Porcupine Caribou Conservation Plan Update

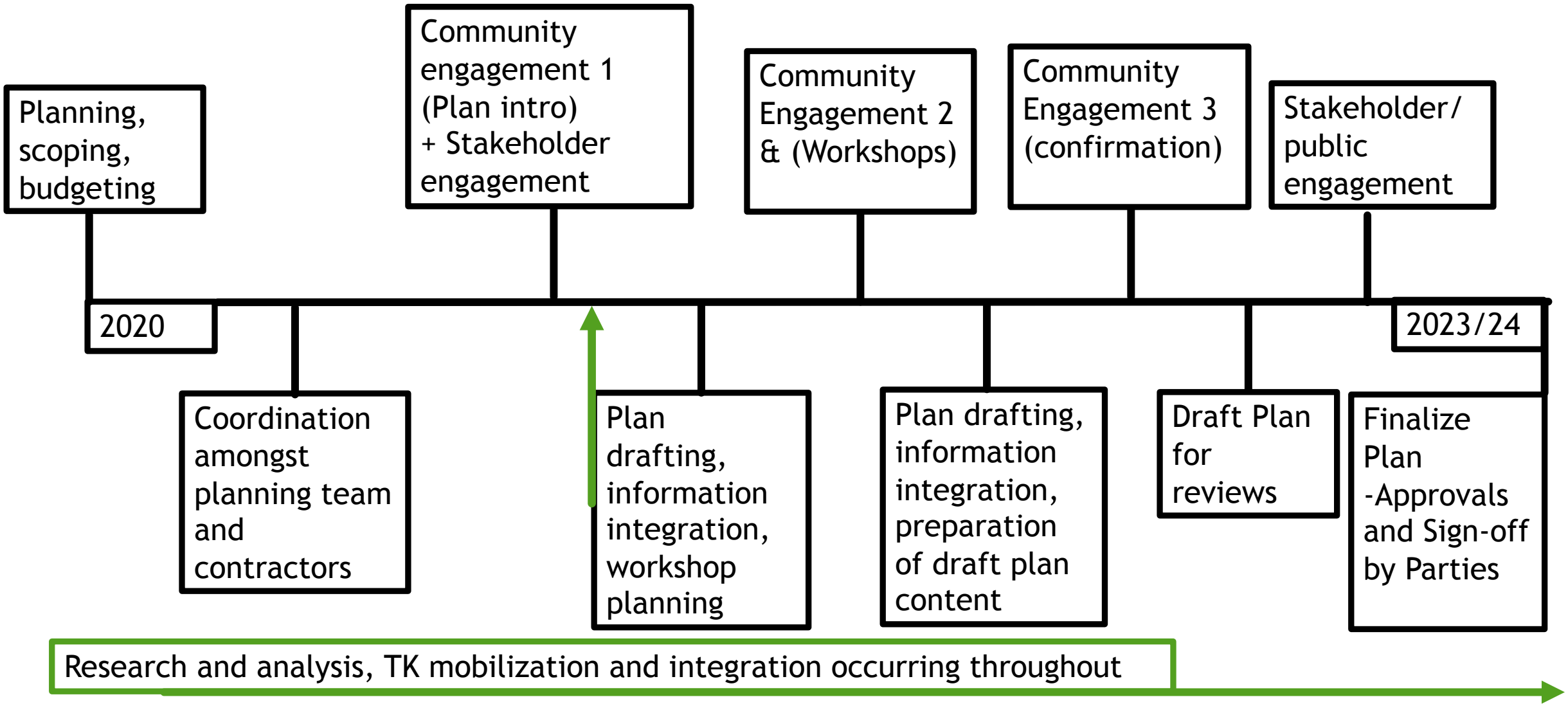
PCMB meeting, Feb 13, 2023

Dawson City, Yukon

Agenda

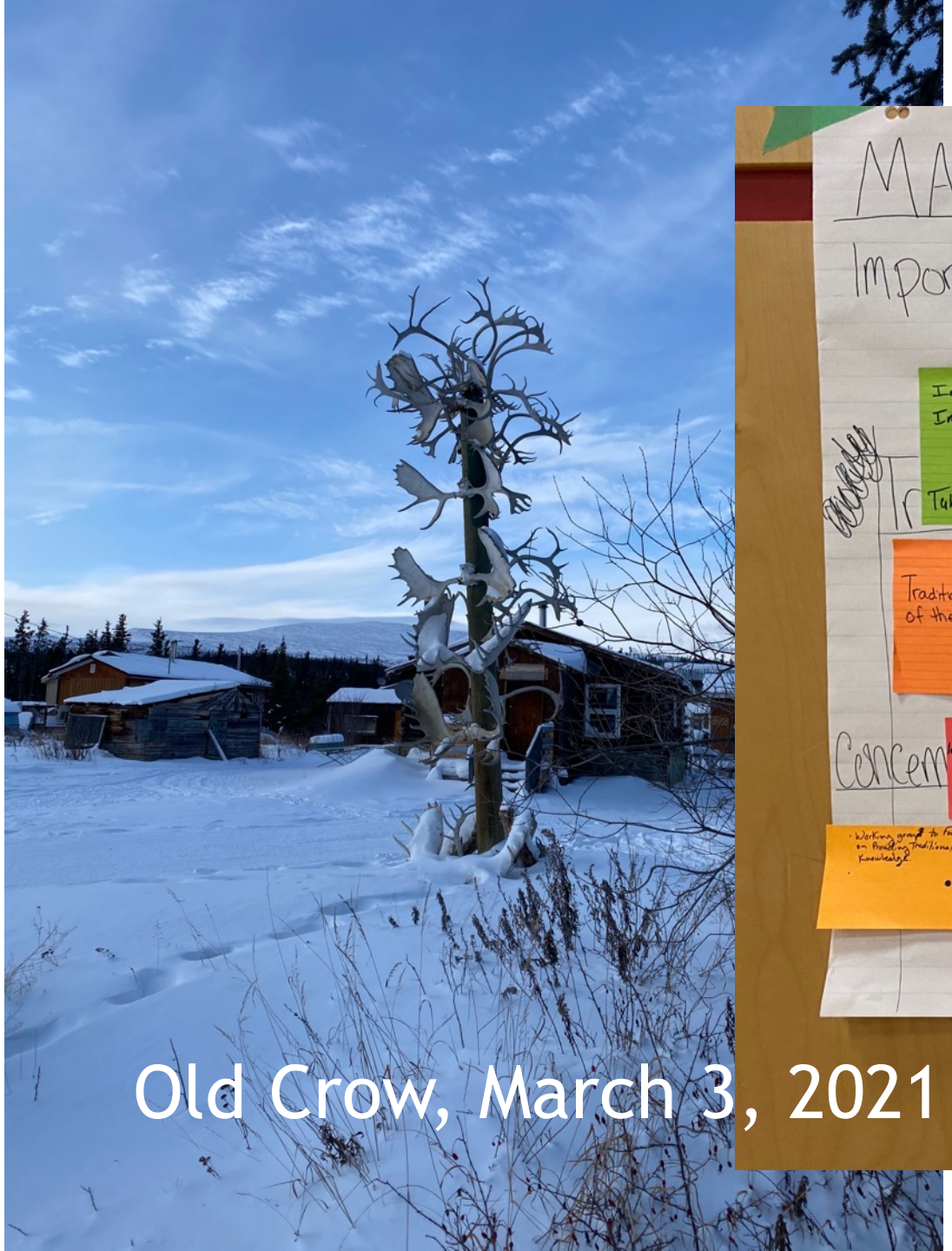
- Update on community engagement
- ‘Getting to Vision’ discussion
- TK data mobilization project update
- Preliminary results of GTC & WMAC analysis

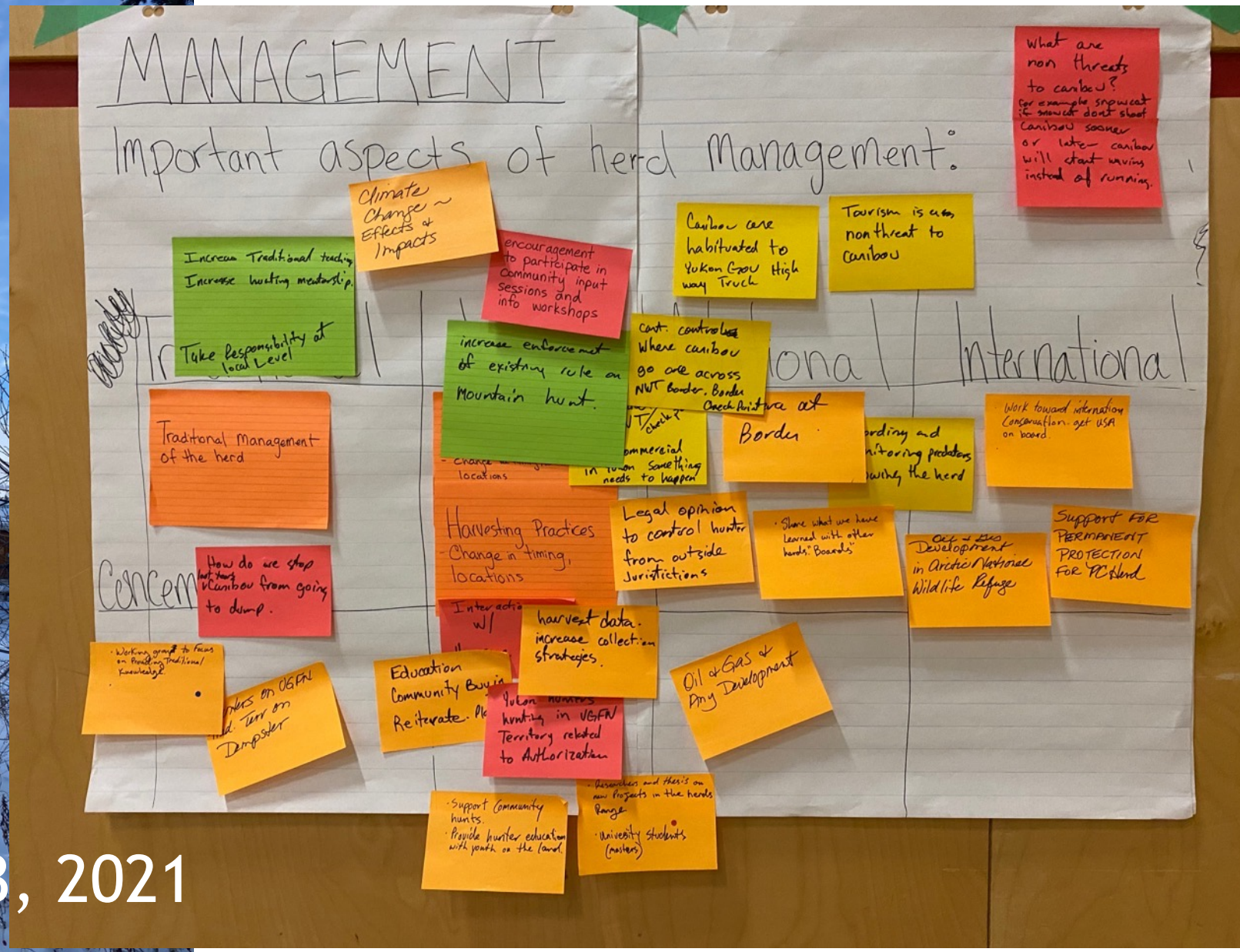
Conservation Plan Development



Community Engagement

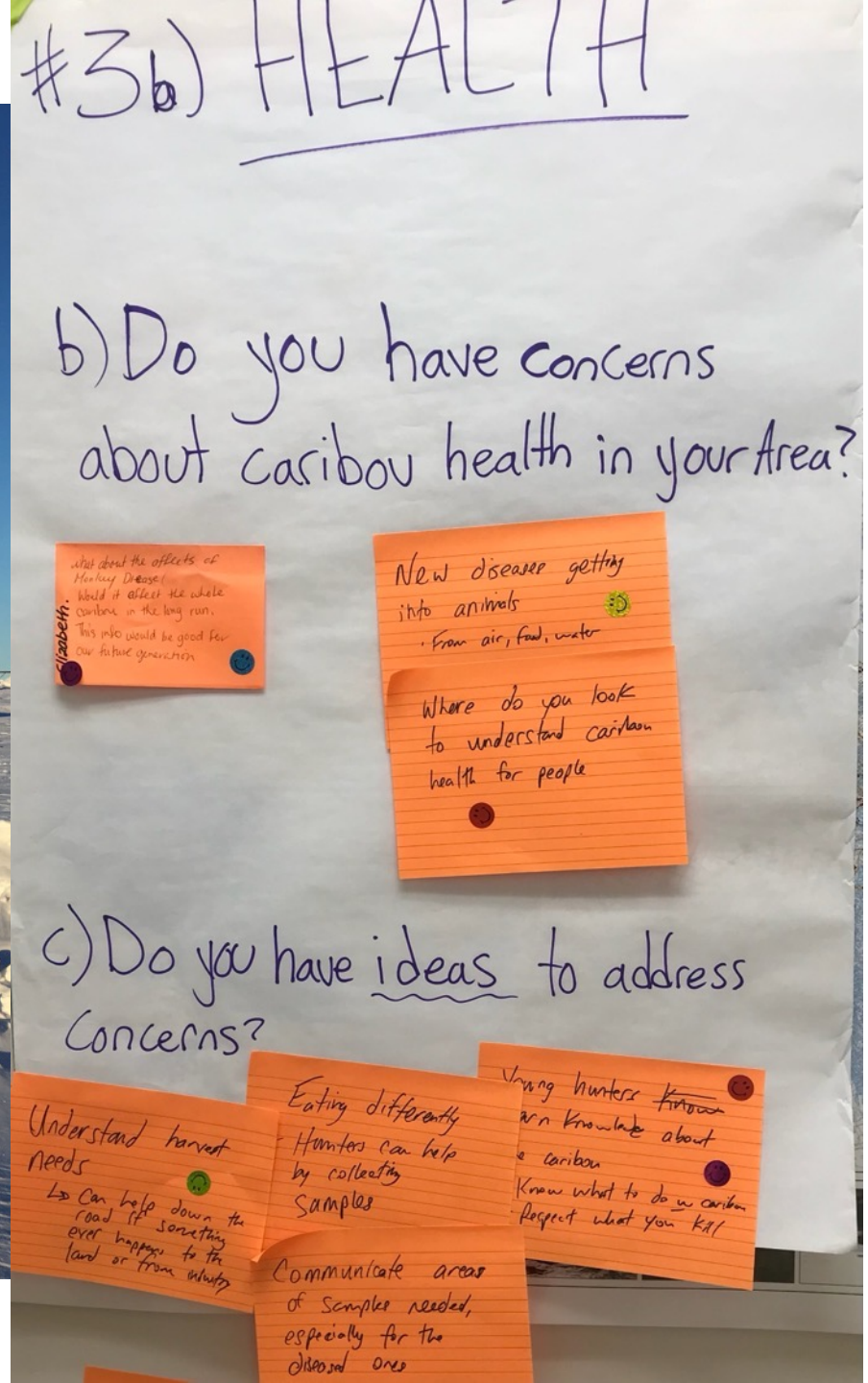
- Have completed 7 of 8 community engagement meetings with PCH user communities
- Kiosks deployed in 4 communities: Aklavik, Fort McPherson, Tsiigehtchic, and Dawson
- 13 Stakeholder Engagements





Old Crow, March 3, 2021

Aklavik, June 2022




Tuktoyaktuk, June 2022


Inuvik, June 2022

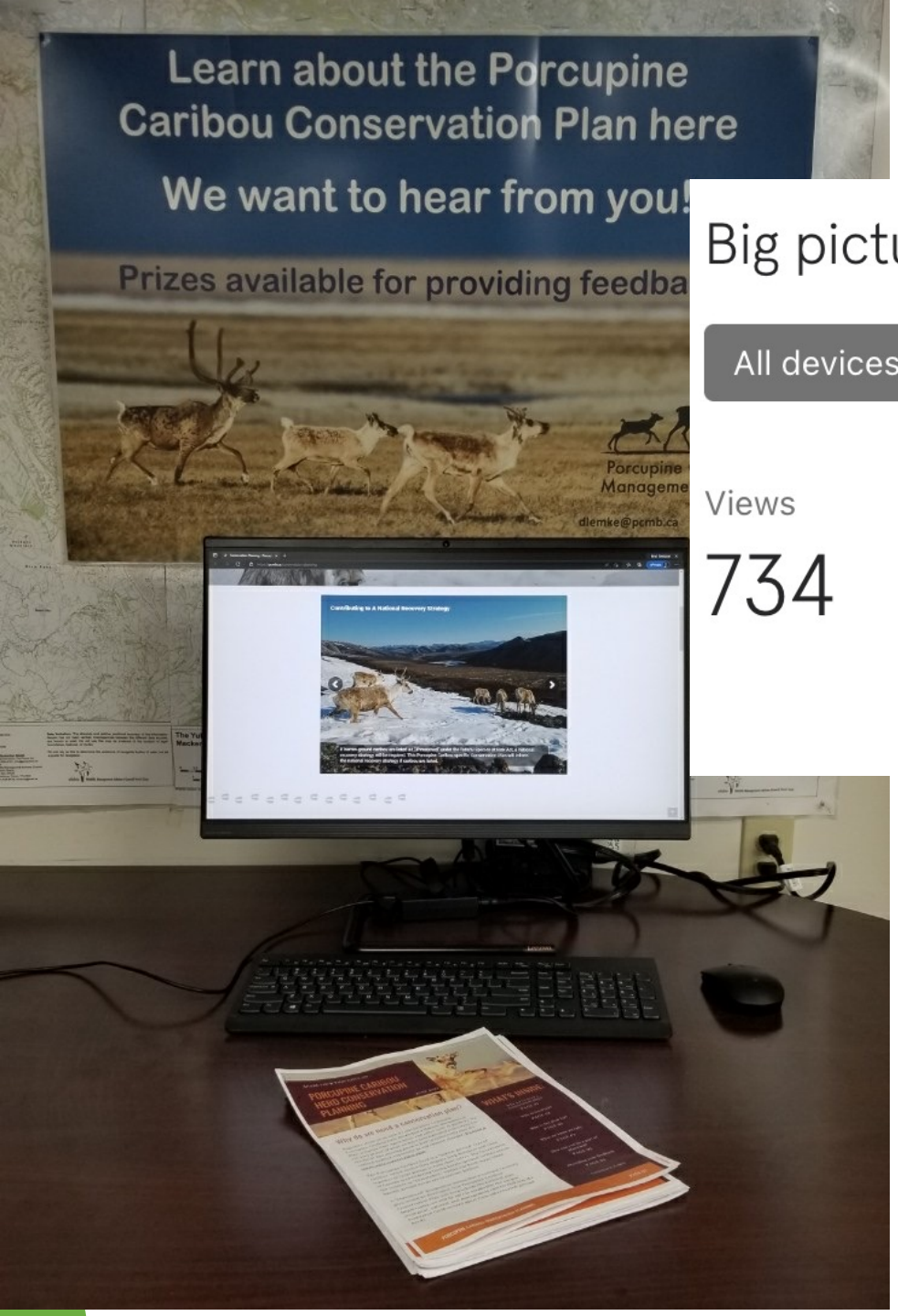

Tsiigehtchic, June 2022

Fort McPherson, June 2022


Dawson City, Nov 2022

- Mayo – May 2023?
- Whitehorse - TBD

Kiosk



Big picture

All devices | Desktop | Mobile | Tablet | Other

Views	Starts	Responses	Completion rate	Time to complete
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STEP 2 :
WIN A PRIZE

What community are you from?	What are your priorities for the Porcupine Caribou herd across the...	Do you have any concerns about the Porcupine Caribou herd across the...	Do you have solutions to the you've shared?
Whitehorse	Sustainable harvest	No	No
Fort McPherson	Protection and bans from being hunted with atv and four wheeler vehicles. These...	Yes, hunters wounding caribou and leaving them and how we need bans and/or...	Enforce rules on when you can vehicles off road, and place ba
Tsiigehtchic	education on proper harvesting	harvesting out of season	education
Tsiigehtchic	More patrols along the highways & borders.	more interaction with the Gwichin communities etc	just more communication with communities on doing patrols a
Tsiigehtchic	this is very important and vital for my people	yes i do and not only i have concerns	no
Tsiigehtchic	–	keep them safe	no
Aklavik	Stop wastage	Slumping and migration obstacles	Monitor routes use GIS mappin Google maps to mark slumping
Aklavik	a more accurate Harvest count from hunters, truck load sales to organizations i...	Only in Aklavik area.	That would be your Job.

Engagements to date and planned:

- Stakeholder/ Party updates:
  - Gwich'in Tribal Council– Sept 22nd
  - GRRB Board meeting – Sept 23rd
  - WMAC(NS)- Oct 28th
  - RRC AGM- Oct 5th
  - YFWMB- Oct 20th
  - IGC- Dec 2021
  - TH meeting- Feb 7th
  - GRRB- Feb 17th
  - Aklavik HTC – June 2022
  - Ehdiitat RRC- June 2022
  - Inuvik HTC- June 2022
  - Dawson RRC March 31, 2022
  - Mayo RRC- Feb 21, 2022

Next steps

- Finish initial engagements- all complete except Mayo, planned for May
- Compile all the feedback and themes from workshops, newsletter, and kiosks
  - Use this input to build out the themes in the CP
  - Plan for upcoming workshops based on feedback
  - Continue information gathering
  - Plan a working session with the PCMB as needed- Winter

Planned Board Sessions

Item	When	How
Plan Vision	after 1st round of community feedback	workshop this with the board
Goal/ Objective/Actions pyramid and plan structure	After 1st round of community feedback	Workshop with the board
Assessment tool option	Anytime	Discussion of options for the plan
Cumulative effects ??	Anytime	Discuss
Defining Goals and Objectives	After 1st round of community feedback + info gathering	Circulate, review and workshop

Upcoming Community workshops

Item	When
Community values	Workshop 1
Community priorities + concerns	Workshop 1
TK info review + advise	With Trailmark
Science and TK integration	Workshop 2
Goals and objectives discussion	Workshop 2 + 3
Threats discussion	Workshop 2
Actions and recommendations	Workshop 2 + 3
Reviews	

Item	When	How
Defining threats	After 1st round of community feedback + info gathering	Circulate, review and workshop
Critical habitat	After 1st round of community feedback + info gathering	Workshop and discuss
Defining actions and recommendations	After 2nd round of community feedback + info gathering + integration	Circulate, review and workshop
Science and TK integration	After community review of reports and outputs	Discussion

Section 5- Community Connection

Description

PCH are communities are interconnected and PCH support community health.

Goal

- Communities have access to PCH

Objective

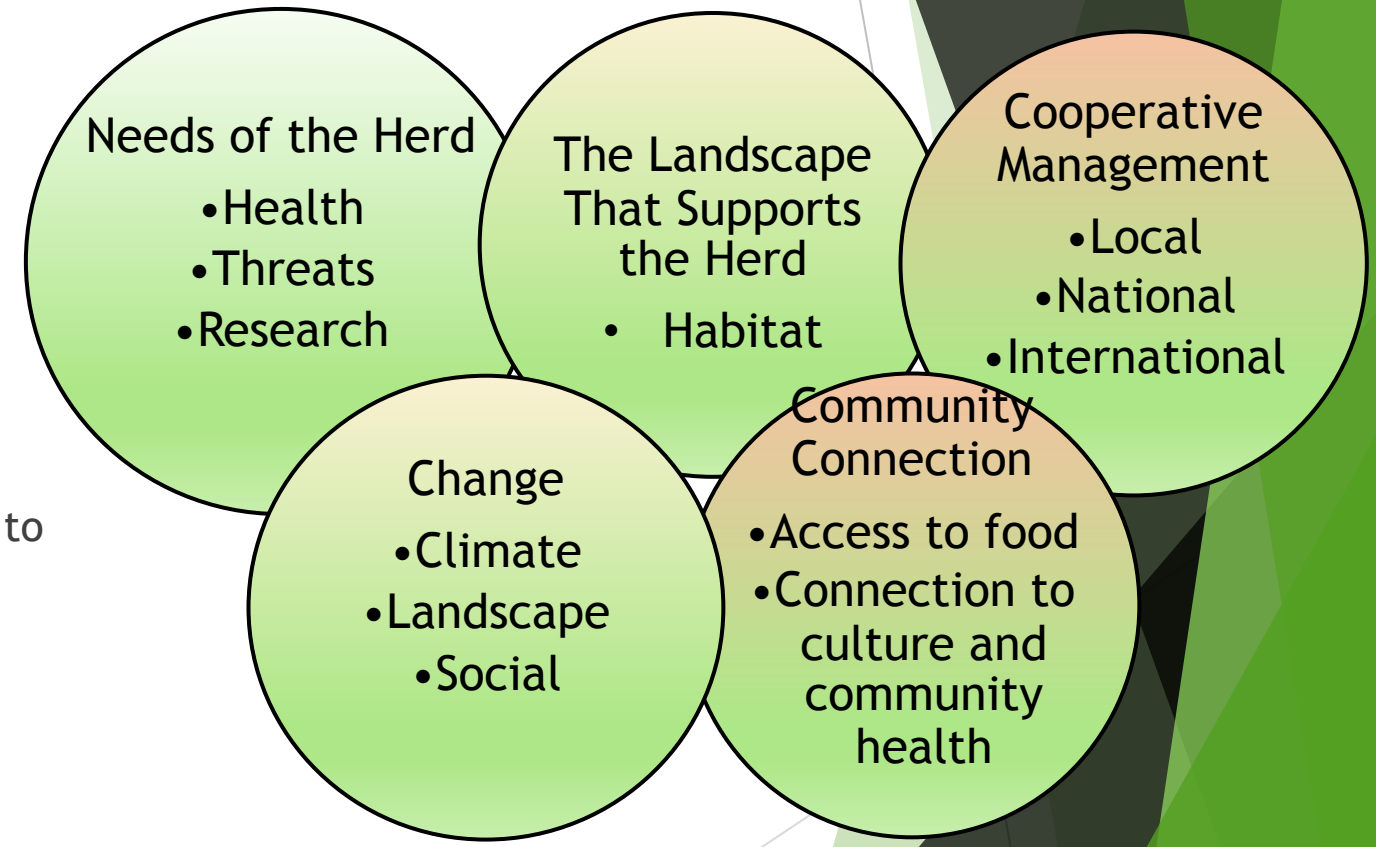
- Barriers to access are prevented where possible

Threats

- Lack of ability to predict traveling conditions due to climate change
- cost of gas and materials

Management action

- Inform people about incentive programs to get on the land
- Maintain incentive programs
- Discuss sharing options in communities and between communities



Getting to Vision
How will we use this plan?

How the plan will be used?	Plan elements necessary
Providing advice for environmental assessments	Thresholds defined for development or land use. These may be based on: zones, percentages, critical habitat, and informed by climate change, levels of vulnerability and existing plans.
Understanding caribou use of landscape over time	Maps and description of known historical use and forecasting of future use. Informed by satellite collars, Indigenous Knowledge, veg work, climate models.
Measures of caribou health	Matrix of health indices including body condition, birth rates, contaminant and disease monitoring.
Measures of habitat health for caribou across range	Indices of healthy habitat for caribou across the range. Informed by vegetation work, caribou diet analysis, fire, flood, permafrost forecasting

How plan will be used?	Activity in plan
Range based priorities	Priorities set across the range
Support coordination and information exchange amongst communities and management authorities across the range	Strategies that support information exchange and sharing.
Knowledge maintenance to support decisions	Maintain and build on the existing knowledge base. Maintain appropriate access to information by Parties and long term data management and storage.

Plan pyramid

Elements of vision that are important

- Protect caribou
- Long term persistence of caribou
- Health of caribou
- Abundance of caribou
- Access of caribou to its full range
- Health of the range
- Foster and maintain connection of people to caribou
- Maintain connection of people to caribou places
- Maintain knowledge base from Indigenous Knowledge and science

Traditional Knowledge Data-Mobilization Project Update

Project Steps

- 1. Look at what already exists within each Party's governments
- 2. Figure out how to access that information in a coordinated way
- 3. Develop data sharing protocols that respect data ownership and clarify use
- 4. Create products that combine ALL user data in a meaningful way
- 5. Identify gaps that still need to be filled

Where we are at…

- 1. Look at what already exists within each Party's government

  DONE (Feb/March 2019)

- 2. Figure out how to access that information in a coordinated way

  DONE (April /May 2019)

- 3. Develop meaningful and respectful data sharing protocols

  DONE (GTC, YG, VGFN, WMAC/IGC)

- 4. Upload and organize each Party's relevant data

  DONE (2020-2021)

- 5. Complete a test case of the primary data to understand outputs.

  DONE with preliminary GTC data (August 2021). Currently working on understanding the outputs of the data and how they can be used. Outputs to be reviewed by GTC.

Next Steps…

- 6. Analyze data and review with Parties. Trailmark will develop summary reports and present them back to Parties and knowledge holders through workshops.

  Target May 2023

- 7. Identify further questions, or gaps that still need to be filled.

  Target May 2023

- 8. Integrate the TK data into the Conservation Plan. The Conservation Plan team will work with Trailmark to query the database for information for the conservation plan.

  Target Fall 2023

GTC and WMAC preliminary analysis done

Table 1: Table showing availability and unverified interpretations of TK relevant to the PCMB's research themes

PCMB Theme	PCMB Sub-theme	Documented TK?	Unverified Interpretation of Available TK	Section / Page
Determine Sensitive and Critical Habitat Areas	The importance of specific seasons	Yes	We interpret the available TK to provide: • Insights into aspects of critical and preferred habitat for winter, spring, fall and summer. • Descriptions of aspects of the critical habitat that characterizes caribou calving grounds.	Section 1 Page 27
	Seasonal range locations through time	No		
Habitat Management and Forage Conditions	How changing habitat is affecting the herd (e.g., forest fires)	Yes	Coded and reported under: • Climate Change: Changes in Habitat and its Impacts, pg 37. • Interactions with Other Species: Muskox, Impacts to Caribou Habitat, pg 56.	Section 2 Page 34
	The quality and quantity of forage	No		
Climate Change	Insect and parasite abundance	Yes	Warmer weather is causing increased insect abundance with negative impacts to caribou health.	Section 3
	Changes in weather and its impacts	Yes	Changes in weather are causing changes to caribou migration routes and timing, health, and calving.	

Topic	Stickers	
Determine Sensitive and Critical Habitat Areas	8	4
• The importance of specific seasons		
• Seasonal range locations through time		
Habitat Management and Forage Conditions	7	13
• How changing habitat is effecting the herd (e.g. forest fires)		2
• The overall quality and quantity of forage		
Climate Change	1	7
• Insect and parasite abundance	1	1
• Changes in weather and its impacts		
• Changes in habitat and its impacts	2	
• Changes in vegetation and its impacts • Shrubification		
• Changes in abnormalities and their impacts	1	1
1. Changes in caribou availability	11	10

Excerpt from "Qualitative Analysis of Documented Traditional Knowledge Shared by Wildlife Management Advisory Council (North Slope) for the *PCMB Caribou TK Mobilization Project*"

PCMB Sub-theme: Insect and Parasite Abundance

The research team identified 7 references to caribou interactions with mosquitoes and/or bugs within the available TK. These references appear to indicate that the abundance of mosquitoes plays a key role in determining caribou movements because caribou will move away from mosquitoes, seeking out windier areas where "bugs" are less abundant.

Sample References:

> When there's a lot of mosquitoes too, they try to get away from the mosquitoes. They always go around the shore. Sometimes you just see caribou just galloping when you're just boating sometimes, ah. That's on account of mosquitos. (UID 7, 2009)

> When you get a hot summer you'll get caribou that are skinny, like running from so much mosquitoes and all that. […] The more mosquitoes we have in a hot summer, you know, they've got to run a lot and go in high places where the wind is. And then that's… when it rains and cold weather, then we have good shape caribou and good shape moose. (UID 28, 2016)

Areas where there is no documented TK in the WMAC and GTC datasets

Seasonal range locations through time	Historical Population Numbers and Fluctuations of the Herd
Predator Distribution	Sustained harvest throughout the year/season rather than one heavy harvest
Mortality of prey	Meshing TK with Scientific Knowledge
Flooding	Modernize Traditional Hunting Practices
Fire Management	Rifle selection/use
Cumulative Effects	Timing of new mushrooms/plants
Changes in abnormalities and their impacts	Increased “linear” disturbance -> more predator success
Dry years and hot years	The quality and quantity of forage

Comments from PCMB

- Any comments on preliminary information
- Areas to highlight or learn more for verification

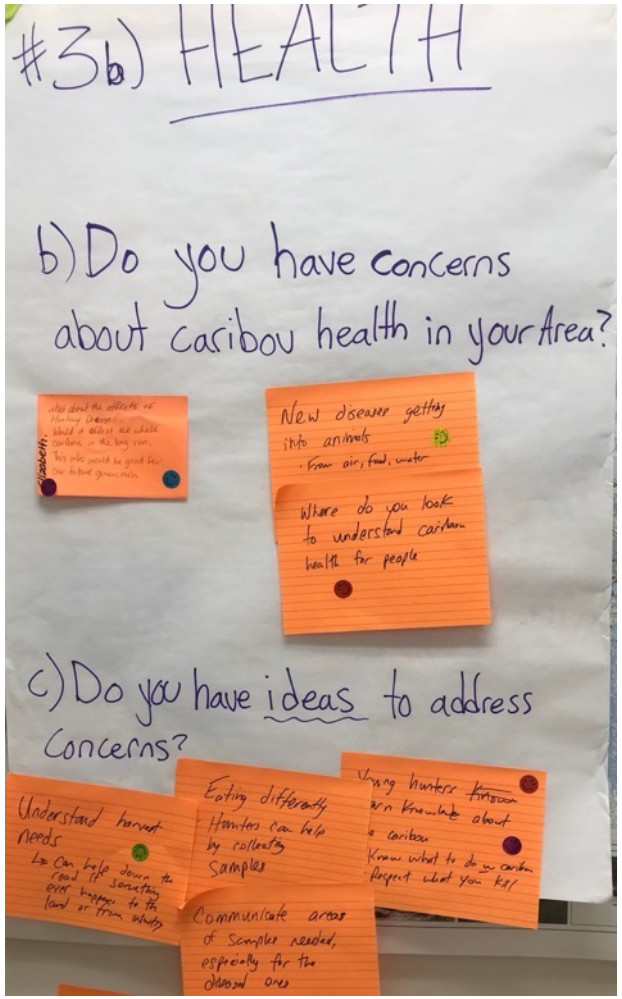
Trailmark verification workshops

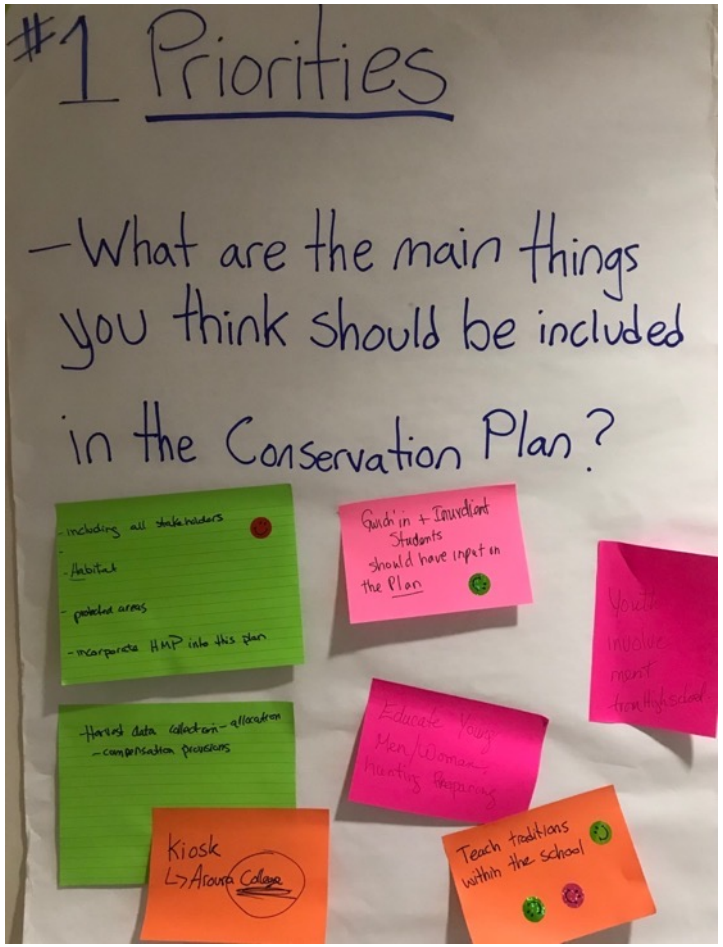
- Verification of Trailmark interpretations with GTC data
  - Fort McPherson, possibly other communities, May 2023
- Verification of Trailmark interpretations with WMAC data
  - Aklavik and possibly other communities, May 2023
- VGFN data analysis underway, possibly verification in May 2023
- PCMB questions/ areas of interest

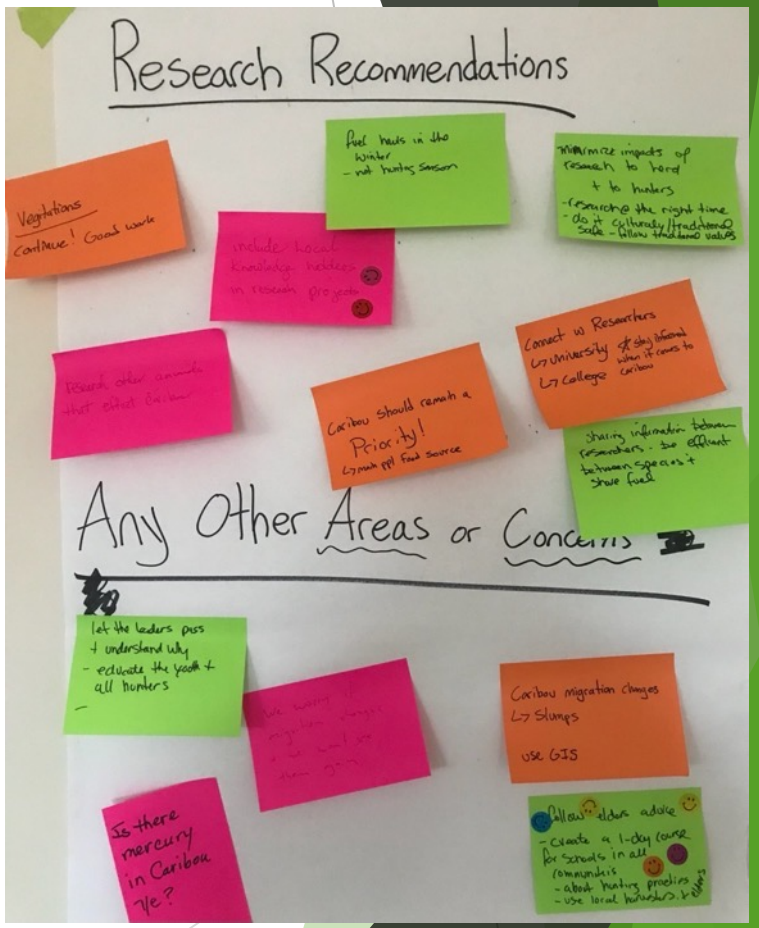
What do we want to know? The key question areas:

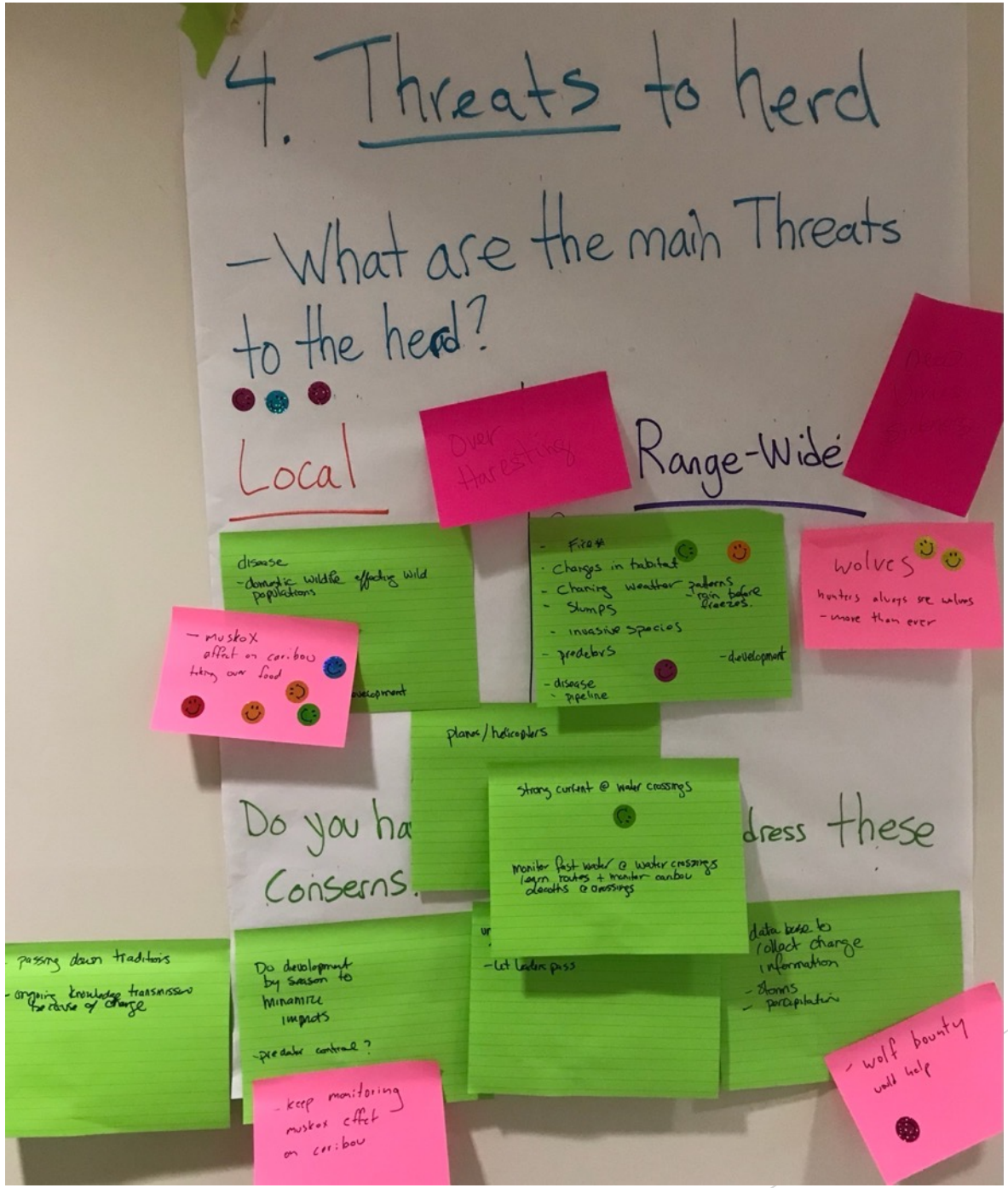
- Changes in habitat and the types of food available for caribou
- Changes in herd range and movements (including migration patterns)
- Changes in local herd management

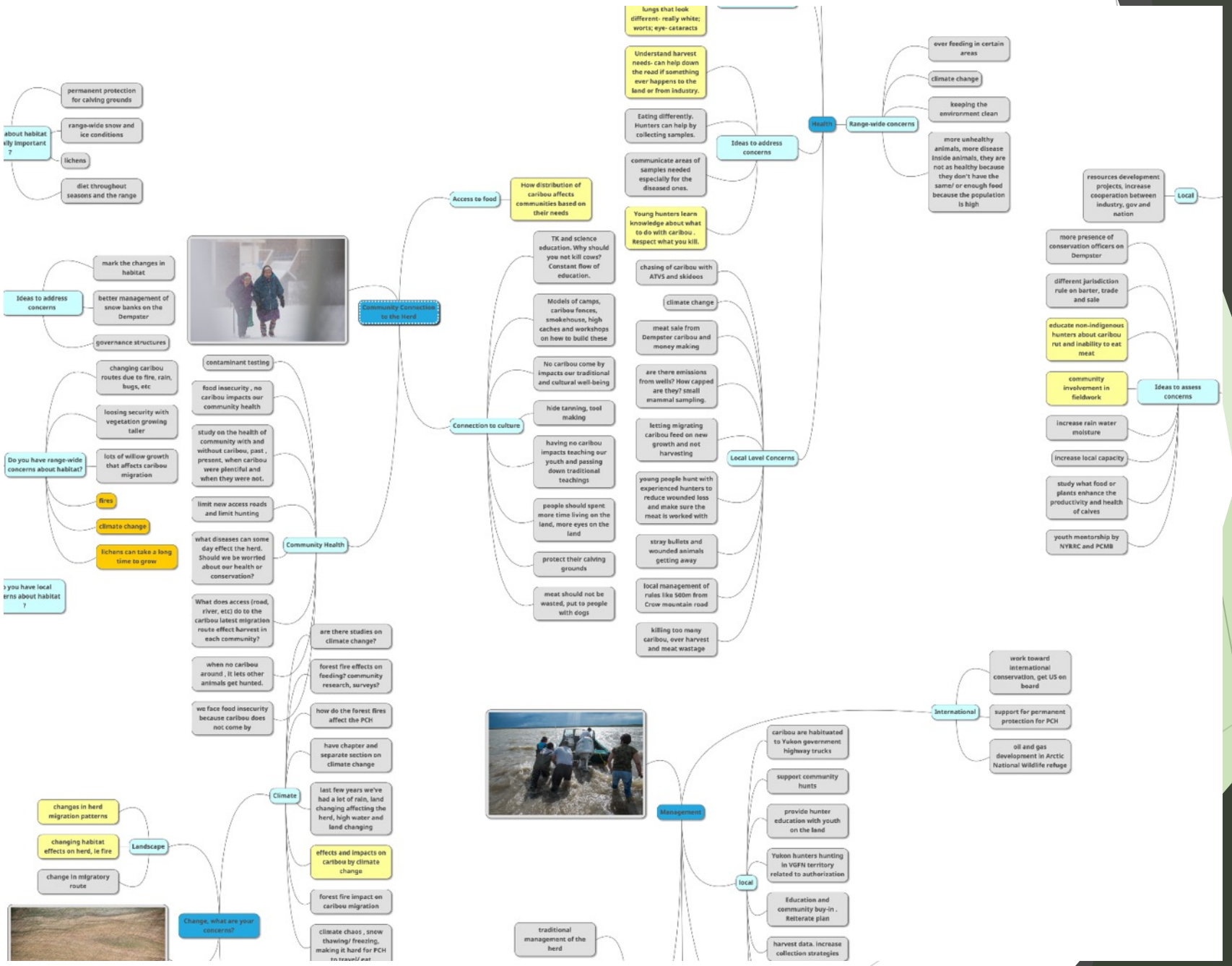
Results from community input








4. Threats to herd
– What are the main Threats to the herd?
Local
Range-Wide
Over Harvesting
disease
- domestic wildlife effecting wild populations
- Fire*
- Changes in habitat
- Changing weather patterns - rain before freezes.
- Slumps
- invasive species
- predators
- development
- disease
- pipeline
wolves
hunters always see wolves
- more than ever
- muskox effect on caribou taking our food
planes / helicopters
strong current @ water crossings
monitor fast water @ water crossings
learn routes + monitor caribou deaths @ crossings
Do you ha
dress these
Conserns.
passing down traditions
- ongoing knowledge transmission because of change
Do development by season to minimize impacts
-predator control?
-let leaders pass
data base to collect change information
- storms
- precipitation
- keep monitoring muskox effect on caribou
- wolf bounty would help


permanent protection for calving grounds
range-wide snow and ice conditions
lichens
diet throughout seasons and the range
mark the changes in habitat
better management of snow banks on the Dempster
governance structures
changing caribou routes due to fire, rain, bugs, etc
loosing security with vegetation growing taller
lots of willow growth that affects caribou migration
fires
climate change
lichens can take a long time to grow
Community Connection to the Herd
Access to food
How distribution of caribou affects communities based on their needs
Connection to culture
TK and science education. Why should you not kill cows? Constant flow of education.
Models of camps, caribou fences, smokehouse, high caches and workshops on how to build these
No caribou come by impacts our traditional and cultural well-being
hide tanning, tool making
having no caribou impacts teaching our youth and passing down traditional teachings
people should spent more time living on the land, more eyes on the land
protect their calving grounds
meat should not be wasted, put to people with dogs
Community Health
contaminant testing
food insecurity , no caribou impacts our community health
study on the health of community with and without caribou, past , present, when caribou were plentiful and when they were not.
limit new access roads and limit hunting
what diseases can some day effect the herd. Should we be worried about our health or conservation?
What does access (road, river, etc) do to the caribou latest migration route effect harvest in each community?
when no caribou around , it lets other animals get hunted.
we face food insecurity because caribou does not come by
Climate
are there studies on climate change?
forest fire effects on feeding? community research, surveys?
how do the forest fires affect the PCH
have chapter and separate section on climate change
last few years we've had a lot of rain, land changing affecting the herd, high water and land changing
effects and impacts on caribou by climate change
forest fire impact on caribou migration
climate chaos , snow thawing/ freezing, making it hard for PCH to travel/ eat
Landscape
changes in herd migration patterns
changing habitat effects on herd, ie fire
change in migratory route
Change, what are your concerns?
Health
Range-wide concerns
over feeding in certain areas
climate change
keeping the environment clean
more unhealthy animals, more disease inside animals, they are not as healthy because they don't have the same/ or enough food because the population is high
Ideas to address concerns
Understand harvest needs- can help down the road if something ever happens to the land or from industry.
Eating differently. Hunters can help by collecting samples.
communicate areas of samples needed especially for the diseased ones.
Young hunters learn knowledge about what to do with caribou . Respect what you kill.
Local Level Concerns
chasing of caribou with ATVS and skidoos
climate change
meat sale from Dempster caribou and money making
are there emissions from wells? How capped are they? small mammal sampling.
letting migrating caribou feed on new growth and not harvesting
young people hunt with experienced hunters to reduce wounded loss and make sure the meat is worked with
stray bullets and wounded animals getting away
local management of rules like 500m from Crow mountain road
killing too many caribou, over harvest and meat wastage
Ideas to assess concerns
Local
resources development projects, increase cooperation between industry, gov and nation
more presence of conservation officers on Dempster
different jurisdiction rule on barter, trade and sale
educate non-indigenous hunters about caribou rut and inability to eat meat
community involvement in fieldwork
increase rain water moisture
increase local capacity
study what food or plants enhance the productivity and health of calves
youth mentorship by NYRRC and PCMB
Management
International
work toward international conservation, get US on board
support for permanent protection for PCH
oil and gas development in Arctic National Wildlife refuge
local
caribou are habituated to Yukon government highway trucks
support community hunts
provide hunter education with youth on the land
Yukon hunters hunting in VGFN territory related to authorization
Education and community buy-in . Reiterate plan
harvest data. increase collection strategies
traditional management of the herd

General Feedback from discussions

- We are on the right track
- Harvest Management Plan and Native User Agreement related questions and feedback
- Combined educational efforts
- Good feedback on landscape related questions
- How to manage for “worst- case” scenario contemplations for the herd

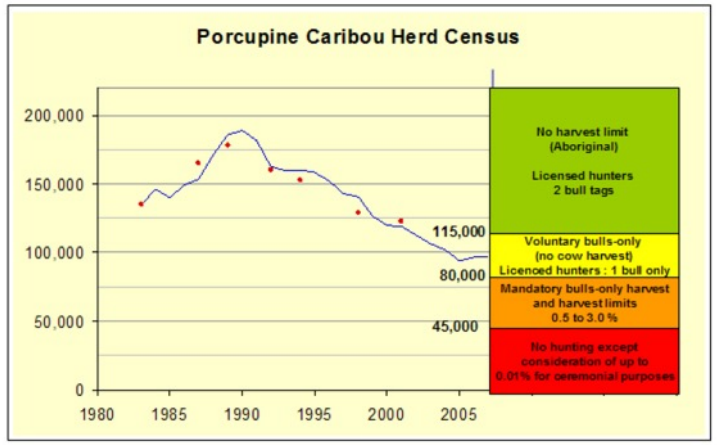
Summary of feedback from discussion

- Climate change and effect on migration patterns
- Questions about other causes of migration changes
- Climate change effects on vegetation
- Concerns about possible contaminants and whether cancer rates are connected to caribou consumption.
- Collaborative management of Dempster Highway harvesting practices is a big topic. (Inuvialuit and Gwich'in cooperation needed).
- Education needed so that young people know how to harvest appropriately (when, where, how).

- Concerns and questions about muskox effect on caribou
- Increasing number of wolves is a concern
- Questions about what caused the decline in BGC in eastern Canada
- Fires and the after effect on vegetation is a concern
- Concerns about disease affecting the herd (ticks and other diseases) in the future. Interesting quote about this: “The CP needs to consider a catastrophic, worst-case scenario”.
- Questions about PCH mixing with other herds
- Concerns and questions about PCH not being lumped in with BGC in general

Examples

Harvest Management Colour Chart



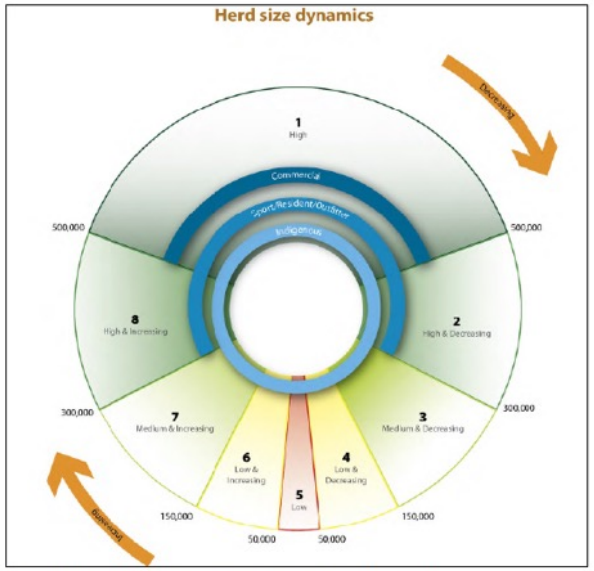


Figure 4: Caribou wheel of abundance with relative abundance, thresholds, and trend

Amount of Disturbance	Status of Range	Management Tools and Response Level
High	**High Risk**	**INTENSIVE MANAGEMENT RESPONSE** Land activities resulting in new disturbance are advised only when active disturbances are minimized, removed or reclaimed such that total disturbance remains below the high-risk threshold.
Moderate	**Cautionary**	**ENHANCED MANAGEMENT RESPONSE (in addition to all recommendations in the BASIC level)** **Increased requirements for:** • **Road Planning / Management** – consider enhanced traffic management and design features. • **Offsetting / Compensatory Mechanisms** - habitat offsets at higher ratio and/or compensatory mechanisms (e.g. financial and in-kind contributions to science and TK research and monitoring, guardianship programs).
Low	**Desirable**	**BASIC MANAGEMENT RESPONSE** **Community Guardianship** – support Indigenous communities to watch (monitor) caribou and habitat conditions and support education regarding respectful harvest practice. **Habitat Conservation** – use legislation to protect the most important habitat areas: water crossings, land bridges, calving areas/post-calving. **Mobile Caribou Conservation Measures** – for land use activities that occur within the centre of habitation, implement Mobile Caribou Conservation Measures (i.e., restrict non-essential project activities when caribou are present) and associated monitoring, compliance and enforcement. **Road Planning / Management** – manage routing, timing of construction, design, and consolidation of routes across all users. **Offsetting / Compensatory Mechanisms** – counteract, or make up for, residual impacts on caribou considering: • **Habitat Offsets** – at a minimum 1:1 ratio (restoration, enhancement, preservation) (include legacy land disturbance); and/or • **Compensatory Mechanisms** – if offsets are not feasible, use financial and in-kind contributions to science and TK research and monitoring, community guardianship programs. **Wildfire and Fuels Management** – identify large patches of undisturbed winter range annually for the GNWT wildfire Values at Risk database that is used to prioritize wildfire response. **Online Map Staking** – use online staking to reduce the potential for caribou disturbance during the early phases of mineral exploration and thus increase caribou well-being through respectful practices.