

Porcupine Caribou Herd



SUMMARY OF INDICATORS

2023

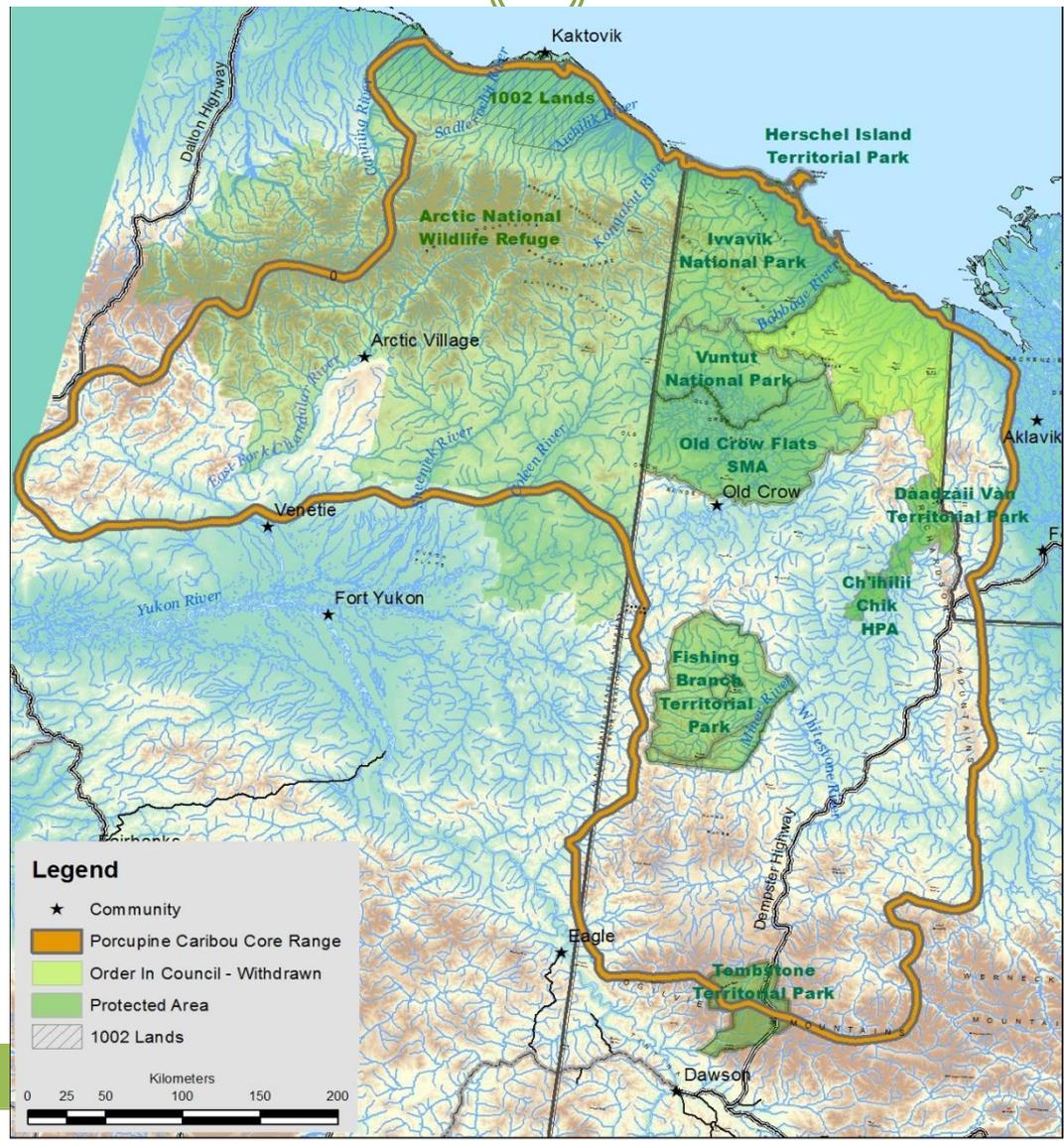
Presentation to:

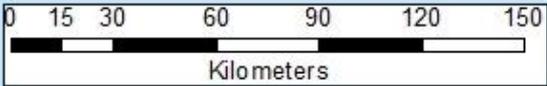
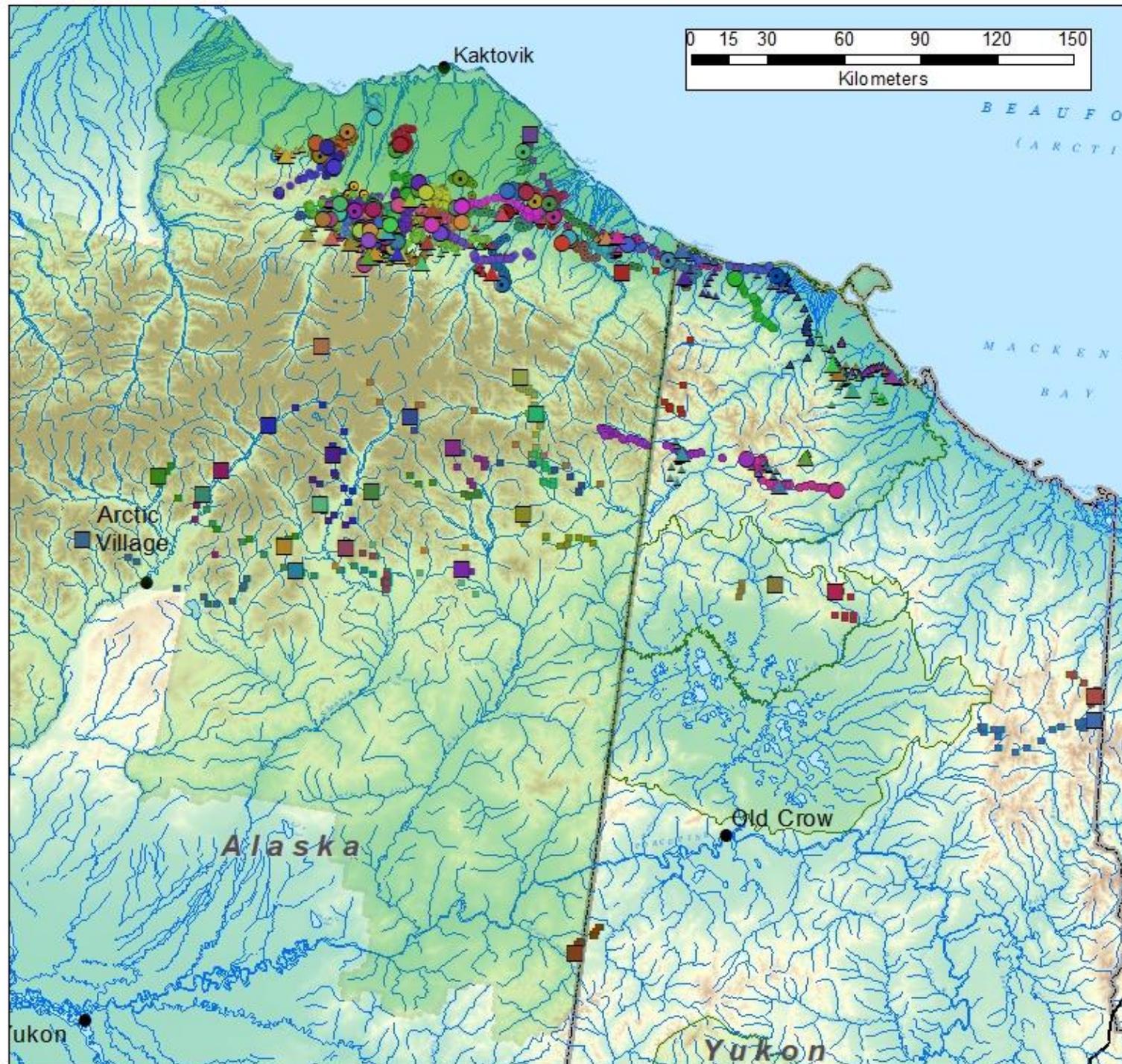
Annual Harvest Meeting

February 14-15 2023

By: Porcupine Caribou Technical Committee

Range of Porcupine Caribou Herd





Porcupine Caribou Satellite Collar Locations

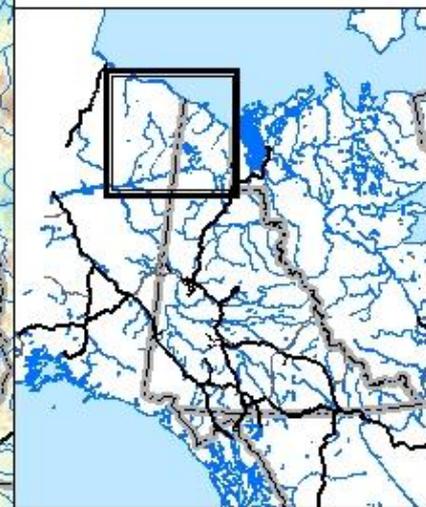
May 26 to June 3, 2021

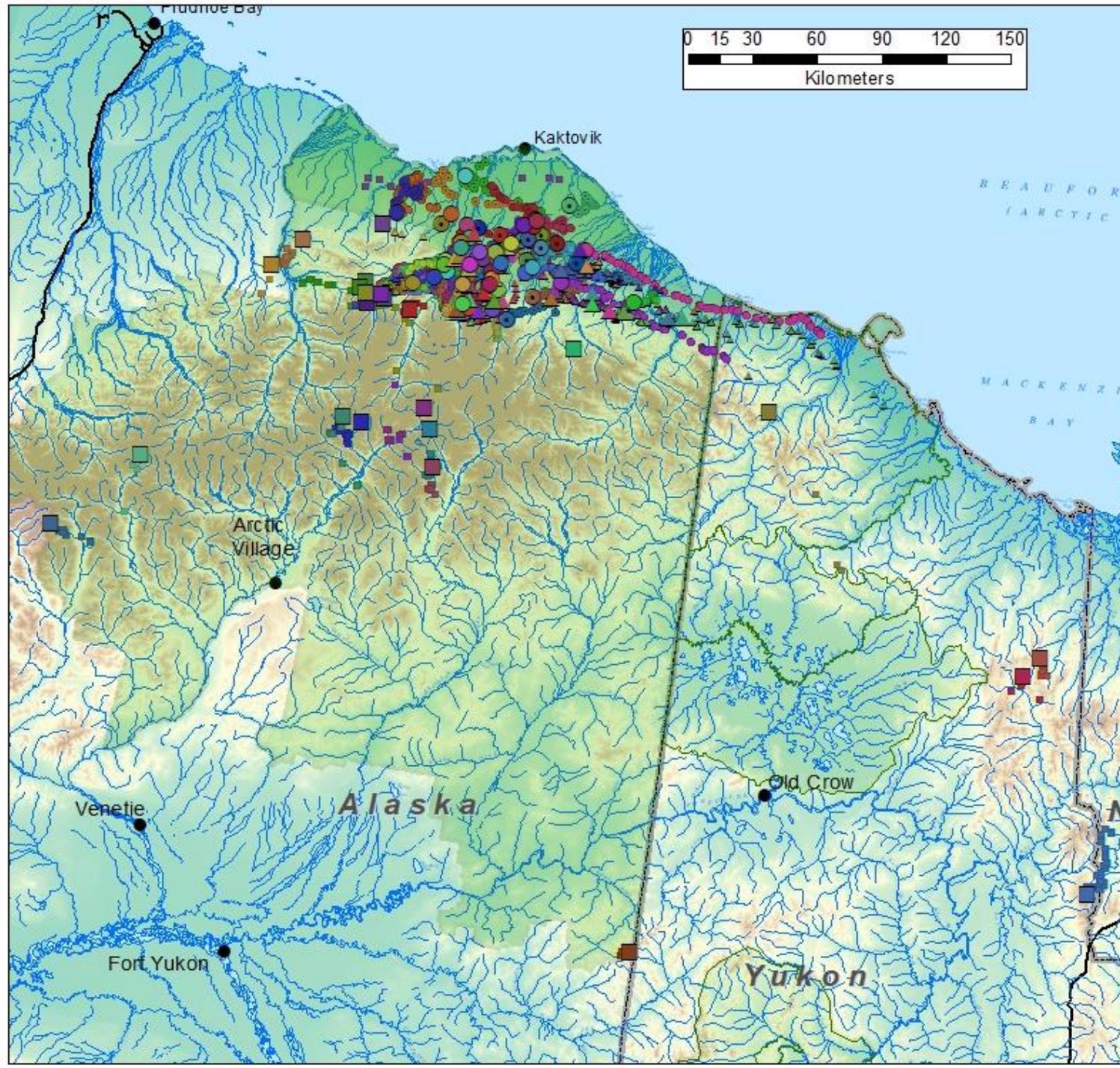


Yukon-Albers Projection, NAD83

PCH Sat Collars (132)

- Adult Cows (48)
- ⊙ Camera Collars (25)
- △ Yearling and 2 YO Cows (34)
- Bulls (25)





Porcupine Caribou Satellite Collar Locations

June 10 to 17, 2021

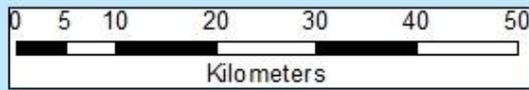
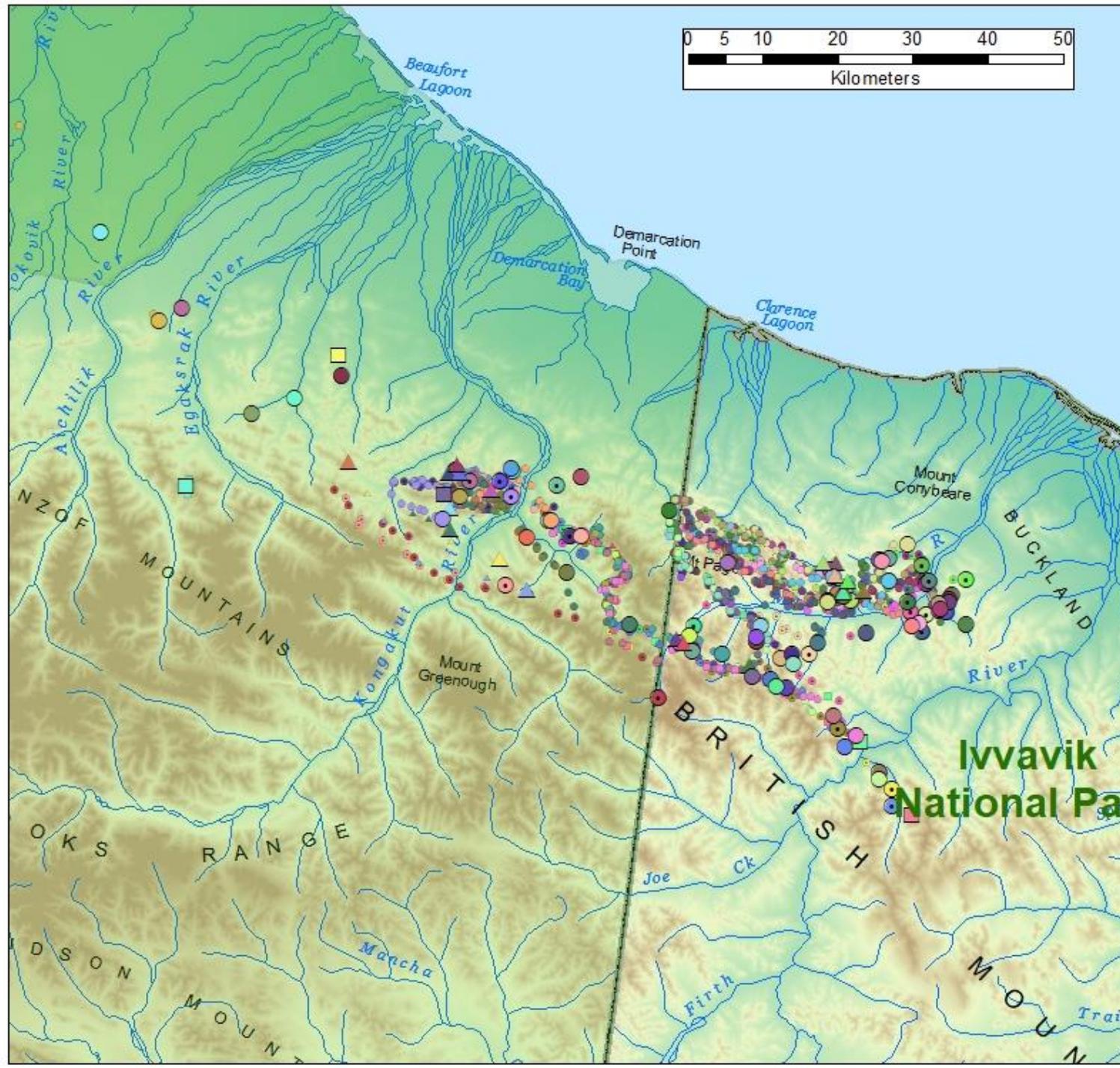


Yukon Albers Projection, NAD83

PCH Sat Collars (132)

- Adult Cows (48)
- ⊙ Camera Collars (25)
- △ Yearling and 2 YO Cows (34)
- Bulls (25)





Porcupine Caribou Satellite Collar Locations

June 28 to 30, 2021

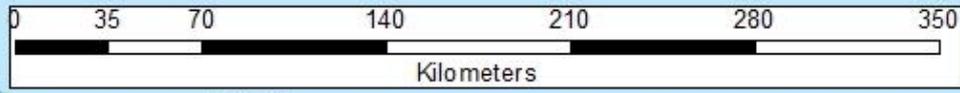


Yukon Albers Projection, NAD83

PCH Sat Collars (136)

- Adult Cows (50)
- ⊙ Camera Collars (26)
- △ Yearling and 2 YO Cows (34)
- Bulls (26)





Porcupine Caribou Satellite Collar Locations

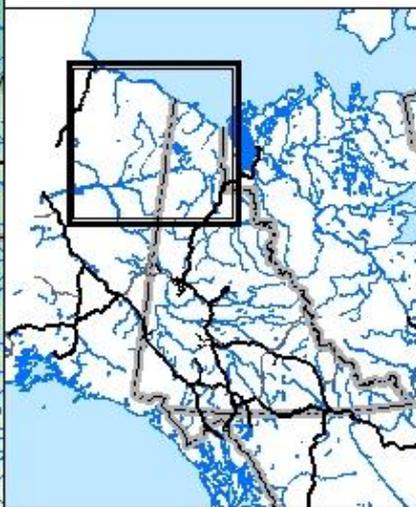
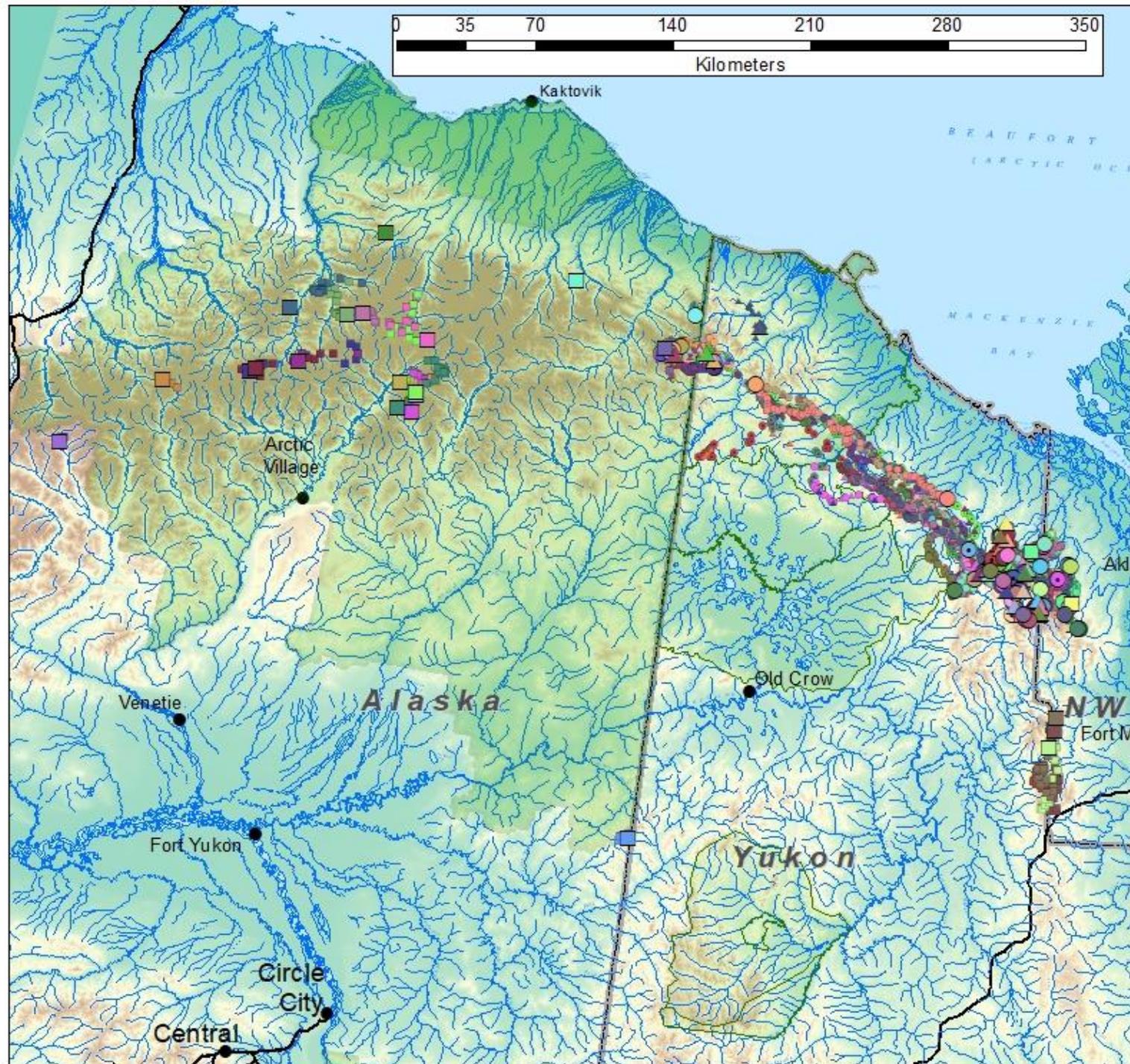
July 12 to 19, 2021

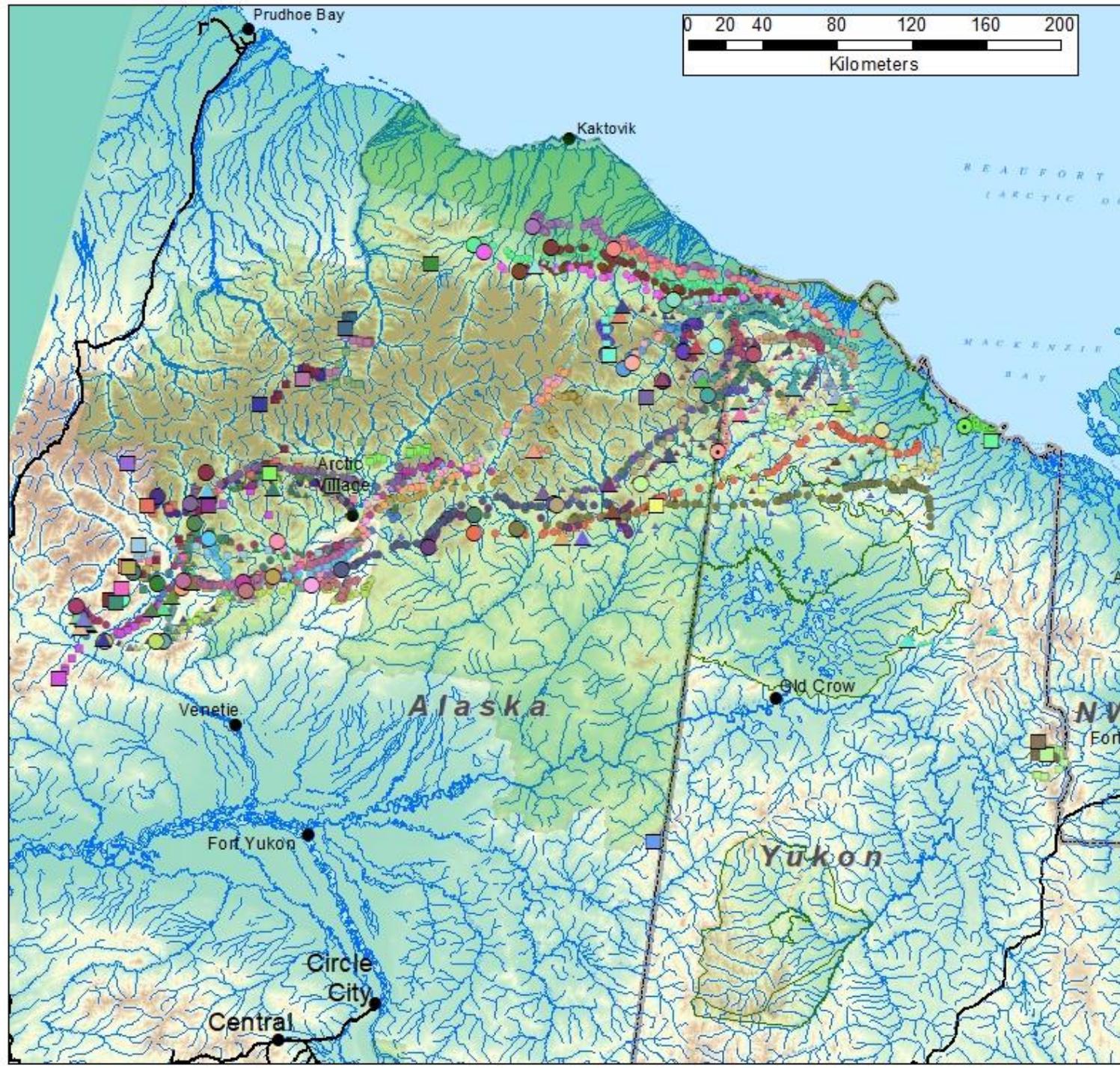


Yukon Albers Projection, NAD83

PCH Sat Collars (132)

- Adult Cows (48)
- ⊙ Camera Collars (25)
- △ Yearling and 2 YO Cows (34)
- Bulls (25)





Porcupine Caribou Satellite Collar Locations

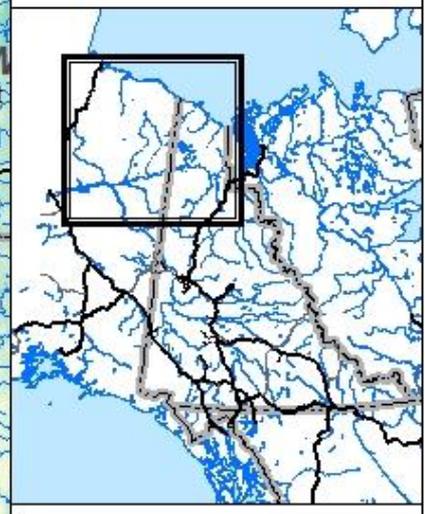
August 10 to 20, 2021

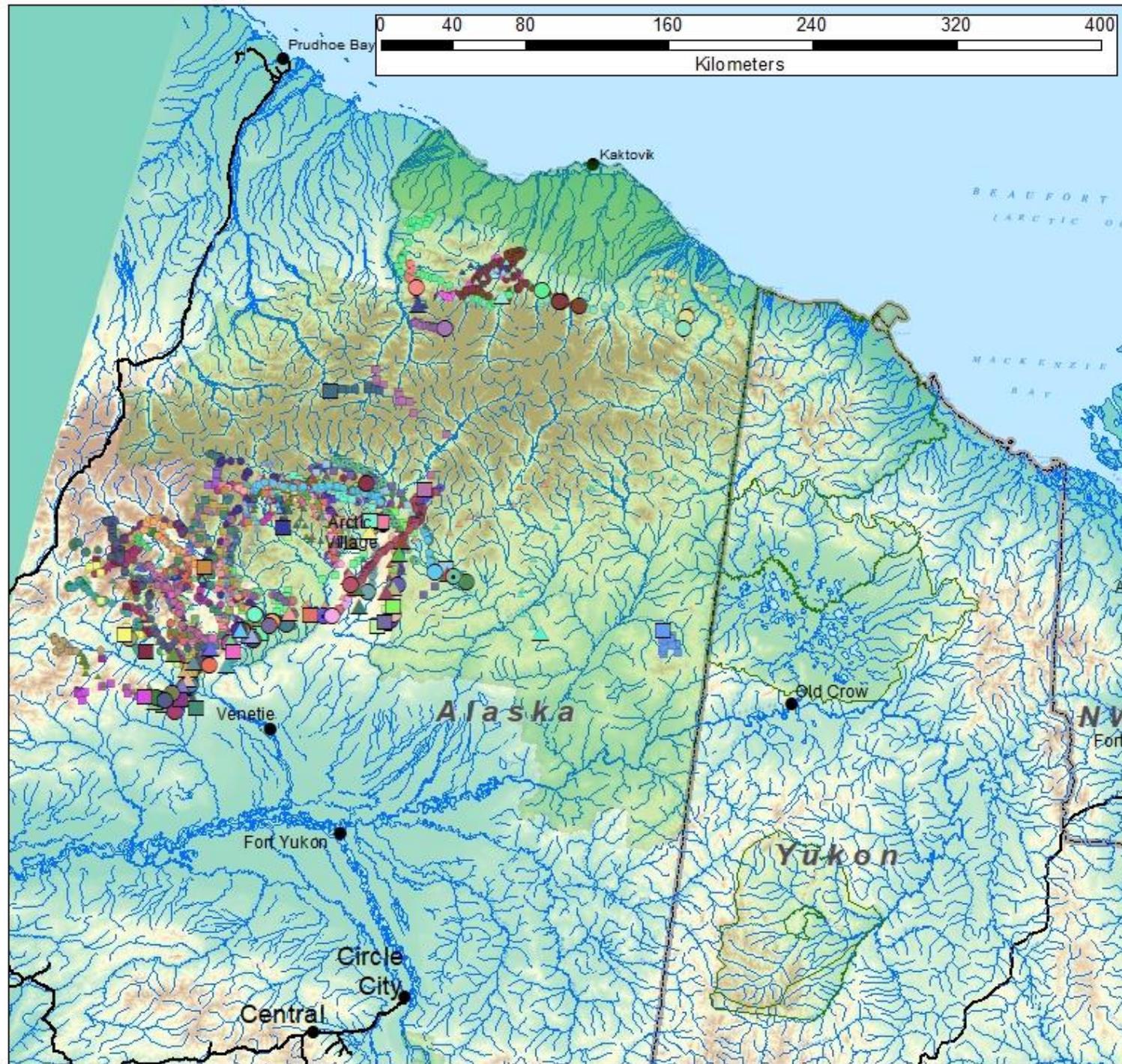


Yukon Albers Projection, NAD83

PCH Sat Collars (107)

- Adult Cows (48)
- ⊙ Camera Collars (3)
- △ Yearling and 2 YO Cows (32)
- Bulls (24)





Porcupine Caribou Satellite Collar Locations

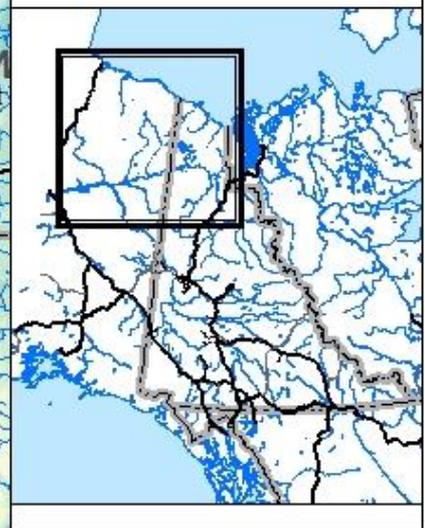
September 20 to 27, 2021

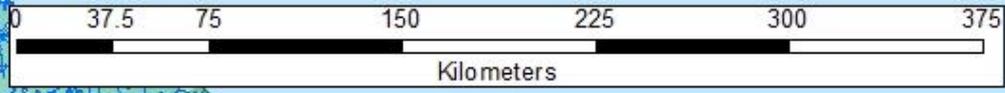


Yukon Albers Projection, NAD83

PCH Sat Collars (95)

- Adult Cows (42)
- ⊙ Camera Collars (1)
- △ Yearling and 2 YO Cows (30)
- Bulls (22)





Porcupine Caribou Satellite Collar Locations

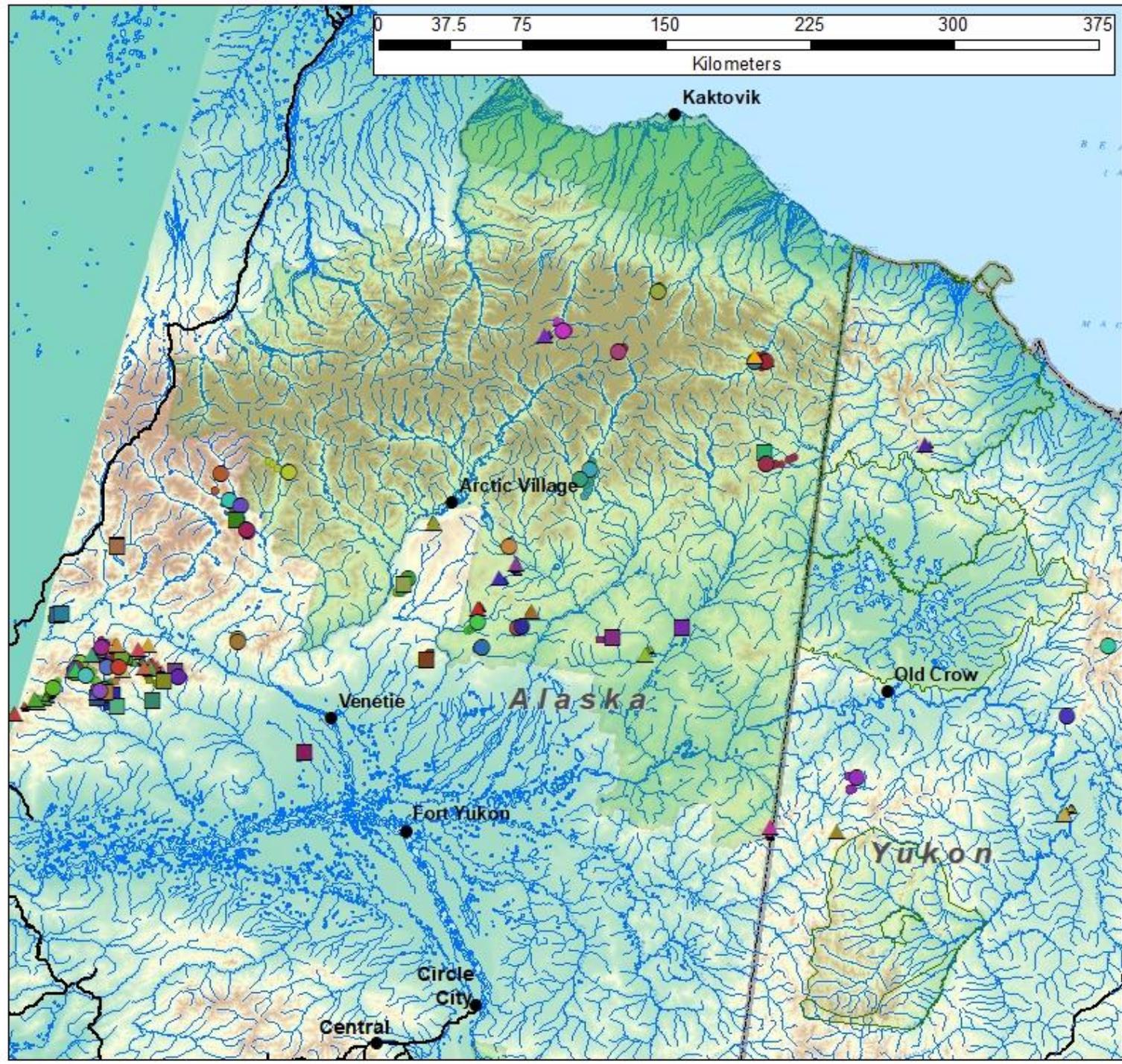
January 24 to 31, 2022



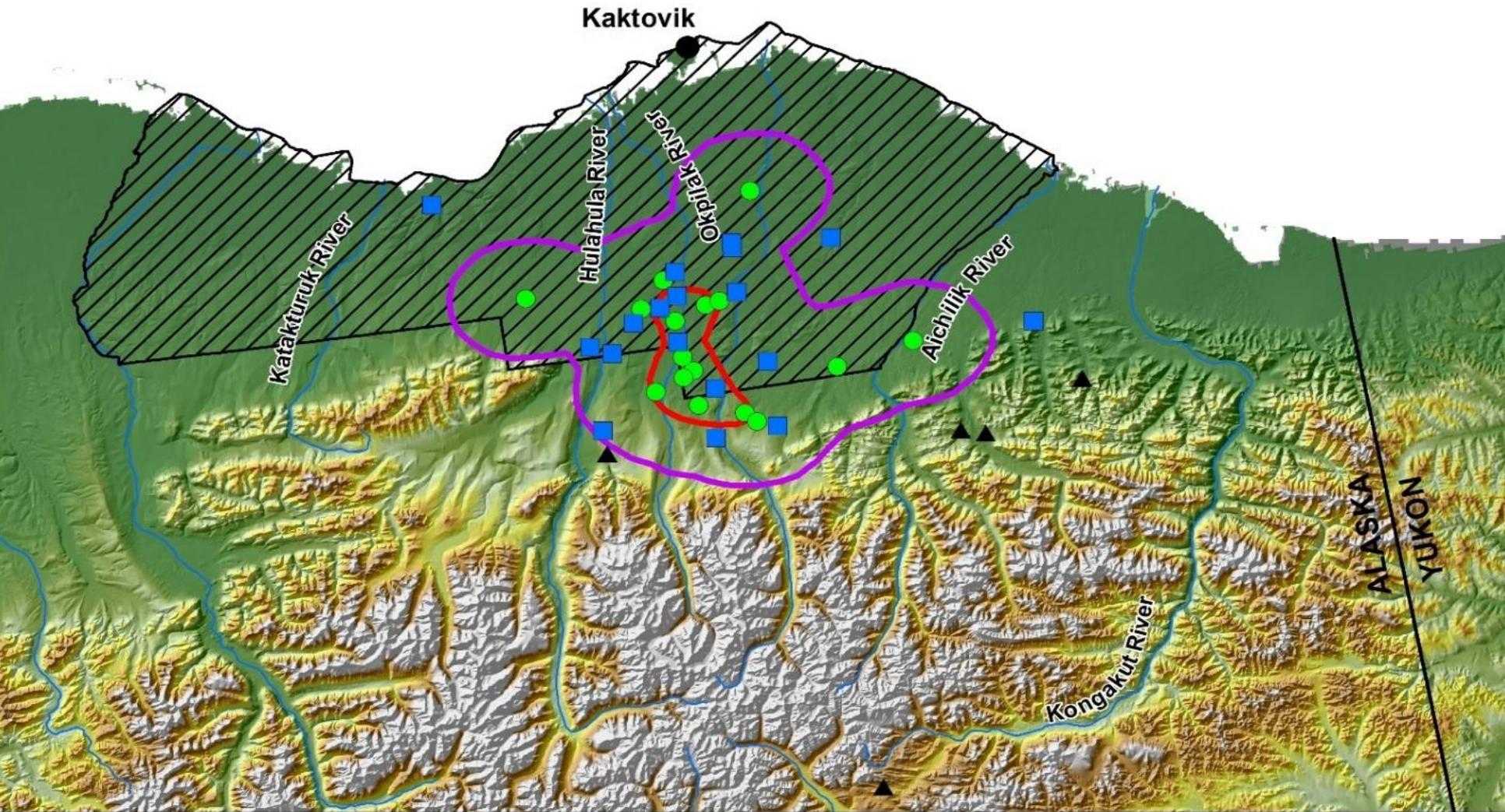
Yukon Albers Projection, NAD83

PCH Sat Collars (88)

- Adult Cows (38)
- ⊙ Camera Collars (1)
- △ Yearling and 2 YO Cows (29)
- Bulls (20)



2022 Calving





Population

Body
Condition

Habitat



Overview

Population Size



Methods

- Count caribou using a photocensus
- Last completed in 2017
- If conditions allow, attempting each year now until we get the next successful one

Results

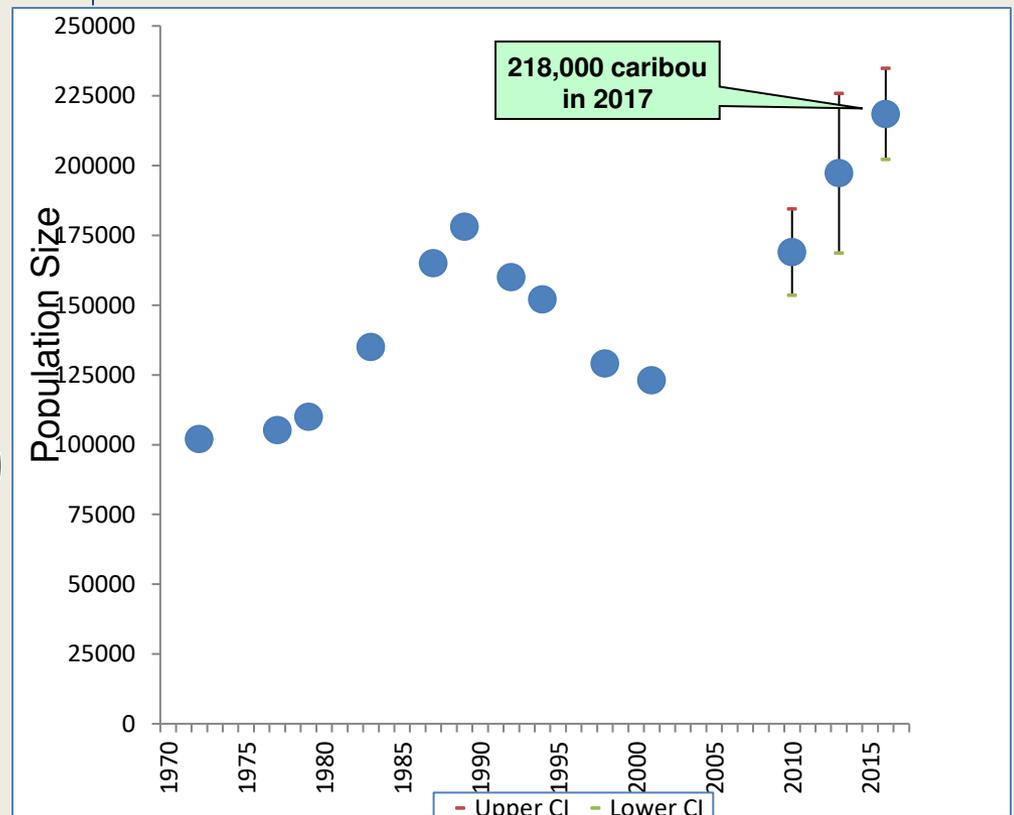


Population Size

Methods

- 218,457 caribou (202,106 - 234,808)
- Minimum count = 197,894 caribou
- Increasing (3.5%/year) similar to growth rate between 1972-1989.

Results



Calf Birth Rate and Survival

Results

- Classify pregnancy on calving grounds (2021)
 - *76% of females pregnant*
 - *50% of 3 year old cows*
 - *Long term average of 81%*
- 3 Week Survival
 - *93% of those calves survived*
 - *Long term average is 88%*
 - *After 1 month: 68 calves per 100 cows*



Female Yearling & Adult Male Survival



Methods

- Use satellite GPS collars to estimate survival
 - Alerted when collared animals die
 - Cause of death is unknown
 - Different age/sex groups die at different rates

Results

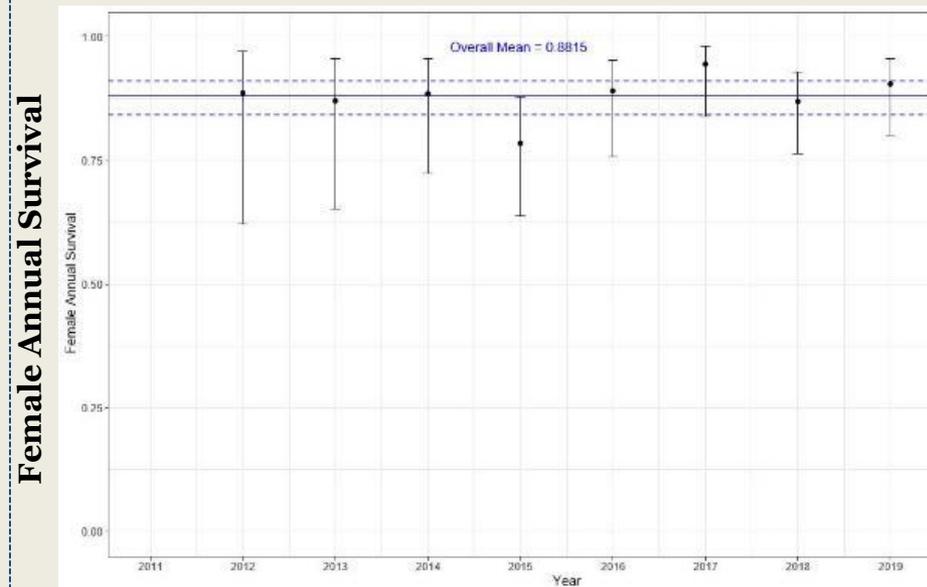
- Percentage of yearling females that survived in 2020-2021
 - *81% of yearling females*
- Percentage of adult males that survived in 2020-2021
 - 68% of adult males

Adult Female Survival

Results

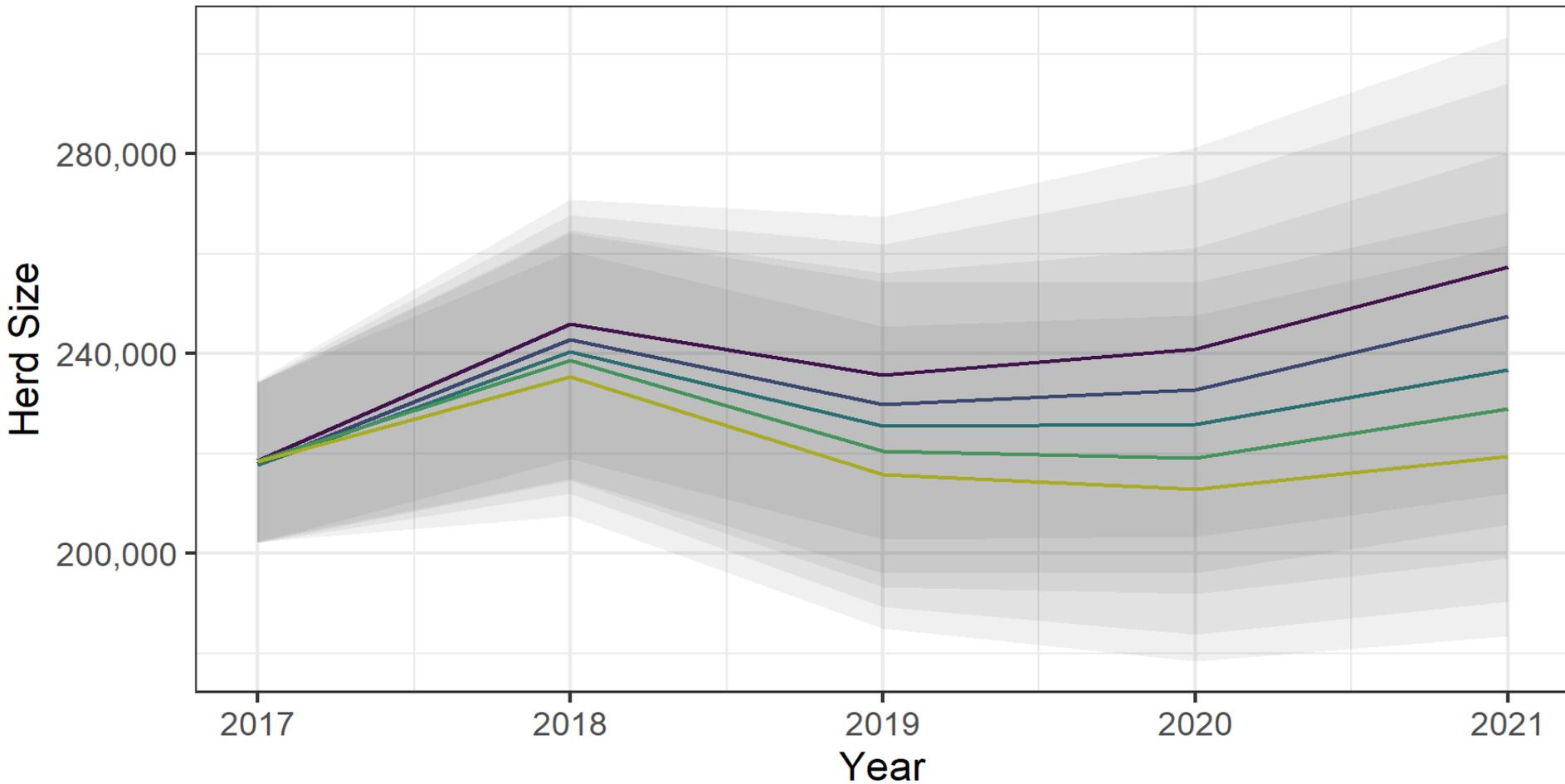
- Percentage of females (>2 years old) that survive each year
 - 95% of adult females survived (85%-98%)
 - From 2012-2021, survival ranged from 79%-95% but averaged 89%

Annual Survival of Adult Female Porcupine Caribou
(Error bars are 95% confidence limits)



Caribou Year (calving to calving period)

Population Model



Calf Mortality Rate — 0.4 — 0.44 — 0.49 — 0.54 — 0.58

Population Roll Up



- Limited new data
- Lower pregnancy
- High calf survival

- Highly likely we remain in the green zone





Population

Body

Condition

Habitat



Overview

Caribou Body Condition



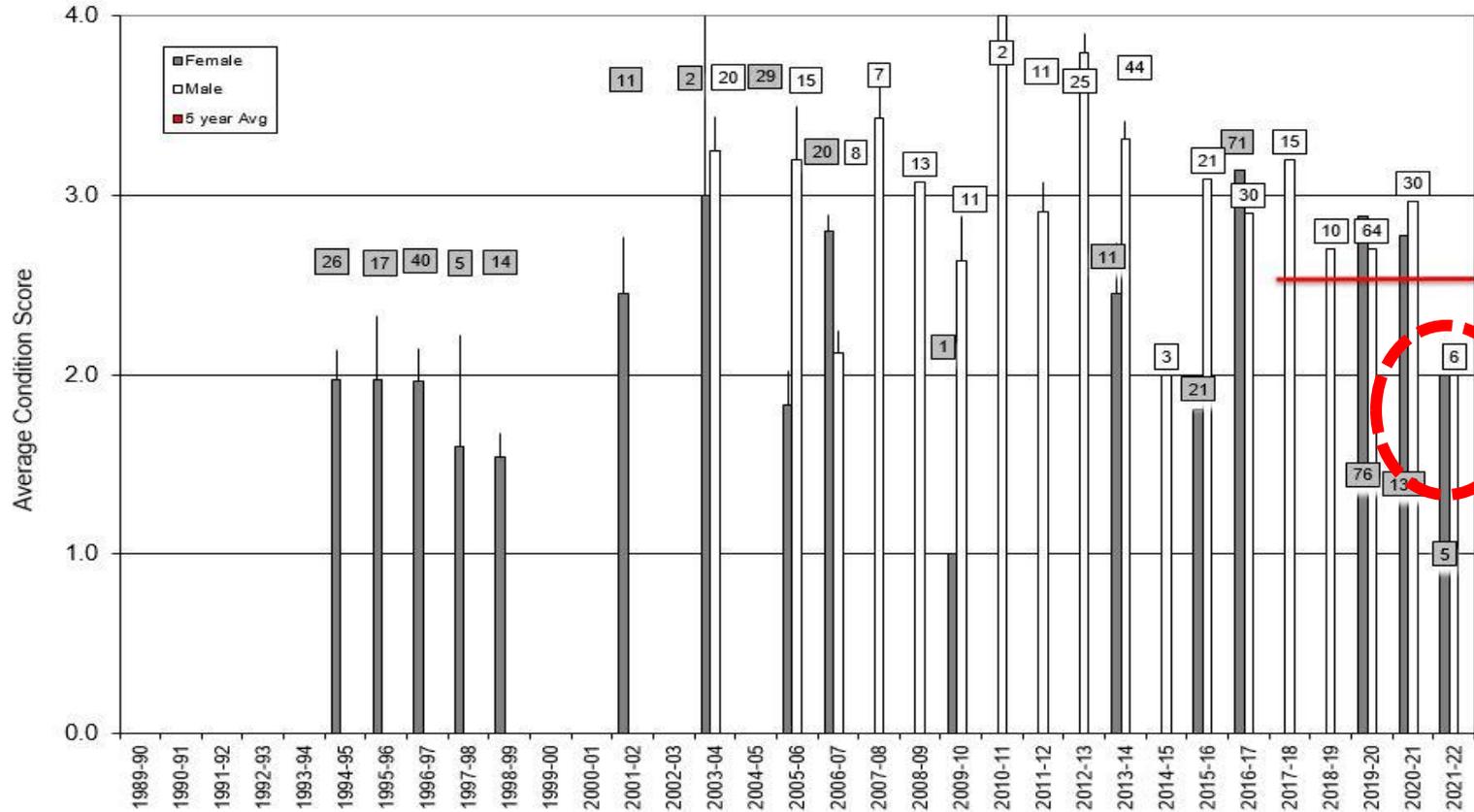
Methods

- Caribou condition by measuring back fat and rating animals
 - *Limited harvest = Limited samples*
 - *11 caribou assessed*

Results

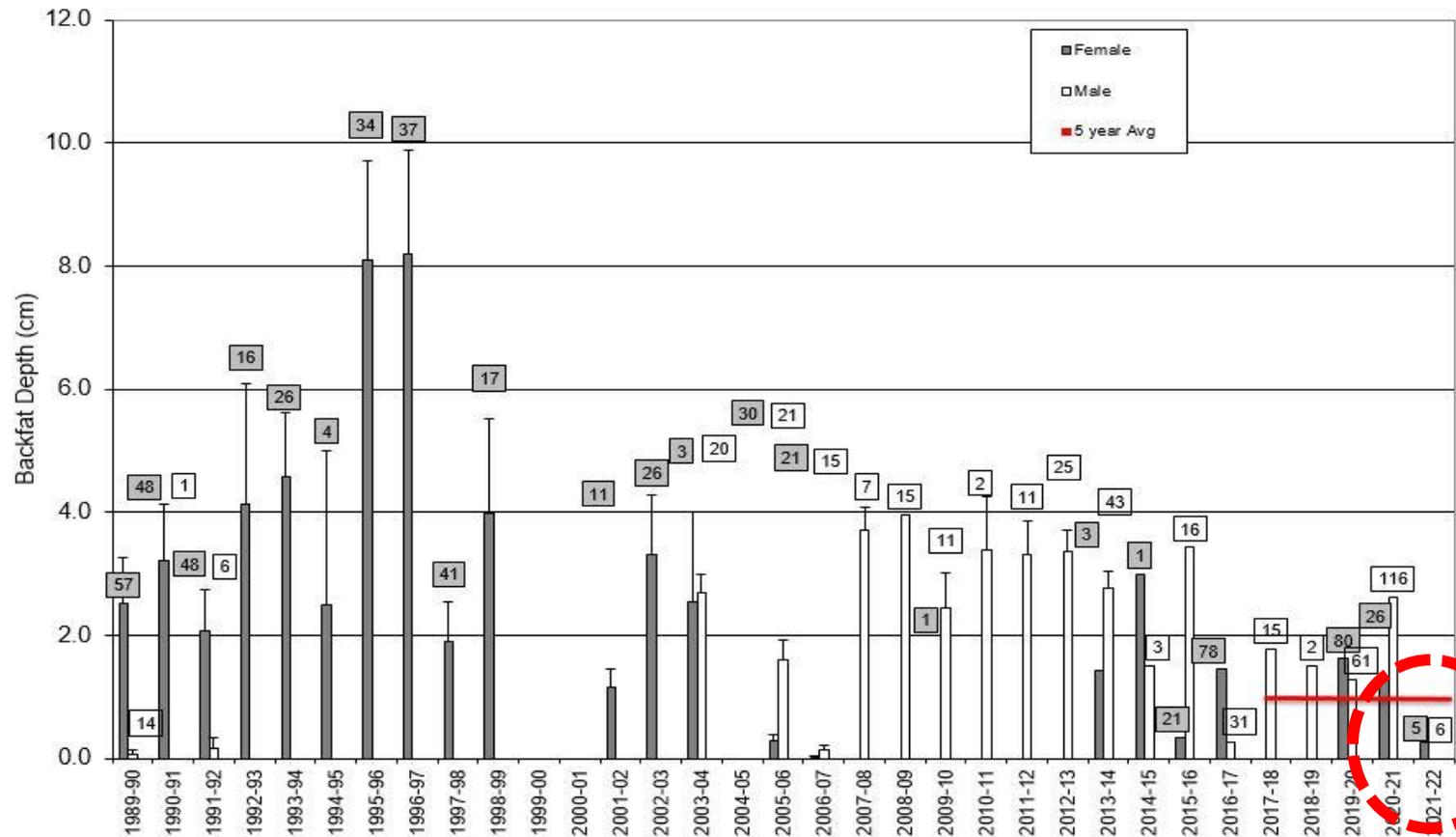
- Below average for both measures
- Caribou considered to be in fair condition

Caribou Body Condition



Average condition of harvested caribou
 1=poor 2=fair 3=good 4=very good

Caribou Body Condition



Average Depth of Backfat (cm)



Population

Body

Condition

Habitat



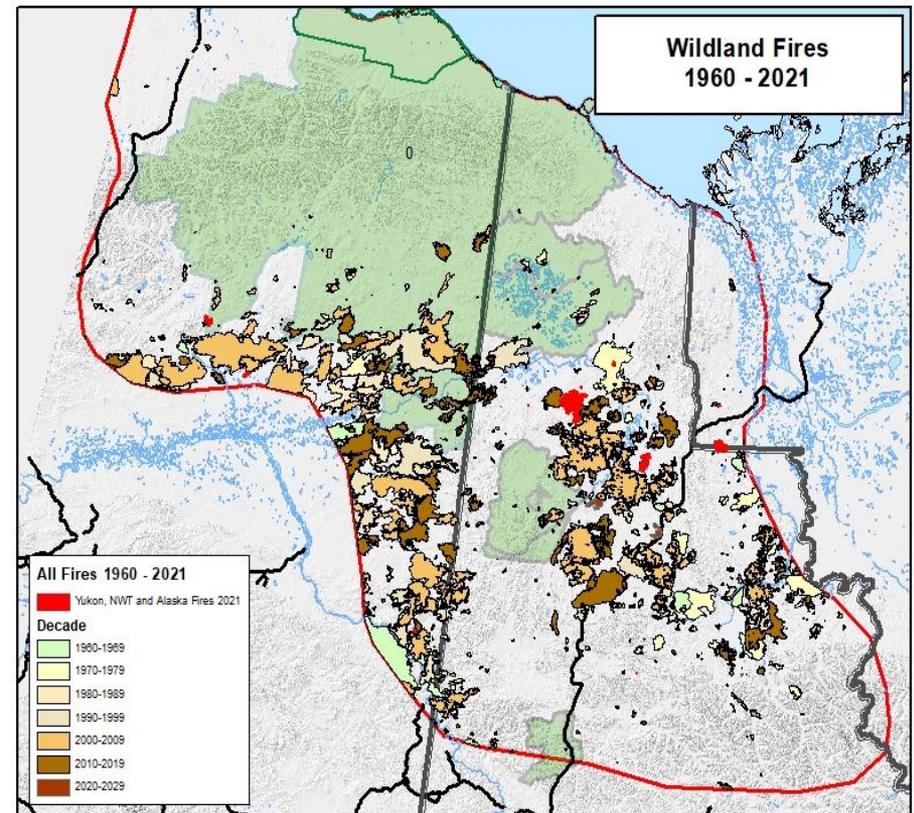
Overview

Wildland Fires

Methods

- Amount of PCH range burned as an index of range condition
- Fires in red are new as of 2021
- 2022 data not yet available – quite a few small fires in the core range

Results

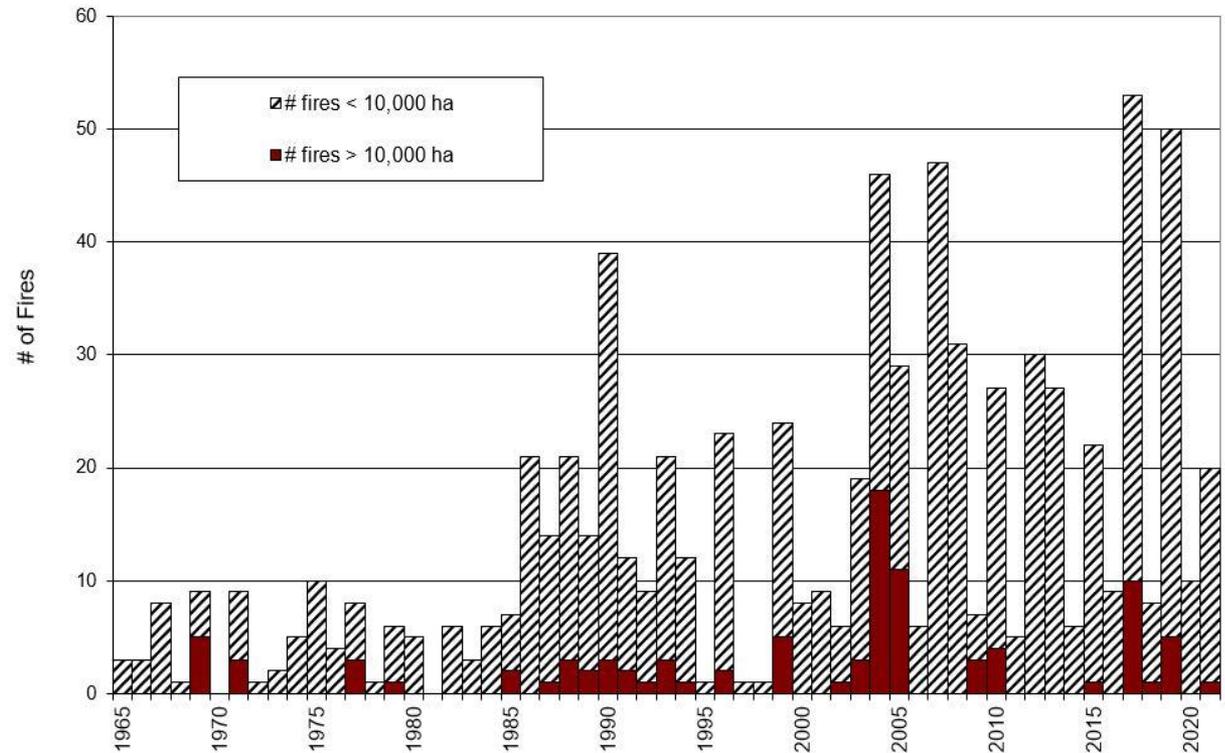




In 2021 there were 7 fires in Alaska, 6 in the YT, and 7 in the NWT portion of the PCH range

All small fires except 1 larger fire SE of Old Crow

Total number of fires and number of large fires (greater than 10,000 hectares) in PCH range, by year



Number/size of fires in PCH Range



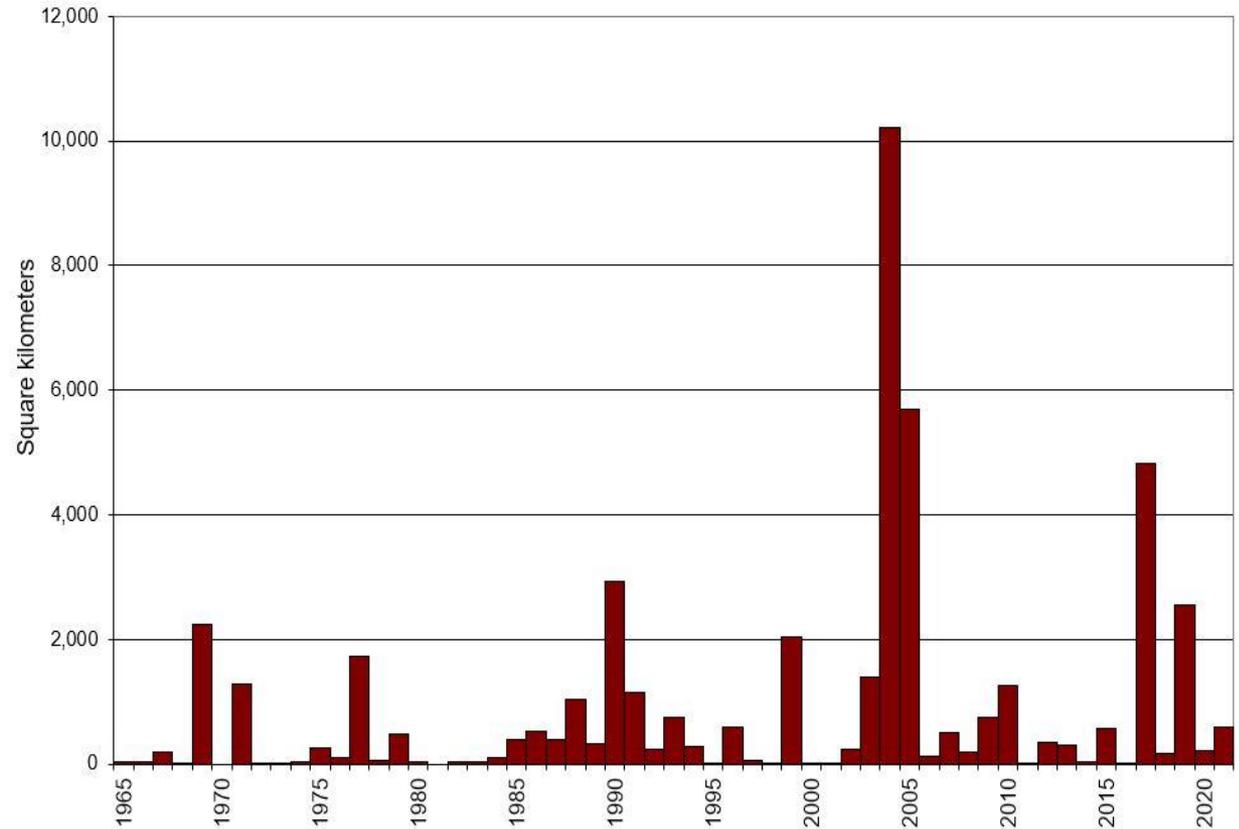
Relatively small
area burned in
2021

Using the area
burned on its own
not a great metric

Some areas reburn

New lichen maps
will show change
every 5 years

Total area of PCH range burned, by year



Area burned in PCH Range

Snow Conditions

Methods

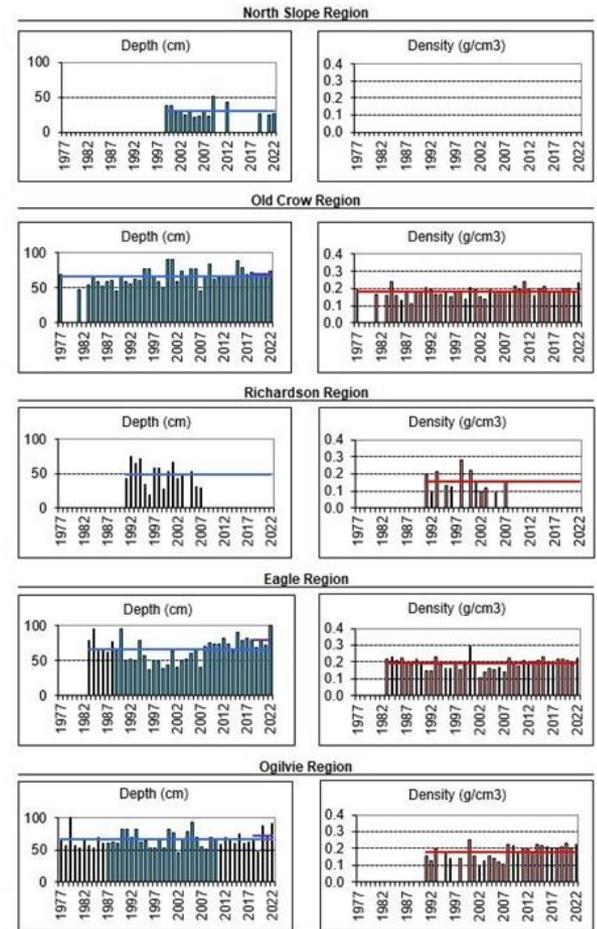
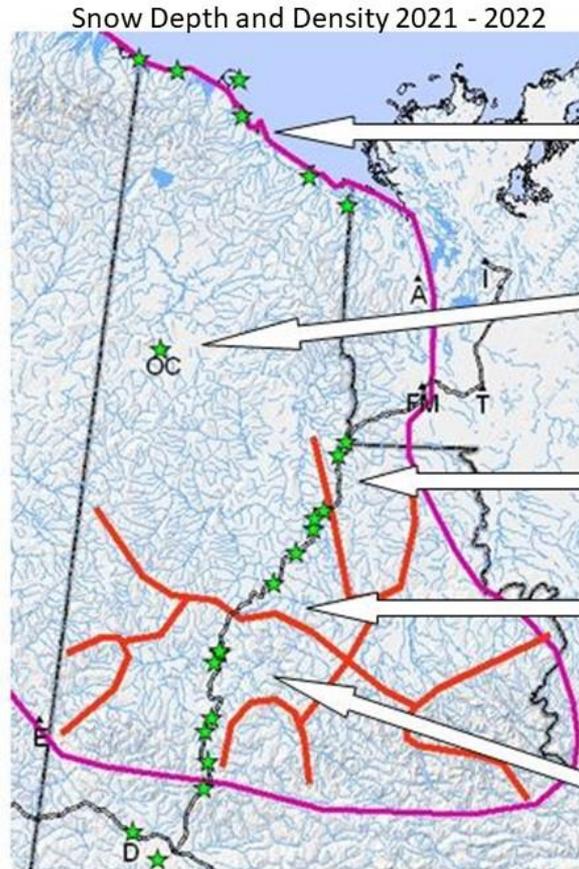
- Index of winter conditions
- Measurements of depth and snow density measured at 17 permanent locations
- 1977-2022



Yukon (except YNS)
= well above
average snow depth

Increasing trend
towards a deeper
snowpack over the
last decade in areas

During March 2022
observed deep,
layered snow –
west in AK better

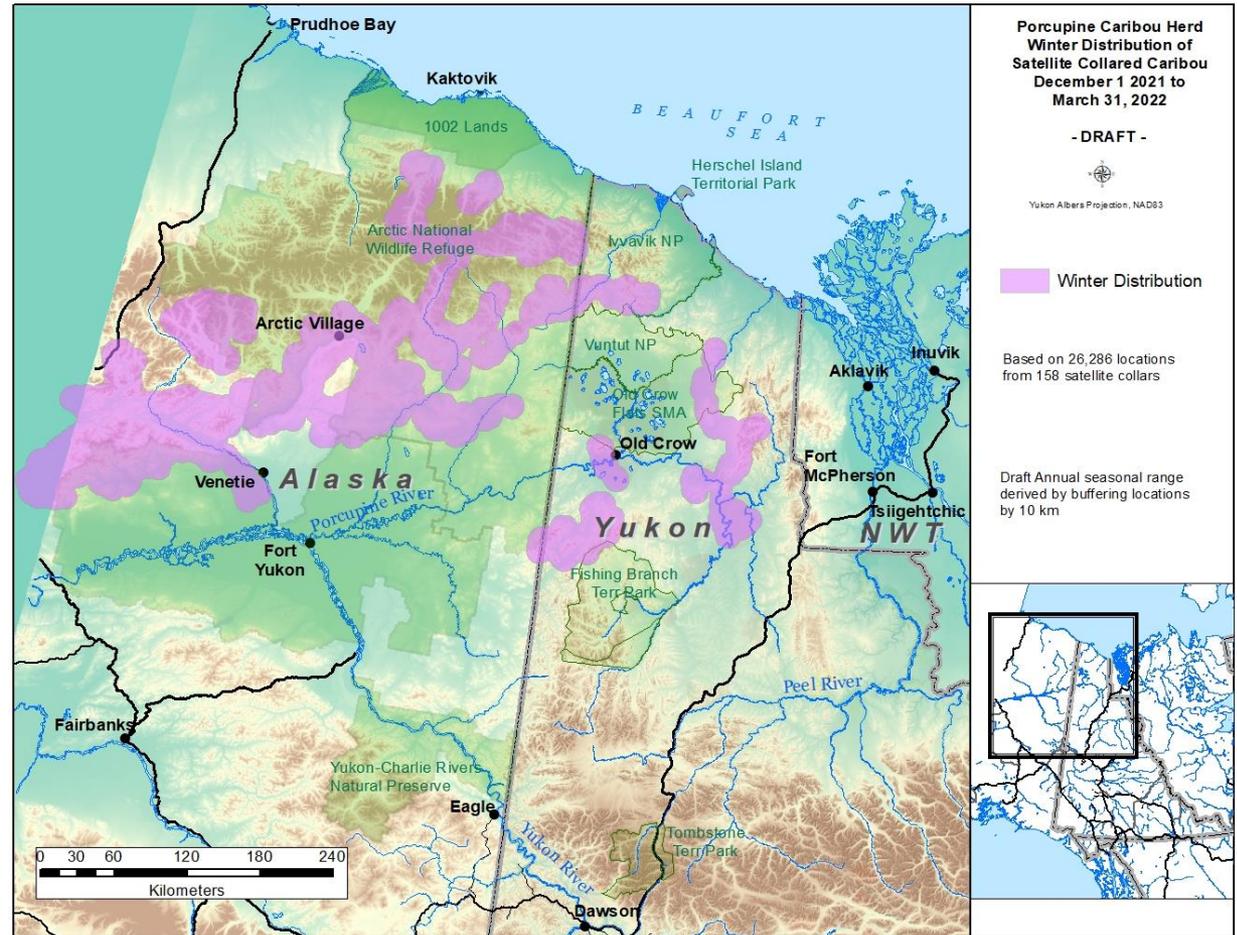


Snow Conditions

Most of the herd in
Alaska

Snow was shallower
as you went west

Caribou in the
Yukon in deep
snow conditions



Snow Conditions

Habitat Roll Up



- Few fires in summer 2021
- Snow conditions were deeper than average
- New lichen layer will be helpful



Overall Interpretation

- Limited data this year
- Changing summer movements – indications of change in herd?
- Pregnancy dropped but early calf survival good
- Seems like herd in poorer condition in fall but winters have been ok



