



Where We **Live**, Why We **Plan**

Community Planners Forum

March 26-28, 2024

Yellowknife, NWT

***‘What We Heard’ Report
Appendix D – Forum Presentations***

DRAFT

April 8, 2024



Table of Contents

Day 1:

Contextual Overview – Community Planning in the NWT

Community Planning in the NWT: Chris Hewitt (Day 1 #5)	Page 1
Capital Planning and Infrastructure Funding: Olivia Lee (Day 1 #6)	Page 13
Impacts on Planning – Fire Prevention Act and Plan Review: Craig Halifax (Day 1 #7)	Page 20
Transfer Of Public Land to Community Governments: Derise Rehm (Day 1 #8)	Page 23

Theme 1: Reconciliation

Indigenous Consultation and Municipal Engagement in Community Planning: Toby Kruger (Day 1 #10)	Page 30
Archaeological Site Management and Community Planning: Naomi Smethurst (Day 1 #11)	Page 35

Day 2:

Theme 2: Climate Change

Climate Change and Community Land-Use Planning: Leonardo Conde Fernandez and Brian Sieben (Day 2 #17)	Page 41
Resilient Wood Buffalo – Lessons Learned from the 2016 Wildfire and 2020 Floods: Such Chandhiok (Day 2 #18)	Page 57
Planning for Climate Change – Town of Hay River Experience: Glen Smith and Lesley Cabott (Day 2 #19)	Page 85
Community Protection from Wildfire and Resilient Community Planning: Westly Steed (Day 2 #20)	Page 101
Flood Mapping in NWT Communities: Michèle Culhane (Day 2 #21a)	Page 109
Overview of Surficial Geology and Permafrost Mapping in NWT Communities: Niels Wiess (Day 2 #21b)	Page 114
Government of Nunavut, Subdivision Design and Climate Change: Olivier Forbes-Bouillon (Day 2 #22)	Page 119
Housing and Climate Change in Fort Good Hope: Christine Wenman (Day 2 #23)	Page 126

Day 3:

Themes 3 and 4: Healthy Communities and Housing

Healthy Communities & Housing (Moderator's Notes):

Dustin Martin and Chris VanDyke (Day 3 #28)

Page 135

GIS Civic Addressing Project: Emily Mahon (Day 3 #29)

Page 138

Agriculture, Food Security and Community Planning: Janet Dean (Day 3 #30)

Page 145

Housing Planning in the NWT: Chris VanDyke (Day 3 #31)

Page 151

Moving Forward with the NWT Community Planning Framework

Community Planning in the NWT: Chris Hewitt (Day 3 #34)

Page 157

Day 1:

Contextual Overview – Community Planning in the NWT

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Transfer Of Public Land to Community Governments: Derise Rehm (Day 1 #8)

Community Planning in the NWT: Chris Hewitt (Day 1 #5)



Community Planning in the NWT

Community Planners Forum & the Framework

March 26, 2024

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1



Welcome

**Chris Hewitt, RPP, MCIP Manager, Community Planning
Community Governance Division
Municipal and Community Affairs**

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Land Acknowledgment

- We wish to acknowledge that the land on which we gather this week is treaty land and home to many Indigenous Peoples, including the Yellowknife – Akaitcho Dene, Tłıchǫ and Métis. We are grateful to be on this land.

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The Forum

- Innovative & Collaborative
- Informative
- Sharing experience
- Is an opportunity
- So we invited planners



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February 2001, APPI

Is Community Planning in the Northwest Territories Dead?

*by David Boote, ACP, MCIP, Policy Advisor, Department of Executive,
Government of the Northwest Territories*

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Why Now?

- 17 years since the New Deal in 2007
- It's been 10 years since the CPDA replaced the Planning Act
- Department of Lands also was created in 2014 as a part of the Devolution
- There has been various community plan reviews initiated and completed over the past 5 years

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Forum Objectives

- a) bring together practicing NWT Planning Consultants who have worked with NWT community governments on community land use plans, zoning bylaws and community plan bylaw reviews over the last 5 years.
- b) Through informative discussions it is anticipated the Forum will assess the community land use planning cycles (**Review/Administer/Implement**) and identify emerging community planning practices, issues, and trends.

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CIP Policy Statements- Role of Planners



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Community Plan – Purpose

- The purpose of a community plan is to provide a policy framework to guide the physical development of a municipality, having regard to **sustainability**, the **environment**, and the **economic**, **social** and **cultural** development of the community.

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9

Community Land Use Plan Relationships

Land Uses

Asset Management

Climate Change

Public Safety

Healthy
Communities

Housing

Community Vision

Indigenous
Consultation

Community
Engagement

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10

Land Management – Planning Tools

Community
Plan Bylaw

Zoning
Bylaw

Land
Administration
Bylaw

Subdivision
Plan

Area
Development
Plan

Land Use Plan

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11

The Theme



Where We **Live**, Why We **Plan**

nwtac
NWT Association of Communities
Consulting Community Governments Since 1986

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12

Status of Community Plans

- All NWT communities now have a plan or are working towards a plan.
- Some communities recently adopted their **first ever** community land use planning documents.

Status of plans over the past 5 years

- Ulukhaktok
- Sachs Harbour
- Paulatuk
- Tsiigehtchic
- Wekweètì
- Yellowknife
- Hay River
- Norman Wells
- Enterprise

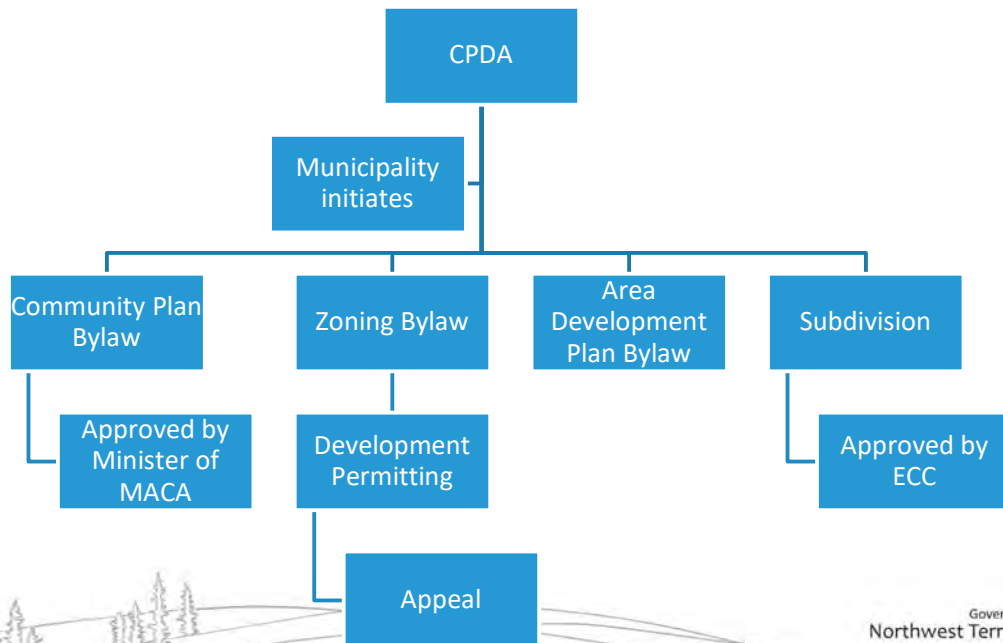
Plan Reviews In-progress

- Fort Providence
- Fort McPherson
- Fort Smith
- Inuvik
- Fort Simpson
- Deline Got'ine Government
- Jean Marie River
- Sambaa K'e
- Nahanni Butte

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15

Community Planning and Development Act



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16

Community Plans – STRATEGIC

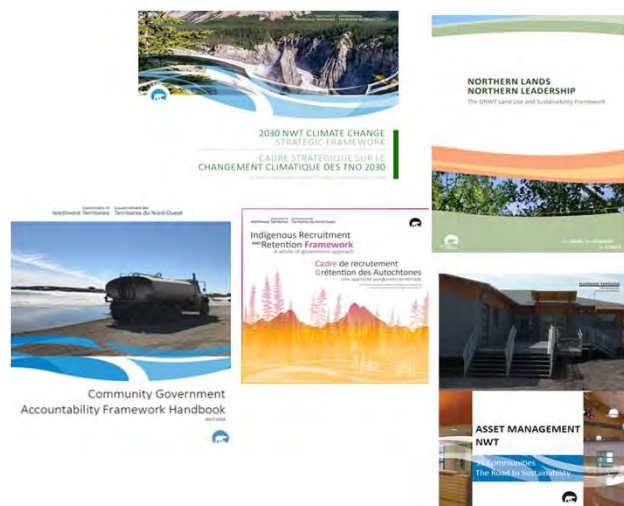
- Land applications and acquisition
- Housing applications
- Subdivision design approval
- Climate change adaptation
- Reconciliation



17

What is a Framework?

- How work gets accomplished and the relationship between processes
- Part of a strategy – strategic purposes



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18

Land Use & Sustainability Framework DoL/ECC

**NORTHERN LANDS
NORTHERN LEADERSHIP**
The GNWT Land Use and Sustainability Framework

VISION

The GNWT's vision to guide its decisions about land use and land management is:

Land is life – it sustains and nourishes us spiritually, culturally, physically, economically and socially. Working together, Northerners will responsibly and sustainably manage the lands, waters and natural resources of the Northwest Territories for the benefit of current and future generations.

This vision embraces the spirit and intent of sustainability and stewardship.



STRATEGIC DIRECTIONS FOR THE GNWT

The framework's vision, principles and land interests provide structure and consistency for the GNWT in undertaking its land management responsibilities and participating in collaborative land-management processes. The framework sets the foundation for action. The GNWT has identified several areas where it will focus efforts in the short term to improve land management in the NWT.

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19

What is the CPF Initiative ?

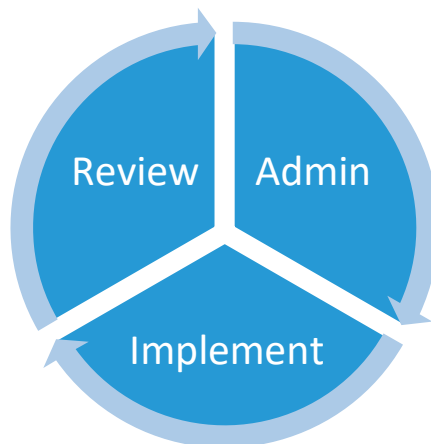
- Provides a platform approach:
- to promote community land use planning
- to support the role of community planners
- to encourage discussions related to the NWT community land use planning system, including the cycle of:

Review/Admin/Implement

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20

Explore The Cycle



21

Series of Guides



Other topics of guides to be raised at Forum

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Where We **Live**, Why We **Plan**



Capital Planning and Infrastructure Funding: Olivia Lee (Day 1 #6)



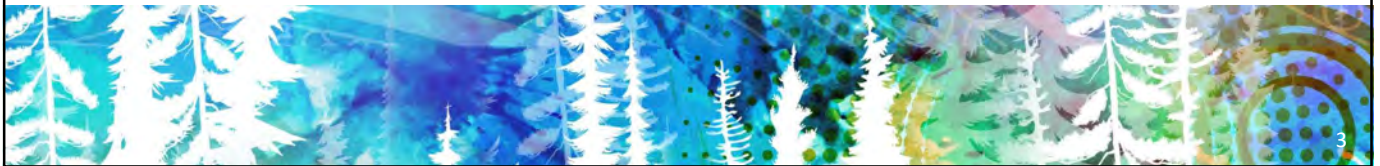
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MACA's Role

- Support **responsible, effective, and accountable** local government
- Provide **training and tools for community governments** to deliver essential programs and services – water and waste, public works, public safety, emergency management, recreation, and addressing impacts of climate change related to land use and capital planning.
- Provide **core funding**.



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Who do we fund



32 Community Governments

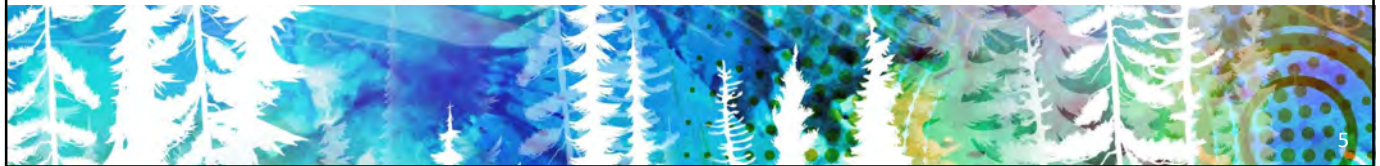
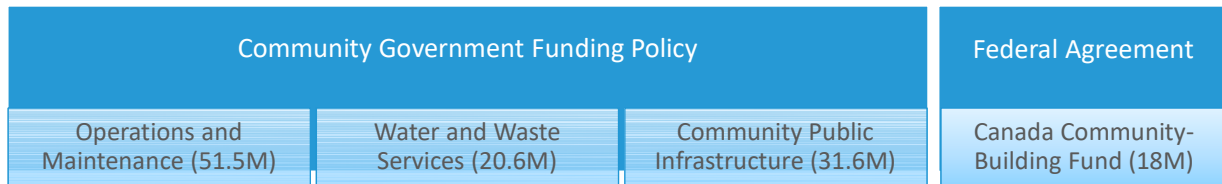
- 6 CTV Act communities
- 11 Hamlets Act communities
- 2 Charter communities
- 4 self-government communities
- 9 Designated authorities/ First Nation communities

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Community Government Funding

Municipal and Community Affairs flows \$125 million annually to community governments



5

Eligible Expenses



Community Public Infrastructure
\$31.6 million

Canada Community-Building Fund
\$18 million



Eligible Expenses

- | | |
|----------------------|-------------------|
| Roads | Works |
| Water | Equipment |
| Sewage | Energy |
| Solid Waste | Disaster |
| Cultural | Mitigation |
| Sport and Recreation | Public |
| Land | Safety |
| Development | Asset |
| Fire | Management |
| Equipment | Capacity Building |



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Capital Planning

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Capital Planning Timeline



Fall – Start Capital Conversation



Winter – Meet with Staff and or Council



Spring – Approve Capital Plans



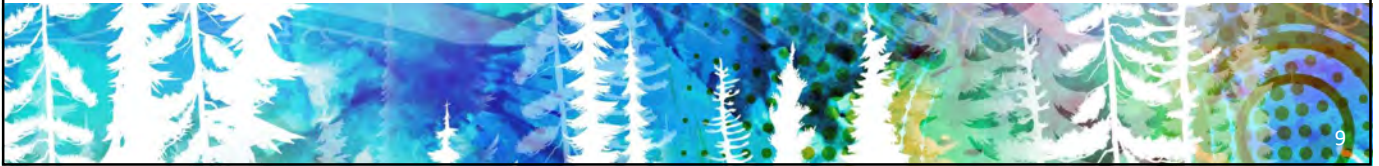
Summer – Support implementation of the Plan



8

Links between Community Plans

- Community plans should be considered during the development of a community capital plan
- Land Use Plans can identify:
 - Sensitive Areas
 - may require either additional examination prior to development (ex: geotechnical investigations).
 - unacceptable for construction of any buildings and only suitable for outdoor use areas
 - Areas of historical importance to a community government where no development is wanted
 - The plan could identify development needs and recommended timelines
 - This is a tool community governments can use during the capital planning process.
- Capital Planning- budgets for legal survey, road construction, power installation, and drainage



9

Links between community and capital plans

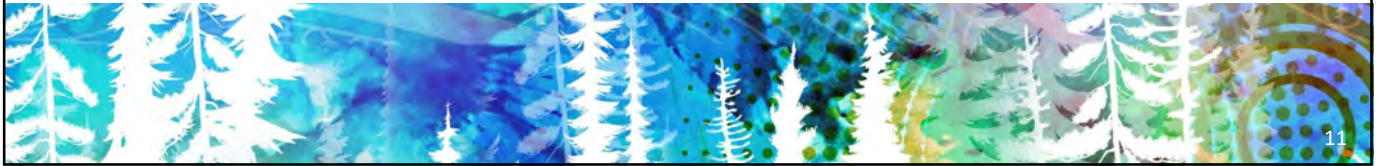
- In addition to Land Development some other things that may be identified during the development of the Community Land Use Plan:
 - Drainage Plan Needs
 - Civic Addressing Needs - Interdepartmental initiative with Centre for Geomatics (Finance)
 - Climate Change Adaptation Needs - “Planned Retreat” and Relocation
 - Asset Management Activities that could support adaptation needs or knowledge needs for planning purposes (ex: monitoring snow loads)
 - Land Acquisition Requirements



10

Mutual Benefits

- An updated Community Land Use Plan can be an extremely useful tool to guide community investment.
- Capital planning process can support the implementation of aspects of the community land use plan.



11

Discussion

What can MACA staff responsible for supporting community governments with Capital Planning do more of to promote strong community planning practices?

How can we help you?



12



Any Questions?

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Impacts on Planning – Fire Prevention Act and Plan Review: Craig Halifax (Day 1 #7)



Community Planners Forum

March 26, 2024

Craig Halifax – NWT Fire Marshal

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Discussion Topics

- OFM Plan Review process
- Legislative impacts to Community Planning
- Derelict buildings

2

OFM Plan Review

- Plan review process – s.5 of the *Fire Prevention Act*; s.3 of FPA Regulations
- Current adopted Codes (*NBC, NFC*) and standards
- Plan Review Industry Guidelines

https://www.maca.gov.nt.ca/sites/maca/files/industry_guidelines_-_plan_review.pdf

Legislative Impacts to Community Planning

- Updates to the *Fire Prevention Act*
 - *Plan Review Appeals Board Regulation*
- Adoption of 2020 National Model Codes
- Building Standards framework

Derelict Buildings

- What is (or is not) the role of the OFM?
- Authority under the *Fire Prevention Act*
 - Order of the Fire Marshal (s.12 and 13)

Questions?

Transfer Of Public Land to Community Governments: Derise Rehm (Day 1 #8)



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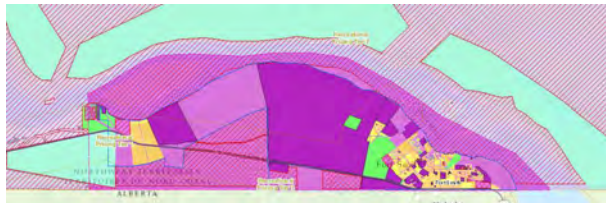
Commissioners' & Territorial Land (Public Land)

- In the 1960's & 70's administration and control Commissioners' land was transferred to the Territorial Government
- In 2014 the administration & control of Federal (territorial) Land was transferred to the GNWT



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BLT & Municipal Boundary



- BLT- transferred admin and control P.C. 1971-2477
- Municipal Boundary-Community Plan-Zoning Bylaw- Land Administration Bylaw

GNWT Roles & Responsibilities

- The Department of Environment and Climate Change is responsible for administration of all public land under the administration and control of the Commissioner of the Northwest Territories. This includes some lands which within municipal boundaries.
- Subject to the results of consultation, the Department of Environment and Climate Change will process land transfer requests and identify GNWT program and capital needs, assess the legislative and policy requirements.
- The Department of Municipal and Community Affairs is responsible for advising and supporting community governments in understanding how to acquire and dispose of land through local bylaws, including acquiring land from the GNWT.
- The Department of Executive and Indigenous Affairs is responsible for reviewing any land disposition proposal to ensure that ongoing negotiations are not prejudiced, or existing agreements are being adhered to.

Municipal Roles & Responsibilities

- The municipality is responsible for the administration and management of municipal land including land use planning, zoning, and by-laws which apply to all land within the municipality.
- The municipality participates in the resolution of any conflicts or needs arising out of land use and access to public land (i.e., Commissioner's or Territorial land) lying within their boundary.
- The municipality is also recognized as having an interest in the administration and management of public land adjacent to municipal land.

Transfer of Public Land to Communities: Process Guide

- Outlines the general process by which the GNWT will undertake the transfer of public land communities.
- The process reflects the legal requirements of the GNWT.
- Where required, the process also reflects required actions of the municipality and projected timelines.



Process of Transferring Land to a Community

Phase 1: Planning

1. Scoping & Clarification of Initiative
- Memorandum of Agreement
2. Identification of Land

Phase 2: Implementation

3. Submission & Review of Land Application
4. Consultation & Engagement
5. Survey Review & Approval
6. Approval of Transfer & Implementation



MOA Overview

- Purpose
Provide for the efficient and timely transfer of available Public Land within a Community Governments boundaries in order to provide for its growth and services.
- Term of Agreement
 - Discussed an initial term of 10 years, with possible extension of 5 years
- Application of the Agreement
 - Lands outlined in Annexes
 - Broad provisions for Public land not subject to transfer

MOA Overview

- Transfer of Lands to a Community Government
 - Timelines
 - Associated costs (survey requirements)
 - Updates to Annexes
- Return of Transferred Land
 - Transferred Land may be required by the GNWT in the future for delivery of programs and services
 - Timelines
 - Associated costs

MOA Overview

- Liability and Indemnity
 - Full disclosure of any environmental liabilities prior to transfer
 - Transferred “as is”
- Consultation Prior to Transfer
 - Consultation with any and all potentially affected Indigenous Governments and Indigenous Organizations prior to transfer of any land
- Sharing of Agreement
 - Upon execution the Agreement will be made available to the general public

Next Steps

- Identify lands the Community needs over the next 20 years
- Start discussions with ECC
- Draft MOA
- Section 35 Consultation

Questions?

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Theme 1: Reconciliation

Indigenous Consultation and Municipal Engagement in Community Planning: Toby Kruger (Day 1 #10)

Archaeological Site Management and Community Planning: Naomi Smethurst (Day 1 #11)

Indigenous Consultation and Municipal Engagement in Community Planning: Toby Kruger (Day 1 #10)



Indigenous Consultation and Municipal Engagement in Community Planning

Community Planners Forum, March 26, 2024
Toby Kruger, Partner, Lawson Lundell LLP

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Purpose of presentation

- Examining how Aboriginal Consultation works in the Community Plan approval process, and how that process can work in parallel with municipal public engagement to ensure effective consultation and engagement with Aboriginal Governments and organizations.

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Applicable Legislation

- *Community Planning and Development Act*
 - Section 5:
 - 5. (1) A community plan has no effect unless it is approved by the Minister and adopted by council by bylaw.
 - (2) Council may, in accordance with the regulations, submit a community plan to the Minister for review and approval.
 - (3) A bylaw to adopt a community plan must have received first and second reading before council may submit the plan to the Minister.

Applicable Legislation

- *Community Planning and Development Act*
- 1.1. (1) For greater certainty, nothing in this Act shall be construed so as to abrogate or derogate from Aboriginal or treaty rights of the Aboriginal peoples of Canada under section 35 of the Constitution Act, 1982.
- (2) An action or thing authorized by this Act must be carried out in accordance with any applicable land claims agreement.
- (3) If there is a conflict or an inconsistency between a provision of this Act or the regulations and a provision of a land claims agreement or legislation approving, giving effect to and declaring valid a land claims agreement, the provision of the land claims agreement or legislation prevails to the extent of the conflict or inconsistency.

Applicable Legislation

- *United Nations Declaration on the Rights of Indigenous Peoples Implementation Act*
- 6. (1) The Government of the Northwest Territories shall, in collaboration and cooperation with Indigenous peoples, take all reasonable measures to ensure that the laws of the Northwest Territories are consistent with the Declaration.
- (2) The laws of the Northwest Territories must be interpreted and applied in a manner consistent with the Declaration.

Duty to consult

- What is the duty to consult?
 - *Haida*, SCC, 2004: The foundation of the duty in the Crown's honour and the goal of reconciliation suggest that the duty arises when the Crown has knowledge, real or constructive, of the potential existence of the Aboriginal right or title and contemplates conduct that might adversely affect it.
 - The scope of the duty is proportionate to a preliminary assessment of the strength of the case supporting the existence of the right or title, and to the seriousness of the potentially adverse effect upon the right or title claimed.

Duty to Consult

- Municipal Corporations themselves probably do not have a duty to consult
 - Municipalities do not have direct powers, they possess only the powers delegated to them by statute
 - *Neskonlith Indian Band v. Salmon Arm (City)*, 2012 BCCA 379
 - But the Minister does when exercising powers under CPDA section 5

Duty to Consult

- While the Crown may delegate “procedural aspects” of consultation, the ultimate legal responsibility for consultation and accommodation rests with the Crown. The honour of the Crown cannot be delegated. (Rio Tinto, SCC, 2010)
- That said, local governments, as the decision-makers regarding land use decisions that could affect the exercise of Aboriginal Title and Rights, could be in a position to engage in the consultation process.
- Local governments are located in the area where the proposed development is proposed to take place and may have a better understanding of the local circumstances than centralized governments.
- Aboriginal Peoples can hold detailed indigenous knowledge about specific local conditions that should be taken into account, and about indigenous land uses that could be impacted by the decision.
- As such, the two parties are positioned to be directly engaged in a substantive consultation process at the local level.
- But there may be broader issues the municipality cannot address

Conclusion

Here are the main points I want to contribute to the Forum, and specifically what the GNWT may wish to take into consideration in preparing the *Community Planning Framework* document:

- Municipalities have an interest in integrity of their community plan and relationship with IGOs
- MACA may be able to rely on consultation done by communities
- MACA may need to fill any gaps, ultimately the responsibility rests with Minister



THANK YOU FOR LISTENING

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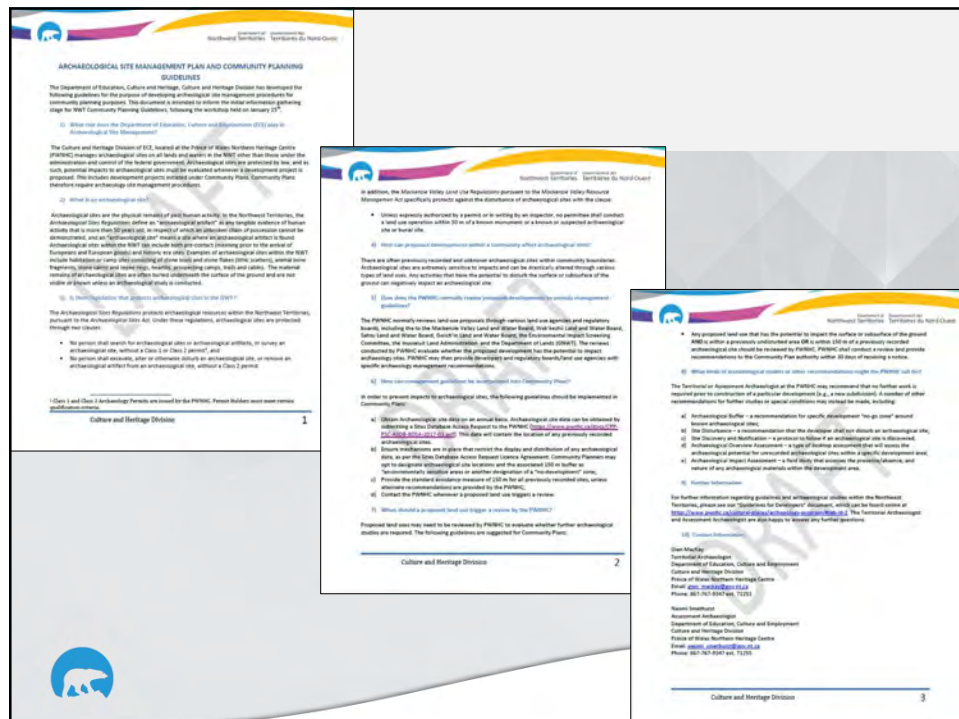
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Archaeological Site Management and Community Planning: Naomi Smethurst (Day 1 #11)

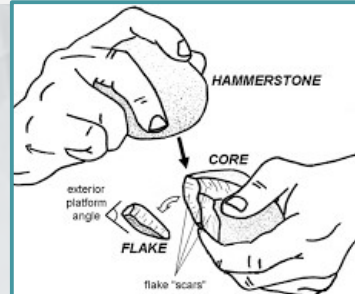


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What is an archaeology site?



3

What is an archaeology site?



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Previously Recorded Archaeological Sites within NWT

- Approximately 7000 previously recorded archaeological sites within the Northwest Territories.
- Approximately 85 previously recorded archaeological sites within the 33 communities of the Northwest Territories.



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Is there legislation that protects archaeological sites in the NWT?

Yes!!!

Archaeological Sites Regulations

- No person shall search for archaeological sites or archaeological artifacts, or survey an archaeological site, without a Class 1 or Class 2 permit¹, and
- **No person shall excavate, alter or otherwise disturb** an archaeological site, or remove an archaeological artifact from an archaeological site, without a Class 2 permit.

Mackenzie Valley Land Use Regulations

- Unless expressly authorized by a permit or in writing by an inspector, **no permittee shall conduct a land use operation within 30 m** of a known monument or a known or suspected archaeological site or burial site.

Northwest Territories Land Use Regulations



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How can developments affect archaeological sites?



7

Why do we need Archaeological Site Management Procedures in Community Plans?

The activities that require a Land Use Permit (MVLWB, GLWB, SLWB, and WLB) differ if within or outside a municipal boundary.

Outside a Municipality	Within a Municipality
Explosives	-
Use of Vehicles or Machines	-
Self Propelled Machinery	-
Stationary Machinery	Stationary Machinery
Drilling	Drilling
Storage of Fuel	Storage of Fuel
Lines, Trails, or ROW's	-
Campsites	Campsites
Construction of Buildings	-



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How can archaeology management guidelines be incorporated into Community Plans?

- Obtain archaeological site data from the ECE on an annual basis;
- Provide standard avoidance measures around archaeological sites (150 m standard);
- Ensure archaeological site locational information is kept confidential (as per the data license agreement);
- Contact the ECE whenever a proposed land use should be reviewed.



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What kinds of archaeological studies or other recommendations might ECE provide?

- A) No further work is required;
- B) Specific archaeological site avoidance measures (ie. an avoidance buffer);
- C) Chance Find Management Procedures;
- D) Archaeological Overview Assessment (AOA) and Archaeological Impact Assessment (AIA) of high potential areas;
- E) Archaeological Impact Assessment.



10

Thank-you!



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Day 2:

Theme 2: Climate Change

Climate Change and Community Land-Use Planning: Leonardo Conde Fernandez and Brian Sieben (Day 2 #17)

Resilient Wood Buffalo – Lessons Learned from the 2016 Wildfire and 2020 Floods: Such Chandhiok (Day 2 #18)

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Climate Change and Community Land-Use Planning

Community Planning Framework - Where We Live, Why We Plan: Community Planners Forum

March 27th, 2024

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Objectives

- To depict the **critical link between community land-use planning and climate change adaptation and mitigation** in the North.
- To show how **this linkage is fundamental for developing more resilient and prosperous Northern communities.**



(Source: Canada's Changing Climate Report, 2019)

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What are we facing?

- Climate change refers to **long-term shifts in temperatures and weather patterns.**
- “The science clearly shows that greenhouse gas (GHG) **emissions from human activities are the most significant driver of climate change**, and to avoid its worst impacts, increases in global temperature must be limited to 1.5°C above pre-industrial levels.” (ECC-INF)
- “This has led to widespread adverse impacts and related losses and damages to nature and people. **Vulnerable communities who have historically contributed the least to current climate change are disproportionately affected.**” (IPCC)



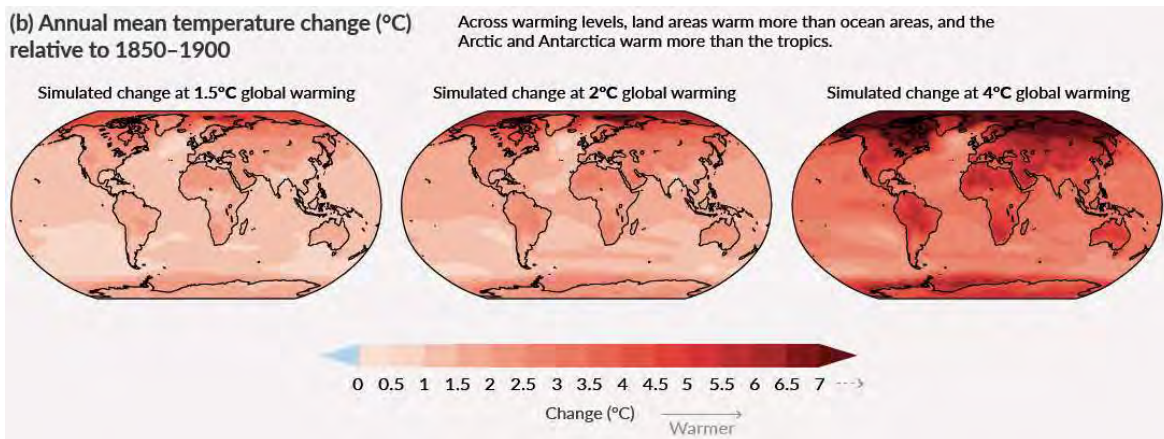
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3

Possible Climate Futures

With every increment of global warming, changes get larger in regional mean temperature, precipitation, and soil moisture.



Source: IPCC, Sixth Assessment Report, 2021: Summary for Policy Makers

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Our reality in the North

- Climate change is **one of the most important issues of our time** and **Canada's North is warming up to four times faster** than the global average. (ECC).
- "Climate change has led to **growing concerns about food security, health and well-being of residents, public safety, the resilience of infrastructure, and preservation of cultural identity** in the North." (Pan-Northern Leaders' Statement on Climate Change, EIA).
- It has been estimated that climate change impacts on **public infrastructure** in the Northwest Territories **will cost \$1.3 billion over the next 75 years** (NWTAC, 2018).



(Source: Canada's Changing Climate Report, 2019)



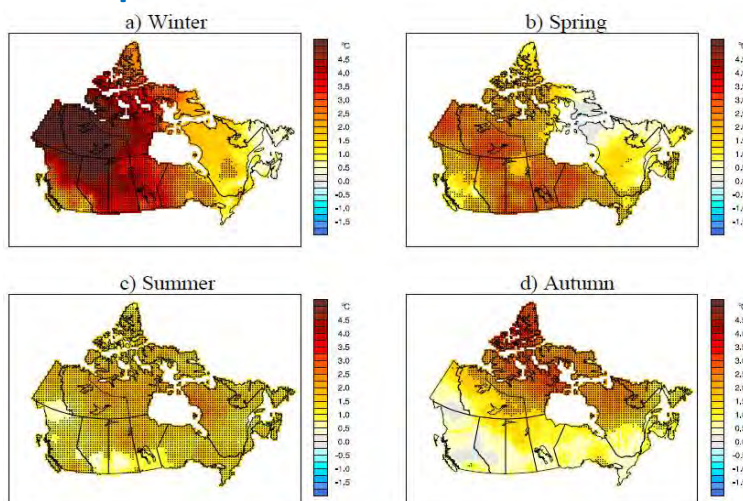
(Source: David Suzuki Foundation)

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Temperature trends: 1948-2012



More warming in
winter

More warming in
north

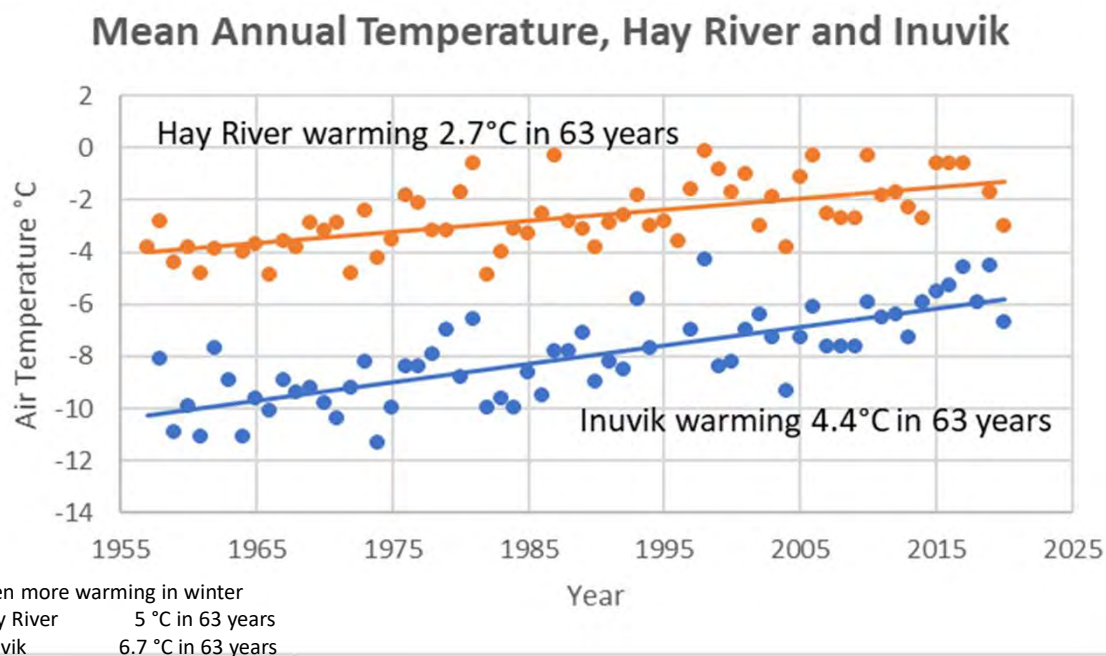
Worldwide
1.2°C since 19th
century
1.5°C 2023



Source: Vincent et al. *J. Climate*
Published 2015 by the American Meteorological Society.

1.7°C Canada, 2.3°C North

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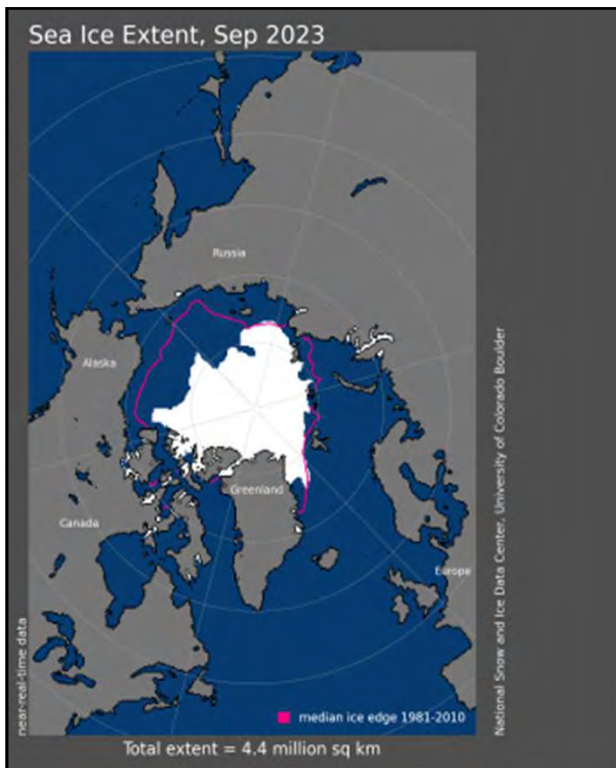
More warming in the north – Arctic Amplification

Future: Inuvik and Hay River

	Change in Mean Annual Air Temp with high GHG 2100 (relative to 81-2010)	Change in Mean January Air Temp with high GHG 2100 (relative to 81-2010)
Inuvik	About 9°C ↑	About 14.6°C ↑
Hay River	About 7.4°C ↑	About 14.1°C ↑

- Warmer
- Wetter

About 85 mm wetter, 25% in Hay River, 31% wetter in Inuvik. With warmer temperatures, increase rain vs snow, especially in fall/spring. Increasing air temperature will increase the surface water temperature.



Sea-ice extent

- Last year 2023, was the fifth lowest sea ice amount (area) in the satellite record
- Less sea ice exposes more dark sea water which can absorb more sunlight leading to higher temperatures and more melt (positive feedback)
- Length of Beaufort Sea open water season increasing.

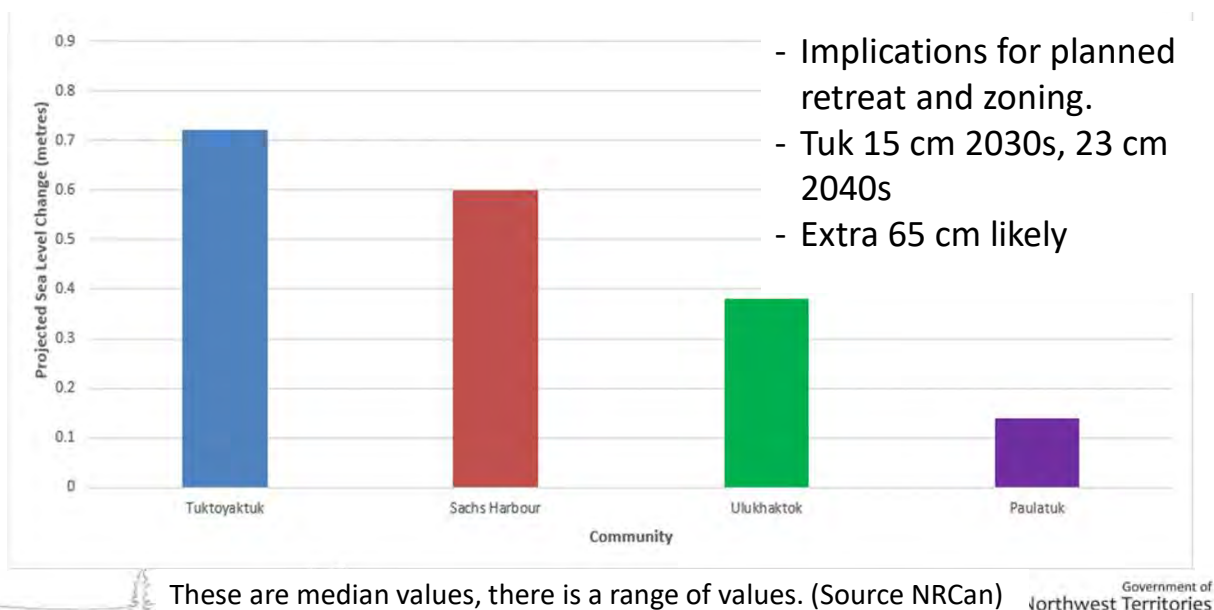
Coastal Erosion and Sea-level Rise



Sea level rise in Tuk 2.75 mm per year

- For planning there is a need to consider the rate of **coastal erosion** and **sea level rise**. This will inform the planned retreat.
- Areas that are expected to experience rapid change should be considered in zoning to avoid critical infrastructure.
- Storm surge will increase with less sea ice, amplifying coastal erosion and sea level rise.

Projected change in sea level up to 2100



11

River Erosion



- Planners need to consider the rate of river erosion to inform community plans and planned retreats.
- River erosion should be considered in zoning including the location of critical infrastructure.

(Photo Courtesy, Brandon Buggins, Fort Simpson)

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12

Increasing Forest Fires



Yellowknife, Sept 23, 2023

Modeling suggests that forest fires will become more common in the boreal forest with climate change.

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13

Increased snow precipitation (warmer, wetter and heavier)



In 2004, the foyer roof of Samuel Hearne Secondary School in Inuvik collapsed. It resulted in new NISI standard for snow loads.

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14

Flooding



Zoning can consider flooding so that critical infrastructure is not located in flood-prone areas.

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15

Permafrost Thaw



- Surficial and permafrost mapping should be considered in zoning/land use.

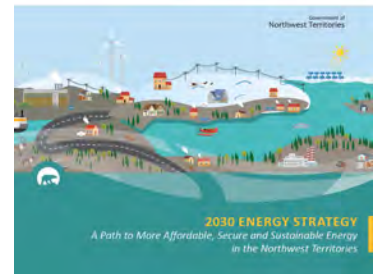
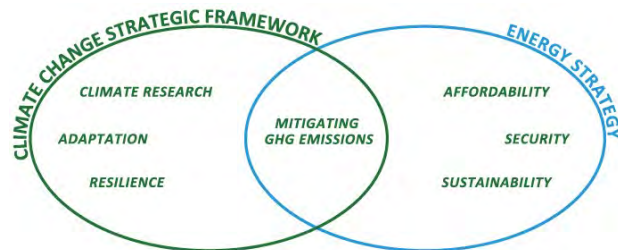
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16

16

2030 NWT Climate Change Strategic Framework

- Outlines how the territory plans to respond to challenges and opportunities associated with a changing climate.
- Community land-use planning contributes to Goal# 1, Goal #2 and Goal #3 of the framework.



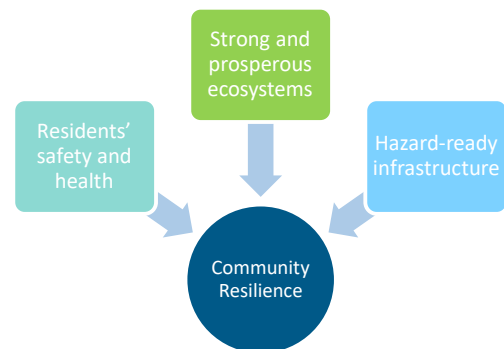
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17

17

Climate Spotlight!

- “Community planning is one of the **key tools available to local governments** when it comes to preparing for and **adapting to climate change impacts**.” (FCM)
- “**Planners are in a unique position** to bring together decision-makers, allied professions, and the public in an integrated and collaborative approach, and in a program of careful, equity-oriented planning **to help combat climate change and its negative consequences**.” (CIP)



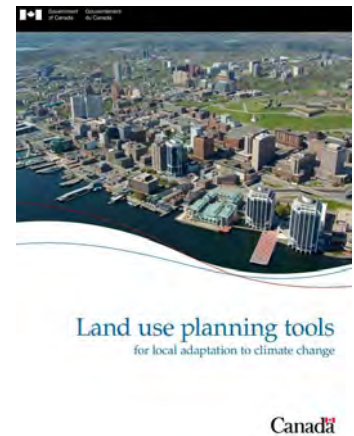
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18

18

Community Planning Benefits on Climate Change Adaptation

- **The review of community land-use planning tools is an effective way to discuss climate change** impacts and consider how land is used and developed.
- A risk-based approach to decision-making **considers public safety and the protection of property and life.**
- This **leads to more sustainable and resilient communities.**
- Land-use planning is **one of the most effective processes to facilitate local adaptation to climate change.**



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19

Integration of climate change considerations into land-use planning promotes:

An effective process to **facilitate local adaptation** to climate change.

Actions to reduce the negative impact of global warming, and assessing risks, through **adjustments in decision-making.**

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20

20

Outcomes of Climate Change Integration into Land-use Planning

- Promotes decisions grounded in evidence.
- During the lifecycle of assets, this supports planning for climate change instead of reacting to it, which will always be less costly for communities.
- Fosters the key policy goal of aiming at **“a future in which Canadian communities are planned, designed, developed, and managed to contribute to climate stability and to be more resilient in the face of unavoidable changes in the climate, and in the process, to become more livable, prosperous, and equitable.”** (CIP)

Key takeaways

- **“Climate Change is the defining issue of our time and we are at a defining moment. From shifting weather patterns that threaten food production, to rising sea levels that increase the risk of catastrophic flooding, the impacts of climate change are global in scope and unprecedented in scale. Without drastic action today, adapting to these impacts in the future will be more difficult and costly.”** (United Nations).
- **Northerners become leaders and innovators in climate change adaptation** by Integrating climate change considerations into community land-use planning.
- Making adjustments in land-use planning because of the threats posed by climate change **will help you develop resilience at the community level.**
- **Planners are at the front lines of climate change adaptation and mitigation.**

New Climate Change Resources

- GNWT Climate Change Library:
<https://climatelibrary.ecc.gov.nt.ca>
- Forthcoming “Climate Change Guide for Community Land Use Planning”.

Seeking Input on Your Information Needs to consider climate change

The collage features several key resources:

- Fort Smith Climate Change Report:** A report detailing climate change impacts and adaptation examples for Fort Smith, including a table of temperature and precipitation changes.
- Climate Atlas of Canada:** A digital atlas providing regional climate data and adaptation examples.
- ClimateData.ca:** A website providing high-resolution climate data for decision makers to build more resilient Canada.
- Community Resilience Diagram:** A diagram illustrating the components of community resilience, including social, economic, and environmental factors.

At the bottom right, the text "NISI Standards SCC CCH" is visible, along with the Government of Northwest Territories logo and the number 24.

Thank you!



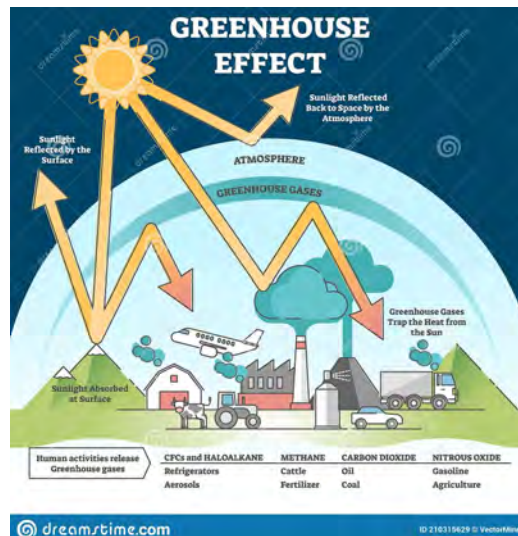
Leonardo Conde Fernández
Senior Advisor on Climate Change
Leonardo_CondeFernandez@gov.nt.ca

Brian Sieben
Senior Climate Change Scientist
Brian_Sieben@gov.nt.ca

References

- Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland, pp. 1-34, doi: 10.59327/IPCC/AR6-9789291691647.001, P. 5, <https://www.ipcc.ch/report/sixth-assessment-report-cycle/>
- Canadian Institute of Planners, Climate Change, <https://www.cip-icu.ca/climate-change/>
- Canadian Institute of Planners, Policy on Climate Change Planning <https://cip-icu.ca/wp-content/uploads/2023/12/policy-climate-eng-2023-new-branding-edit-1.pdf>
- ECC-INF Review of 2030 Energy Strategy and CCSF Discussion Guide, <https://haveyoursay.nwt-tno.ca/37544/widgets/156770/documents/107958>
- Executive and Indigenous Affairs, Relations with Federal, Provincial, Territorial and International Governments. <https://www.eia.gov.nt.ca/en/priorities/relations-federal-provincial-territorial-and-international-governments/pan-northern>
- Global Living Organization. <https://www.globalgiving.org/learn/cost-to-end-climate-change/>
- IPCC, 2021: Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, Et. Al. (eds.)] Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 3–32, doi:10.1017/9781009157896.001. <https://www.ipcc.ch/report/ar6/wg1/chapter/summary-for-policymakers/>
- IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Canada Changing Report, Regional Perspectives - <https://changingclimate.ca/regional-perspectives/chapter/6-0/>
- United Nations Organization, Peace Dignity and Equality on a Healthy Planet: <https://www.un.org/en/global-issues/climate-change>

Annex A: What Causes Climate Change?

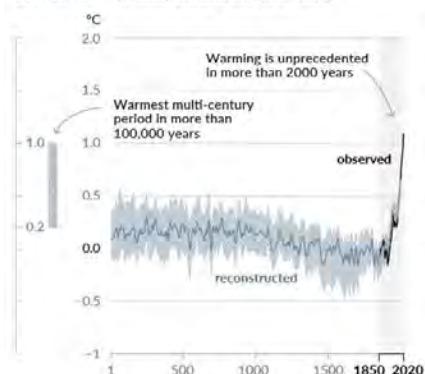


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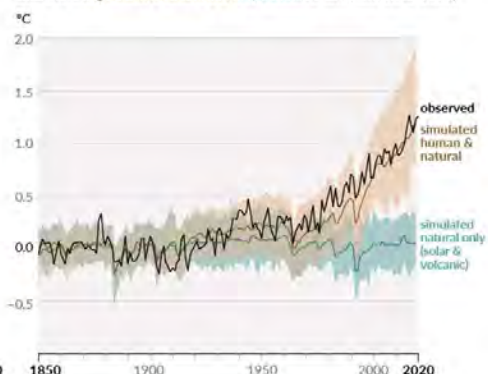
Annex B: The Evidence so Far...

Changes in global surface temperature relative to 1850–1900

(a) Change in global surface temperature (decadal average) as reconstructed (1–2000) and observed (1850–2020)



(b) Change in global surface temperature (annual average) as observed and simulated using human & natural and only natural factors (both 1850–2020)



Source: IPCC, 2021: Summary for Policy Makers, p. 6.

28

Annex C: Paris Agreement

- (COP21- 2015) – 195 member states.
 - Substantially reduce global GHG emissions to limit the global average temperature increase in this century to well below 2 degrees Celsius (above preindustrial levels) while pursuing efforts to limit the increase even further to 1.5 degrees;
 - Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience.
 - Canada promised an emissions reduction target of 40% to 45% of GHG emissions below 2005 levels by 2030.

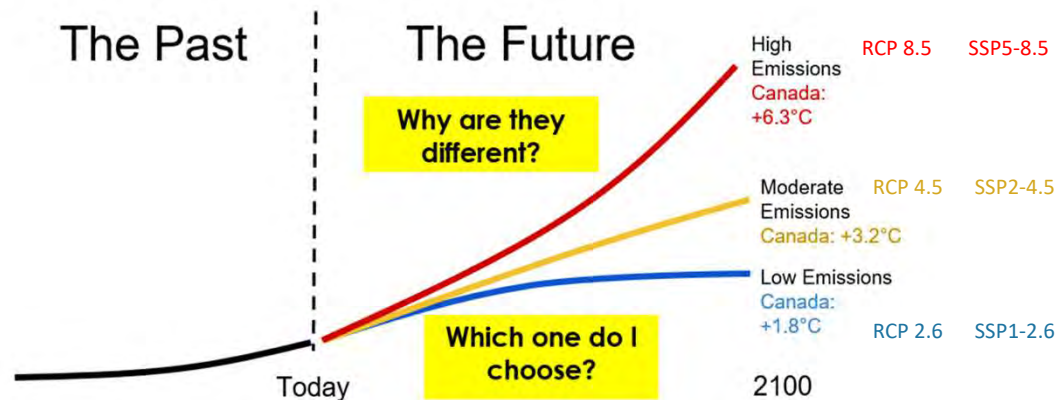
Annex D: Frontlines of Climate Action

- A. Climate Mitigation- actions or activities that limit the emissions of GHG from entering the atmosphere or reduce their existing levels.
- B. Climate Adaptation - the process of adjustment to actual or expected climate and its effects in order to moderate harm or take advantage of beneficial opportunities.

Climate Projections

There are multiple possible future climates or "projections"

Plan for worst case scenario



For more information visit climatedata.ca

- Climate models make projections based on various emissions 'scenarios' (levels of human-caused GHG emissions)

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31

31

Fort Smith Climate Change Report

CANADIAN CENTRE FOR CLIMATE SERVICES

VARIABLE	RECENT PAST* 1976-2005	MODERATE EMISSION FUTURE* 2051-2080	HIGH EMISSION FUTURE* 2051-2080
AVERAGE ANNUAL TEMPERATURE	-2.2 °C	1.1 °C	2.7 °C
AVERAGE SUMMER MAX TEMPERATURE	21.4 °C	23.8 °C	25.4 °C
AVERAGE WINTER MIN TEMPERATURE	-26.2 °C	-21.2 °C	-18.9 °C
NUMBER OF -30 °C DAYS PER YEAR	40	19	11
NUMBER OF ICING DAYS PER YEAR	153	137	128
DATE OF FIRST FALL FROST	SEP 13	SEP 28	OCT 7
DATE OF LAST SPRING FROST	MAY 26	MAY 16	MAY 11
TOTAL WINTER PRECIPITATION	62 mm	72 mm	76 mm
TOTAL ANNUAL PRECIPITATION	359 mm	406 mm	415 mm

*Modelled historical values are taken from the BCCAQ2 dataset. Historical gridded data derived from observations are available on ClimateData.ca.
*The moderate (RCP 4.5) and high (RCP 8.5) climate change scenarios are only two possible future climate scenarios.
* icing days are days where the maximum temperature does not go above 0 °C. Definitions for the other variables are available on ClimateData.ca.

Regional Impacts and Adaptation Examples

Changing Winters

Continued warming and thawing can lead to...

- Shortened winter road and shipping seasons
- Threatened structural integrity of buildings

Increased winter precipitation can lead to...

- Increased snow load on infrastructure
- Increased demand for snow removal

Shorter and less reliable ice seasons can lead to...

- Reduced safety of traditional hunting routes
- Coastal erosion
- Increases in marine shipping

Adaptation Examples...

- Integrate best management practices from Standards Council of Canada's Northern Infrastructure Standardization Initiative
- Monitor and adapt foundations (e.g. steel piles, screw jacks) built on thawing permafrost
- Revised winter road loads and considerations to construct all season roads and/or alternative methods of transportation
- Access to real time information on ice thickness to promote safety
- Improved methods to determine ice freeze-up time periods

Ecosystems and Health

Possible Regional Impacts...

- Increase in forest fire risk for certain regions
- Loss of barrier to invasive species with reduced extreme winter temperatures
- Possible increase in vector-borne diseases
- Changes to ecosystems and wildlife, with possible effects on country foods

Adaptation Examples...

- Implement "FireSmart" practices in communities and around homes
- Increased awareness regarding invasive species and vector-borne diseases
- Measures to improve food security

<https://climatechange.toolkitnwtac.com/>

Canada

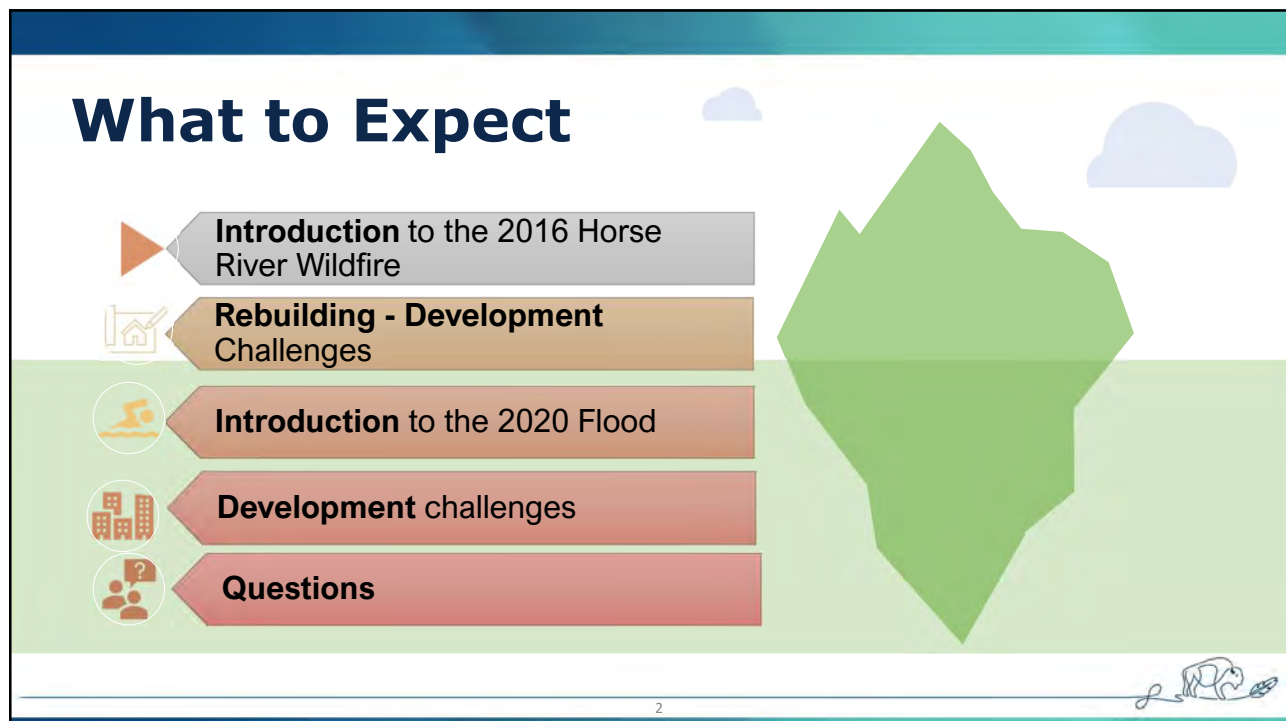
Info.eccs-ccsc@canada.ca | 1-833-517-0376 | Canada.ca/climate-services

32

Resilient Wood Buffalo – Lessons Learned from the 2016 Wildfire and 2020 Floods: Such Chandhiok (Day 2 #18)



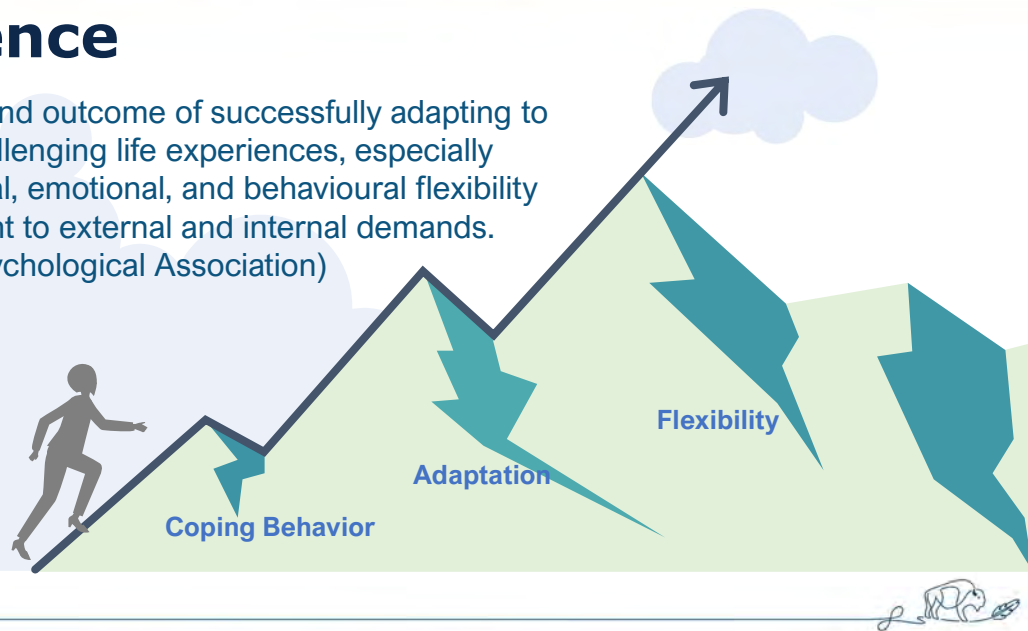
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Resilience

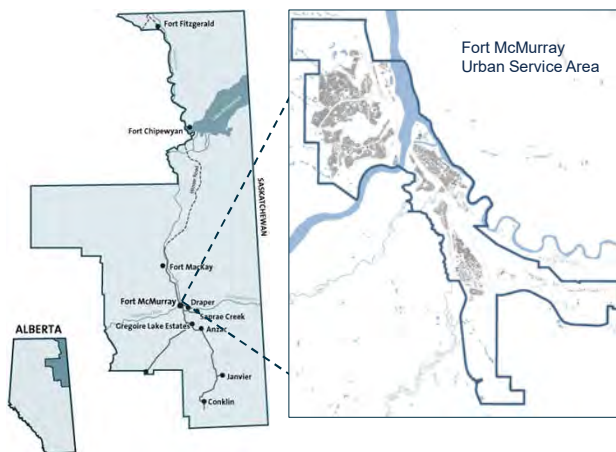
The process and outcome of successfully adapting to difficult or challenging life experiences, especially through mental, emotional, and behavioural flexibility and adjustment to external and internal demands.
(American Psychological Association)



3

Regional Municipality of Wood Buffalo

- 9 Rural Communities
- 1 Urban Service Area
- Population **111, 687** (2018)
- Total Area: **66,361** km²
- **2nd** largest municipality in Canada
- From ID to City to RMWB in 1995



4



5

The Wildfire

- **May 1, 2016** – Fire started
- Spotted by a helicopter of forestry crew
- First responders arrived 45 minutes
- Fire started moving toward Fort McMurray and **State of Local Emergency** was declared



The wildfire burning near Fort McMurray on May 1, 2016



6

The Wildfire

- **May 2, 2016** – Fire grew, and evacuation orders were issued for two neighbourhoods, changed to voluntary evacuation in the evening as fire was moving away from the City
- Overnight, the direction of the wind changed
- Temperature 32 Degrees, Humidity 12%, Wind Gust 20 Kmph to 72 Kmph

Evacuation Notice

Abasand, Beacon Hill, and the Thickwood neighbourhoods south of Thickwood Dr. between Real Martin Dr. and Thicket Dr. are on a voluntary evacuation notice. Residents should prepare for a mandatory evacuation within a 30 minute notice.

Residents should evacuate to MacDonald Island Park.



7

The BEAST

- **May 3, 2016** – The Wildfire became “The Beast”
- Hit 12 neighbourhoods by 5:00 PM
- Evacuation orders were issued one after the other for different neighbourhoods
- All of Fort McMurray was under mandatory evacuation by 6:20 PM

Mandatory Evacuation Notice May 3, 3:55 p.m.

The entire lower townsite/downtown is now under a mandatory evacuation except for MacDonald Island Park.

Beacon Hill, Abasand, Waterways, Draper, Saline Creek, Grayling Terrace, downtown, Thickwood, Wood Buffalo and Dickinsfield neighbourhoods are all under a mandatory evacuation order.

Residents in these areas should evacuate immediately to the Noralta Lodge located 21 km north of Fort McMurray – take Hwy. 63 to the Suncor exit and follow the signs

Gregoire residents should evacuate immediately to the Anzac Recreation Center at 237 Stony Mountain Rd.



8

Mandatory Evacuation Notice May 3, 6:20 p.m.

All of Fort McMurray is now under a Mandatory evacuation order, including MacDonald Island

All Areas north of Gregoire Must evacuate north to the Noralta Lodge located 21 km north of Fort McMurray. Take Hwy. 63 to the Suncor exit and follow the signs.

Wait at Noralta Lodge until further directions are given.
Be patient, drive safely and please give way to emergency vehicles.

Wildfire Update May 3, 9:15 p.m.

Buses are located at Extra Foods in Timberlea and the Jubilee center to take evacuees to Anzac.

Residents with vehicles should evacuate south via Hwy. 63
The following neighborhoods have suffered damage:

Beacon Hill: significant damage

Abasand: light damage

Wood Buffalo: light damage

Dickensfield: light damage

Waterways: light damage

We are working on accommodations for all evacuees.

Wildfire Update May 3, 11:30 p.m.

We understand that people are extremely concerned about the status of individual neighbourhoods and their homes. We will provide an update when possible – in the meantime we are continuing to prioritize the safe evacuation of all residents

At this point in time, Hwy. 63 north of confederation way remains closed to southbound traffic. We're working on getting food and shelter for you. We're also working on getting gas for those who have run out.

Any residents remaining in Fort McMurray should evacuate immediately via Hwy.63 southbound.

Thank you to everyone for your patience support and the endless kindness you continue to show for each other.



9

DOOMSDAY



10

Affected Areas - Examples

Stone Creek



11

Affected Areas - Examples

Wood Buffalo Estates



12

Affected Areas - Examples

Waterways



13

Affected Areas - Examples

Abasand



Beacon Hill



Abasand



14

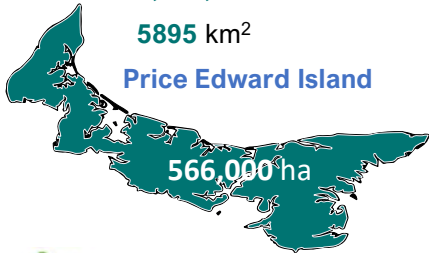
The Extent of The 'BEAST'



In area:

590,000 ha or
1,450,000 Acres or
5895 km²

Price Edward Island



Time lapse:

Started May 1
Under control July 5
Declared fully **extinguished**
15 months later



88,00
Evacuees



2000 +
structures lost



2500
dwellings



Canada's costliest disaster

Direct and indirect cost **\$ 9.9 Billion**

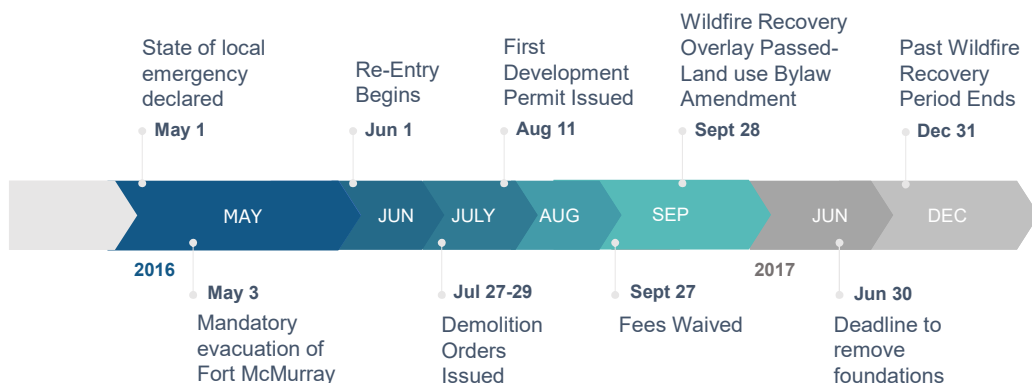
Insurance Bureau of Canada's –

\$ 3.8 Billion in Insured Damages



15

Horse River Wildfire Timeline



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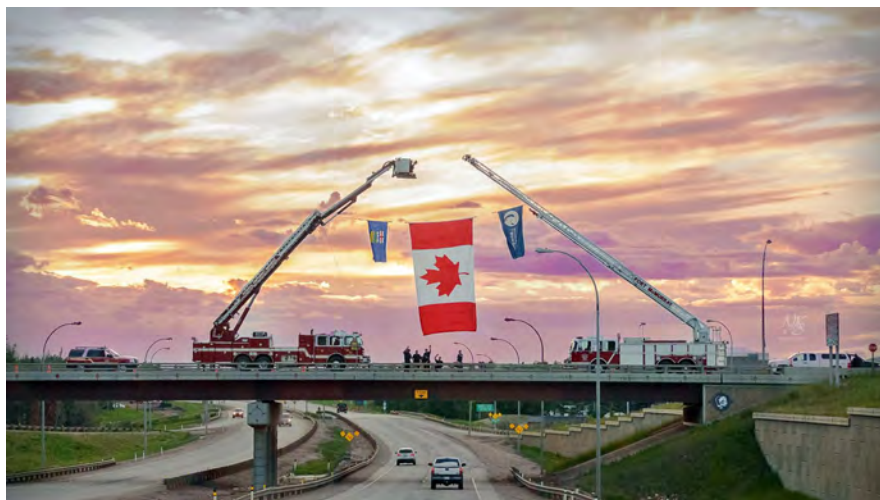
Recovery Efforts-Post Fire May-Jun 2016

- Regional Emergency Operations Center (REOC) was established
- Assessing damages
- Identifying if a property is safe to enter
- Obtaining approvals from Chief Medical Officer of Health
- Preparing plans for re-entry



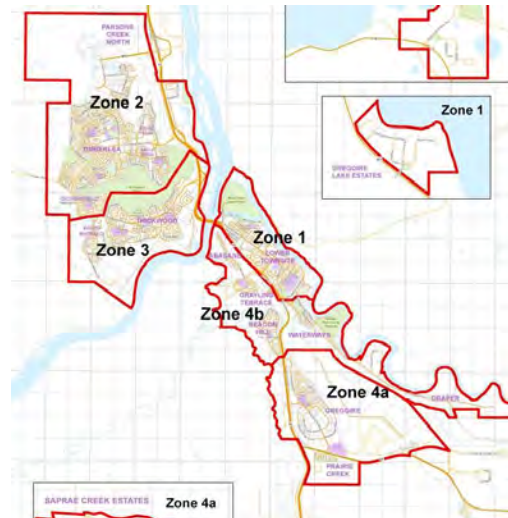
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Re-Entry – June 1, 2016



18

Re-entry Timeline



19

Recovery Efforts - RMWB

- Re-established Essential Services
- Welcome Centers
- Re-entry booklet
- Town Hall Meetings
- Recovery Task Force
- Here for You Sessions



20

Rebuild Efforts-Planning & Development

Following re-entry, Planning & Development experienced several challenges, including:

- P&D File Search – insurance purposes
- Demolition Permits/Orders
- Lot Grading
- Subdivision Resurvey – Property pins
- Non-Conforming Lots and Uses - Overlay
- Changing Building Typologies
- Flood Regulations – removed from Land Use Bylaw



21

Major Rebuilding Challenges -Subdivision Utilities

- Subdivision infrastructure i.e power, communication, gas lines were affected during the wildfire.
- RMWB's recovery team initiated a project for coordination of utility restoration/construction
- Weekly meetings to track progress
- Stakeholders included Shaw, Telus, Atco Gas, Atco Electric, Public Works departments etc



22

Major Rebuilding Challenges-Resurvey

- Survey Pins - a meter long metal rod placed in the ground to define the property corners
- Survey Pins lost during rebuilding
- Fort McMurray was the largest re-survey in the Province of Alberta by the Director of Surveys



23

Non-Conforming Lots

- Constructed prior to the 1970s
- The Land Use Bylaw passed in 1999 leaving several land uses and lots legally non-conforming, or grandfathered

- Zero Lot Line Development



24

Overlay Bylaw

Land Use Planning Framework for the redevelopment in the wildfire affected areas

Main Objective

Rebuilding the Community

Solution

Flexible tool to comply with the LUB and allow for re-development



Main Issue

Non-conforming lots

Advantages

Certainty to owners on rebuild options



25

Tools: Overlay Bylaw

The “Wildfire Recovery Overlay” (Part 11):

- Applied to parcels affected by the fire
- Allowed for “like-for-like” development
- Applied to Land Use Districts in the affected areas
- Rebuilding required a development permit
- Single Detached Dwellings shall comply with the Site Provision and shall not be refused due to lot size (area/width)



26

Lot Grading Challenges

- Variety of grade changes throughout neighbourhoods
- Challenges include:
 1. Limited Records
 2. Destroyed Retaining Walls
 3. Conflict Between Properties



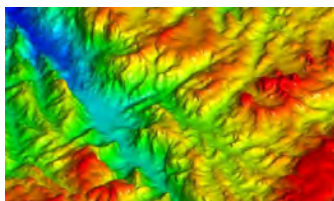
grade change could be up to 2.5m (8 feet) between two lots backing onto one another



27

Lot Grading Challenges

1. **No Records** of master grading plans or lot specific grades



LiDAR Data was used to review applications

Master Grading Plans were later developed for those neighbourhoods without them

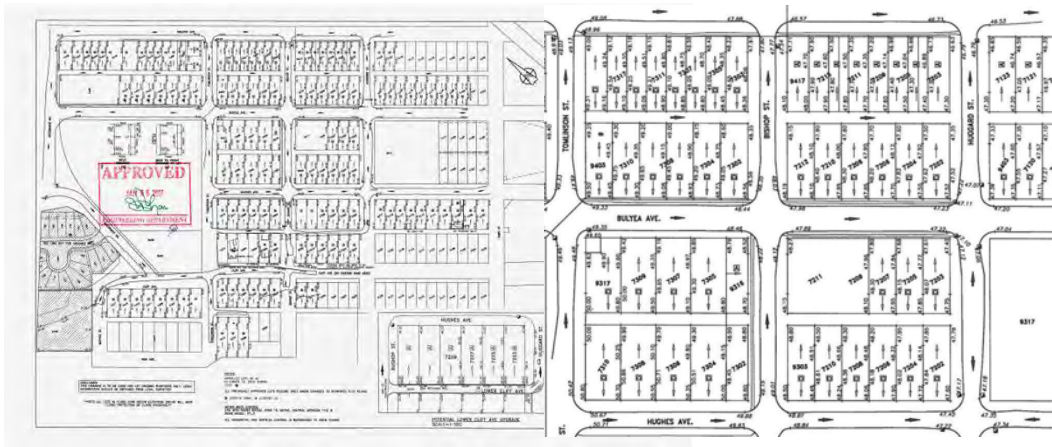


2. **Retaining Walls destroyed**



28

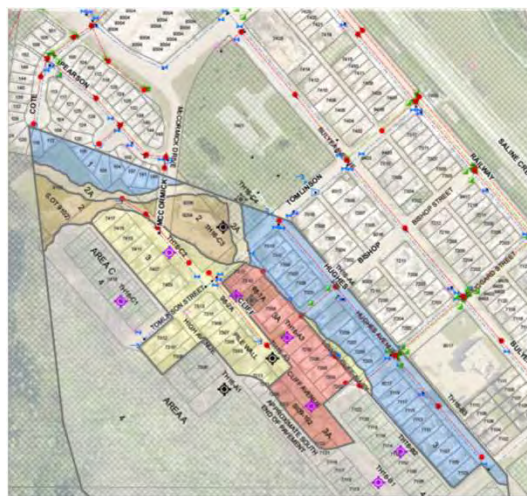
Major Rebuilding Challenges-Subdivision Grading



29

Environmental Constraints

- Many affected lots had environmental constraints which restricted rebuilding options
- Waterways & Draper
 - Flood hazard on one side
 - Slope stability issues on the other



30

Permitting

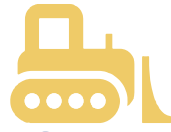
- Waived fees related to development & building permits



48
Hours

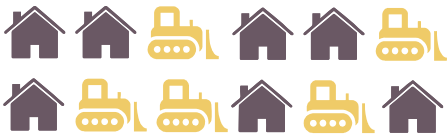
- Accelerated permit turnaround times

Demolition
Permits
\$200



Development
Permits
\$75

Over **\$400k** Waived



- Average **33** Permits received per day in August 2016



31

Development Permit Statistics

Single Detached
1,097



Demolition
1,793



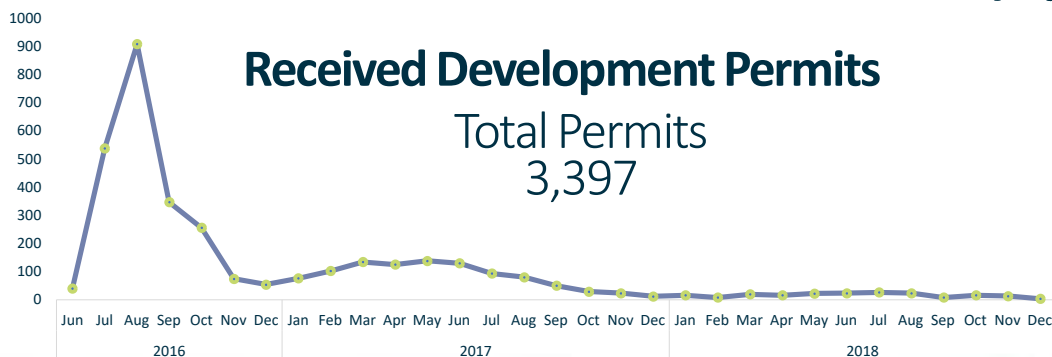
Basement
Suite **238**



99 Accessory
Building



Manufactured
124 Home



32

Road to Recovery

Waterways



Before Wildfire - 2015



After Wildfire - 2016



2023



33

Road to Recovery

Wood Buffalo Estates



Before Wildfire - 2015



After Wildfire - 2016



2023



34

Road to Recovery

Stone Creek



Before Wildfire - 2015



After Wildfire - 2016



2023



35

Resilient Wood Buffalo



36

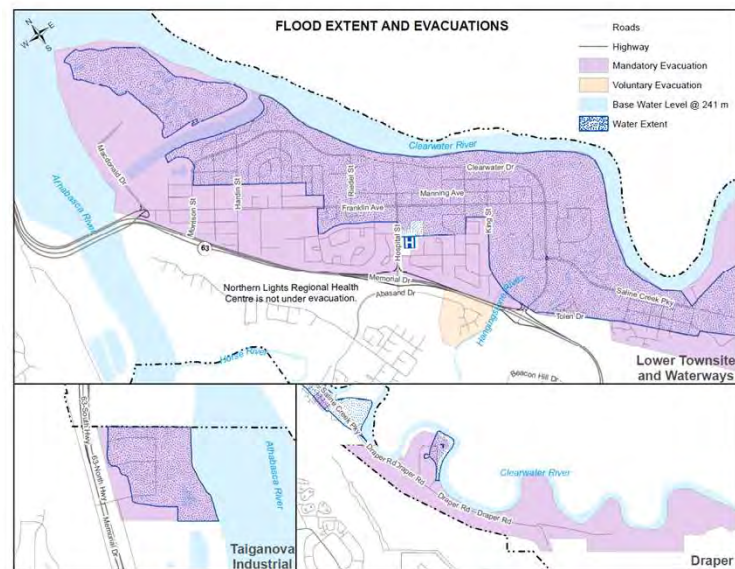
2020 Floods



37

2020 Floods

- **25 km** long ice jam in Athabasca river
- **2,070** structures impacted by water
- **13,000** residents evacuated



Draper

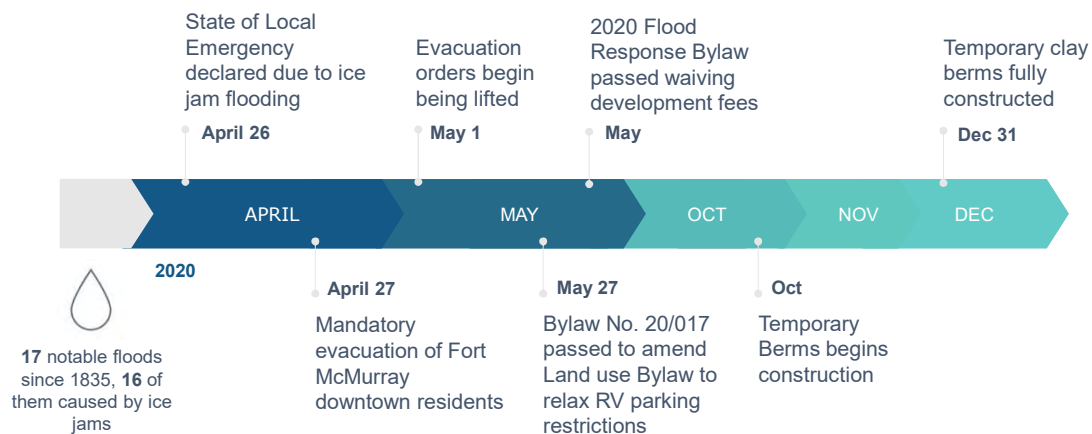
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2020 Floods



39

2020 Floods Timeline



40

40

RMWB's Immediate Response

- Reactivation of REOC
- Safety Codes department did a rapid assessment to assess housing situation
- Temporary clay berms were constructed
- Motions from council and assessment of various options for safer development



41

Temporary Accommodations

- Temporary accommodations proposed for REOC



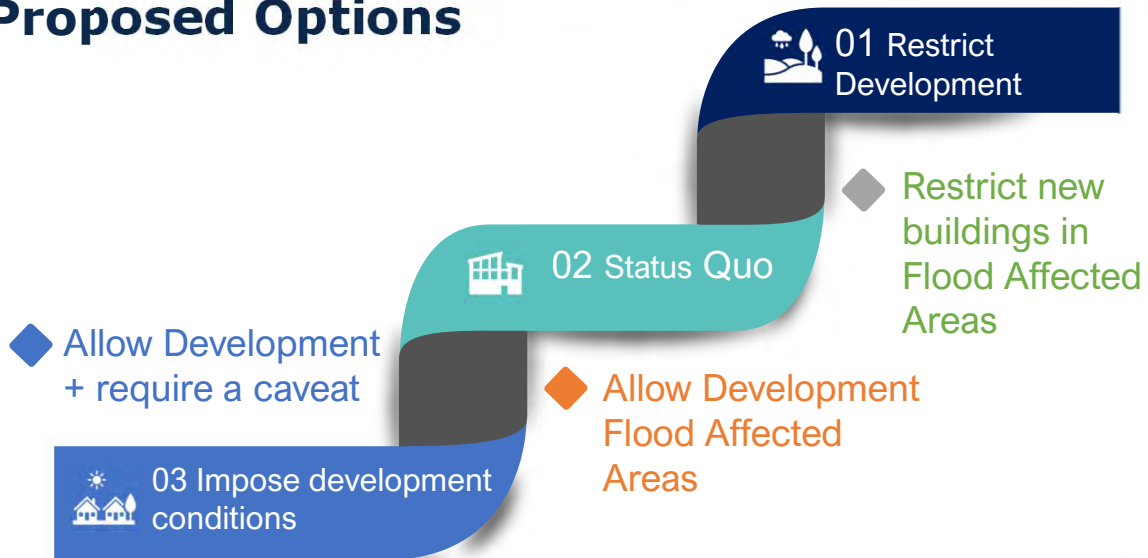
Camps in the USA	Location	Number of Beds Available to REOC
Right Choice Camps & Catering	Intersection of Snow Eagle Drive & Saprae Creek Trail	490
Sound Capital	Saprae Creek Industrial Park	1,068
PAC West Group of Companies	Golosky Lands (Saprae Creek Trail)	2,758
Fred Arbter	Kamberly Lands	120
Red Rock Camps	Rickards Landing	109
Clean Harbors	Saline Creek Plateau	460
Conrad Kuncio	Highway 881	266

URBAN SERVICE AREA		
Camps in the USA	Location	Number of Beds Available to REOC
Horizon North	Prairie Creek Industrial Park	300
Liam Construction	Penhorwood Street	204
Abrahams Land RV Park	Abrahams Land	220



42

Proposed Options



43

Municipality Purchasing Inhabitable Properties

\$3B

Estimated costs to buyouts neighbourhoods

Combined Handout for Downtown, Longboat Landing, Waterways, Ptarmigan Park, Draper & Taiganova

Assessment Value for Total Number of Properties in Downtown, Longboat Landing, Waterways, Ptarmigan Park, Draper & Taiganova:

Area	Total Number of Properties	% of Total Number of Properties	Assessment Value	Total
Downtown				
Total	6307	100%	\$ 2,096,203,690.00	
Private Properties	5871	93%	\$ 1,811,013,370.00	
Municipal Properties	431	7%	\$ 282,738,430.00	\$ 2,096,203,690.00
Longboat Landing				
Total	360	100%	\$ 97,515,560.00	
Private Properties	360	100%	\$ 97,515,560.00	
Municipal Properties	0	0%	\$ 0	\$ 97,515,560.00
Waterways				
Total	224	100%	\$ 70,660,350	
Private Properties	162	72%	\$ 56,745,040	
Municipal Properties	62	28%	\$ 13,915,310	\$ 70,660,350
Ptarmigan Park				
Total	80	100%	\$ 14,300,490	
Private Properties	69	86%	\$ 13,995,980	
Municipal Properties	11	14%	\$ 300,510	\$ 14,300,490
Draper				
Total	98	100%	\$ 60,304,000	
Private Properties	98	100%	\$ 60,304,000	
Municipal Properties	0	0%	\$ 0	\$ 60,304,000
Taiganova				
Total	94	100%	\$ 513,746,540.00	
Private Properties	81	86%	\$ 463,414,220.00	
Municipal Properties	13	14%	\$ 50,332,320.00	\$ 513,746,540.00
Grand Total	7,163	---	\$ 2,852,730,630.00	

44

Protecting our Community

\$142 M

Flood Mitigation

Including berms, retaining walls, and flood barriers

LUB + Flood Regs



45

Permitting



Some quick actions taken

Waived fees
development & building permits



48

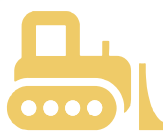
Hours

Accelerated permit
turnaround times

Demolition
Permits

\$200

Over



Development
Permits

\$75

\$2M Waived



4364
Permits
Processed

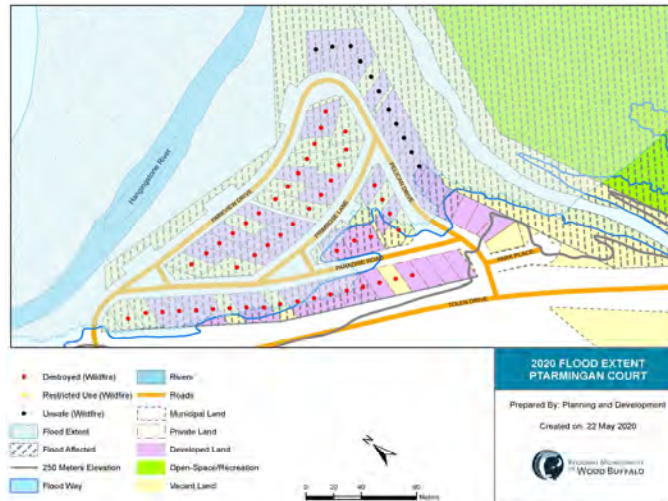


46

Ptarmigan Court – Extent of Floods



2016 Wildfire



2020 Floods



47

Ptarmigan Court

Offered options

1. Opportunity to raise utility infrastructure **52 Properties**
2. Voluntary buyouts – **3 Properties**
3. Remain the same – **14 Properties**

Re-zoning Residential to Environmental Protection and no further development

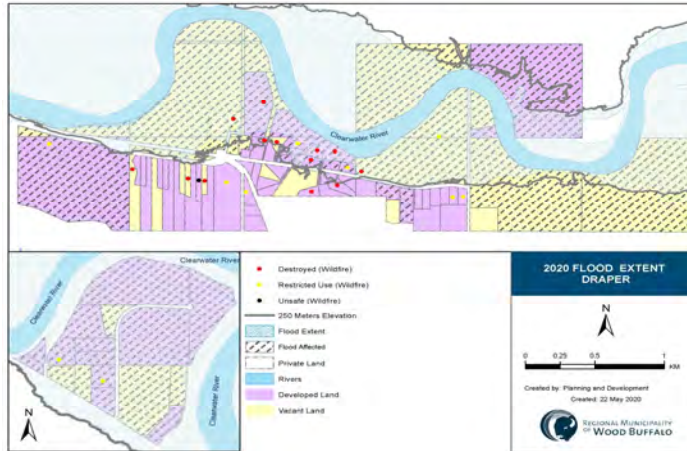


48

Draper – Extent of Floods




2016 Wildfire




2020 Floods

49

Draper

- In 2023 Council approved a program that allows residents to move their utilities infrastructure above flood level
- Council offered voluntary buyouts for certain properties



50

Longboat Landing



Before Floods - 2019



During Floods - 2020



After Floods - 2023



51

Resilience!



Abasand



52

DRIP - Downtown Revitalization Incentives Program

Grants of \$1500 – \$75 000 to

- Improve building facades
- Upgrade interiors of existing commercial buildings
- Design Murals
- Add Patios



Before



After



53

RMWB Community



54



Questions




Planning for Climate Change – Town of Hay River Experience: Glen Smith and Lesley Cabott (Day 2 #19)



1


COMMUNITY PLANNERS FORUM



Overview

Glenn Smith, MBA
Senior Administrative Officer
Town of Hay River

Lesley Cabott, RPP FCIP MA ICD D
Principal
Stantec

2



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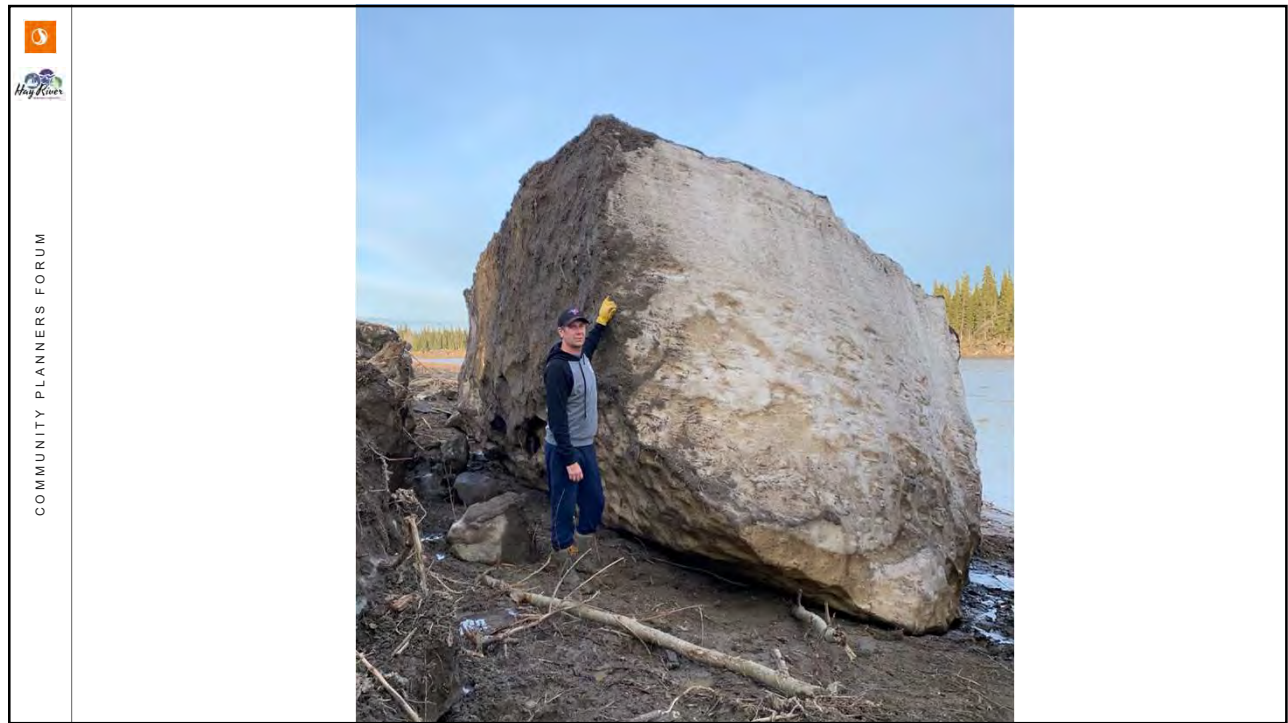
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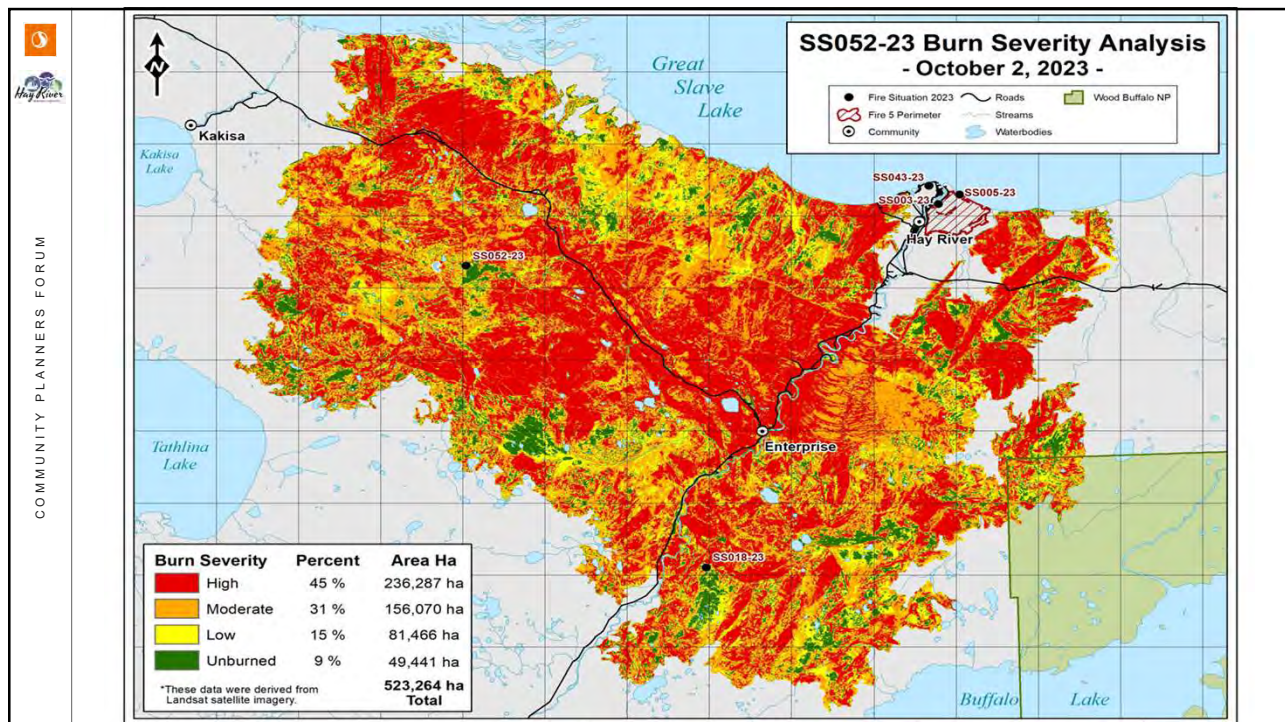
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14



15

Impacts on Planning

- Resource Requirements
- Frequency of Updates
- Temporary Allowances
- Breadth of Planning
- Altered Business Cases
- New Uncertainties

16




COMMUNITY PLANNERS FORUM



Hay River Planning

- Engineered Controls
- Land Development
- Agricultural Land
- Healthy Communities Strategy
- Zoning and Building Standards

17



COMMUNITY PLANNERS FORUM

Canada's Emergency Management Framework

Prevention and Mitigation

to adapt to, eliminate, or reduce the risks of disasters in order to protect lives, property, the environment, and reduce economic disruption. Structural mitigative measures (dykes), and non-structural mitigative measures (e.g., building codes, land-use planning, and insurance incentives).

Preparedness

to be ready to respond to a disaster and manage its consequences through measures taken prior to an event, for example emergency response planning.

Response

to act during, immediately before or after a disaster to manage its consequences through, public communication, search and rescue, and evacuation to minimize suffering and losses associated with disasters.

Recovery

to repair or restore conditions to an acceptable level through measures taken after a disaster, for example return of evacuees, trauma counseling, reconstruction, economic impact studies and financial assistance.

18

REGULATORY and NON- REGULATORY

-

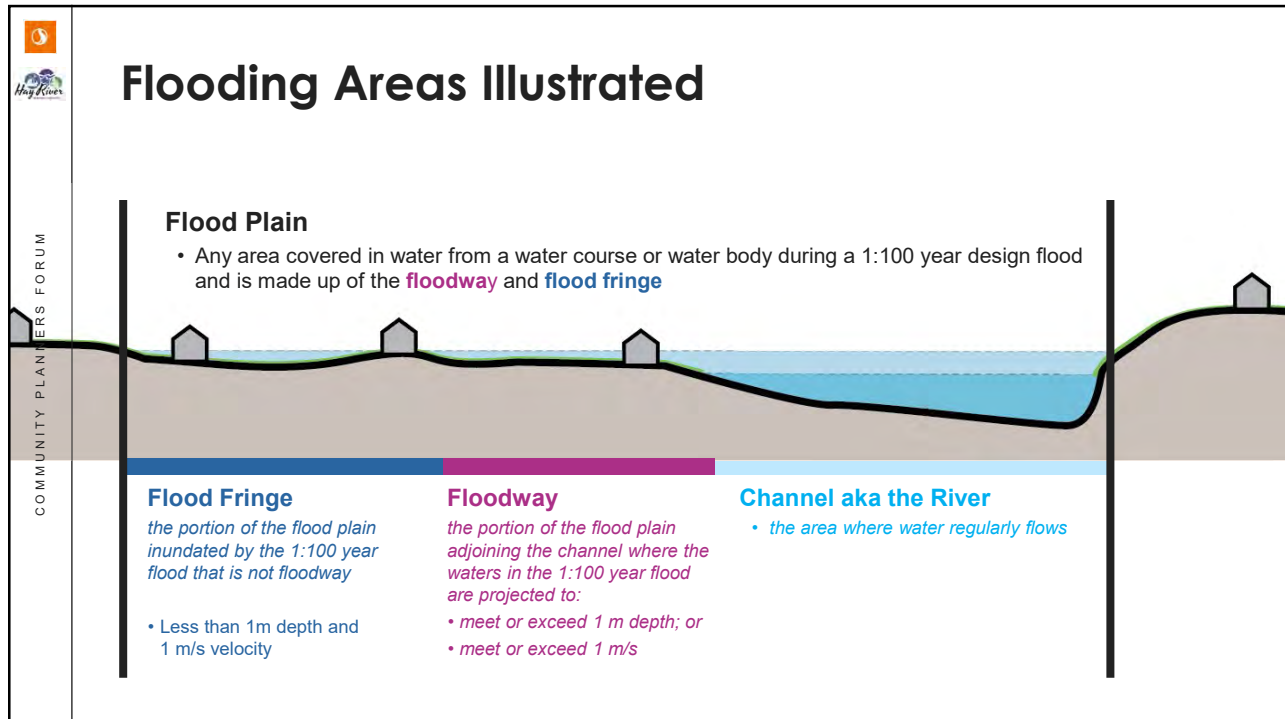
20

Flood Plain

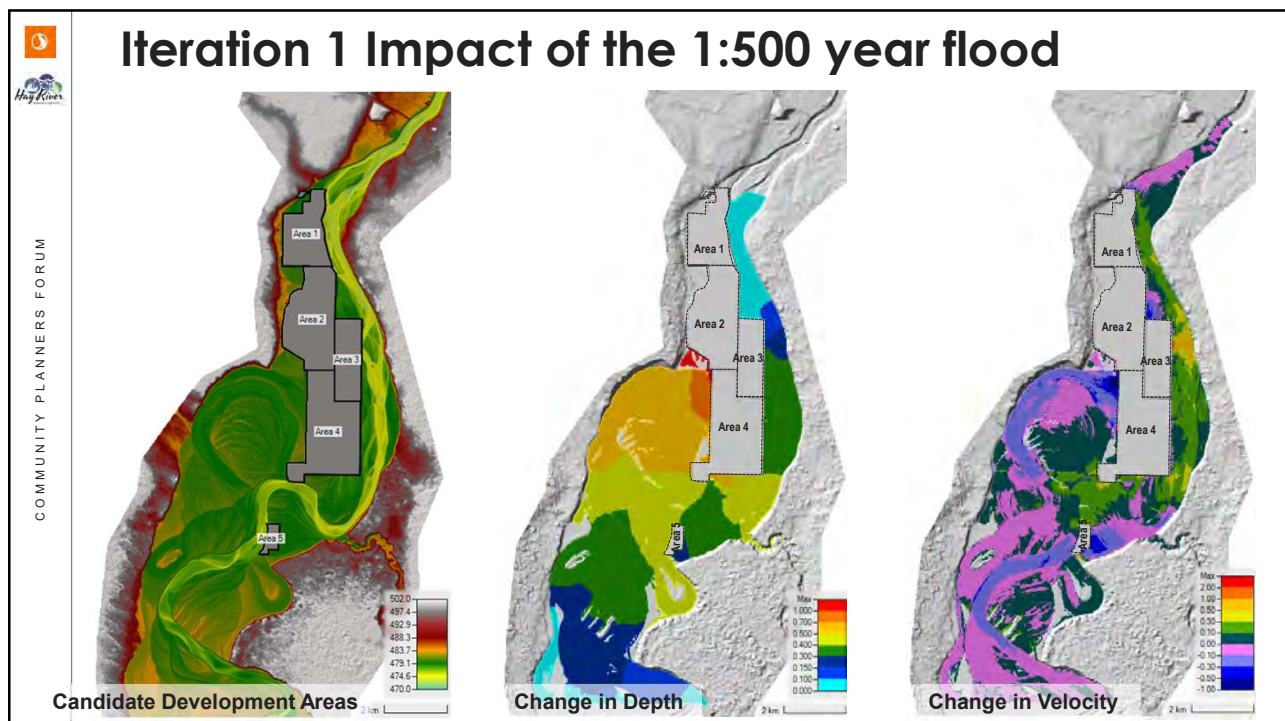
Floodway

- *meet or exceed 1 m depth; or*
- *meet or exceed 1 m/s*

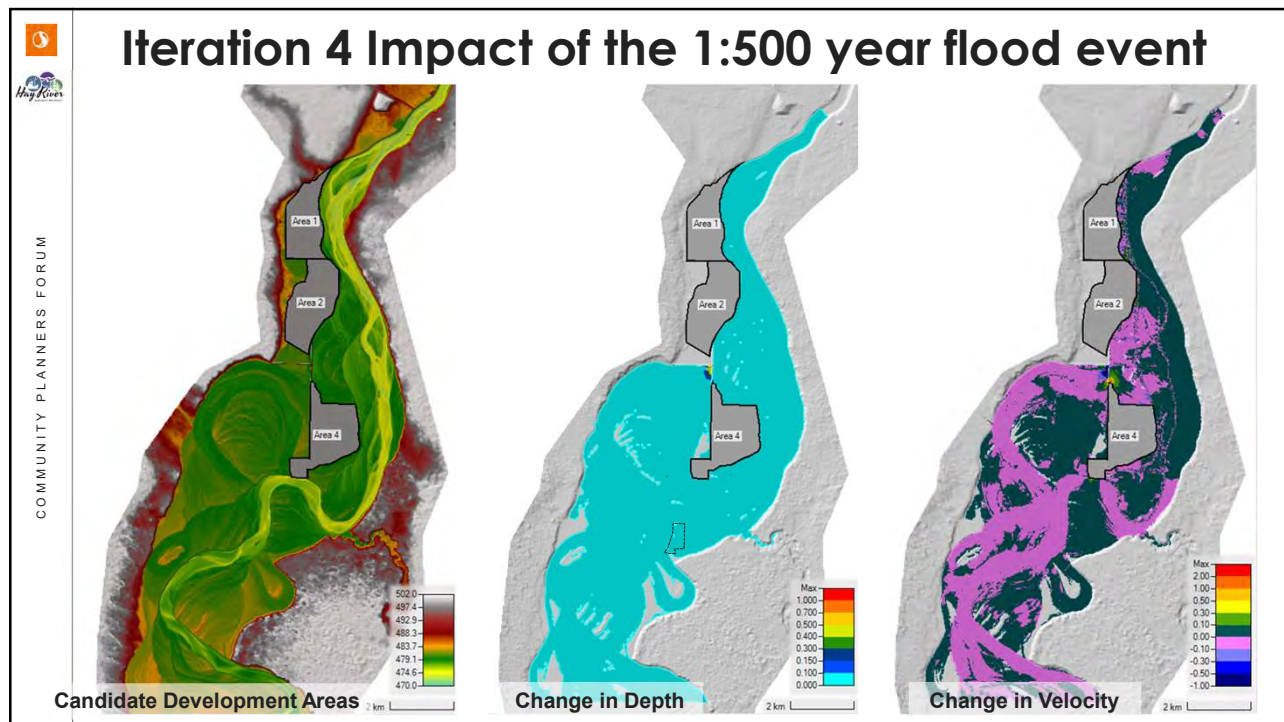
the portion of the **flood plain** inundated by the (regulatory flood) 1:500-year flood that is not **floodway**



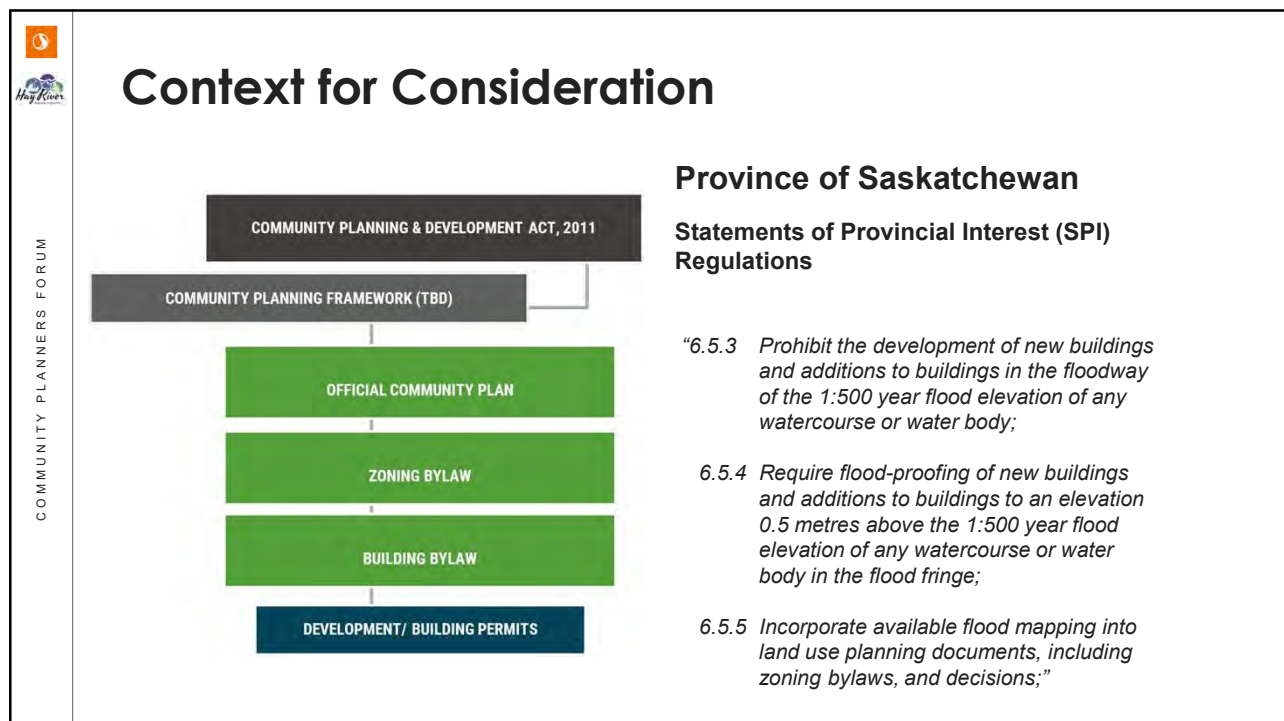
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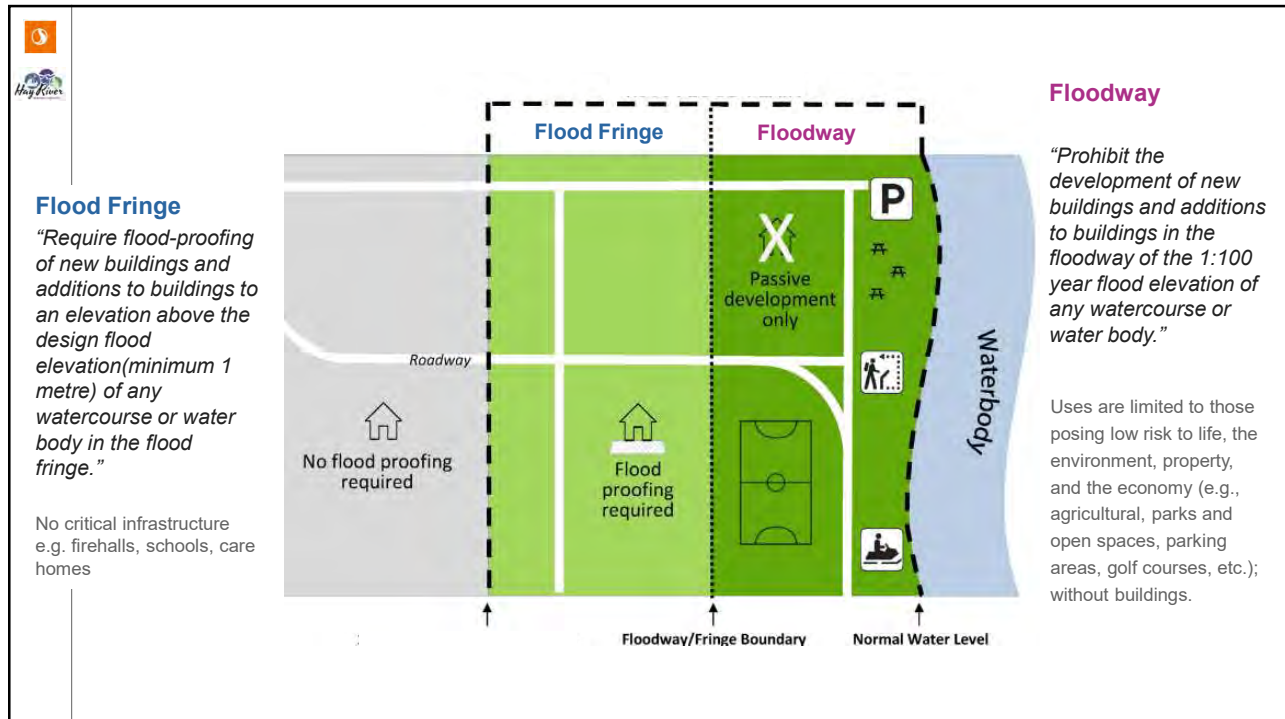
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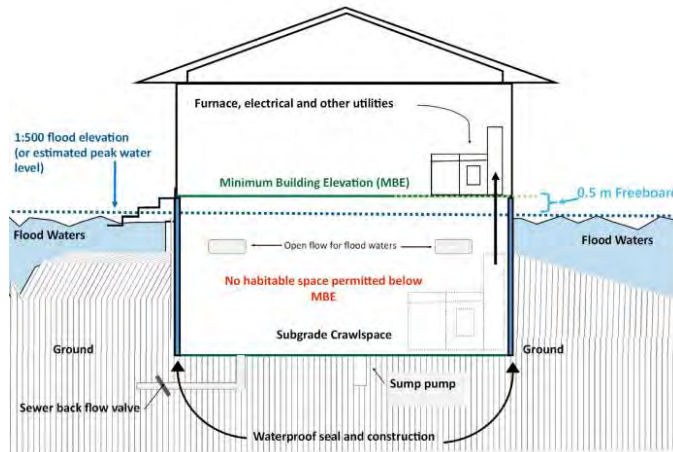
COMMUNITY PLANNERS FORUM

Land Use Regulations

OFFICIAL COMMUNITY PLAN	ZONING BYLAW
<ul style="list-style-type: none"> • Incorporate the flood plain map and policies • Introduce policies that mitigate the negative impacts of flooding (e.g., land use regulations, emergency management) 	<ul style="list-style-type: none"> • Create a Flood Plain Overlay (FPO) District • Sits on "top" of existing zones (e.g., Residential, Commercial), and provide an additional level of regulation. • Will create non-conforming uses and buildings,

26

Building Bylaw Regulations



- Outlines what flood proofing standards are required for buildings in the **Flood Fringe**
 - **Dry Flood Proofing** (e.g., building to above the min. building elevation)
 - **Wet Flood Proofing** (e.g., allowing water to move through the building during a flood event without damage)
 - Not appropriate for uses that contain lives or materials that could cause environmental contamination
- All flood proofing must be designed by an architect or professional engineer

27



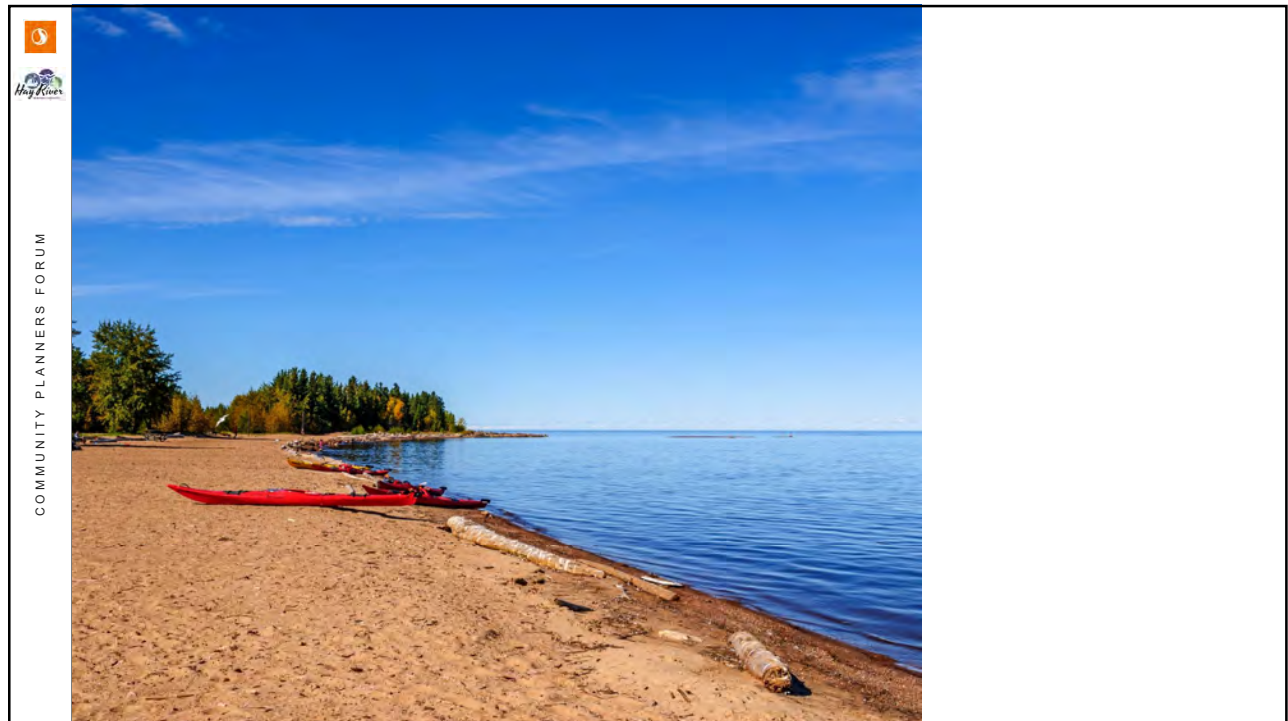
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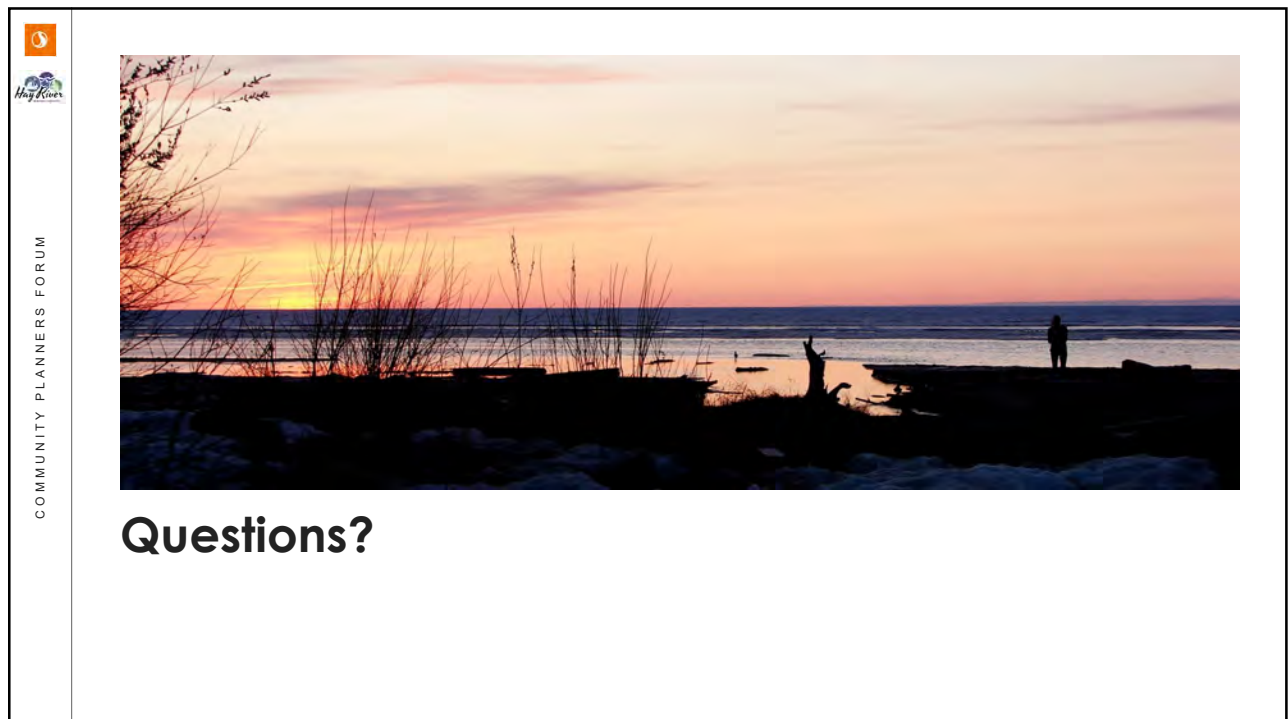
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30



31



Questions?

32

Community Protection from Wildfire and Resilient Community Planning: Westly Steed (Day 2 #20)



1

- Planning for wildfire
 - Not **IF** but when a wildfire will threaten our community
 - FireSmart
- Community plans
 - Community Resiliency
 - Integrating Community Wildfire Protection Plan



2

2023 by the numbers

- 303 wildfires
- 3.4 million Ha
- 12 Communities Evacuated
- Structures lost



August 13, 2023

2024

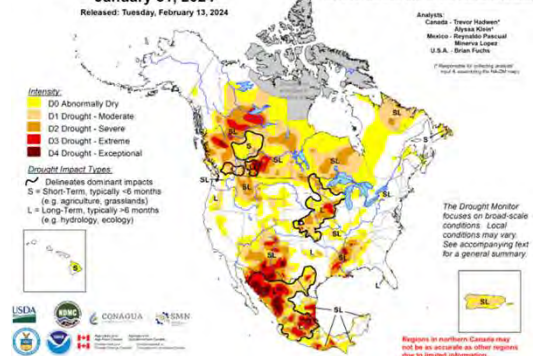
- Planning for 2024
- Over winter precipitation is low
- Drought conditions are persisting for upcoming season

North American Drought Monitor

January 31, 2024

Released: Tuesday, February 13, 2024

<http://www.nadc.noaa.gov/temp-and-precip/droughtnadm>



What is FireSmart?



- A program arming homeowners, land-users, and communities to make informed choices about materials and methods they use to reduce the risk of wildfire damage in their area



Gouvernement des
Territoires du Nord-Ouest

5

5

7 Disciplines of FireSmart

- Education
- Vegetation Management
- Legislation
- Development
- Interagency Cooperation
- Emergency Planning
- Cross Training



Work with your neighbours in any overlapping priority zones!

Gouvernement des
Territoires du Nord-Ouest

6

6

The Numbers

- 90% of structures with noncombustible roofs and 10 metres of clearance will survive a major wildfire.
- Metal roofing is 95% less likely to catch fire in the event of a wildfire.
- More than 90% of structures destroyed by wildfires are ignited by embers.
- 50% of structures are lost due to poor design (complex exterior wall assembly, complex roof design).



May 15th, 2023

Gouvernement des
Territoires du Nord-Ouest

7

7

Community Resiliency

- *“The ability to withstand adversity and bounce back to a similar state”*
- *How do we live resiliently within our wildfire reality?*

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Territoires du Nord-Ouest

8

8

Understanding Living with Fire

- Fire should be recognized as a significant and natural phenomenon in the forests of the Northwest Territories.
- Fire science strongly indicate that fuel management, prescribed fires and allowing wildfires to burn under moderate fire weather conditions will protect and promote ecological and cultural resources, and communities, far more effectively and efficiently than trying to eliminate fire from landscapes.
- Working together to clarify different perspectives and identifying where we will be most effective helps prioritize efforts to better coexist with wildfire in an increasingly flammable world.

Community Wildfire Protection Plan

10 Recommendations Summary

Vegetation Management

Item	Recommendation	Responsible Agency
Priority Zone 1	Recommendation 1: Educate and encourage all Yellowknife residents to establish FireSmart recommended guidelines for the Non-Combustible Zone and Priority Zone 1 within 10 metres of their structures.	City of Yellowknife GNWT
Priority Zone 2-3	Recommendation 2: Complete proposed Zone 2-3 fuel reduction on Municipal and Territorial lands based on priority and funding.	City of Yellowknife GNWT
Maintenance	Recommendation 3: Conduct inspections of all completed fuelbreaks and implement maintenance for those that require it.	City of Yellowknife GNWT

Development & Legislation

Item	Recommendation	Responsible Agency
Legislation	Recommendation 4: Include FireSmart best-practices into future revisions of the City of Yellowknife development legislation and policy.	City of Yellowknife

Public Education & Engagement

Item	Recommendation	Responsible Agency
Public Education	Recommendation 5: Develop and deliver a focused, repetitive, long-term FireSmart education and awareness program, including FireSmart home assessments, to ensure that residents are aware of options available to reduce the hazard and risk to their properties and are engaged and assisted to take action in their own backyards.	City of Yellowknife

Interagency Cooperation & Cross-Training

Item	Recommendation	Responsible Agency
FireSmart Committee	Recommendation 6: Develop a FireSmart Committee, consisting of all relevant stakeholders, to coordinate and lead the FireSmart program for the area.	City of Yellowknife
Cross-Training	Recommendation 7: The Yellowknife Fire Department and GNWT should partner on cross-training initiatives to ensure emergency responders are cross-trained to the appropriate standards.	City of Yellowknife GNWT

Emergency Planning

Item	Recommendation	Responsible Agency
Emergency Exercise	Recommendation 8: Design and implement a table-top and/or functional exercise to test emergency management preparedness for a wildland/urban interface fire.	City of Yellowknife GNWT
Community Wildfire Pre-Plan	Recommendation 9: Develop a Community Wildfire Pre-Plan for the City of Yellowknife to provide greater operational detail to emergency responders during a wildland/urban interface incident.	City of Yellowknife

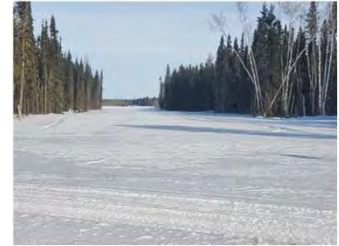
Vegetation Management

- **Fuel Management**

- FireSmart
- Harvesting
- Prescribed Fire

- **A fire-resilient landscape**

- Accepts the presence of fire
- Prevents loss through landscape management, community engagement, and effective recovery

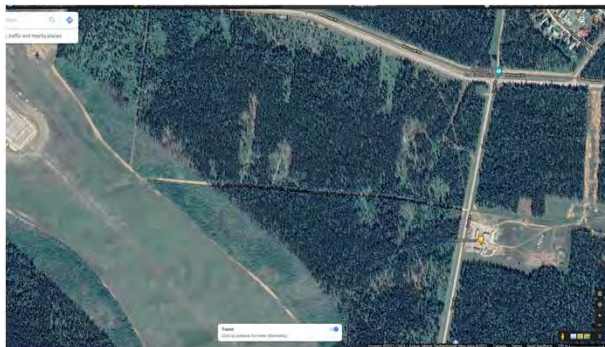


Gouvernement des
Northwest Territories

11

11

Community Level Vegetation Management



Fuel Break Examples:

- Woodlots
- Parks and Open Spaces
- Agriculture/Community Gardens

Gouvernement des
Territoires du Nord-Ouest

12

12

Community Wildfire Protection Plan



Village of Fort Simpson
February 2019

- Includes:
 - Development Options & Vegetation Management
 - Considerations of mitigation measures
 - Structural characteristics
 - Type of roofing and siding
 - Structure siting and proximity to fuel (vegetation)

Working Together

- Advance a whole of society wildfire prevention and mitigation solutions
- Develop and implement territorial and regional FireSmart Committees
- Indigenous leadership, community leadership, stakeholders, and key leaders across government are armed with the tools necessary to encourage wildfire prevention and mitigation within their own areas of business and to staff/contractors
- Continue to advance research in wildfire and FireSmart

Where do we go from here?

- Disaster Mitigation Adaptation Fund implementation
- Update the CWPP
 - Based on fires from previous years and work completed
 - Wildfire Interface Response Plans
- Prevention and Mitigation Strategy update
- Continue research on FireSmart and ember impact
- Research on identifying Landscape Level Fire Pathways



Government of
Northwest Territories

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Thank you





Gouvernement des
Territoires du Nord-Ouest

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16

Flood Mapping in NWT Communities: Michèle Culhane (Day 2 #21a)



Flood Mapping in NWT Communities

Michele Culhane, Water Stewardship Advisor
Water Monitoring and Stewardship Division, Environment and Climate Change (ECC)

Community Planning Framework Workshop, March 27, 2024

Government of
Northwest Territories

1

Communities at risk of riverine flooding

- Hay River and Kát'odeeche First Nation
- Jean Marie River
- Fort Liard
- Nahanni Butte
- Fort Simpson
- Tulita
- Fort Good Hope
- Fort McPherson
- Aklavik



2

Federal Hazard Identification and Mapping Program (FHIMP)

- Announced in 2021, the goal of FHIMP is to work with provinces and territories to complete flood maps for higher risk areas
- FHIMP is a cost-shared program – 75% funded by Natural Resources Canada and 25% funded by GNWT
 - FHIMP-1: ending March 31, 2024
 - FHIMP-2: April 2024 to March 2028



3

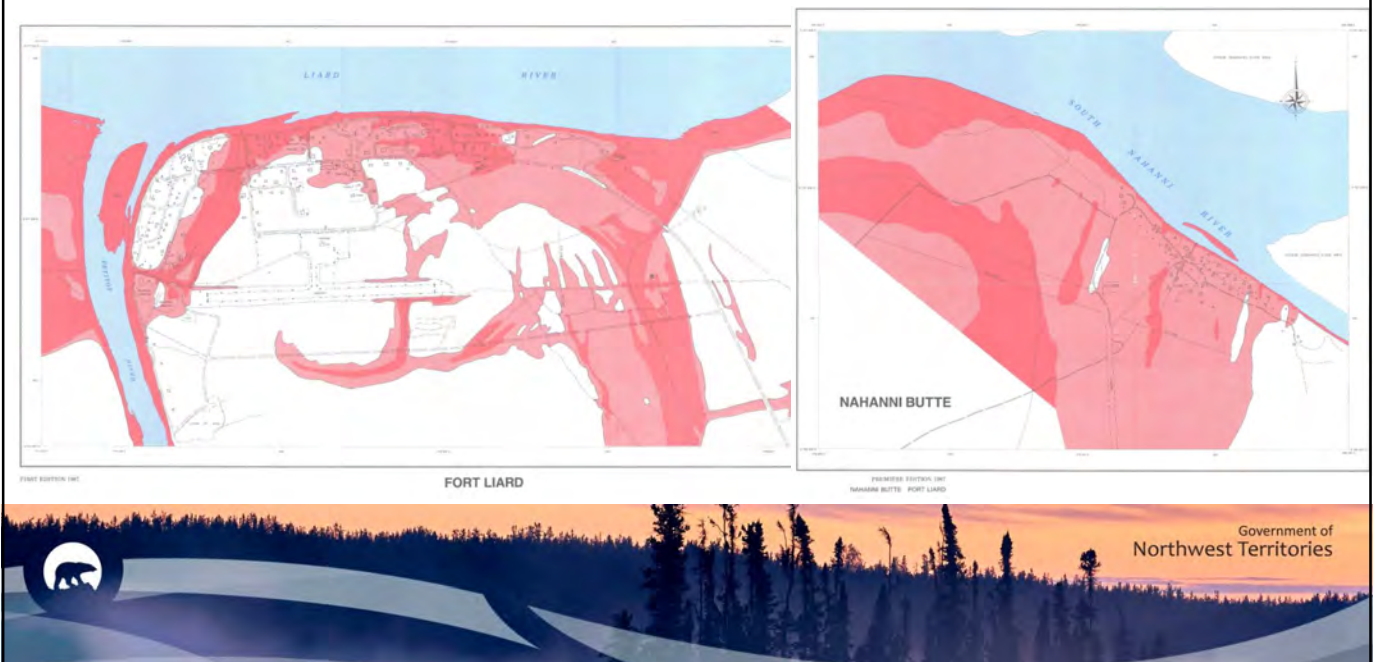
ECC's current flood map terminology*

*Adapted by ECC hydrologists, from NRCan's *Federal Flood Mapping Framework* (2018)

Type of flood map	What they show	Typical use
Flood inundation map	<ul style="list-style-type: none"> • Displays the floodwater extent of a historical or theoretical flood • May be developed using one or a combination of several approaches, such as high-water mark surveys, aerial or satellite imagery, and/or hydrologic and hydraulic investigations 	Development of emergency preparedness plans
Flood hazard map	<ul style="list-style-type: none"> • Displays the floodwater extent of a historical or theoretical flood for which the likelihood of occurrence in any one year is calculated • Must be developed using hydrologic and hydraulic investigations (engineering studies) • May also indicate floodway and flood fringe areas 	Land use planning and flood mitigation
Regulatory or designated flood map	<ul style="list-style-type: none"> • The designated flood map for regulatory purposes • Displays the regulatory flood event extent for which the likelihood of occurrence in any one year is calculated • Should be a flood hazard map, however in some circumstances, such as limited data availability, it may be an inundation map • Should include floodway and flood fringe areas 	Land use planning and flood mitigation; regulatory purposes

4

Existing NWT maps – 1980s



5

GNWT flood mapping activities 2023-2024

1. Production and review of preliminary inundation maps for Hay River and Kátł'odeeche First Nation, Fort Simpson and Aklavik
2. Completion of survey contracts for recent flood event high water marks for Ft Good Hope (2021 flood) and Ft McPherson (2023 flood)
3. Completion of NWT Ice Jam Flood Mapping Guidelines (NRCan)
4. Initiation of flood mapping jurisdictional scan



6

Planned GNWT flood mapping activities 2024-25

1. Initiate development of preliminary inundation maps for Jean Marie River, Nahanni Butte, Fort Good Hope and Fort McPherson
2. Develop preliminary hazard maps for Hay River and Kát'odeeche First Nation, Fort Simpson and Aklavik by Fall 2024 and finalize technical work on hazard maps by March 2025
3. Complete flood mapping jurisdictional scan by Summer 2024



7

Community engagement

The flood mapping process needs to involve community and Indigenous governments at all steps:

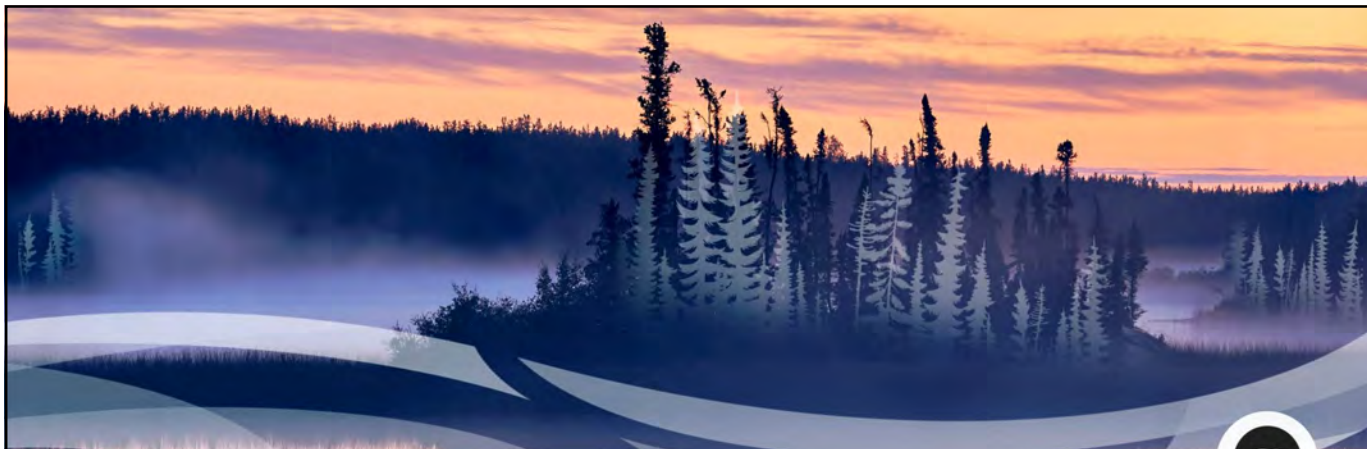
- Validation of preliminary flood inundation maps, especially, if based on a real event
- Validation of preliminary flood hazard maps



GNWT MACA



8



Questions?

Thank you
Michele_Culhane@gov.nt.ca

Government of
Northwest Territories

Overview of Surficial Geology and Permafrost Mapping in NWT Communities: Niels Wiess (Day 2 #21b)

NORTHWEST TERRITORIES
GEOLOGICAL SURVEY

Overview of surficial geology and permafrost mapping in NWT communities

Niels Weiss, Permafrost Data Scientist
Steve Kokelj, Senior Permafrost Scientist

Updates on:

1. Surficial geology mapping
2. Terrain mapper position
3. NWT Permafrost Database
4. Thermokarst Mapping Collective

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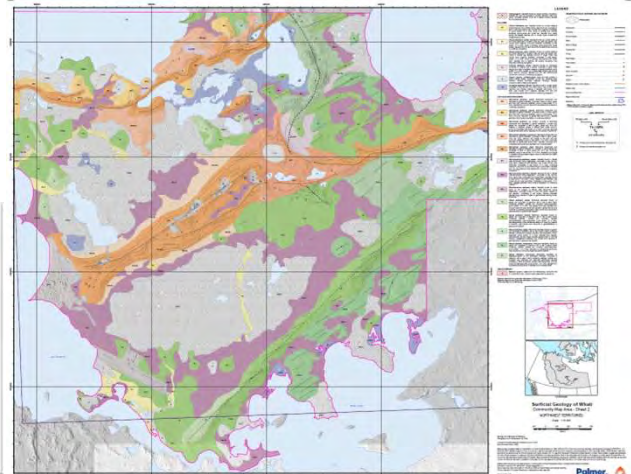
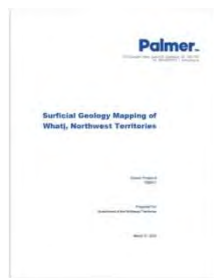
Surficial geology mapping

- Materials (sediments) at or near the surface
- Fundamental layer needed for permafrost and geohazard mapping – including slope stability and river erosion
- Not available for most NWT communities at the appropriate scale
- Until surficial maps are completed and validated, development suitability maps and related planning products cannot be advanced

2

Surficial mapping around Aklavik, Fort McPherson, and Whati

- 2022-2023: Desktop study (*not validated*)
- 1:10,000 map
 - Within municipal boundaries
- 1:30,000 map
 - ~15 km around municipal boundaries
 - Areas of interest
- Report
- Current contract:
 - Paulatuk
 - Inuvik
 - Fort Simpson



3

Surficial mapping around Fort Good Hope and Tulita

- Collaboration with U of A (2022-present)
 - MSc / PhD projects
- Mapping and field validation
- 1:10,000 map
 - Around municipal boundaries
- Project specific research questions and additional products
 - Permafrost sensitivity
 - Ground ice distribution
- Published as NTGS Open Report
 - In prep

4

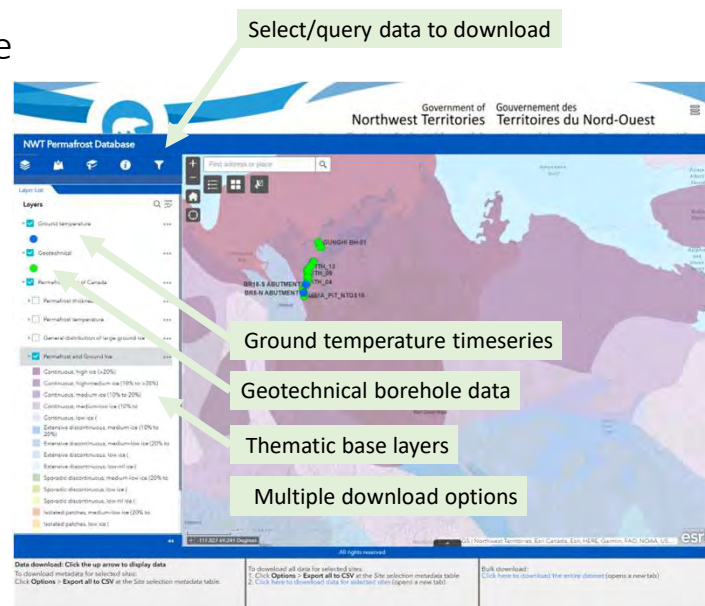
Community terrain / surficial geology mapper (NTGS)

- Prioritize creation and validation of surficial geology maps
- Technical capacity to compile terrain- and hazard-related spatial data, and create maps that the public can understand
- Work across departments and organizations, and with communities
 - Collect additional information about community hazards and concerns
 - Compile geotechnical data
 - Conduct fieldwork to validate maps
- Publish peer-reviewed NTGS Open Reports and Maps and visit communities to report on progress and results

5

NWT Permafrost Database

- Repository for Geotechnical and Ground temperature data
- Data collected by GNWT and partners
- Publicly available and discoverable
 - Citing data ownership and source
- In development
 - Aim to be online in next months
- Templates available
 - Niels_Weiss@gov.nt.ca



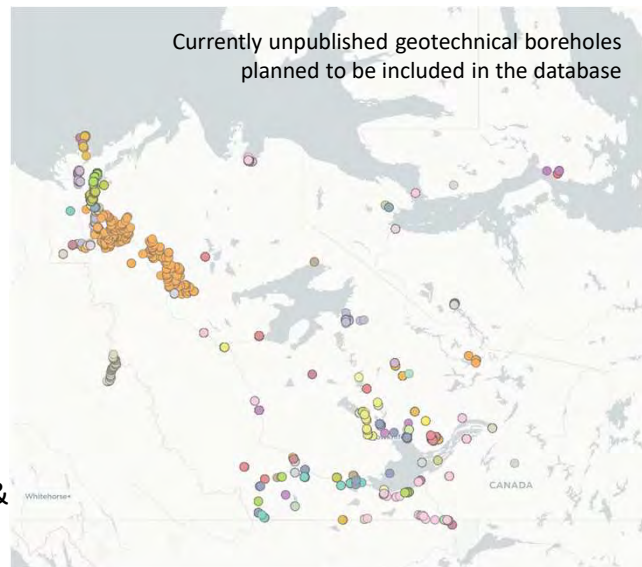
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NWT Permafrost Database

- > 200 geotech reports
 - >5000 sites/boreholes
- ~40 ground temperature datasets
 - > 500 sites/boreholes
- Request that future data collected by/for GNWT is supplied in template format and included in DB

Surficial mapping and Terrain mapper

- More (detailed) permafrost data to support mapping and validation
- Communication with the community & practitioners



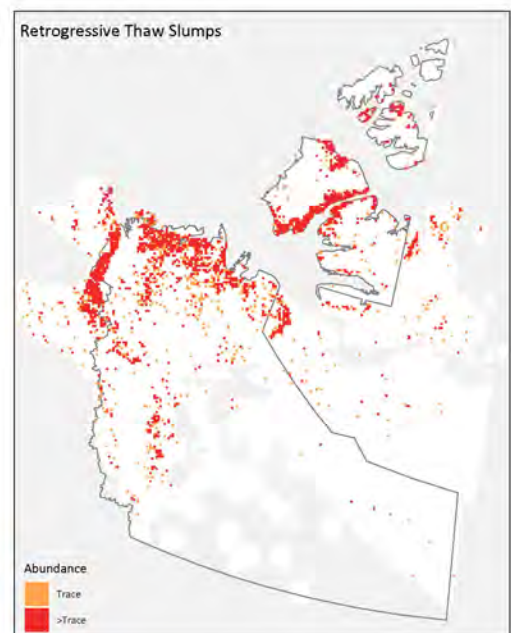
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Thermokarst Mapping Collective

- Broadscale maps
 - >60 permafrost landforms/processes



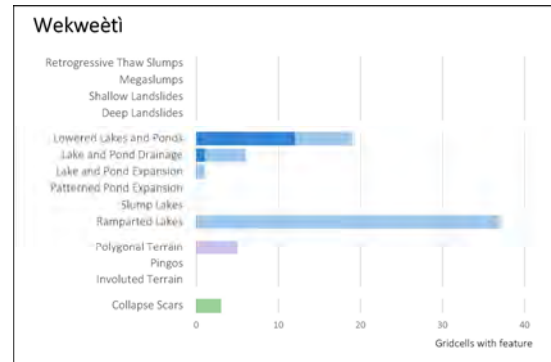
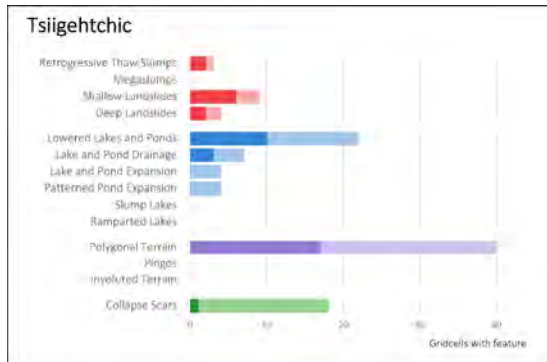
<https://doi.org/10.1139/as-2023-0009>



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Thermokarst Mapping Collective: Community Synthesis

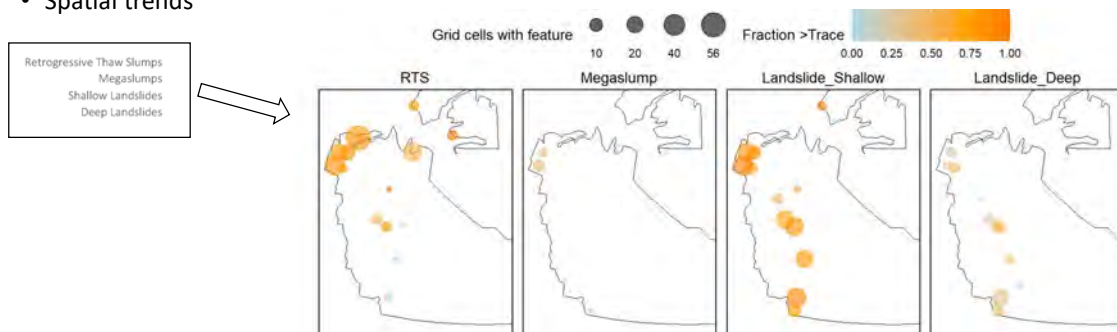
- Broadscale maps
 - >60 permafrost landforms/processes
- Community areas (75 km x 75 km)
 - Summaries



9

Thermokarst Mapping Collective: Community Synthesis

- Broadscale maps
 - >60 permafrost landforms/processes
- Community areas (75 km x 75 km)
 - Summaries
 - Spatial trends



10

Government of Nunavut, Subdivision Design and Climate Change: Olivier Forbes-Bouillon (Day 2 #22)



SUBDIVISION DESIGN AND CLIMATE CHANGE

Olivier Forbes-Bouillon, RPP, MCIP
A/ Manager, Community Planning
Dep't of Community & Government Services



1

LAND ACKNOWLEDGMENT

- Proudly practicing in Inuit Nunangat
- Traditional Territory of the Copper Inuit
- Kugluktuk, NU (Known as Coppermine until 1996)
- 25th anniversary of NU on Monday!



2

COMMUNITY & GOVERNMENT SERVICES

- Planning & Lands Division (Decentralized)
 - Community Planning
 - Land Administration
- Kugluktuk (HQ)
 - Kinngait (Qikiqtaaluk Region)
 - Rankin Inlet (Kivalliq Region)
 - Cambridge Bay (Kitikmeot Region)
- 25 Municipalities
 - 1 City
 - 24 Hamlets



Gov't of Nunavut, Kinngait

3

COMMUNITY PLANNING ROLES AND RESPONSIBILITIES

- Established under the *Nunavut Planning Act*
- Guided by *Nunavut Agreement Article 11 – Land Use Planning*
- Implementation of *Nunavut Agreement Article 14 – Municipal Lands*
- Building local capacity at the Municipal Levels
 - Training and supporting municipal Planning & Land Administrators (PLA's)
- Reviewing Community Plans and Zoning By-laws every five years
- Subdivision design
- Participation of Nunavummiut in Planning Process, with special consideration to Inuit Societal Values
- Climate change adaptation strategies (risk mitigation)

4

SUBDIVISION DESIGN AND STANDARDS MANUAL V1 (2010)

- Prepared by FoTenn Consultants Inc.
- Guides community growth through development of Community Plans & Plans of Subdivisions using a set of established guidelines

1. Site Selection Process

- a. Needs Assessment
- b. Community Plan Review
- c. Further Analysis (if needed)
- d. Review of land ownership
- e. Cost analysis
- f. Consultation with community



5

SUBDIVISION DESIGN AND STANDARDS MANUAL V1 (2010)

2. Conceptual Subdivision Design

- a. Determining the Build Zones
 - i. Consultations with Community and integration of Inuit Qaujimajatuqangit (IQ)
 - ii. Assessing physical features
 - iii. Airport Zoning Regulations
 - iv. Environmental sensitivities/ culturally significant features
- b. Designing the Build Zones
 - a. Adapting road network to weather patterns (dominant winds, drainage, solar orientation)
 - b. Integrate into existing community
 - c. Revise Land Use and Density
 - d. More consultations!

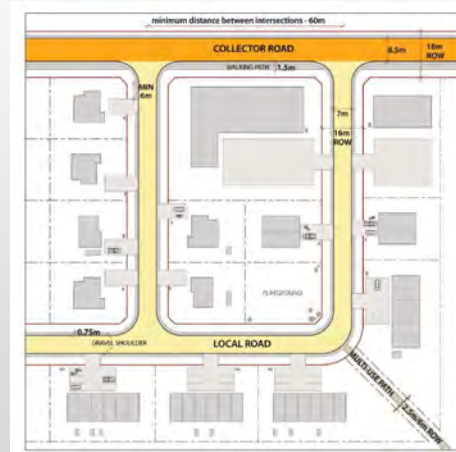


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SUBDIVISION DESIGN AND STANDARDS MANUAL V1 (2010)

3. Design Standards

- i. Road Design
- ii. Trail Design
- iii. Drainage
- iv. Lots
 - i. Residential
 - ii. Non-Residential
- v. Open Spaces, Parks
- vi. Utilities



7

SUBDIVISION DESIGN AND STANDARDS MANUAL V2 (2019)

- Northern Futures Planning contracted to update SDM
- Funding to update SDM sourced by Nunavut's Climate Change Secretariat (CCS)
- Goal to integrate climate change adaptation strategies into subdivision design guidelines



8

SUBDIVISION DESIGN AND STANDARDS
MANUAL V2 (2019)

- Integration of Northern Infrastructure and Standardization Initiative (NISI) standards
 - Use of Thermosyphon Foundations
 - Reduction of the impact of Permafrost Thaw on Existing Buildings
 - Management of snow build-up
 - Community Drainage Systems*
 - Geotechnical Studies*

*Development Suitability Mapping

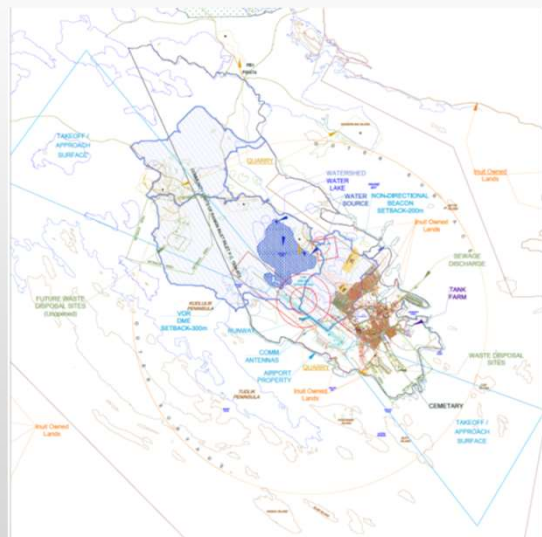


Erosion after major rainfall event (Kugluktuk, July 2007)

9

SUBDIVISION DESIGN AND STANDARDS MANUAL V2 (2019)

- Integration of Opportunities and Constraints Mapping to identify incompatible uses and confirm development suitability
- Layers may include:
 - Setback requirements in other regulations
 - Protected watersheds
 - Archeological reserves
 - Presence of drainage and flooding concerns and other environmental concerns



Opportunity and Constraint map (Rankin Inlet)

10

SUBDIVISION DESIGN AND STANDARDS MANUAL V2 (2019)

- Reference to existing Terrain and Climate Studies
 - Geotechnical studies
 - Snowdrifting studies
 - Drainage Plans or studies
 - Surficial geology maps
 - Permafrost hazard maps
- Reference to other relevant plans



Master Drainage Plan (2018, Kugluktuk)

11

SUBDIVISION DESIGN AND STANDARDS MANUAL V2 (2019)

FINAL 6 STEP SITE SELECTION PROCESS:

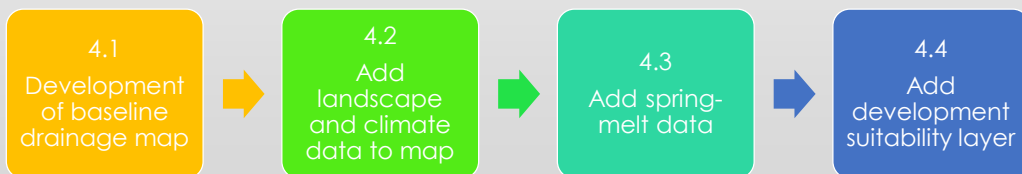


12

SUBDIVISION DESIGN AND STANDARDS MANUAL V2 (2019)

Adding Landscape Hazards to Opportunities and Constraints Map

1. Show existing hydrology and natural drainage
2. Incorporate imagery, local knowledge, historical data, projected future conditions
3. Add spring-melt data
 - i. Ponding, erosion, damaged culverts, extents of peak flow
4. Add development suitability layer
 - i. Example of scale: *Unknown, Unsuitable, Marginal, Possible, Suitable.*

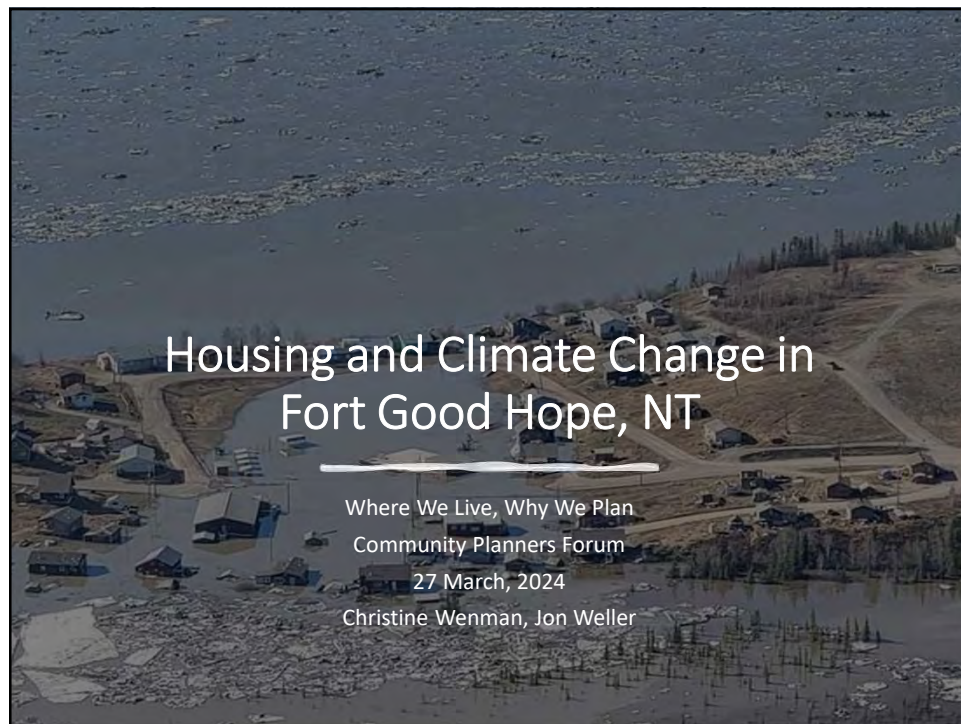


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14

Housing and Climate Change in Fort Good Hope: Christine Wenman (Day 2 #23)



1



2

Applying a climate change adaptation lens to community housing

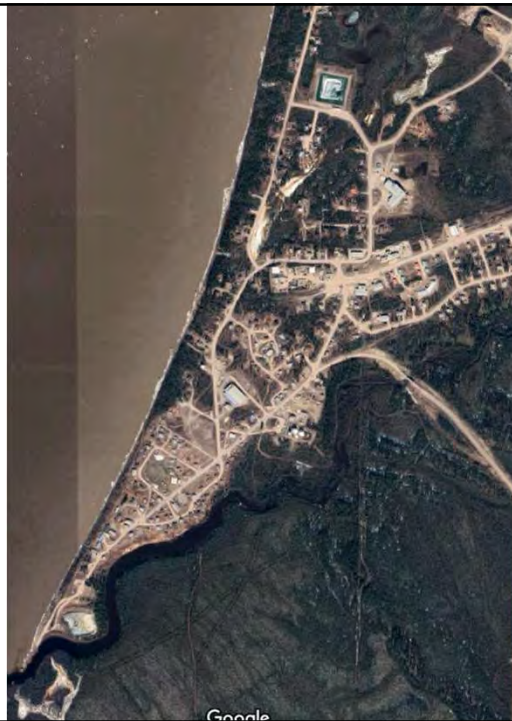
- Plan actions include taking advantage of opportunities for energy retrofits and climate change adaptations
- Potential foundation issues related to permafrost
- Flood risk, potentially exacerbated by climate change
- Riverbank erosion risk, potentially exacerbated by climate change



3

Phase I Project Activities: **Slope Stability (2021/2022)**

- Ongoing concern about the risk to structures built close to riverbank
- Several studies over the past three decades have tracked stability of the riverbank along the Mackenzie River and the north side of Jackfish Creek
- 2022 updated geotechnical and structural engineering studies
 - Found significant risk for 24 homes along the bank



4

Phase I geotechnical study

Study objectives:

1. Complete a geotechnical assessment of the riverbank in Fort Good Hope
2. Provide recommendations on the homes and structures in the study area that require relocation due to the ground effects from climate change
3. Identify suitable areas for relocation of existing housing and/or the construction of new housing.

Tasks:

1. Prepare a series of surficial geology and geohazards maps
2. Ground truth
3. Determine contributing factors to slope instabilities
4. Consider options to mitigate these factors
5. Provide direction on moving houses for public safety
6. Recommend future development locations

5



Photo 42: House 1S: aerial view, top of photo is east. Large, approximately 60 m long, backscarp halfway down the upper vegetated portion of the riverbank slope.

Tetrattech, 2022

6



Photo 43: Photo R2-5A (top) from EBA (2006)/ 2021 Photo 43 (bottom). House 1S, facing east. Tension crack mostly unchanged located approximately 9 m from the corner of the house, increased leaning of the foreground tree, some erosion around base of tree.

Tetrattech, 2022

7

Phase I geotechnical study - outcomes

Key conclusions:

1. 24 houses are very high priority for relocation, and another 5 are high priority for relocation.
2. New recommended 30 year development setback line.
3. Recommend evacuation of 'high priority' homes before spring break-up.
4. Improve surface water and site specific drainage (commission community drainage plan).
5. On-going monitoring, including annual site inspections by a geotechnical engineer.
6. Pursue better geotechnical and permafrost data.

8

Phase II: Project Overview

- Three-year project funded by CIRNAC's – Climate Change Preparedness in the North (CCPN) program
- Objectives
 - Better understand risks facing housing infrastructure in Fort Good Hope
 - Communicate risks to affected homeowners and community
 - Facilitate decisions on how to move forward
- Primary risks that this project focuses on are slope stability, flood, and permafrost thaw

9

Project Activities: Slope Stability



From Tetratich, 2022

10

Project Activities: Slope Stability

Potential solutions could incorporate one or more of these strategies.

- **Avoid the unstable terrain:** Implement a minimum 30-year slope setback to develop new areas of the townsite or redevelop existing built areas.
- **Reduce landslides:** Consider options to limit surface water runoff and infiltration by keeping water from either flowing downslope or from infiltrating into the tension cracks, as well as increasing the number of crossdrains to reduce the concentration of surface water runoff in too few drainages.
- **Protect the elements at risk:** For foundations at risk from slides or slumps, a remedial foundation could be designed such that slope failures would leave it relatively unaffected
- **Improve surface water drainage:** Site surface water drainage and grading should be designed for duplex area, areas of new housing construction, correction of site surface drainage in existing developments or redeveloped areas

11

Project Activities: Permafrost

- Related issue and one that is exacerbating slope stability concerns is permafrost thaw.
- Working with the U of A Permafrost Archives Lab to conduct a study in Fort Good Hope to map permafrost and monitor changes.
- Results will contribute to broader understanding of risk



12

Project Activities: Flooding

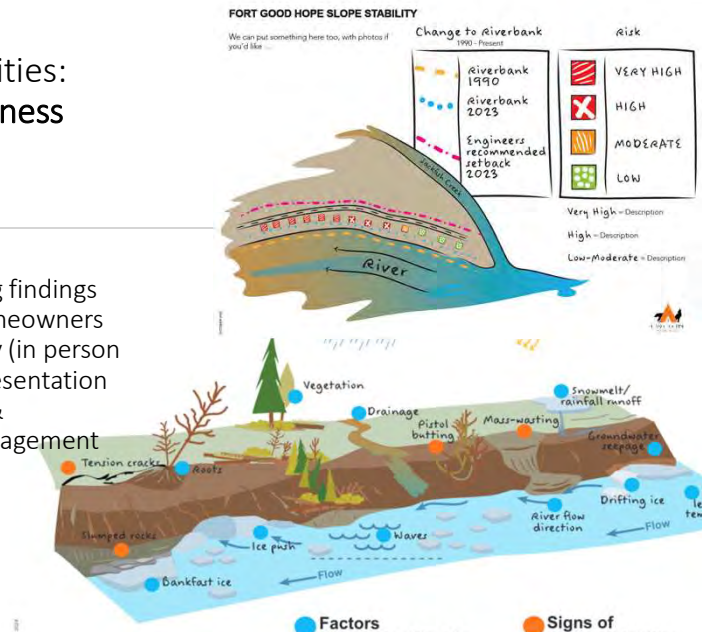
- Related issue that is a significant threat on its own and exacerbating other risks
- 2021 saw a significant flood event (ice dam caused)
- Activities
 - Document local knowledge of 2021 high water marks (completed summer 2023)
 - Professional survey of high-water marks
 - Develop ongoing high-water mark tracking program to support GNWT Waters' flood inundation and hazard mapping efforts



13

Project Activities: Public Awareness

- Communicating findings and risk to homeowners and community (in person discussions, presentation to leadership, & community engagement sessions)



14

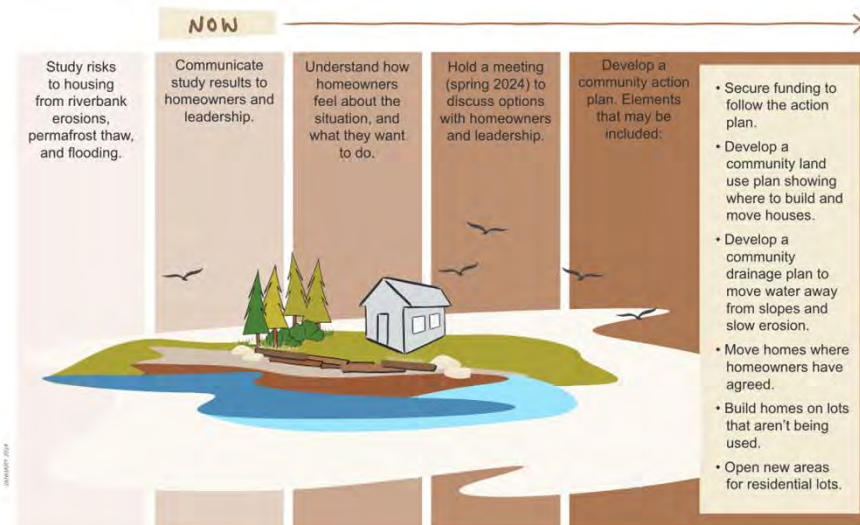
Project Activities: Community Decision Making

- Facilitate decision making among community members and leadership about adaptation and mitigation options
- Develop draft community action plan based on decisions
- Seek funding opportunities to implement action plan
- Contribute to broader land use and drainage planning processes in FGH



15

NEXT STEPS TO ADDRESS HOUSING RISKS



For more information on the study and next steps please contact:
Wanda Grandjambe at 867-445-6377 or drop by the Ne Rahtien Development Ltd. office



16

Key considerations

- Assessing and communicating community hazards implicates many areas of government, expertise and planning
 - Flooding
 - Risk communication
 - Emergency planning
 - Land Use Planning
 - Surficial geology and permafrost
 - Community based monitoring
- There are opportunities to share knowledge about hazards (assessment, communication and mitigations) between communities
- To bring knowledge to action will be iterative and collaborative

Day 3:

Themes 3 and 4: Healthy Communities and Housing

Healthy Communities & Housing (Moderator's Notes): Dustin Martin and Chris VanDyke (Day 3 #28)

GIS Civic Addressing Project: Emily Mahon (Day 3 #29)

Agriculture, Food Security and Community Planning: Janet Dean (Day 3 #30)

Housing Planning in the NWT: Chris VanDyke (Day 3 #31)

Healthy Communities & Housing (Moderator's Notes): Dustin Martin and Chris VanDyke (Day 3 #28)

Day 3: Healthy Communities & Housing



- A 'Healthy Community' is defined by CIP as "a place where healthy built, social, economic, and natural environments give citizens the opportunity to live to their full potential..."
- CIP Policy Goal: "CIP envisions a future where all communities and cities are planned, designed, developed, and managed to foster vibrant environments and active lifestyles that promote and protect the health of all Canadians, increasing the social and health equity of our communities."
- CIP Code of Conduct: members shall "acknowledge the inter-related nature of planning decisions and the consequences for natural and human environments."

Policy Objectives:

- "Rural, northern, remote, and urban Indigenous and non-Indigenous communities have suitable, affordable, and adequate housing options and services for all ages, abilities, and social groups."
- "Healthy community planning recognizes the diverse needs of those living in rural, northern, remote, and urban Indigenous and non-Indigenous communities."
- "Local Indigenous knowledge and planning traditions are integrated into planning processes, respecting the rights of Indigenous peoples."
- "Social and health equity considerations are incorporated into all healthy community strategies and decisions made by planners"

CIP Healthy Communities Policy : [link](#)

1

What approaches should planners take when considering housing & healthy communities within Community Plans?

Day 3: Healthy Communities & Housing

2

Are there any notable examples of the incorporation of healthy communities & housing concepts in Community Plans that you would like to share?

Day 3: Healthy Communities & Housing

3

What are some pitfalls you've come across around the incorporation of housing & healthy communities concepts in Community Plans?

Day 3: Healthy Communities & Housing

4

Are there any helpful tools available to support planning for healthy communities & housing?

Is there anything that might not currently exist, that would be helpful for planning healthy communities & housing?

Day 3: Healthy Communities & Housing

GIS Civic Addressing Project: Emily Mahon (Day 3 #29)



GIS Civic Addressing Project

Community Planners Forum
March 28, 2024

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1

Presentation Objective

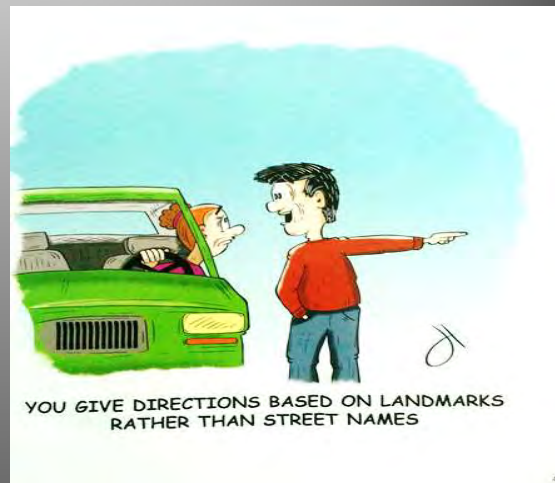
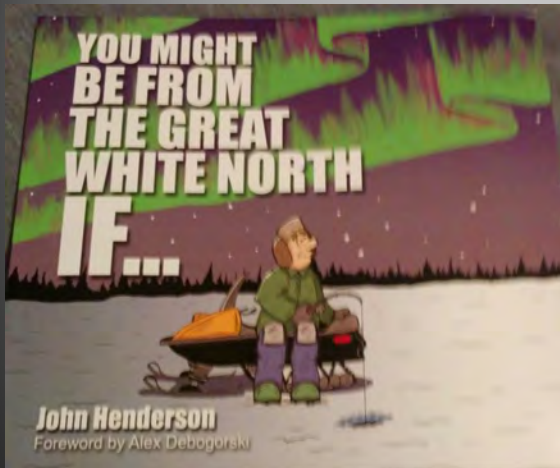
- Overview of civic addressing
- Current stage of GIS project
- Proposed final outcomes
- Current tools and assistance



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What is a Civic Address?



- Civic Address means an identification system providing a consistent and understandable method to address and access premises based on a **Road Name** and **civic number**, which indicates the relative position along a highway.

(c) provide for the naming or numbering of highways and the numbering of buildings;

Hamlets Act

"highway" means a road, place, bridge or structure, whether publicly or privately owned, that the public is ordinarily entitled or permitted to use for the passage of vehicles and includes

Motor Vehicles Act

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4

Civic Addressing in Communities

- Communities are responsible for creating and managing their addressing
- Not all communities have/or may want civic addressing
- MACA/Community Governance uses advocacy to encourage reviews, through the community **land use planning process**
- Addressing includes “official” street names, and house numbers

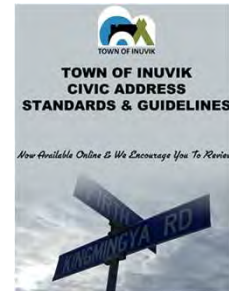
Community Governance

- Municipalities use a bylaw
- Designated Authorities can use a Policy

Community Addressing Infrastructure

Implementation

- Capital planning
- Purchase and Install
 - » house/building number plates and street name signs



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5

Catalysts for Addressing

- Public Safety
 - 911 /next generation 911
 - Emergency response
 - critical in saving lives and property during emergencies
- Service Delivery/Navigation
 - Insurance
 - Online Shopping
 - StarLink
 - Google maps/GPS
- Government Services
 - Property Assessment
 - Elections
 - Post Office
 - Driver's license
 - Others

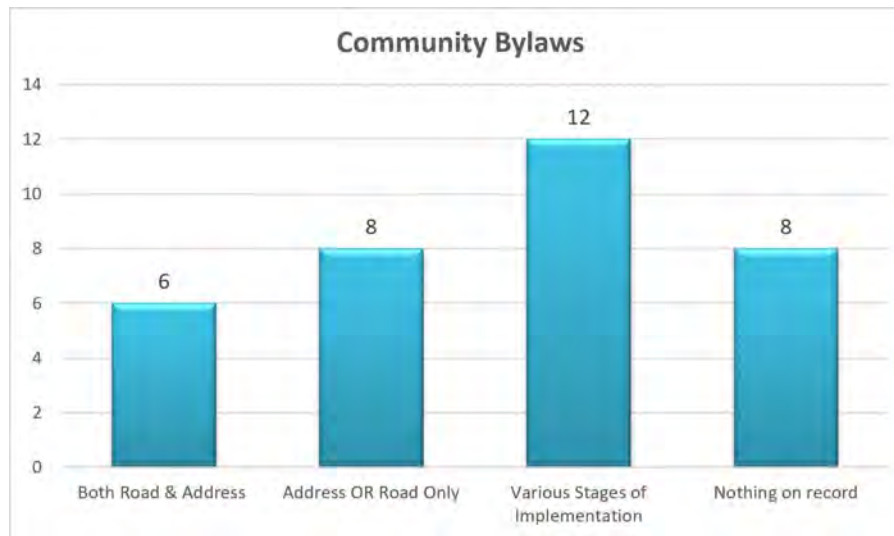


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Status on Civic Address Bylaws or Policy's



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DATA - Civic Addressing GIS layer

- Digital GIS layer
 - GIS (Geographic Information Systems)
 - the geographic extent and 'attribute table' with information on that record
- Having GIS addressing layer allows it to be managed more easily and used by multiple systems from the same source
- Combining into 1 NWT addressing layer
- End goal is to create a public GIS datasets for point addresses and road centerlines
 - Dataset would be downloadable, also published for use in viewers etc.
 - Current and up to date



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GIS data Benefit to communities

- Improved emergency response and planning
- Have access to digital maps and data
 - GIS data download
 - On interactive map viewer “Find my Address”
- Their data is GIS ready for use by other systems/programs/applications
- Updated maps for communities available for download
- Companies like Google, Garmin GPS etc could harvest the data regularly



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GIS Data Creation – work to date

- Created from building footprint centroids
- Based on ATLAS data
- Basic data attributes based on existing bylaw/policy documents
- Schema/attributes compatible with other GIS or location-based systems
- Draft addressing and roads data created in collaboration with MACA and/or community RCMP through various civic addressing planning stages
- Data created through field work provided by other GNWT departments



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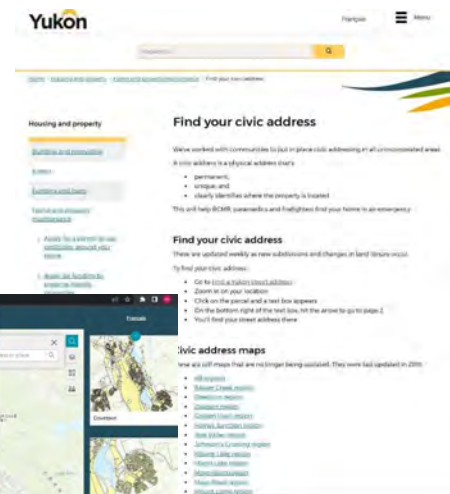
Review and working with Communities

- MACA working on communication with communities to explain the project
- Asking for their help in validating/reviewing
 - By reviewing maps we provide
- Make sure there's a plan in place to keep data up to date



Remaining steps

- Community validation
- Develop public products we want to have
 - Data download,
 - interactive viewers,
 - maps for download (similar to Yukon),
 - addressing guide templates, bylaw templates etc.
- Ensure data maintenance plan is place
 - Including communication method for general public comments
 - Including method for addressing authorities to send any new/updated information



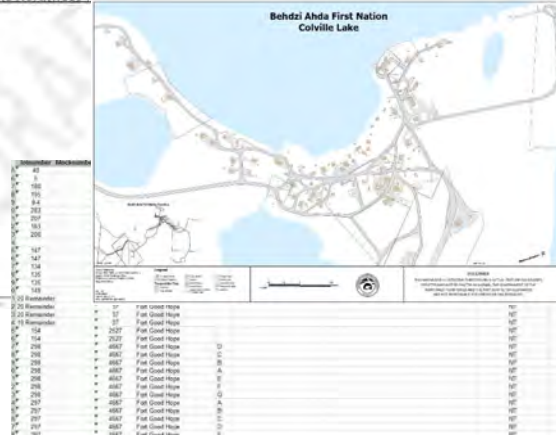
Tools to Assist with Addressing

- MACA provides some tools to help with addressing (draft addressing guide, bylaw templates),
- Blank maps (Geomatics) and excel listing of surveyed lots to fill in with address
- Propose different scenarios,
- Others may be interested in the efforts and want to help, for example the RCMP.
 - Example: Fort Good Hope/Colville lake RCMP trying to assist in establishing an addressing systems in those communities.



A Guide to Community Addressing

In the Northwest Territories

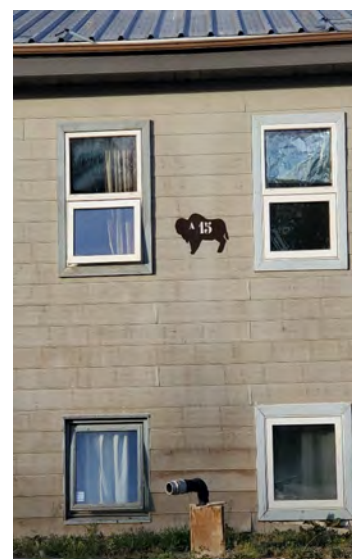


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Consider civic addressing
Provide digital/GIS data when possible
Tools are under development



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14

Agriculture, Food Security and Community Planning: Janet Dean (Day 3 #30)

AGRICULTURE, FOOD SECURITY AND COMMUNITY PLANNING

March 2024

Janet Dean, Executive Director
Territorial Agrifood Association



The Territorial Agrifood Association

The Territorial Agrifood Association (TAA) is a non-governmental, non-profit organization based in the Northwest Territories that is mandated to develop and advocate for the NWT food system and represent members of the agri-food value chain across the territory.

TAA was born from the Territorial Farmers Association and the NWT Food Network.

www.nwtagrifood.ca



The language of agrifood

Agriculture

Agrifood

**Food
Production**

**Community
Garden**

Farm

**Market
Garden**

Harvesting

**Food
Sovereignty**

Food Security



Food is a bridge

**Food represents a
cultural and an
agricultural
act.**



**Conserving, protecting and
regenerating natural resources,
landscapes and biodiversity that
provide us with food, while also
supporting healthy and resilient
economies and societies.**





A Community Food Plan

A community food plan is a holistic approach to improving the food system, promoting food security and sustainability and fostering community health and well being.

By addressing a range of issues related to food access, nutrition, and agriculture, a community food plan can help create a more resilient and equitable food system for all residents.



Local governments must put into place programs and policies that support the agricultural economy and the future of food sovereignty in their communities and regions.

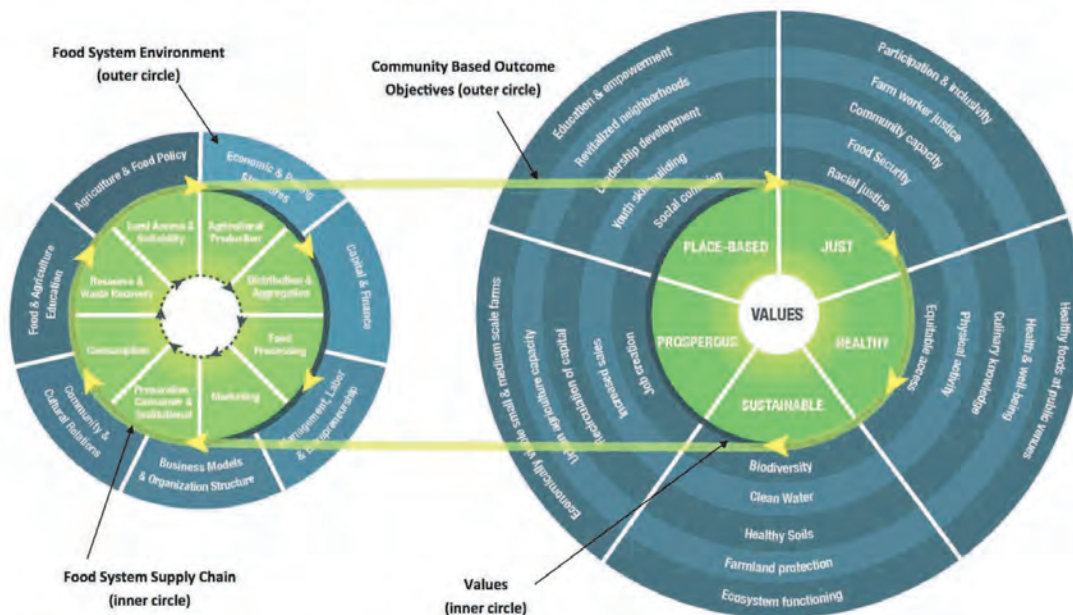
Why planning for agrifood?

- Steer growth
- Reduce regulatory barriers
- Encourage infrastructure development
- Address sustainability

Planning for agrifood is a policy process to help ensure a future for food in a given place over a specified time period. It establishes a public policy framework to protect and conserve land for current and future generations and to support agrifood economic development.

But planning for agrifood also can help turn threats into opportunities. Examples include support for diversification to value-added agriculture and investments in infrastructure like cold storage, packing and processing plants. Enacting policies that allow on-farm processing, promote local procurements and farm to institution sales and/or provide opportunities for agritourism also counter the threat of development by keeping communities economically viable.

Community and Regional Food Systems Framework



Adapted from the Community and Regional Food Systems (CRFS) Project, based at the University of Wisconsin-Madison.

The framework illustrates how components of the food system supply chain (inner circle, left) are related to the food system environment (outer circle, left). Activities within the food system supply chain are driven by values (inner circle, right). Values are related to community based outcome objectives (outer circle right).

Best practise considerations

1. Community Agricultural Commissions and Advisory Boards
2. Agricultural Ombudsmen/Agricultural Development Staff
3. Agricultural Districts
4. Livestock and Poultry Ordinances
5. Right to Farm
6. Tax Exemptions
7. Farm Building and Other Exemptions
8. Leasing Development Rights
9. Property Tax Relief
10. Zoning
11. Farm Labour Housing
12. Setbacks and Buffers

**Planning
for
agriculture
is
important**



**Value to food
systems and
local economies**

**Environment and
quality of life**



**Community level
adaptation to
market forces
and climate
change**



How do we support our food future?



- Is your community food friendly checklist.
- Local food procurement policy suggestions.
- Regional connections.
- Communication and regional connections.
- Why plan for food and agriculture report.
- Planning support.
- Communication tools.
- Innovation models.
- Opportunity profiles.



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Housing Planning in the NWT: Chris VanDyke (Day 3 #31)



1





Outline for Today:

- Introduction & Objectives
- Housing & Healthy Communities
- Housing: the NWT Context
- Housing Planning in the NWT
- Community Planning: Creating the Environment for Housing
- Looking Ahead
- Q&A

2

Objectives

1. Connect Housing Planning and Healthy Communities
2. Describe Housing Planning in the NWT
3. Link Housing Planning to Community Planning in the NWT



3

Housing & Healthy Communities

CIP Policy Goal:

“CIP envisions a future where all communities and cities are planned, designed, developed, and managed to foster vibrant environments and active lifestyles that promote and protect the health of all Canadians, increasing the social and health equity of our communities.”

Role of Planners:

- “Be inclusive and respectful of Indigenous peoples, striving to promote understanding, validation, and respect of Indigenous knowledge and cultural practices to ensure decisions and interventions are culturally relevant and appropriate.”
- “Be knowledgeable about scientific research and data availability to ensure their planning decisions are both evidenced-informed and appropriate.”
- “Gather local knowledge to inform planning processes and to ensure decisions and interventions are locally appropriate and address community needs.”



4

Housing: the NWT context

Core Housing Need: 13.1% of NWT households | 10.3% Yellowknife

At least 1 problem: 35.8% NWT | 31.1% Yellowknife
Adequacy: 18.4% NWT | 10.5% Yellowknife
Affordability: 11.9% NWT | 15.7% Yellowknife
Suitability: 10.5% NWT | 8.5% Yellowknife

Average Household Size: 2.7 people

Homeowners: 8,135 households | 54% of NWT households

Renters: 7,020 households | 46% of NWT households

Renters in Subsidized Housing: 31% of renter households

Public Housing Tenants: 5,396 (as of March 22)
~12% of NWT population

Data sources: Statistics Canada, 2021; Housing NWT, 2024; NWT Bureau of Statistics, 2024



5

Housing Planning in the NWT

**How do we plan for housing
in such a diverse territory?**

- **2019:** then-NWT Housing Corporation announced **Community Housing Plans** initiative
- Community-driven and -owned plans that describe each community's **unique** housing needs, and their future goals for housing
- Robust community engagement process
- Originally intended for all 33 NWT communities
- Piloted in Whatì, Paulatuk and Fort Liard
- Funding to K'asho Got'ıne and Yellowknives Dene to develop housing strategies with third parties (PlanIt North and Together Design Lab, respectively)



6

Housing Planning in the NWT (cont'd)



Completed Housing Plans:

- K'asho Got'ine, Whatì, Paulatuk, Enterprise, Nahanni Butte, Kátł'odeeche First Nation, Kakisa, Hay River, West Point First Nation

Completed Housing Needs Assessments:

- Fort Smith, Sachs Harbour, Ulukhaktok, Jean Marie River

Projects Actively Underway:

- YKDFN, Tulita, Pehdzeh Ki First Nation (Wrigley)



7

Housing Planning in the NWT (cont'd)



Challenges and Lessons:

- The extent of the housing crisis
- The unique challenges facing each community
- Supporting plan implementation
- Data gaps
- Impacts of federal distinctions-based funding
- Land development and access (tenure)



8

Housing Planning | Community Planning



How can housing planning support broader community planning?

- Clarify community housing needs
 - Substantiate land acquisition/development
 - Support re-zoning
 - Greenfield / brownfield development that meets needs
- Understand community-specific challenges that impact housing
- Partnerships between municipality and organizations delivering housing
- Drive government policy

Municipalities can create the environment for housing



9

Looking Ahead



Federal funding for housing?

- To Indigenous Governments (e.g. distinctions-based, URN)
- To Municipalities (e.g. Housing Accelerator Fund)

Housing NWT:

- "Suitability, accessibility and affordability of housing" a priority of 20th Assembly
- Community Housing Plans



10



**Any
Questions?**

Chris Van Dyke
Manager, Community Housing
Planning
Housing NWT
chris_vandyke@gov.nt.ca

Moving Forward with the NWT Community Planning Framework

Community Planning in the NWT: Chris Hewitt (Day 3 #34)

Community Planning in the NWT: Chris Hewitt (Day 3 #34)



Community Planning in the NWT

Community Planners Forum & the Framework

March 26, 2024

Government of
Northwest Territories

1

Community Plan – Purpose

- The purpose of a community plan is to provide a policy framework to guide the physical development of a municipality, having regard to **sustainability**, the **environment**, and the **economic**, **social** and **cultural** development of the community.

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2

Community Land Use Plan Relationships



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3

Land Management – Planning Tools



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Northwest Territories

4

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Community Plans – STRATEGIC

- Land applications and acquisition
- Housing applications
- Subdivision design approval
- Climate change adaptation
- Reconciliation

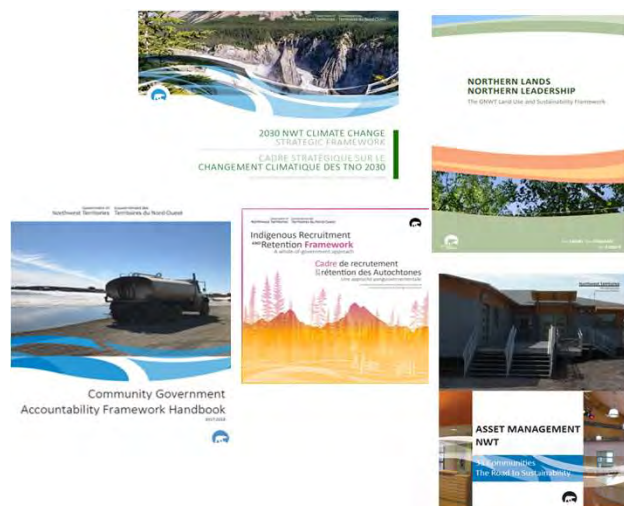


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5

What is a Framework?

- How work gets accomplished and the relationship between processes
- Part of a strategy – strategic purposes



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Land Use & Sustainability Framework DoL/ECC

**NORTHERN LANDS
NORTHERN LEADERSHIP**
The GNWT Land Use and Sustainability Framework

VISION

The GNWT's vision to guide its decisions about land use and land management is:

Land is life – it sustains and nourishes us spiritually, culturally, physically, economically and socially. Working together, Northerners will responsibly and sustainably manage the lands, waters and natural resources of the Northwest Territories for the benefit of current and future generations.

This vision embraces the spirit and intent of sustainability and stewardship.



STRATEGIC DIRECTIONS FOR THE GNWT

The framework's vision, principles and land interests provide structure and consistency for the GNWT in undertaking its land management responsibilities and participating in collaborative land-management processes. The framework sets the foundation for action. The GNWT has identified several areas where it will focus efforts in the short term to improve land management in the NWT.

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What is the CPF Initiative ?

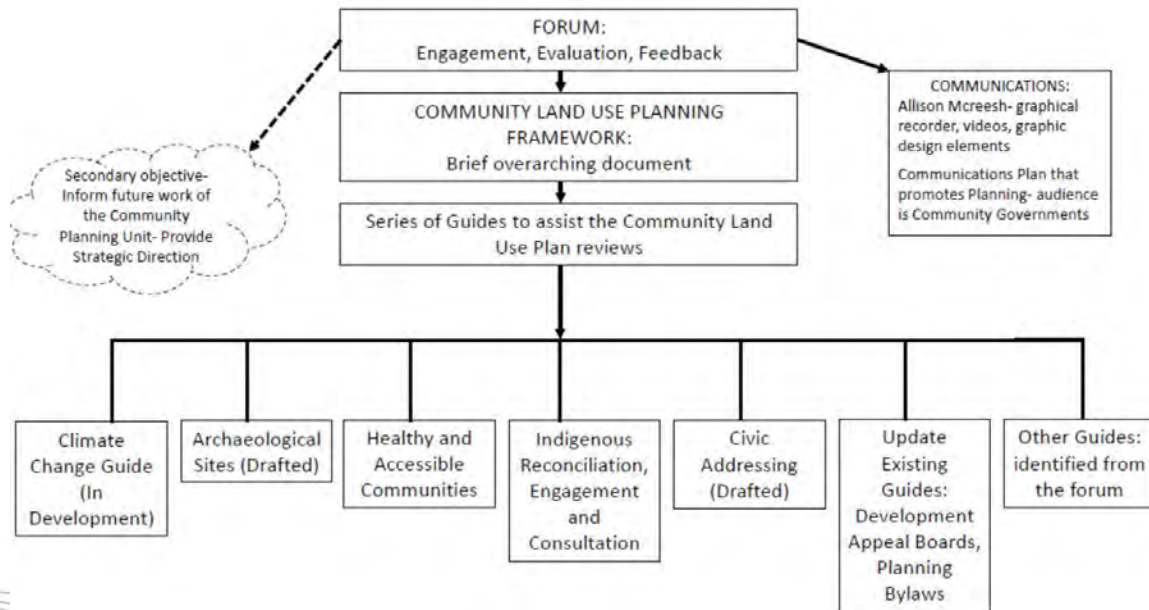
- **Provides a platform approach:**
- to promote community land use planning
- to support the role of community planners
- to encourage discussions related to the NWT community land use planning system, including the cycle of:

Review/Admin/Implement

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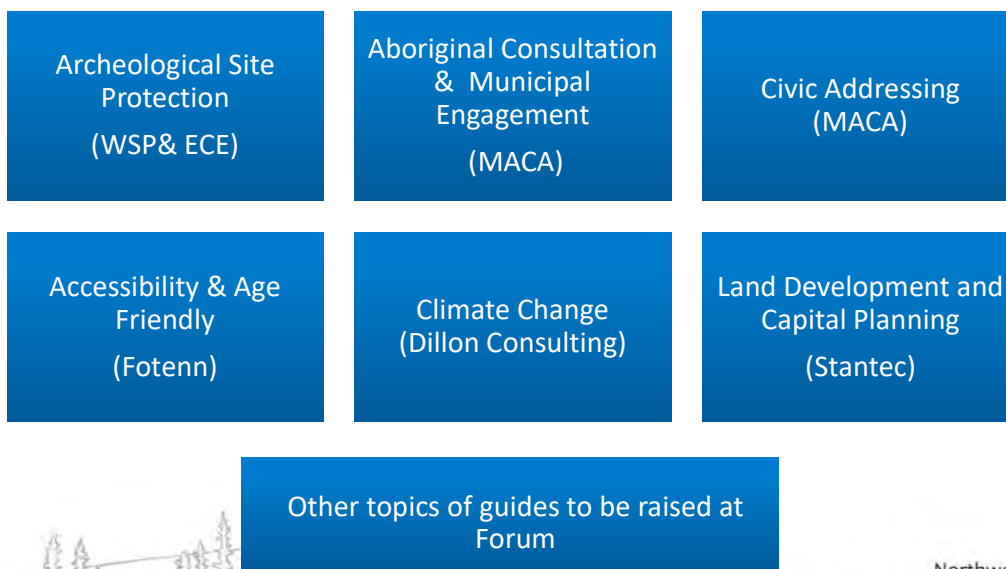
Community Planning Framework Visual Summary



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9

Series of Guides



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10

Charette – Key Elements/Priorities: Community Planning Framework (CPF) Document

1. What are the key elements/components of the CPF document? (e.g., Table of Contents)
2. What are the strategic themes/priorities that should be included in the CPF document?
3. What guides/resources would be helpful for supporting implementation of the CPF?