaboration and communication on climate resilience and adaptation in Northeast BC.
- Meets virtually, approximately four times a year.

Thank you to our funders!

This initiative is offered through the Municipal Asset Management Program, which is delivered by the Federation of Canadian Municipalities (FCM) and funded by the Government of Canada. We want to thank FCM and the Government of Canada for their generous support!

Canada

FCM FEDERATION OF CANADIAN MUNICIPALITIES FÉDÉRATION CANADIENNE DES MUNICIPALITÉS

Introducing Pinna Sustainability

Gillian Aubie Vines
Principal
Pinna Sustainability

Courtenay Miller
Sustainability
Specialist & Planner
Pinna Sustainability

Pinna

Learning Objectives

- Increase familiarity with content and application of NE region climate projections
- Increase awareness of asset management and how to incorporate climate change into asset management
- Review and deepen knowledge of *FCM's Asset Management Readiness Scale* and *Guide for Integrating Climate Change into Asset Management*

Agenda

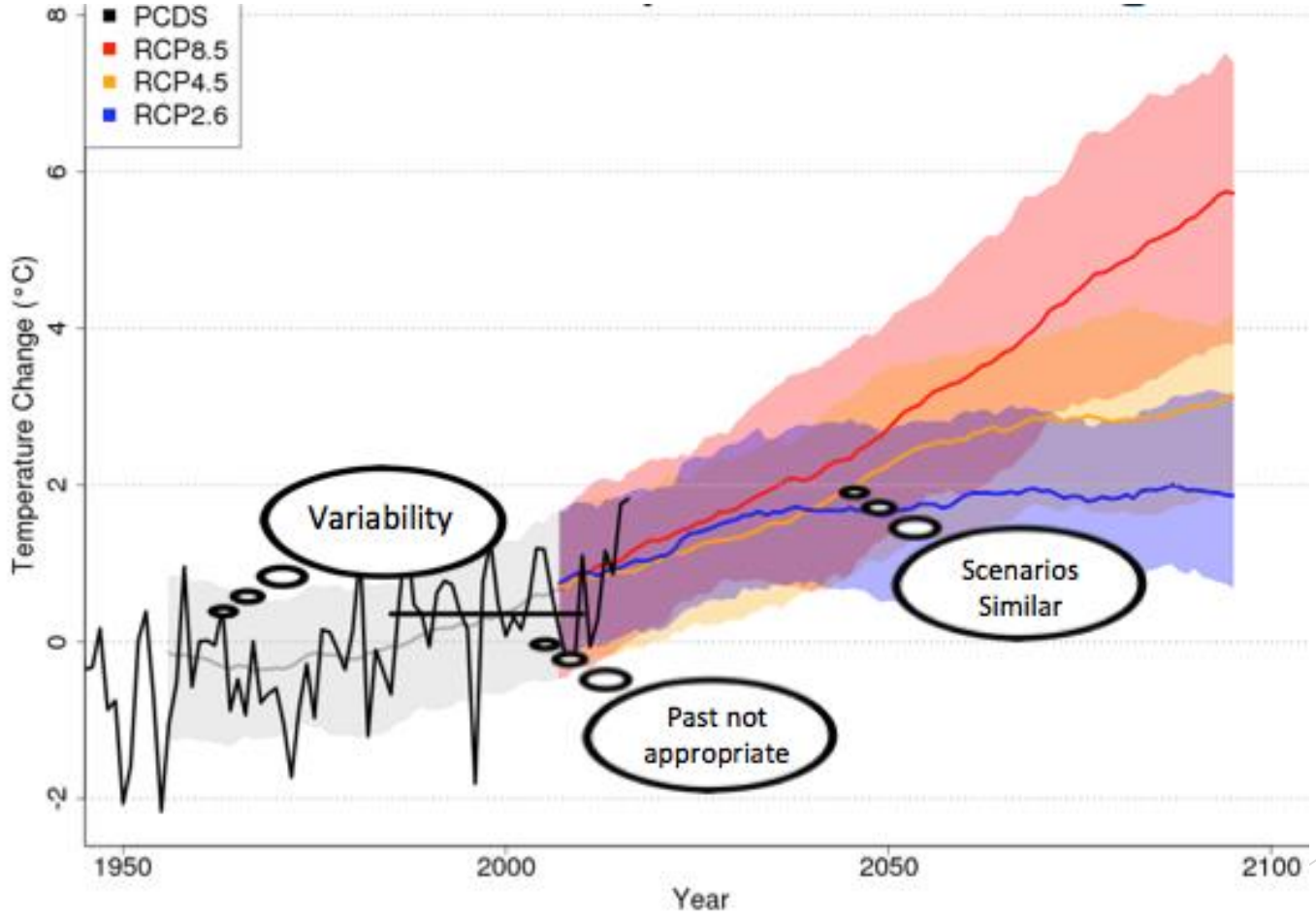
Time	Item
9:10 // 50 min	Climate Change Hazards & Trends in Northeast BC
10am // 40 min	Introduction to Asset Management
10:40 am // 10 min	BREAK
10:50 am // 30 min	Asset Management Planning
11:20 // 35 min	Overview of Climate Hazards and Impacts on Municipal Assets and Services
11:55 // 5 min	Wrap up and Look Ahead to Workshop #2

Climate Change in Northeastern BC

Hazards, Trends, and Impacts

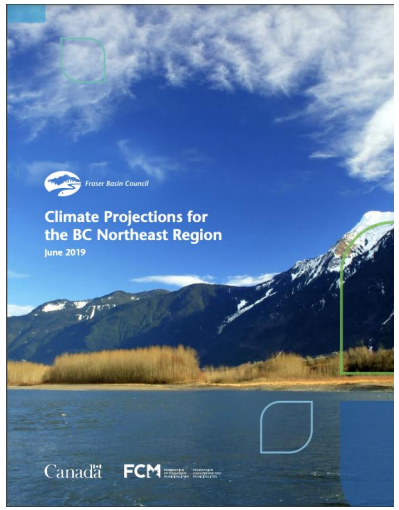
Climate Change in Northeastern BC

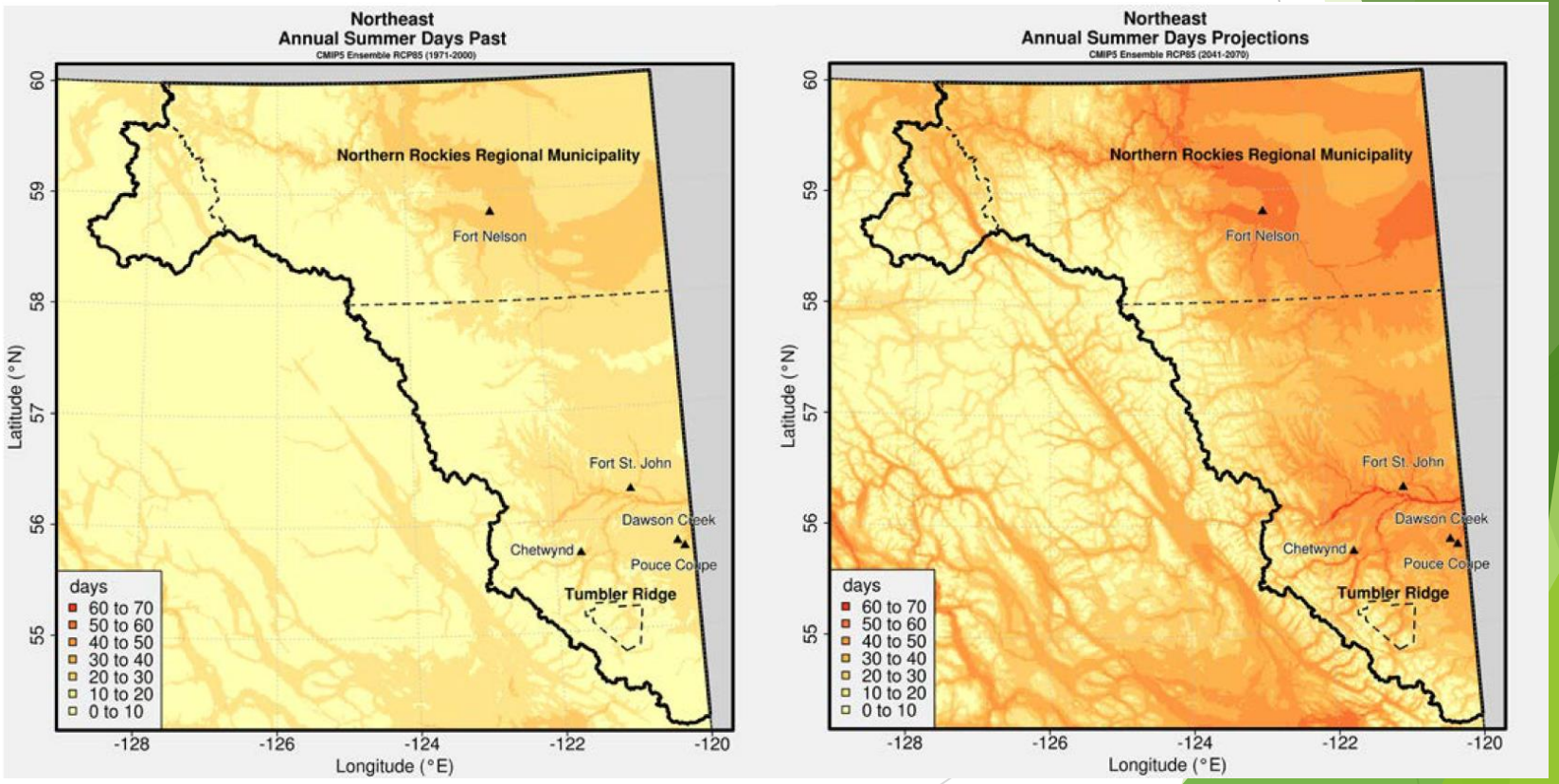
Future Temperature Changes



Climate Change in Northeastern BC
Climate Projections Report

- Climate Projections Report





Climate Change in Northeastern BC

Climate Projections Report

Indicator	Past	2050	2080
Days over 25°C	12	20	37
Warmest winter day	8.3C	+1.5	+2.5
Coldest winter night	-38.1C	+6.5	+10.6
Growing season length	145	+33	+53
Spring precipitation (mm)	111	+19%	+26%
Fall precipitation	142	+15%	+30%
Wettest day of the year (r95p)	27	+18%	+23%
Ice days	119	-22	-37

Climate Change in Northeastern BC
Climate Projections Report

- Summers will be considerably warmer
- Winter temperatures are also projected to warm
- Increased precipitation across all seasons
  - Summer is expected to remain the wettest season

Hottest Day (TXx) *Hottest Night (TNx)* *Coldest Day (TXn)* *Coldest Night (TNn)*

Climate Change in Northeastern BC

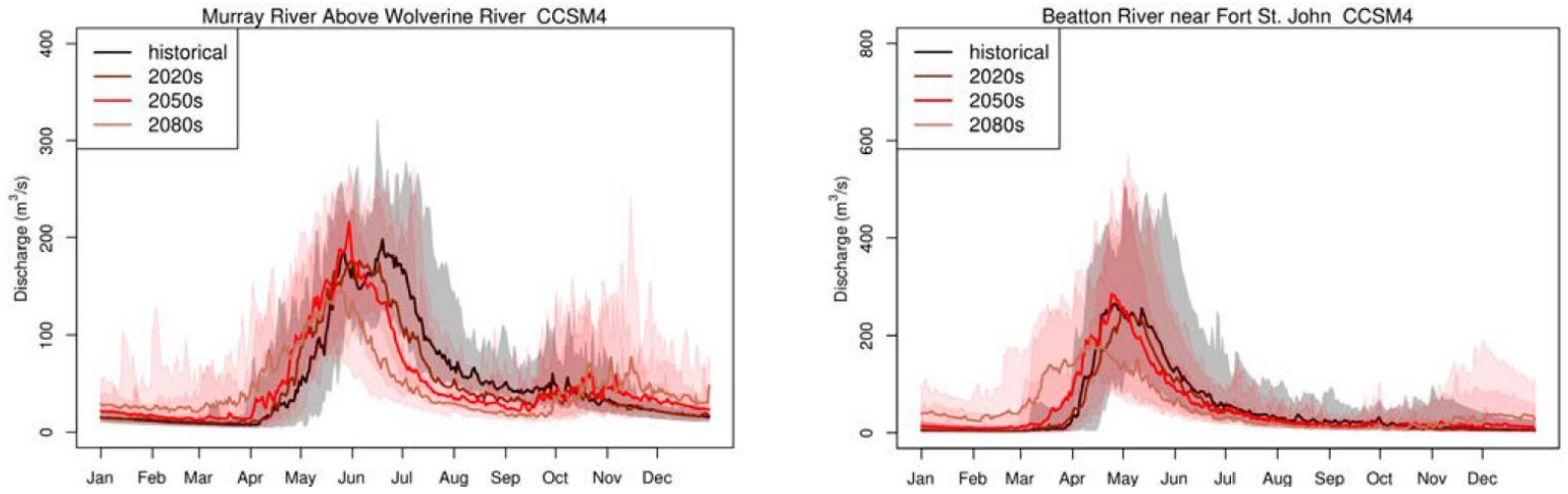
What changes can we expect?

- Heat stress
- More extreme storm events
- Reduced summer streamflow

Climate Change Impacts
Impacts of Concern

- Increase in frequency and severity of wildfires
- Increased peak flows
- Extreme heat events
- Impacts on ecological systems

Figure 11: Average Daily Historical & Future Streamflow in the Murray & Beatton

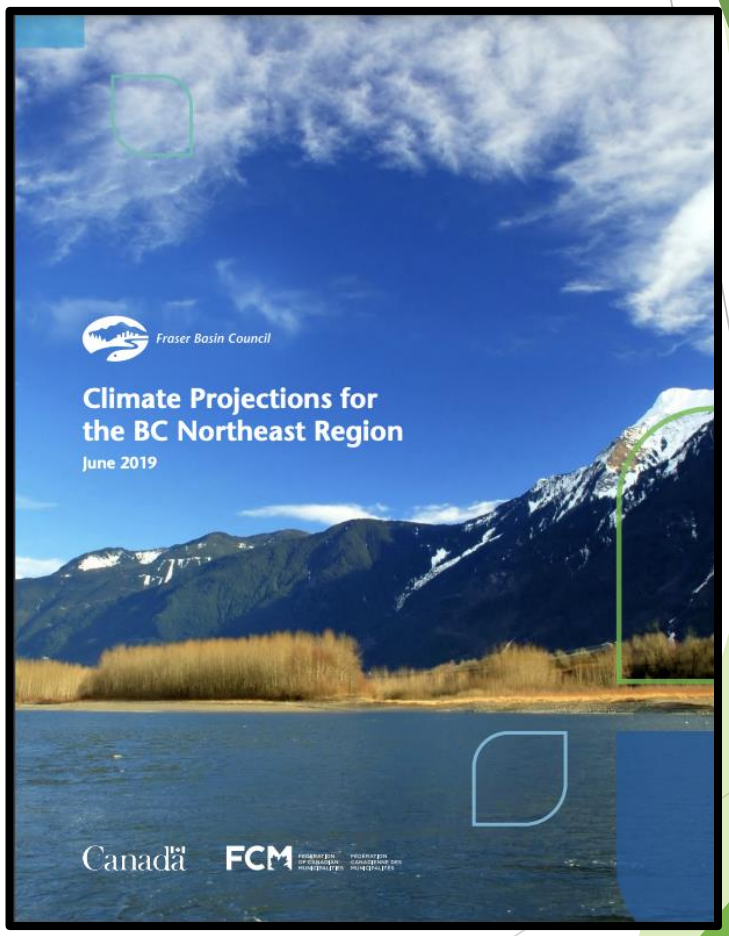


Climate Change in Northeastern BC

Climate Projections Report

How to read and interpret the report?

- Projections, not predictions
- Averages, over 30 years
- Take note of the range of models
- Location-specific projections, universal trends
- Useful for a broad set of decision making



Reflections on the climate emergencies that occurred throughout the summer in Northeastern BC?

Discussion

- Anything refection's to share?
- How has climate change had an impact on you and your work?
- How has this experience shaped your perspective on how to manage your community’s assets?

Asset Management – Review & Refresher

- Welcome Kim Fowler!
  - A professional planner and sustainability expert with over 30 years of experience working with local governments in Canada
  - Manager of Long-Range Planning, Sustainability and Energy with the Regional District of Nanaimo
  - Awarded PIBC's Outstanding Achievement Award for Innovation and Advocacy
  - Project manager for the redevelopment of Victoria's Dockside lands
  - Took part in the first green roof regulation in Canada

Question & Answer

BREAK!

Asset Management Planning

Asset Management Planning

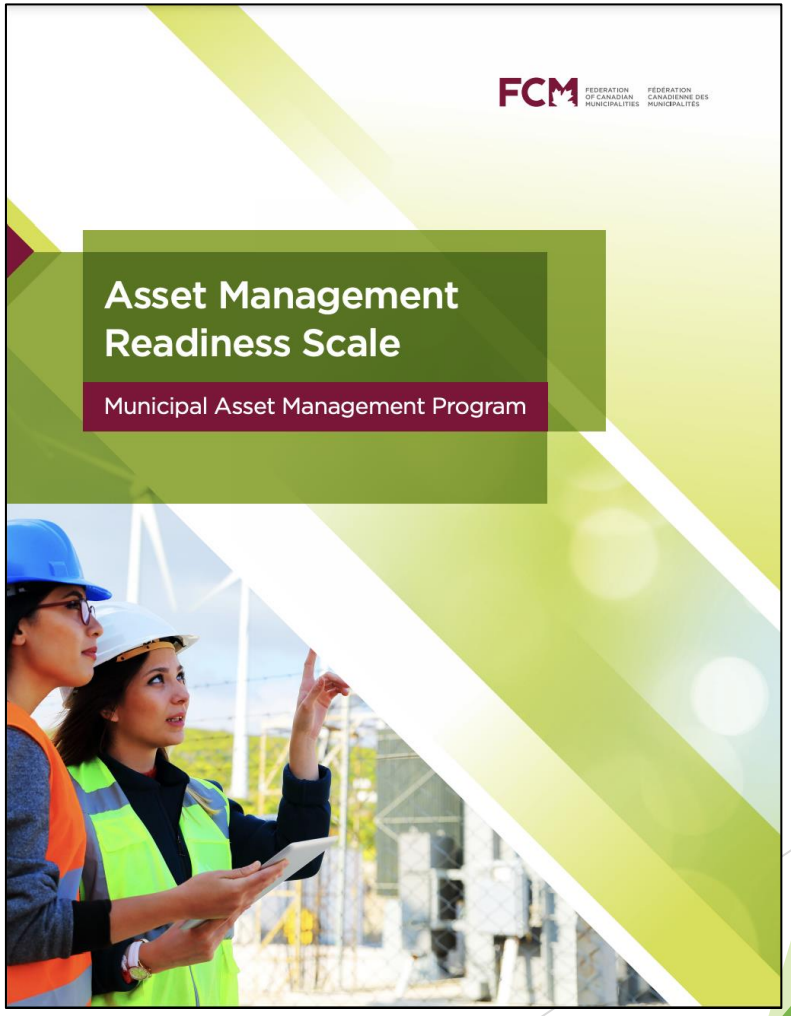
- Approaches to asset management planning
  - Asset Management BC: Service Sustainability Assessment Tool
  - Federation of Canadian Municipalities (FCM) Asset Management Readiness Scale

Asset Management Planning

FCM Climate Readiness Scale

5 core competencies:

- Policy and governance
- People and leadership
- Data and information
- Planning and decision-making
- Contribution to asset management practice



Asset Management Readiness Scale

Asset Management Readiness Scale

Asset Management Readiness Scale

Asset Management Readiness Scale

Asset Management Readiness Scale

Asset Management Readiness Scale

Levels and Outcomes

Outcome area A

Policy & Objectives

Outcome area B

Strategy & Roadmap

Outcome area C

Measurement & Monitoring

Asset Management Readiness Scale

	Outcomes: Select the outcomes that your organization has achieved.				
Outcome areas	**Level 1**	**Level 2**	**Level 3**	**Level 4**	**Level 5**
A **Policy and objectives**	☐ Senior management is committed to formalizing an **AM program**.	☐ We have drafted an **AM policy**. ☐ Senior management and council have endorsed the **AM policy**.	☐ We are starting to use our **AM policy** to guide our actions.	☐ We manage assets and services in accordance with our **AM policy** and organizational objectives.	☐ We continue to validate and refine our corporate, service and AM objectives based on the evolving needs of our community.
B **Strategy and roadmap**	☐ We have identified the benefits that we want AM to deliver, and the benefits support organizational objectives.	☐ We have a strategy for our **AM program**. ☐ We have a draft **roadmap** that outlines our approach for the next 1 to 3 years.	☐ We have a **roadmap** that details the actions for implementing our **AM strategy** over the next 3 to 5 years.	☐ We are achieving our **AM policy** objectives. The necessary workflows, documents, and reporting tools are in place. ☐ We update our **roadmap** to address evolving needs.	☐ We follow our **roadmap** and continually improve our AM practices. ☐ We document improvements to our AM practices.
C **Measurement and monitoring**	☐ We have identified short-term actions that will demonstrate early progress on AM.	☐ We are collecting baseline data on our current AM practices.	☐ We have established performance measures to monitor our asset management progress, outcomes, and the benefits to our community.	☐ We use performance measures to monitor AM progress, outcomes, and benefits.	☐ We monitor performance and use the feedback to prioritize and make ongoing refinements and improvements to AM practices.

Activity 1 – What is Your Readiness Level?

Instructions (15 min)

In groups with your colleagues…

- Select a competency area and read through descriptions for each level (1,2,3,4,5) for each outcome area (A,B,C)
- Discuss how outcomes relate to each municipality's current readiness level and what has already been achieved
- Check boxes with a ★ to indicate readiness level for each outcome area, and take notes on how you've achieved those levels

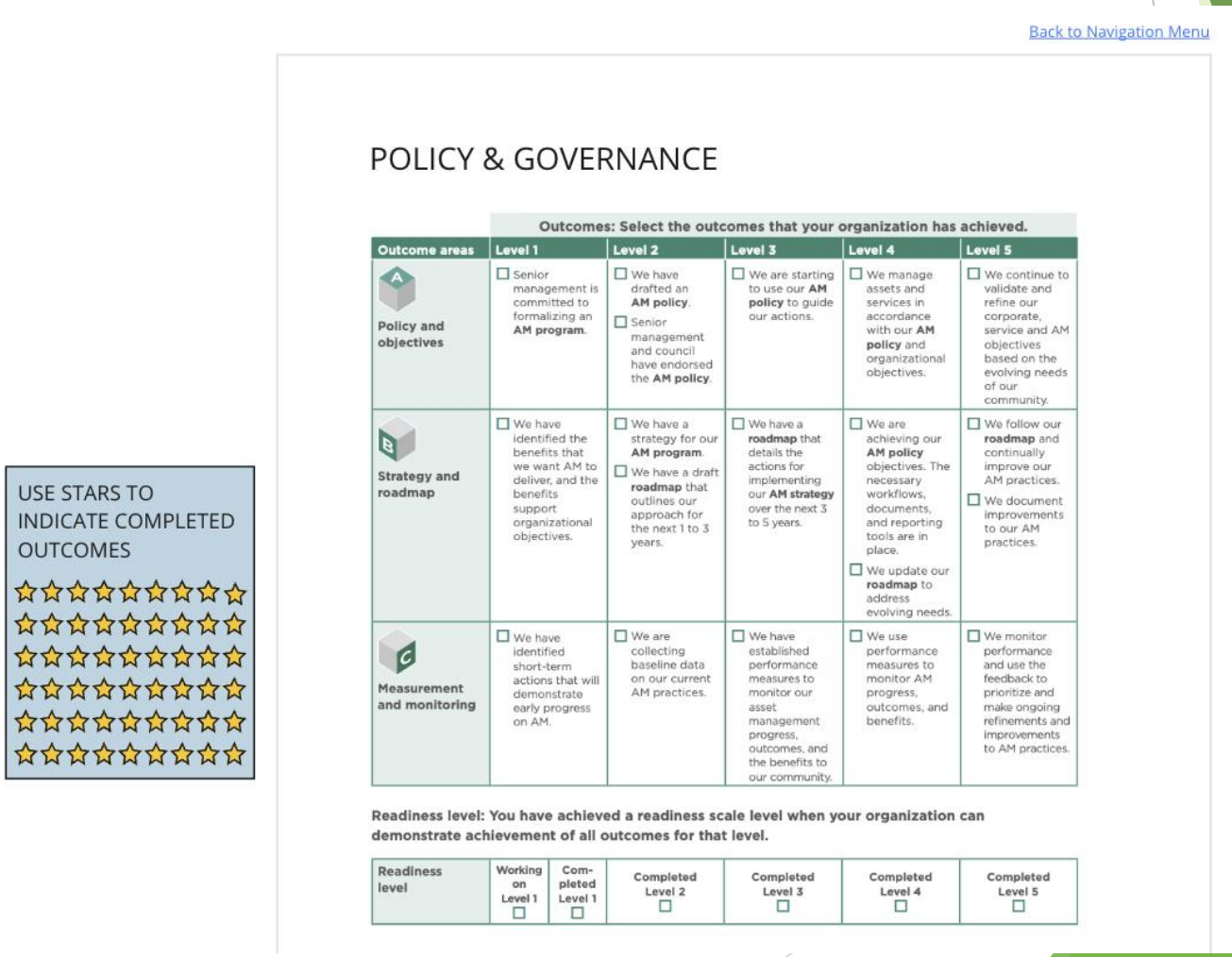
	Outcomes: Select the outcomes that your organization has achieved.				
Outcome areas	**Level 1**	**Level 2**	**Level 3**	**Level 4**	**Level 5**
A **Policy and objectives**	☐ Senior management is committed to formalizing an **AM program**.	☐ We have drafted an **AM policy**. ☐ Senior management and council have endorsed the **AM policy**.	☐ We are starting to use our **AM policy** to guide our actions.	☐ We manage assets and services in accordance with our **AM policy** and organizational objectives.	☐ We continue to validate and refine our corporate, service and AM objectives based on the evolving needs of our community.
B **Strategy and roadmap**	☐ We have identified the benefits that we want AM to deliver, and the benefits support organizational objectives.	☐ We have a strategy for our **AM program**. ☐ We have a draft **roadmap** that outlines our approach for the next 1 to 3 years.	☐ We have a **roadmap** that details the actions for implementing our **AM strategy** over the next 3 to 5 years.	☐ We are achieving our **AM policy** objectives. The necessary workflows, documents, and reporting tools are in place. ☐ We update our **roadmap** to address evolving needs.	☐ We follow our **roadmap** and continually improve our AM practices. ☐ We document improvements to our AM practices.
C **Measurement and monitoring**	☐ We have identified short-term actions that will demonstrate early progress on AM.	☐ We are collecting baseline data on our current AM practices.	☐ We have established performance measures to monitor our asset management progress, outcomes, and the benefits to our community.	☐ We use performance measures to monitor AM progress, outcomes, and benefits.	☐ We monitor performance and use the feedback to prioritize and make ongoing refinements and improvements to AM practices.

Activity 1 – What is Your Readiness Level?

Miro Tips and Tricks

- Zoom into the Asset Management Readiness Checklist Activity

USE STARS TO INDICATE COMPLETED OUTCOMES



Back to Navigation Menu

POLICY & GOVERNANCE

	Outcomes: Select the outcomes that your organization has achieved.				
Outcome areas	**Level 1**	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Policy and objectives	☐ Senior management is committed to formalizing an **AM program**.	☐ We have drafted an **AM policy**. ☐ Senior management and council have endorsed the **AM policy**.	☐ We are starting to use our **AM policy** to guide our actions.	☐ We manage assets and services in accordance with our **AM policy** and organizational objectives.	☐ We continue to validate and refine our corporate, service and AM objectives based on the evolving needs of our community.
Strategy and roadmap	☐ We have identified the benefits that we want AM to deliver, and the benefits support organizational objectives.	☐ We have a strategy for our **AM program**. ☐ We have a draft **roadmap** that outlines our approach for the next 1 to 3 years.	☐ We have a **roadmap** that details the actions for implementing our **AM strategy** over the next 3 to 5 years.	☐ We are achieving our **AM policy** objectives. The necessary workflows, documents, and reporting tools are in place. ☐ We update our **roadmap** to address evolving needs.	☐ We follow our **roadmap** and continually improve our AM practices. ☐ We document improvements to our AM practices.
Measurement and monitoring	☐ We have identified short-term actions that will demonstrate early progress on AM.	☐ We are collecting baseline data on our current AM practices.	☐ We have established performance measures to monitor our asset management progress, outcomes, and the benefits to our community.	☐ We use performance measures to monitor AM progress, outcomes, and benefits.	☐ We monitor performance and use the feedback to prioritize and make ongoing refinements and improvements to AM practices.

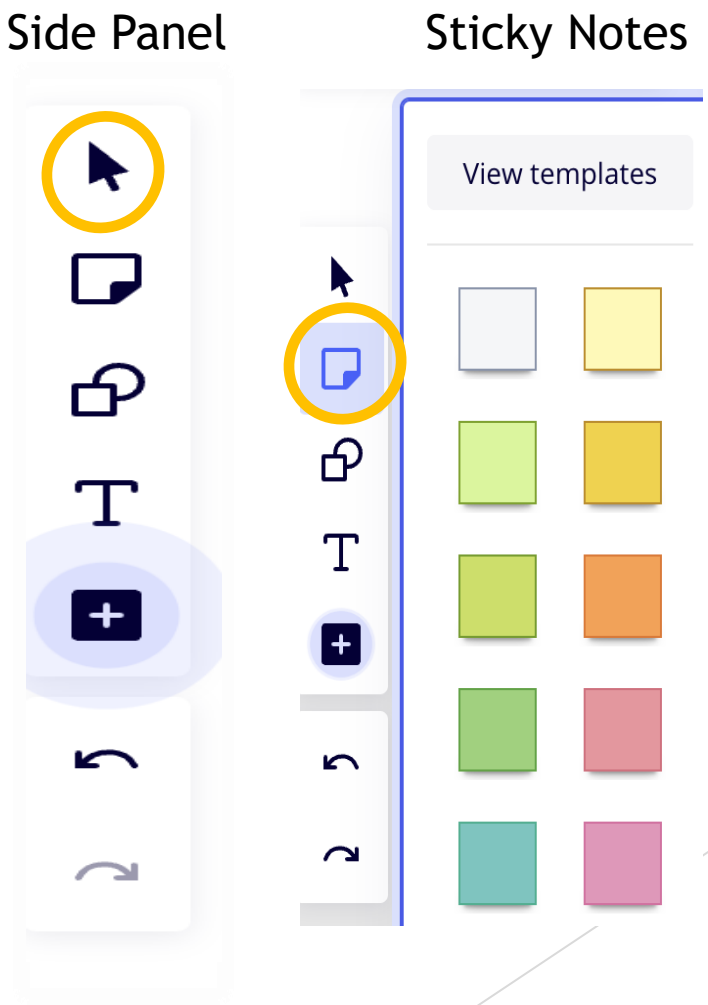
Readiness level: You have achieved a readiness scale level when your organization can demonstrate achievement of all outcomes for that level.

Readiness level	Working on Level 1 ☐	Completed Level 1 ☐	Completed Level 2 ☐	Completed Level 3 ☐	Completed Level 4 ☐	Completed Level 5 ☐

Activity 1 – What is Your Readiness Level?

Miro Tips and Tricks

- Zoom into the Asset Management Readiness Checklist Activity
- Move around the board with the glove curser
- Add sticky notes by clicking the sticky note function on the side panel
- Instructions are displayed on the side of the Miro board under the region's hyperlinks



Activity 1 – What is your readiness level?

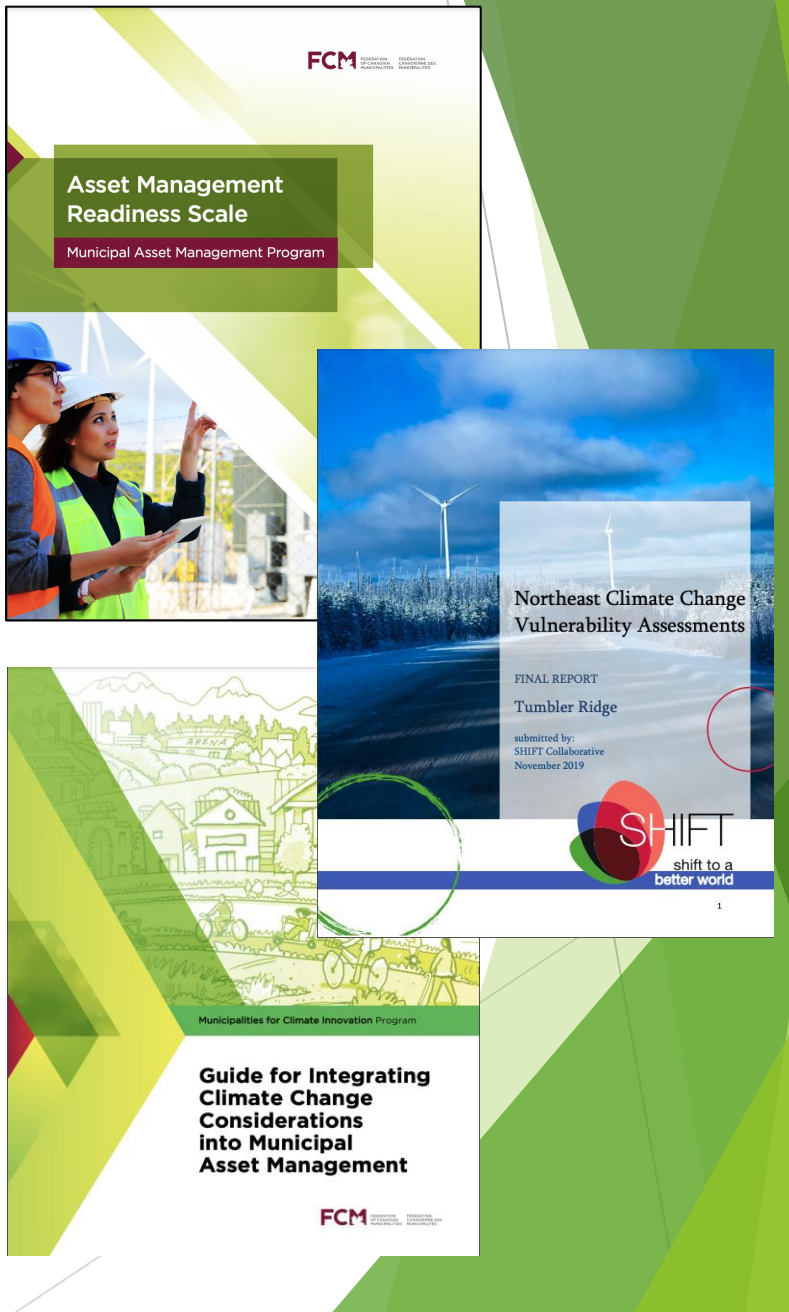
Report Back… *(10 min)*

- Please share your experience using the Asset Management Readiness Scale
- Do you have any reflections on how this tool may be helpful to you and your community?

Wrapping Up

Key Take-Aways from Workshop #1

- Review and (re)familiarize ourselves with regional climate change projections
- Review asset management principles and practice
- Review and Apply FCM's Asset Management Readiness Scale
- Review and apply asset management lens to NE Community Vulnerability Assessments



Wrapping Up
Looking Ahead to Workshop #2

- Introduction to natural asset management principles, approaches and tools
- Deepen understanding and ability to apply asset management and natural asset management approaches to prepare for and manage climate change impacts

Conclusion

Thank you!

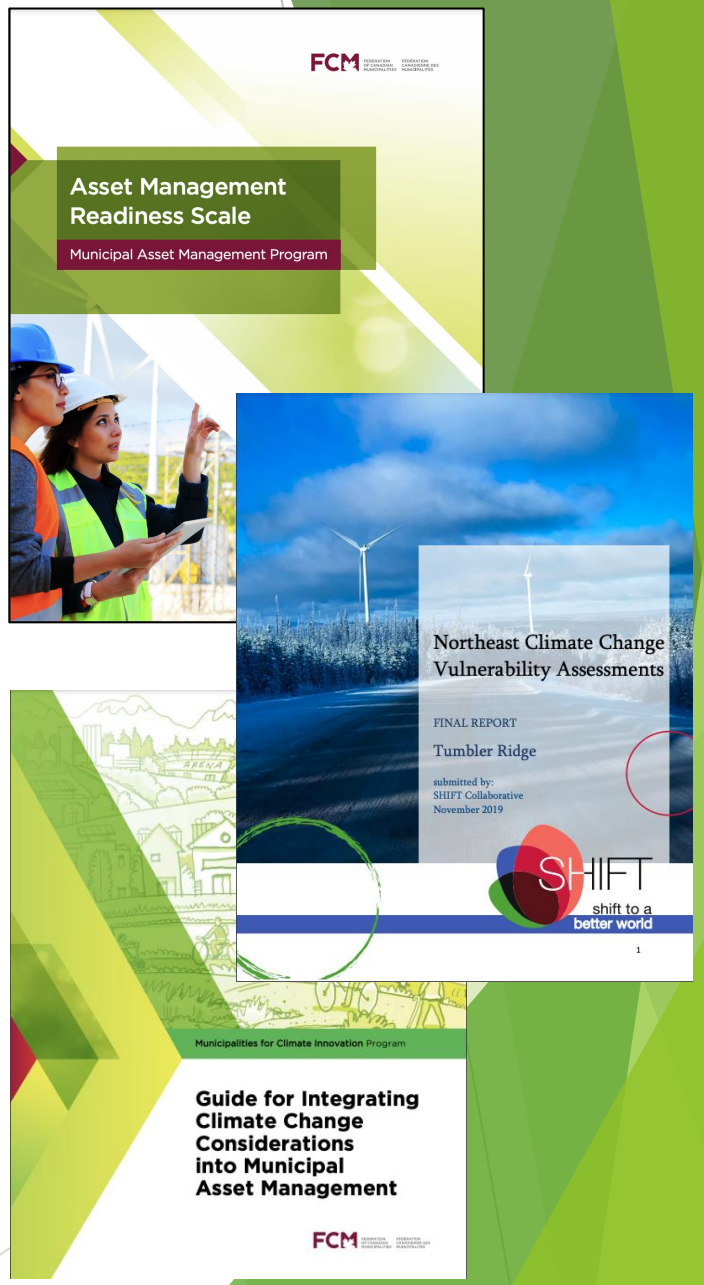
Climate Change & Asset Management

Workshop #2 – October 3rd 2023

Welcome Back!

Key Take-Aways from Workshop #1

- Review and (re)familiarize ourselves with regional climate change projections
- Review of asset management principles and practice
- Review and Apply FCM's Asset Management Readiness Scale



Agenda

Time	Item
9:15 // 75 min	Natural Asset Management: Concepts and Practice
10:30 // 15 min	BREAK
10:45 // 65 min	Asset Management Planning and Climate Action
11:50 // 10 min	Roundtable Wrap Up

Natural Asset Management
Concepts and Practice

Welcome, Emanuel & Michelle!

- Emanuel Machado
  - CAO and Chief Resiliency Officer for the Town of Gibsons
  - 20+year career in local government management and administration
- Michelle Lewis
  - Canada's first Natural Asset Management Technician
  - ISA Certified Arborist
  - Master's degree in Urban Forestry Leadership at UBC

Natural Asset Management Concepts and Practice

With Special Guests,

Emanuel Machado & Michelle Lewis

BREAK!

Asset Management Planning and Climate Action

Activity 3 – Applying AM and NAM in Local Climate Action Planning

Purpose

Gain experience in applying the lens of asset management and natural asset management when considering how to prepare for and respond to climate change impacts.

Activity – Applying AM and NAM in Local Climate Action Planning

Instructions (45 min)

In break-out groups, review risk reduction actions and by using a star (★), indicate which actions are related to asset management. Once the review is complete, answer the following questions:

- How could these actions be advanced using asset management principles, tools, and approaches?
- What are some challenges in applying AM or NAM approaches to these actions?

Closing Discussion

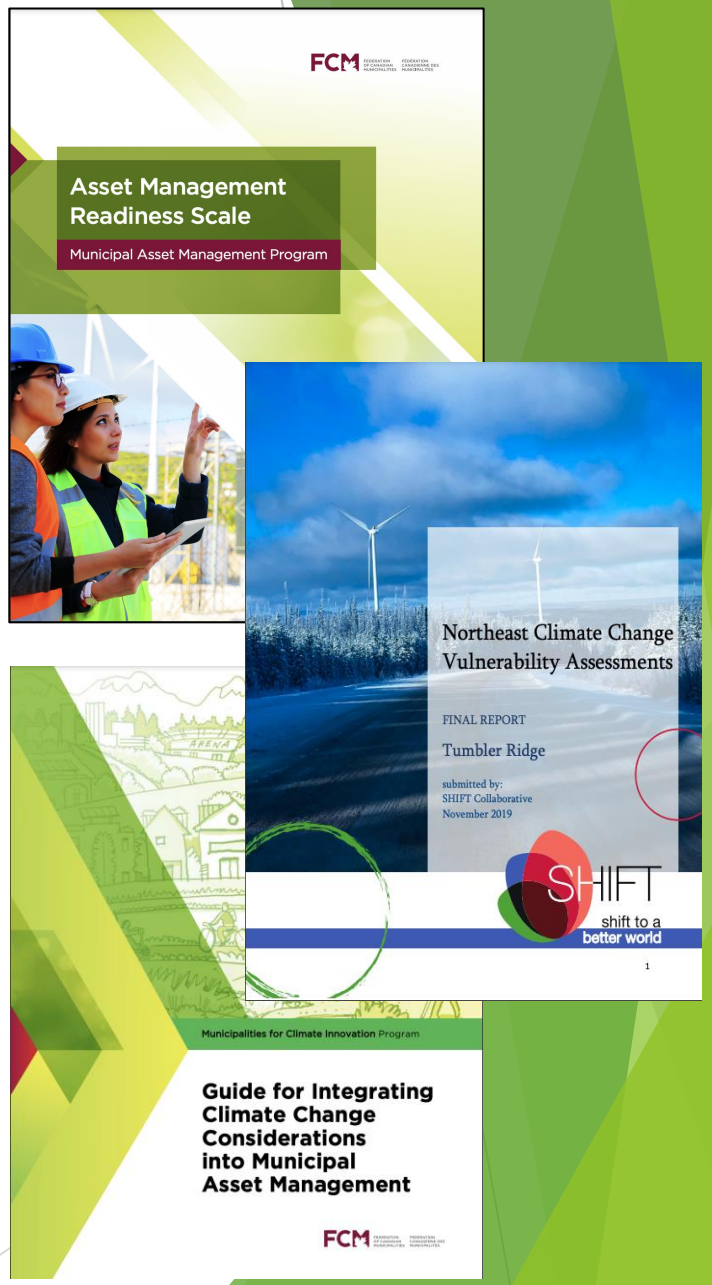
Group Discussion (15 min)

- Please share your key take-aways from participating in this activity

Wrapping up

Wrapping Up
Key Take-Aways from Workshop #1

- Review and (re)familiarize ourselves with regional climate change projections
- Review and refresher on asset management principles and practice
- Review and Apply FCM's Asset Management Readiness Scale



Wrapping Up
Key Take-Aways from Workshop #2

- Introduction to Natural Asset Management Principles, Approaches and Tools
- Deepen understanding and ability to apply asset management and natural asset management approaches to prepare for and manage climate change impacts

Thank you!