

**(*Rangifer tarandus groenlandicus*)**

A photograph showing a group of reindeer in a tundra landscape. One reindeer stands prominently on the left, facing the camera. To its right, a group of three reindeer is visible, including one with large antlers. The ground is covered in low-lying vegetation and rocks, and the sky is clear and blue.



**The Department of Environment (DOE) would like to  
inform the Board of the 2018 estimate of Bluenose-  
East Caribou herd  
and ask the board to make a decision on the proposed  
management recommendations**



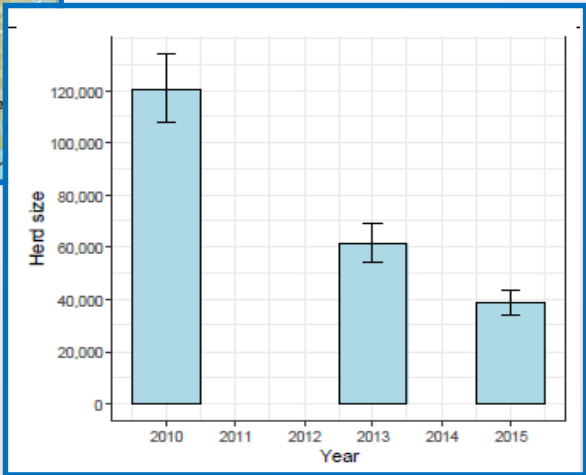
## Presentation Outline

- Previous status of the herd
- 2018 Results
  - Reconnaissance survey
  - Female collars daily rate and cow locations
  - Visual Strata
  - Composition survey (calving ground and fall)
  - 2018 population survey
  - Demographics indicators
- Board Decision in Northwest Territories
- Harvest
- Management



The Bluenose-East herd was surveyed in 2010 using a calving ground photo survey and a post-calving survey.

From 2010 to 2015, the herd went from 120,000 to 38,000 adult caribou.



The herd is declining at an approximate rate of 20% per year.

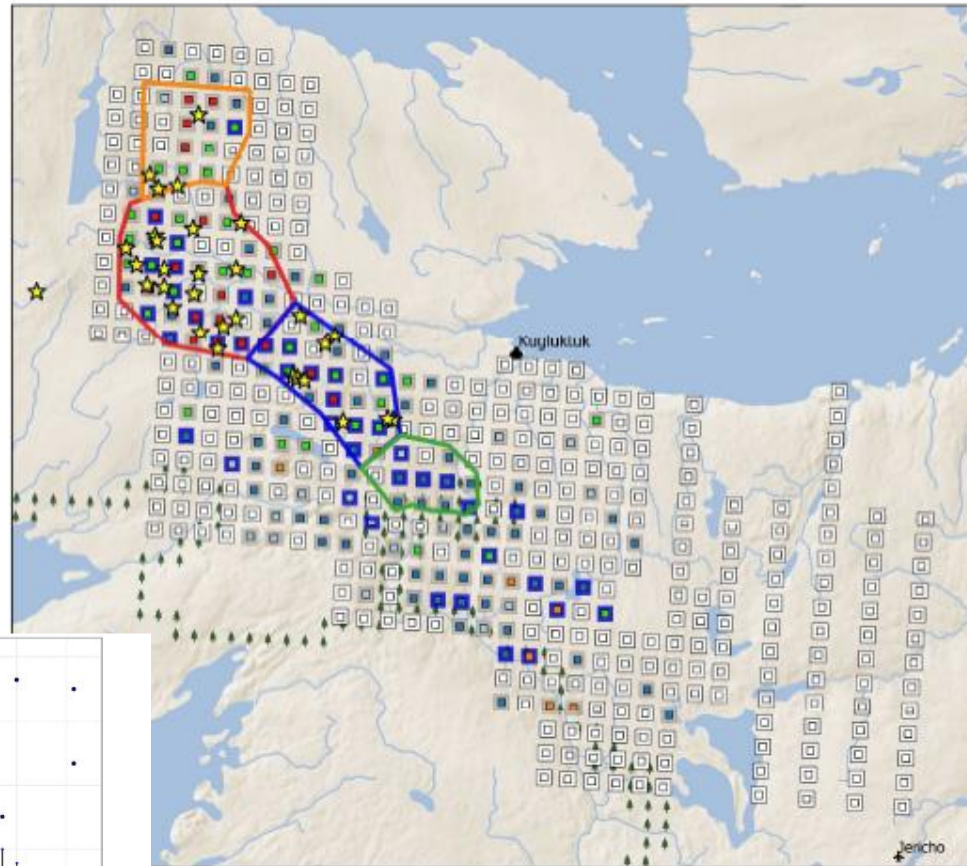


## Bluenose-East Herd population estimate June, 2018 (From Boulanger et al., 2019)





# Reconnaissance Survey- Where are the breeding females?



Bluenose East 2018 survey

Survey strata

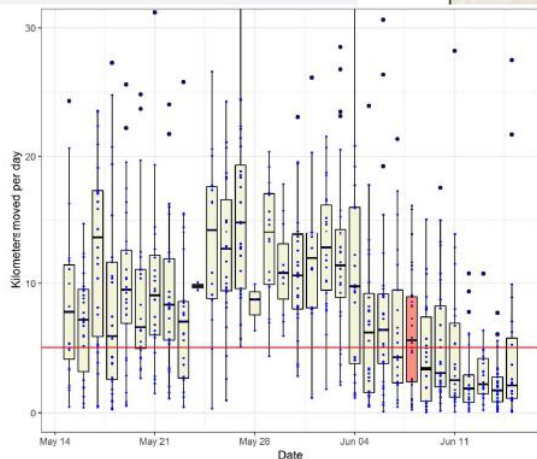
- Photo north
- Photo south
- Visual south
- Visual north

Composition

- Antlered cows
- Bulls
- Cow-calf groups
- No antler (nonbreeders)
- No caribou seen
- Unknown
- Mixed non-breeders

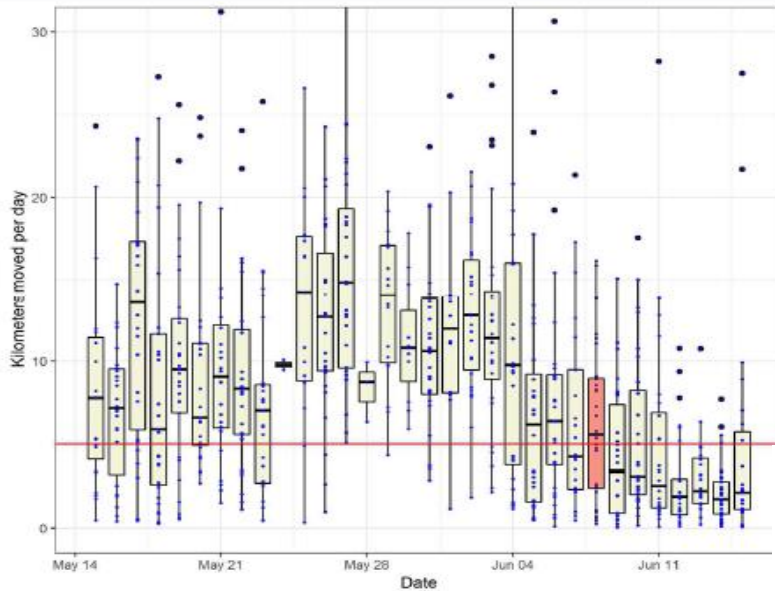
Estimated density (raw counts)

- High ( $>10$  caribou/km<sup>2</sup>)
- Medium (1-9.9 caribou/km<sup>2</sup>)
- Low ( $<1$  caribou/km<sup>2</sup>)
- Zero caribou seen
- ★ Collar locations (Cows) June 8



Bluenose-East reconnaissance survey; June 1, 6,7, 2019.

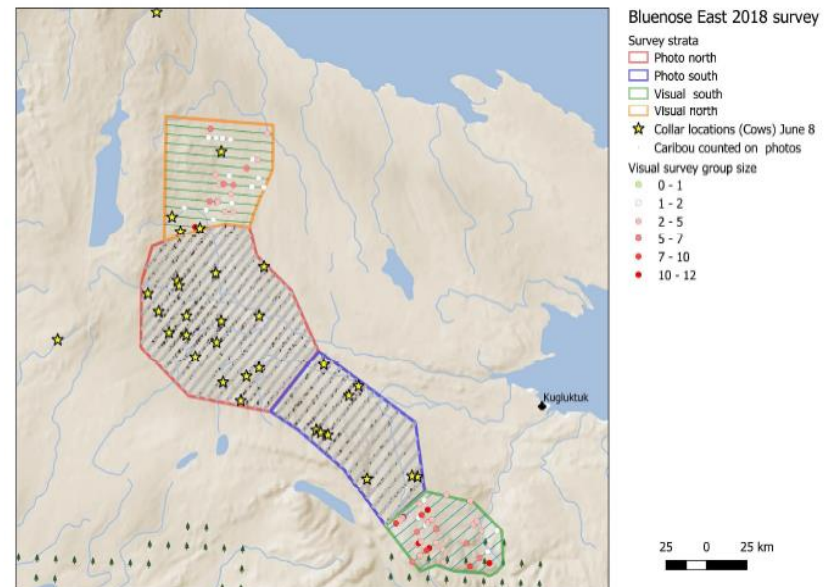
# Visual survey



Before flying the visual strata (coloured boxes), we examined daily movement rates of female cows, and collared caribou locations within the strata.

The visual survey needs to be done no later than 3-4 days after the reconnaissance survey.

Movement rates of female collared caribou before and during calving in 2018.



Location of collared Bluenose-East female caribou and movements, up to June 8, 2019

# Photo Strata

Strata, identified as high density (red and blue), are flown at a higher percentage of coverage by a photo plane.

Surveyors then count caribou on each photo to generate a more precise number.

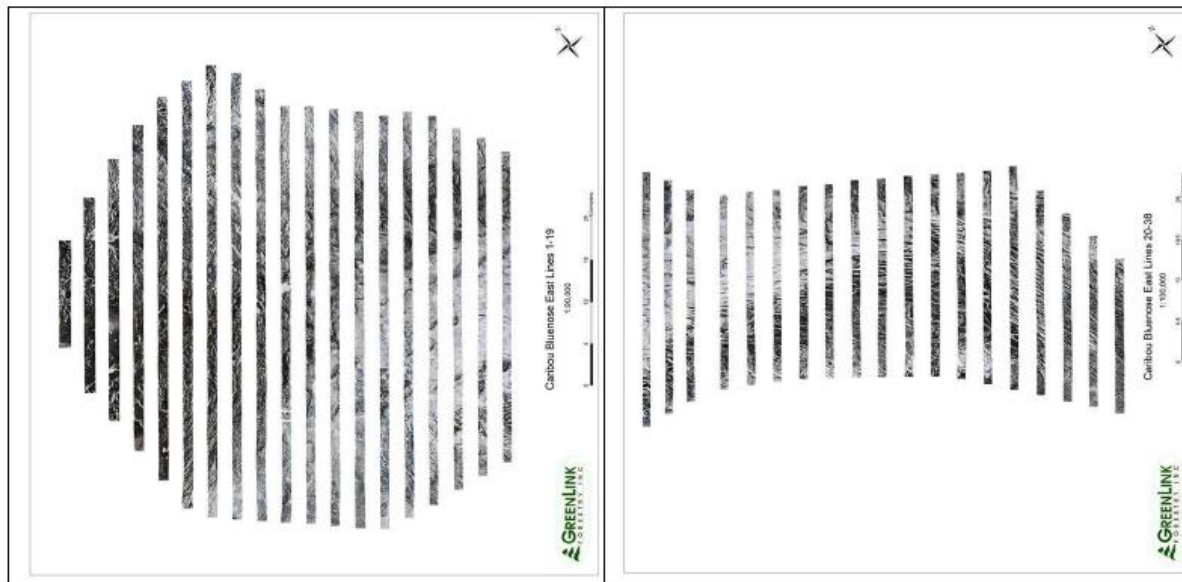
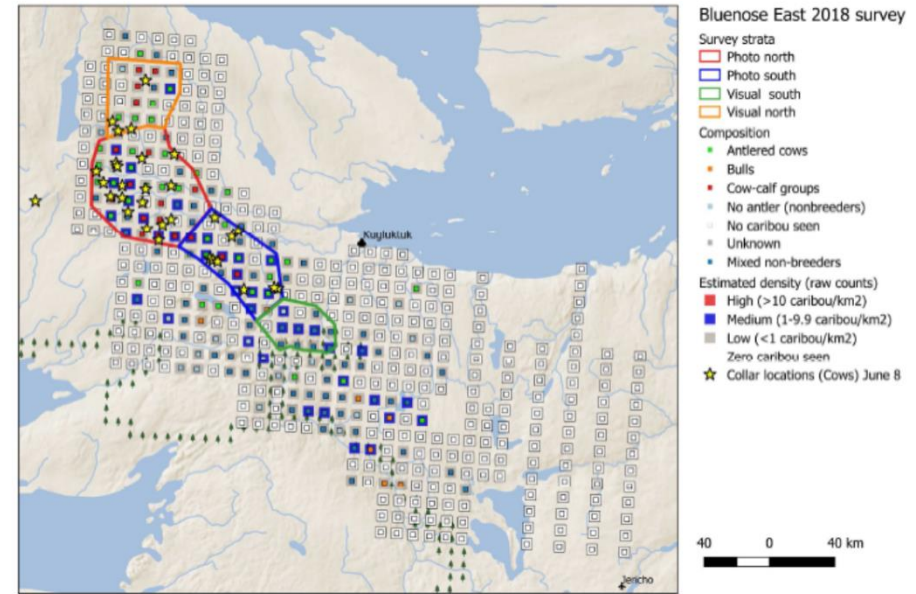


Figure 11: Composite photos of the Bluenose-East North and South photo strata.





# Calving ground and Fall composition survey

**Table 15:** Summary of composition survey on Bluenose-East calving ground June 2018 in photo and visual strata.

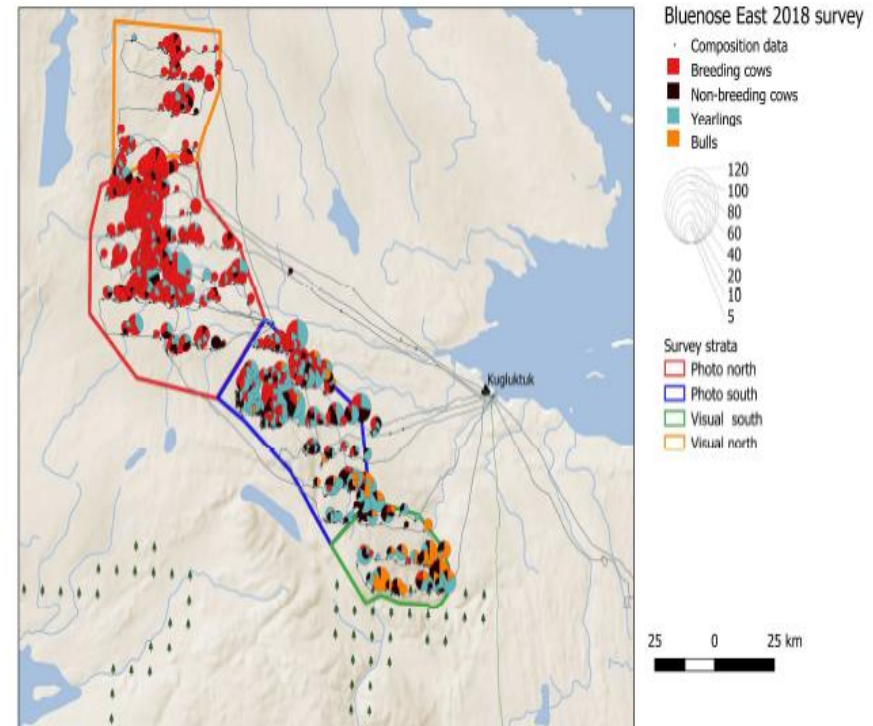
Strata	# Groups	Total	Adult Females		Yearlings	Bulls	Total Caribou (1 yr+)
			Breeding	Non-breeding			
North Visual	59	158	147	11	16	0	174
North Photo	189	726	677	49	104	0	830
South Photo	166	490	300	190	388	30	908
South Visual	39	53	7	46	71	61	185

**Table 19:** Summary of observations from fall composition survey on Bluenose-East herd October 23-25, 2018

Cows	Bulls	Calves	Groups Observed
1,542	586	396	115

Calving ground composition surveys are used to determine the proportion of breeding females, non-breeding females, yearlings, and bulls.

Fall composition surveys are used to determine the ratio between bulls and COWS.



# 2018 Population Survey

**Table 22:** Extrapolated herd size estimates for the Bluenose-East herd in 2018 based on two estimators

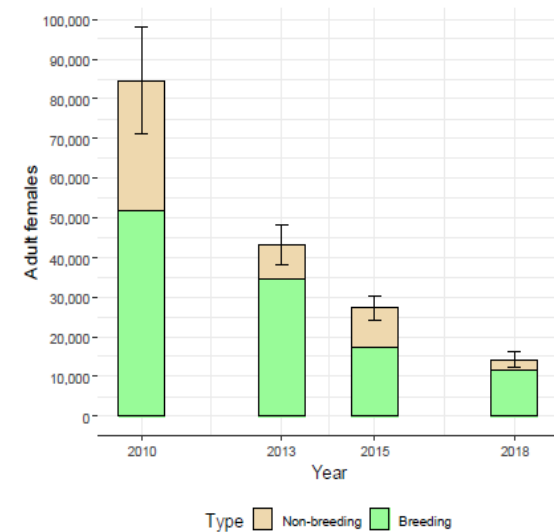
Method	N	SE	Log-based CI		Symmetric Traditional CI		CV
Proportion of adult females	19,294	1,474.7	16,527	22,524	16,303	22,285	7.6%
Constant pregnancy rate (0.72)	22,366	2,861.8	17,247	29,004	16,530	28,202	12.8%

## Proportion of adult Females Estimate

19,294, (CV 7.6% )

This is the method used previously,  
including in 2015.

Uses the accurate pregnancy rate (0.83)





# Population Demographic Indicators

2018 bull to cow ratio : 38%, normally 50%.

Integrated Population Model estimate of cow survival is 72%.

Productivity 19%, so there is very low calf survival.

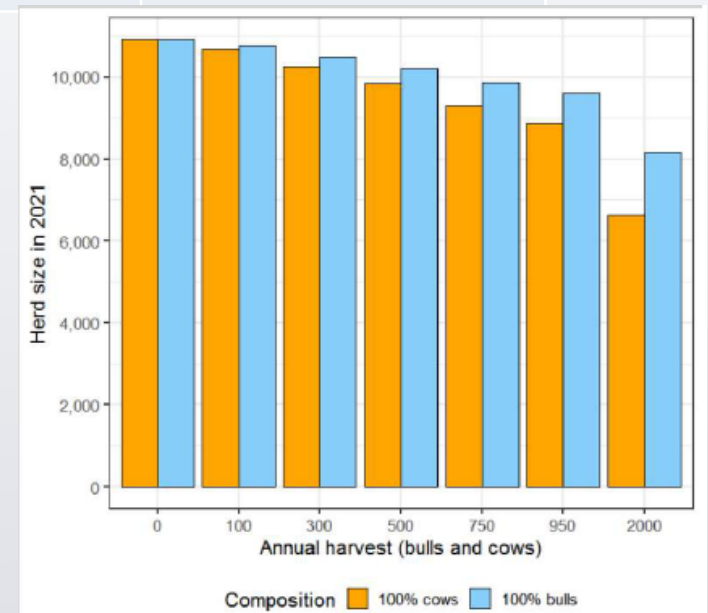


# Harvest

	2016-2017	2017-2018	2018-2019
Kugluktuk	232	174	93
All users	373	323	?

The Kugluktuk percentage of allocation is 35.8%

The herd is naturally declining, and the harvest is not currently sustainable and needs to be managed as a risk.







## Board Decision in Northwest Territories

- The Government of Northwest Territories (GNWT) and the Tłı̨chǫ Government (TG) made a joint recommendation for a herd-wide total allowable harvest of **300 bull only** caribou from the Bluenose-East Caribou herd following the 2018 survey results.
- On June 16, 2019, the Wek'èezhìi Renewable Resource Board (WRRB) submitted its decision on the management of the Bluenose-East Caribou Herd to the GNWT and the TG.
- The WRRB felt that “a serious conservation concern exists” for the Bluenose-East herd and there is a need to be more conservative. The Board decision was to reduce the herd-wide harvest to **193 bull only** from the Bluenose-East Caribou herd.



## The Department of Environment recommendations

The Government of Nunavut DOE supports the GNWT recommendation of a herd-wide TAH of 300 bulls, resulting in a **TAH of 107 bulls only (35.8%)** from the Bluenose East herd for Nunavut (Kugluktuk).

This represents a harvesting rate of 1.55%

DOE also recommends:

- Community-based management initiatives that promote herd recovery;
- Increased monitoring efforts by conducting a population survey every two years, and a calving ground and fall composition survey every year.

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THANK YOU  
QUANAQUTIN  
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