



BRITISH
COLUMBIA

Northeast Region Caribou Field Program 2022



BC CARIBOU
RECOVERY PROGRAM



Documented caribou declines

Federal mandate to recover populations to self sustaining levels



Classification from aerial surveys

The goal is to get a count as accurate as possible



We can't count all of them, so we need to correct for the proportion of animals we do get to see

Example:

- 8 of 10 active collars found -> $8/10 = 80\%$ sightability
- If 20 animals observed -> $20/80\% = 25$ animals estimated (5 not seen but expected)

Essential data gathered from radio collars

Population data

Proportion of calves
(aerial surveys)



Cows survival
(year round collar monitoring)



We can now assess if population is renewing itself

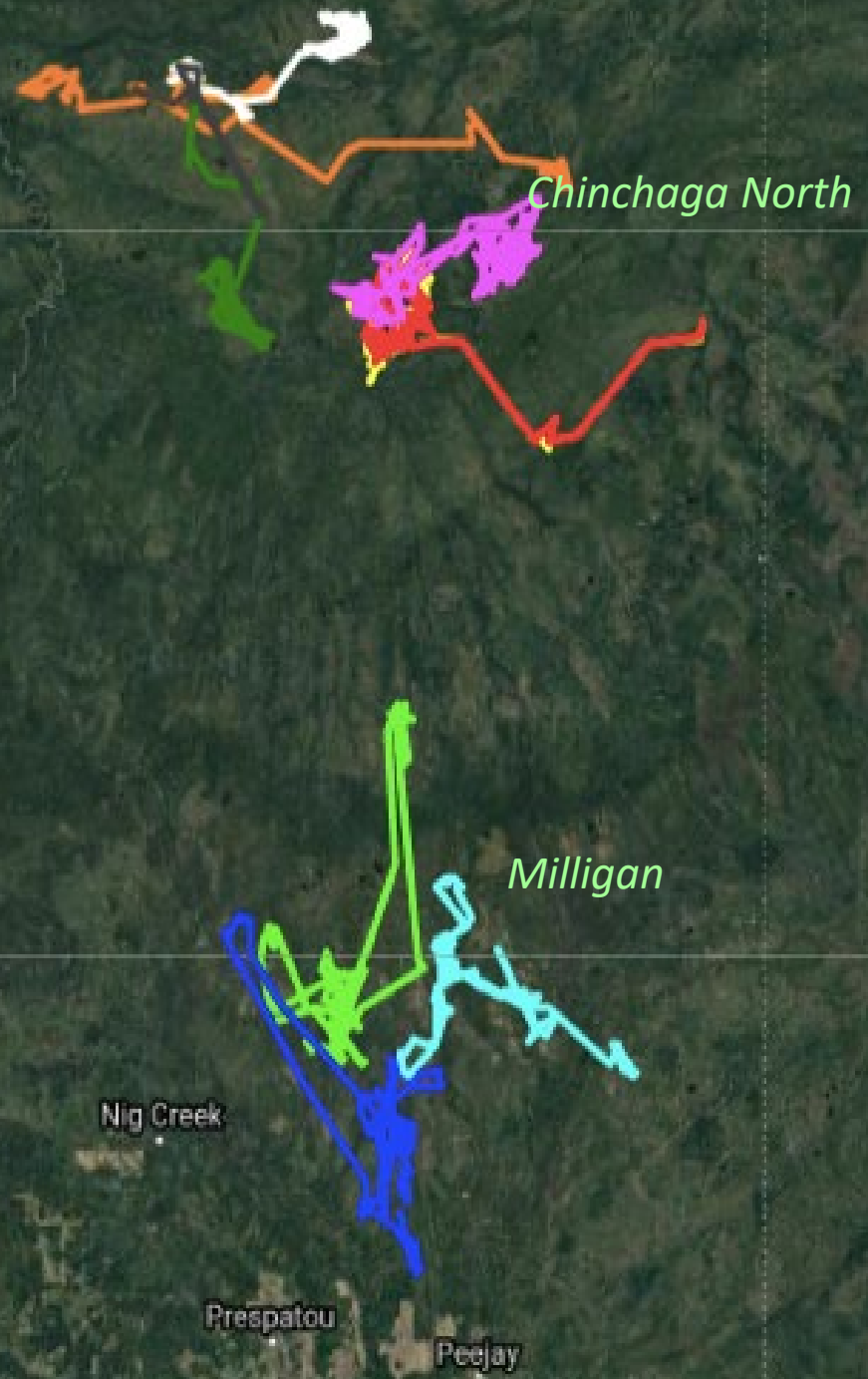
EVIDENCE OF RENEWAL

15-16% of calves in population

25-28 calves/100 cows

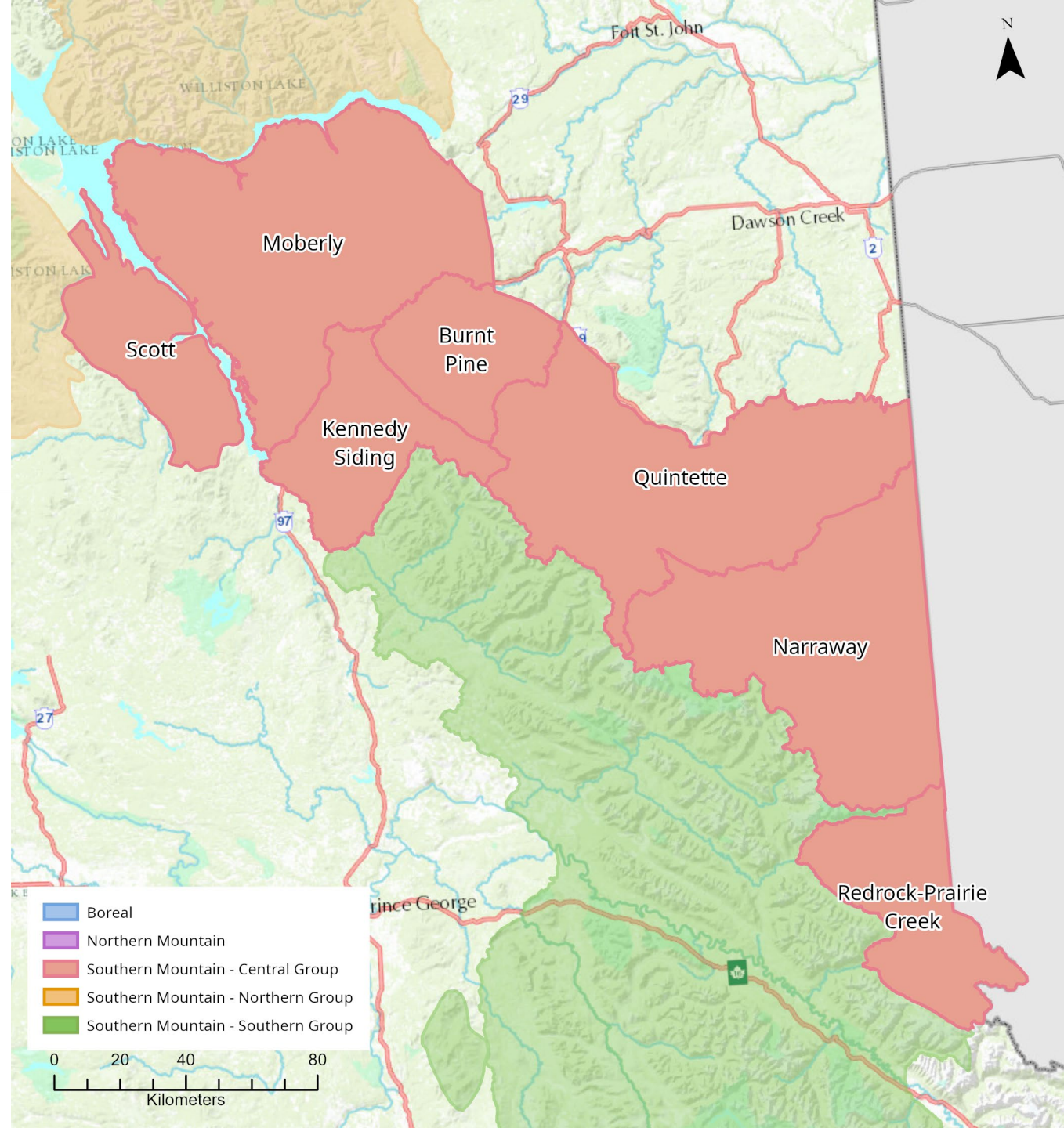
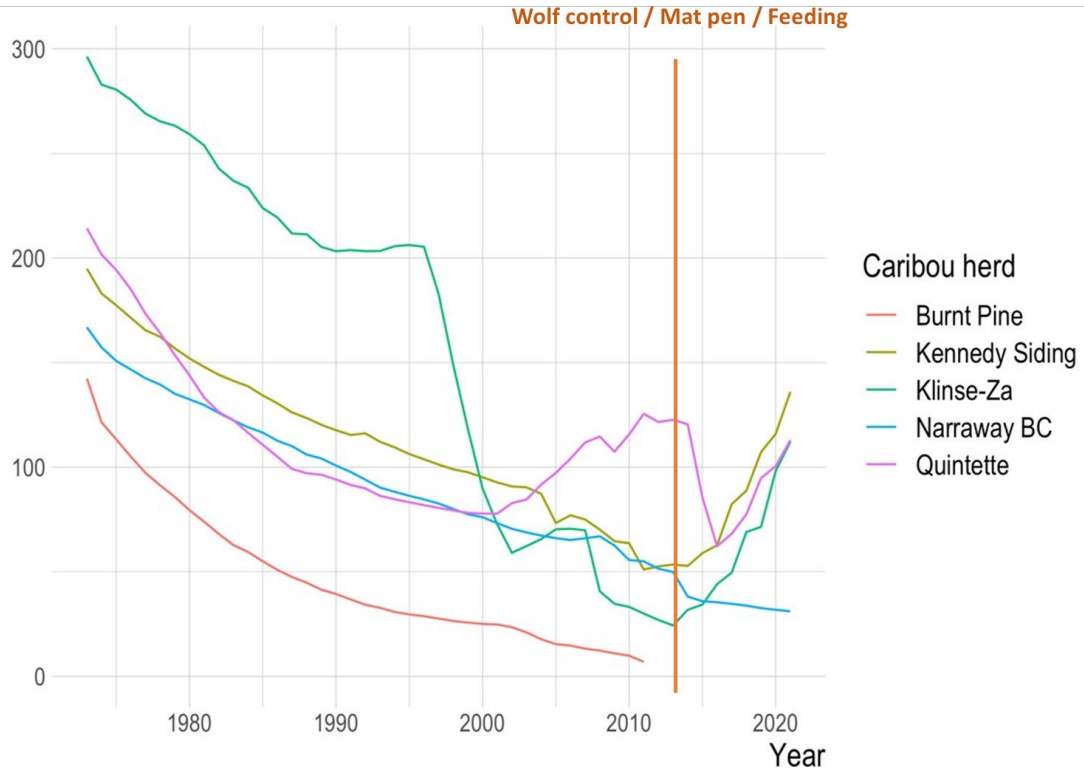
Movement data

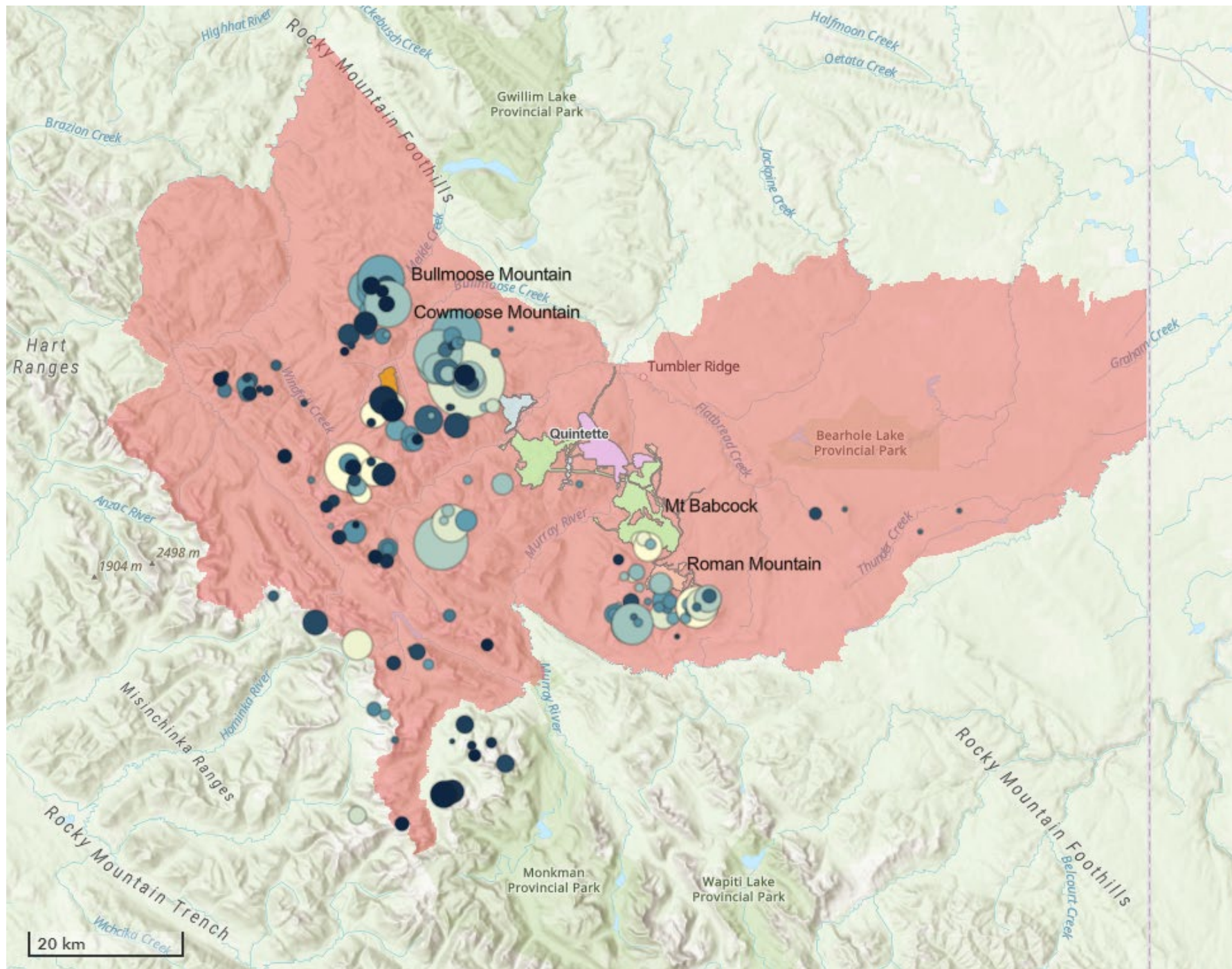
- Seasonal habitat use
- Potential disturbances
- Delineate core and matrix habitat



Central Mountain

Population Trend

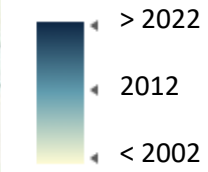




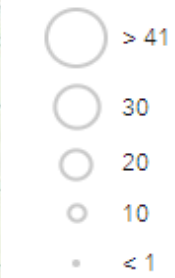
Legend

Survey Observations

Year



Count



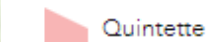
Quintette Mines

Mine Name



Caribou Range Boundary

Herd Name



Central Mountain

Captures / Inventory 2022

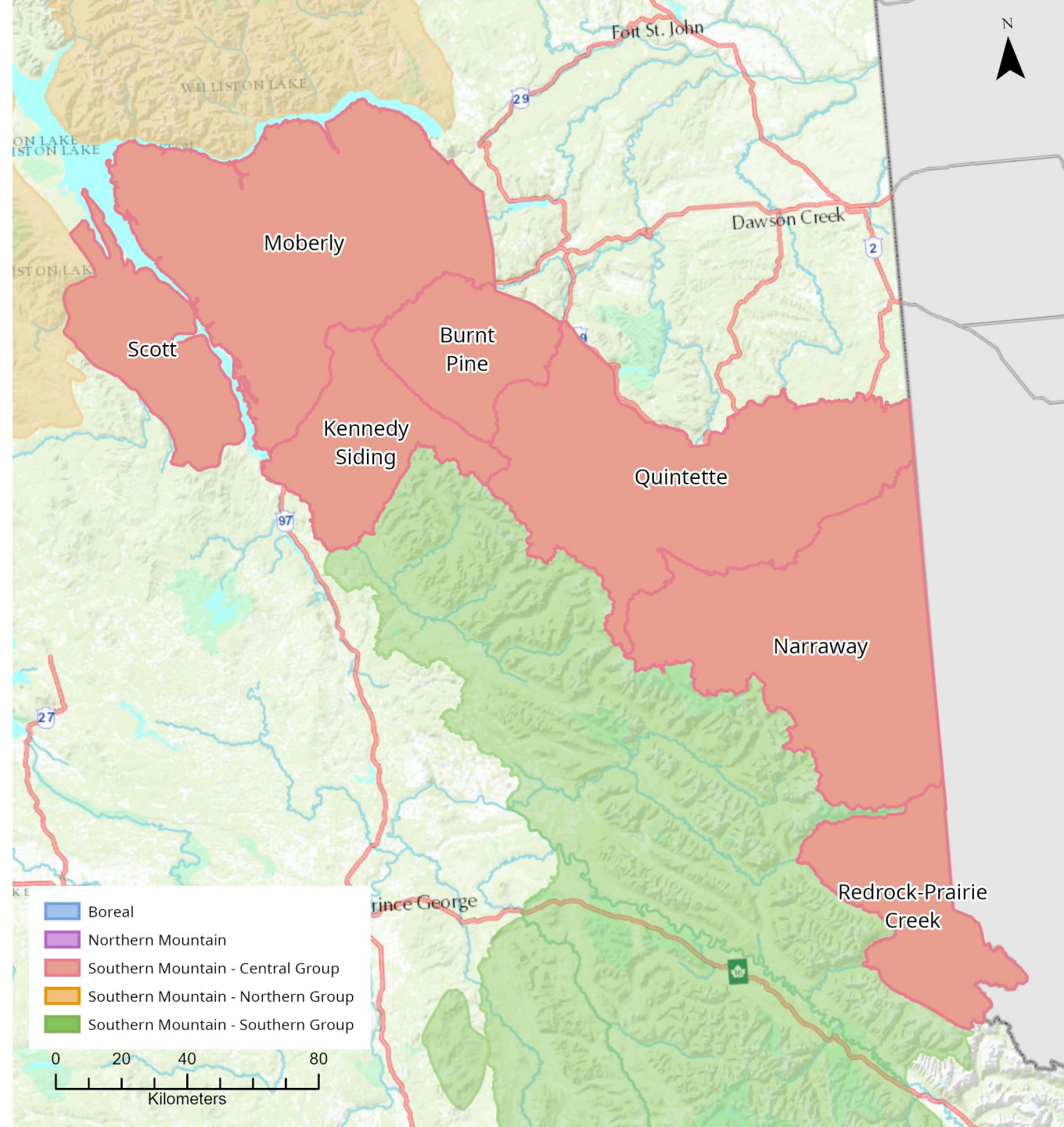
Range	# of collars deployed Jan 2022	# of active collars Sep 2022	# of deaths since April 1 st 2022
Kennedy Siding / Burnt Pine	3	12	0
Quintette	4	12	1
Narraway (new)	0	0	1 (or TRD)
TOTAL	7	24	2

Survey count	% calves	Calves:100 cows	Bulls:100 cows
422	19.9%	49	84

Renewal target

15-16% of calves in pop

25 calves:100 cows

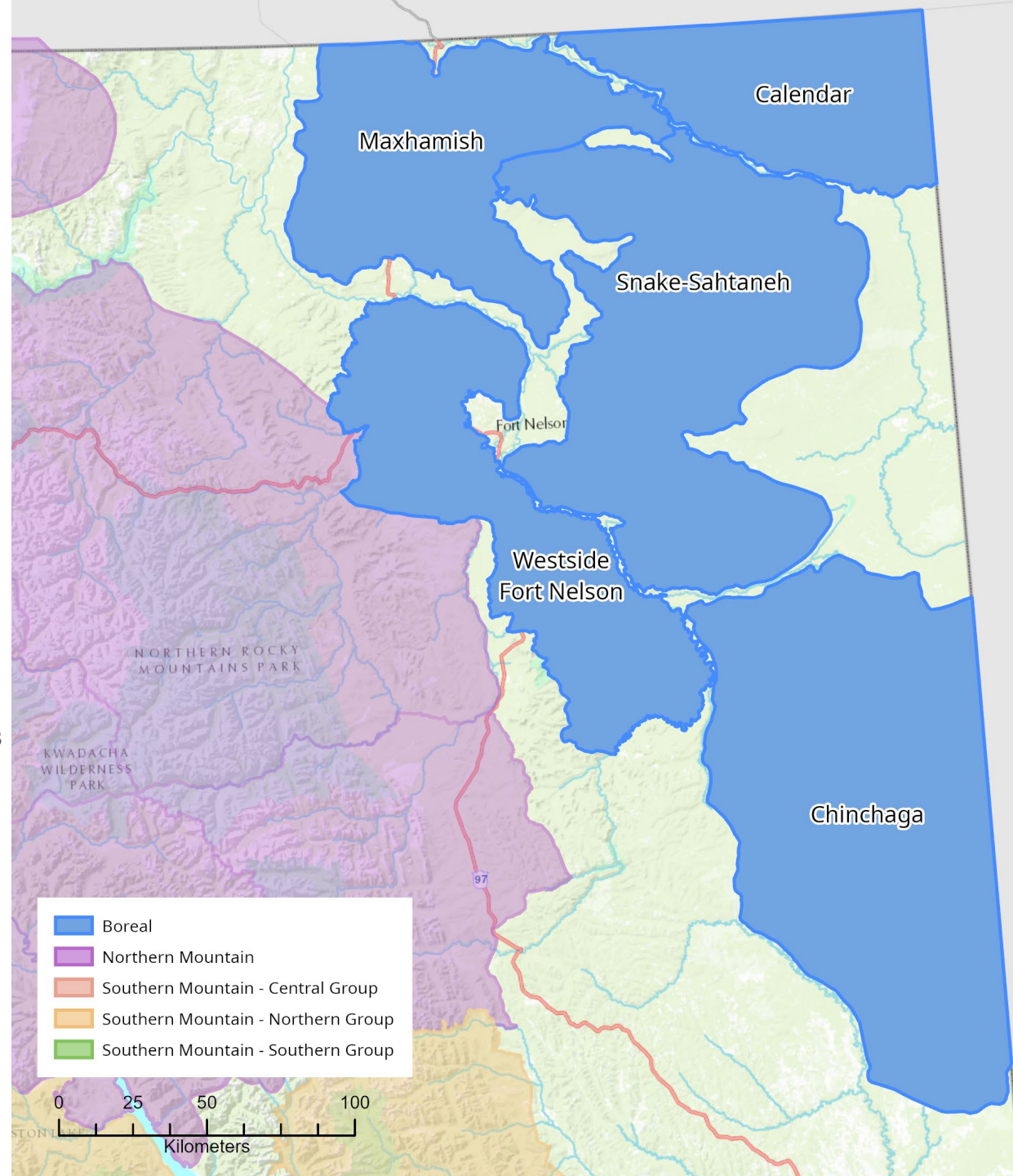
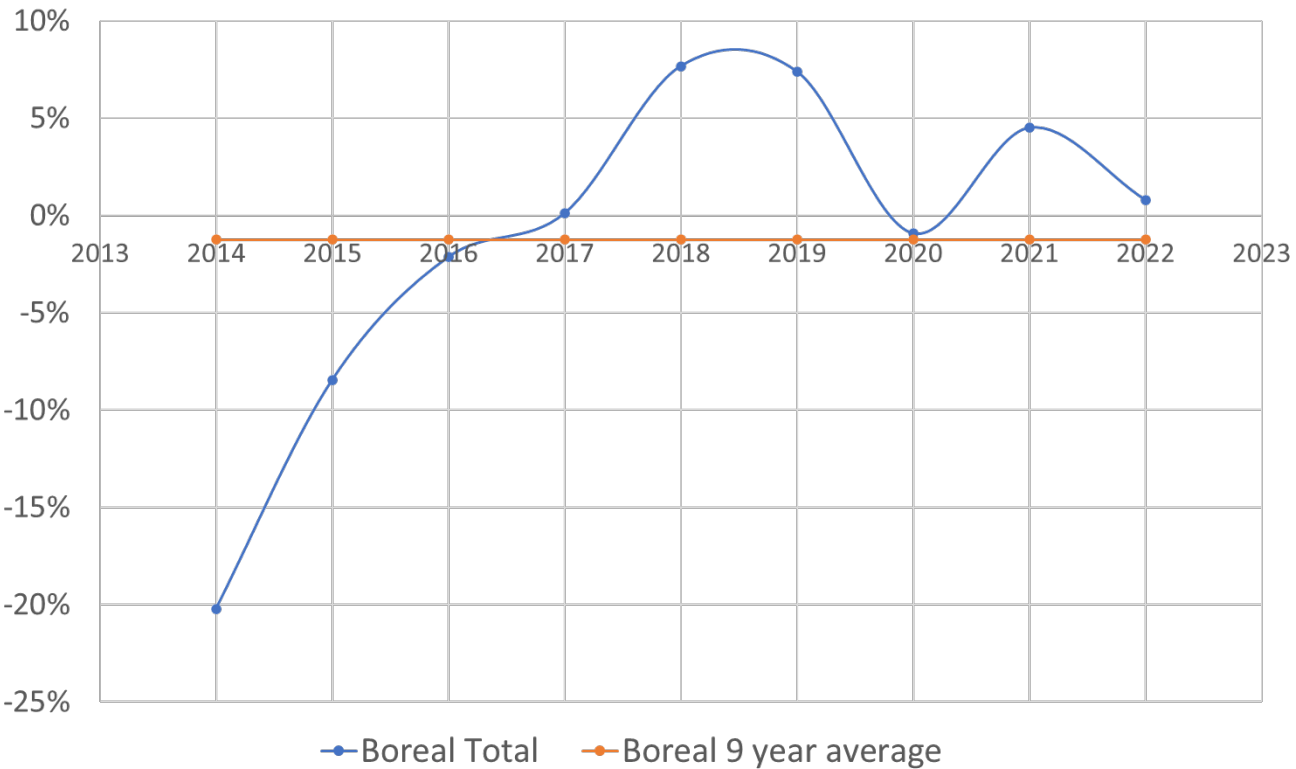


Boreal

Population Trend

- Based on aerial survey counts and classification
- Survival data from collared females

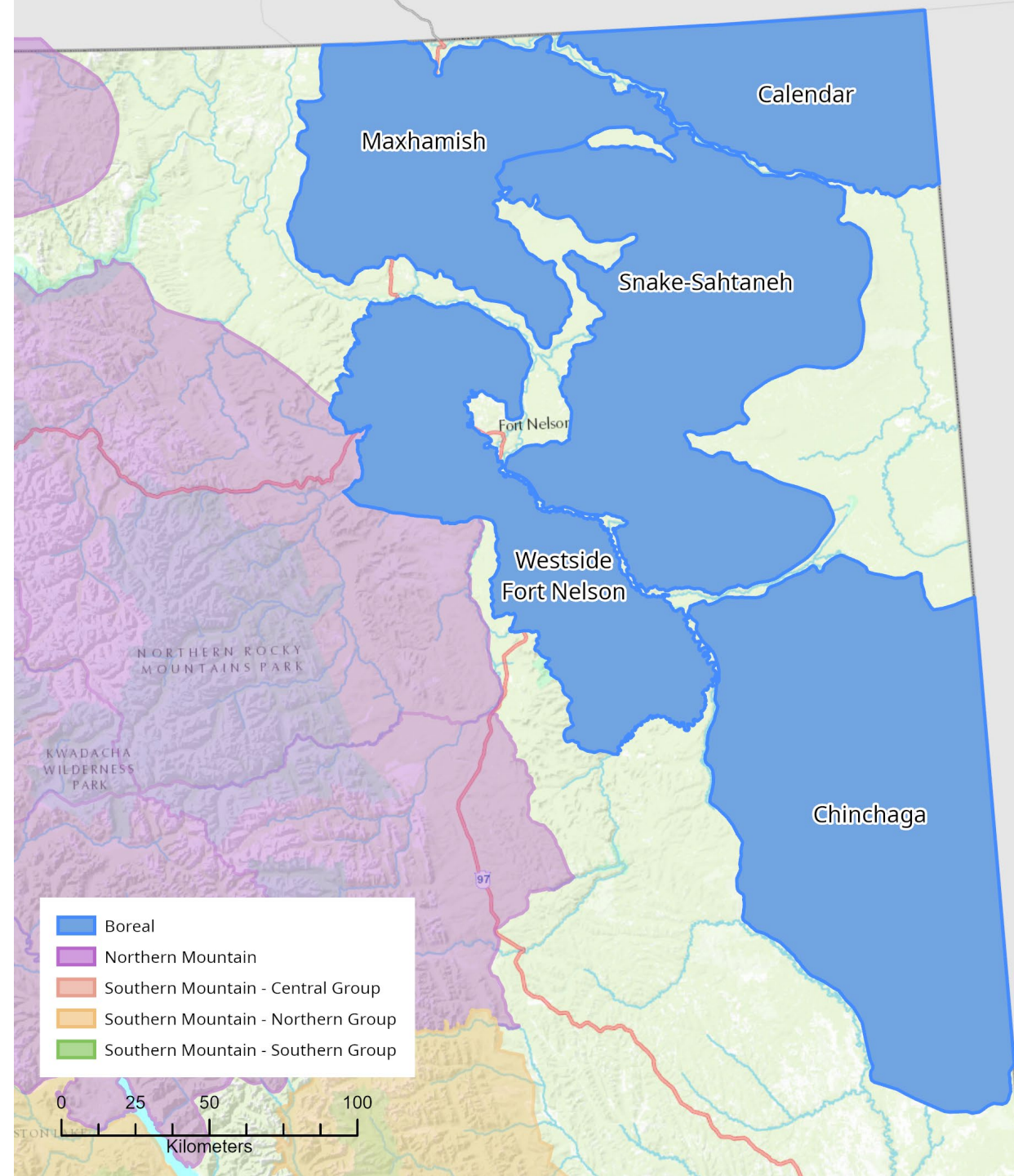
Important to maintain our collar #s for accurate data



Boreal

Captures 2022

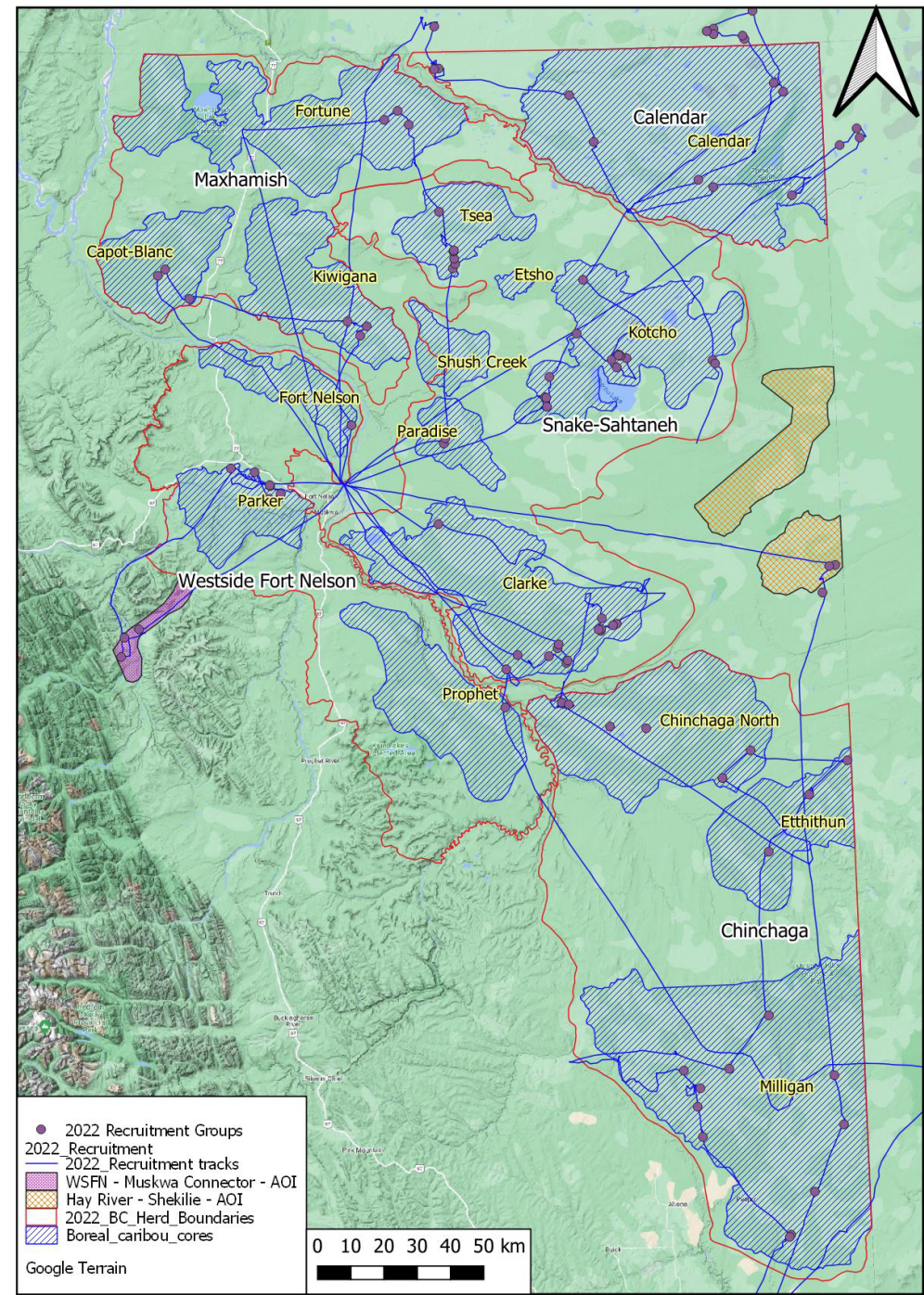
Range	# of collars deployed Jan 2022	# of active collars Sep 2022	# of deaths since April 1 st 2022
Calendar	8	8	5
Chinchaga	3	18	0
Hay River	1	0	0
Maxhamish	3	12	2
Snake-Sahtaneh	7	20	7 & 2 (uncollared)
Westside Fort Nelson	5	9	0
TOTAL	27	67	14 & 2



Inventory 2022

Survey count	% calves	Calves:100 cows	Bulls:100 cows
972	13.7%	22	34

Boreal caribou are hard to see under forest cover, so it can be difficult to get an accurate population count from aerial surveys.

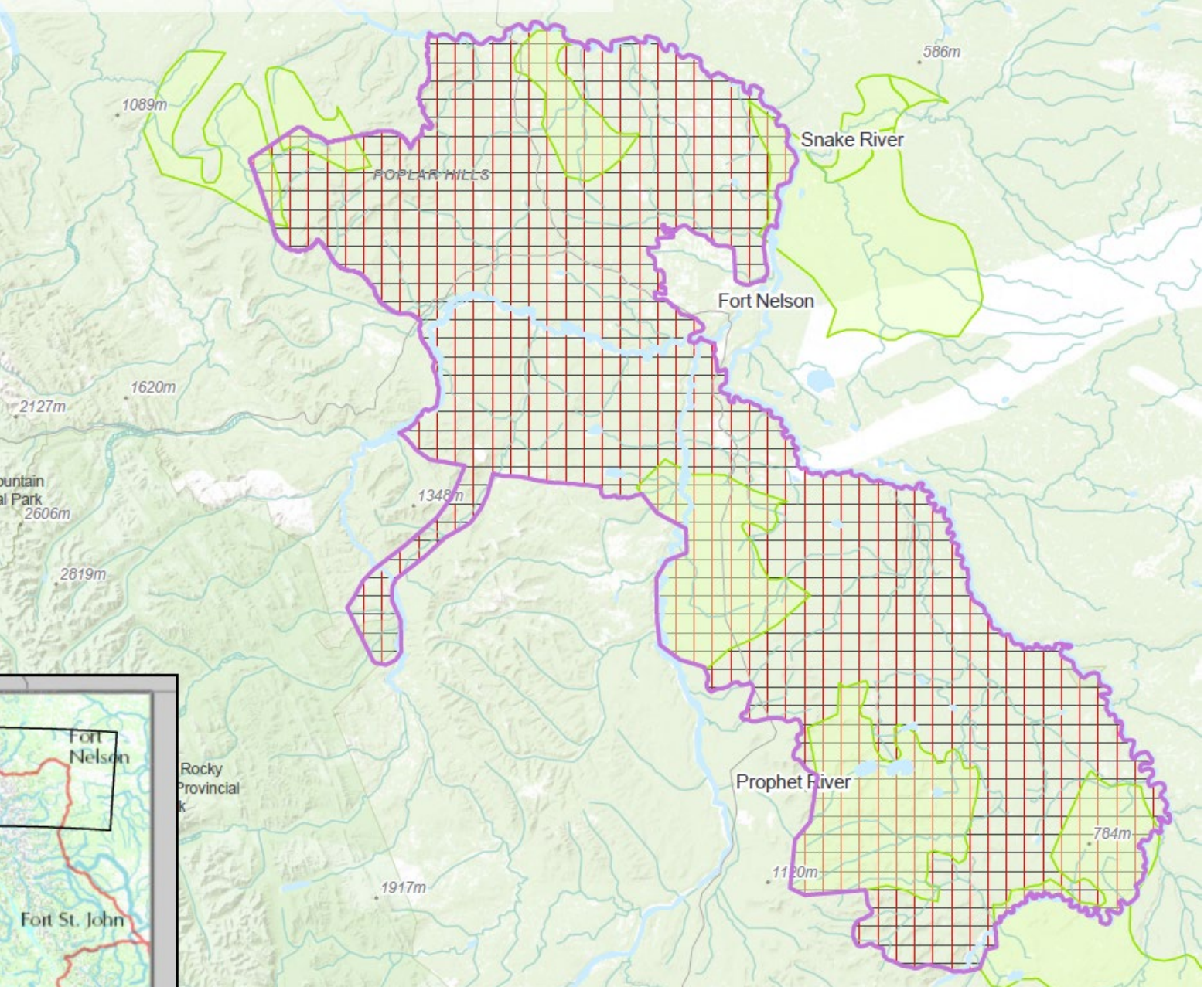


The DNA found in caribou feces (poop) can be used to identify unique individuals.



If enough fecal samples are collected, we can estimate how many caribou are on the land without needing to see them directly.

BC Boreal Caribou DNA survey #1 – Westside Fort Nelson



The Government of BC, Fort Nelson First Nation and Prophet River First Nation conducted the first ever DNA survey for boreal caribou in British Columbia in the winter of 2021-2022.



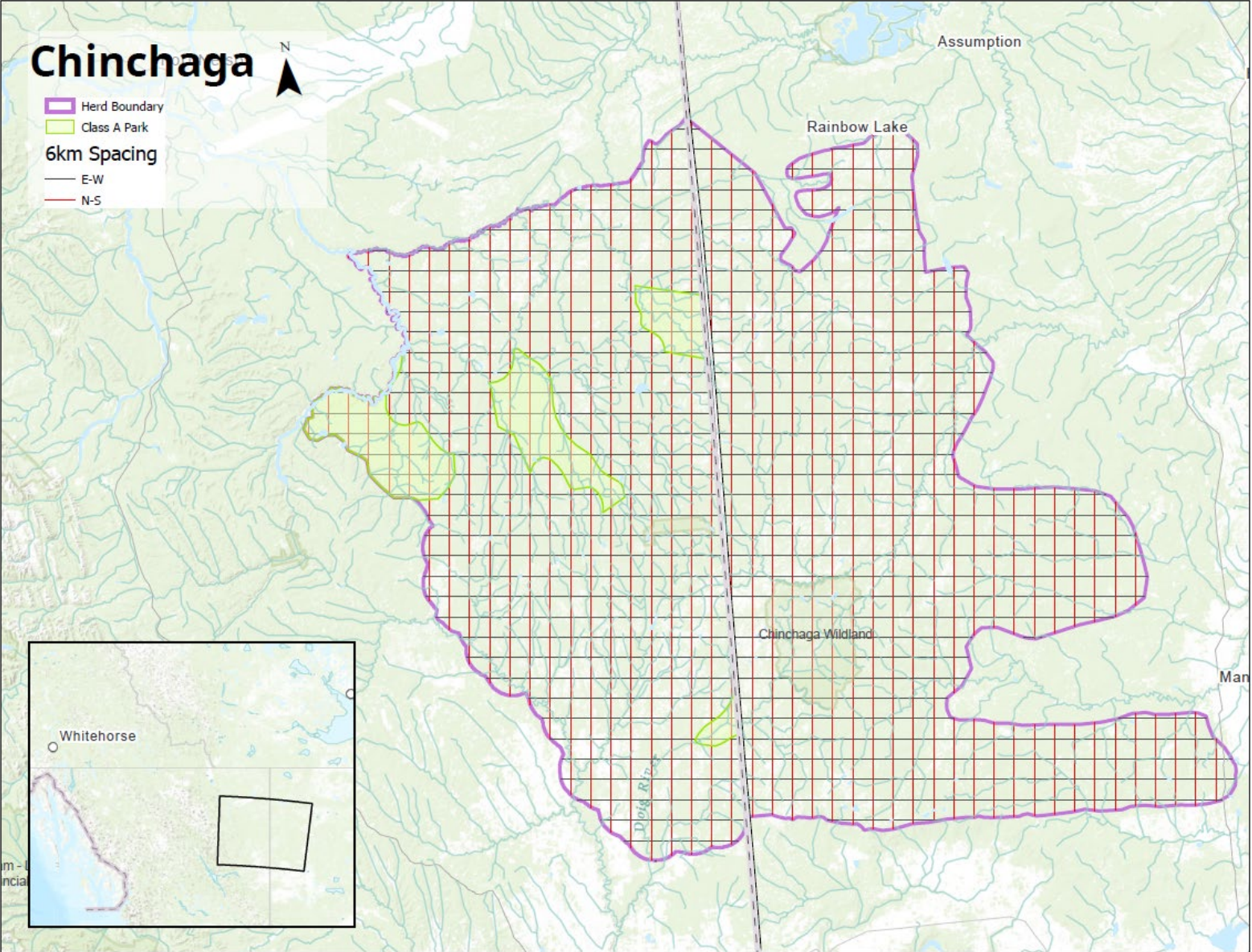
Caribou feces were collected from the Westside Fort Nelson Range in December 2021, January 2022 and February 2022, and were sent to a lab for analyses.



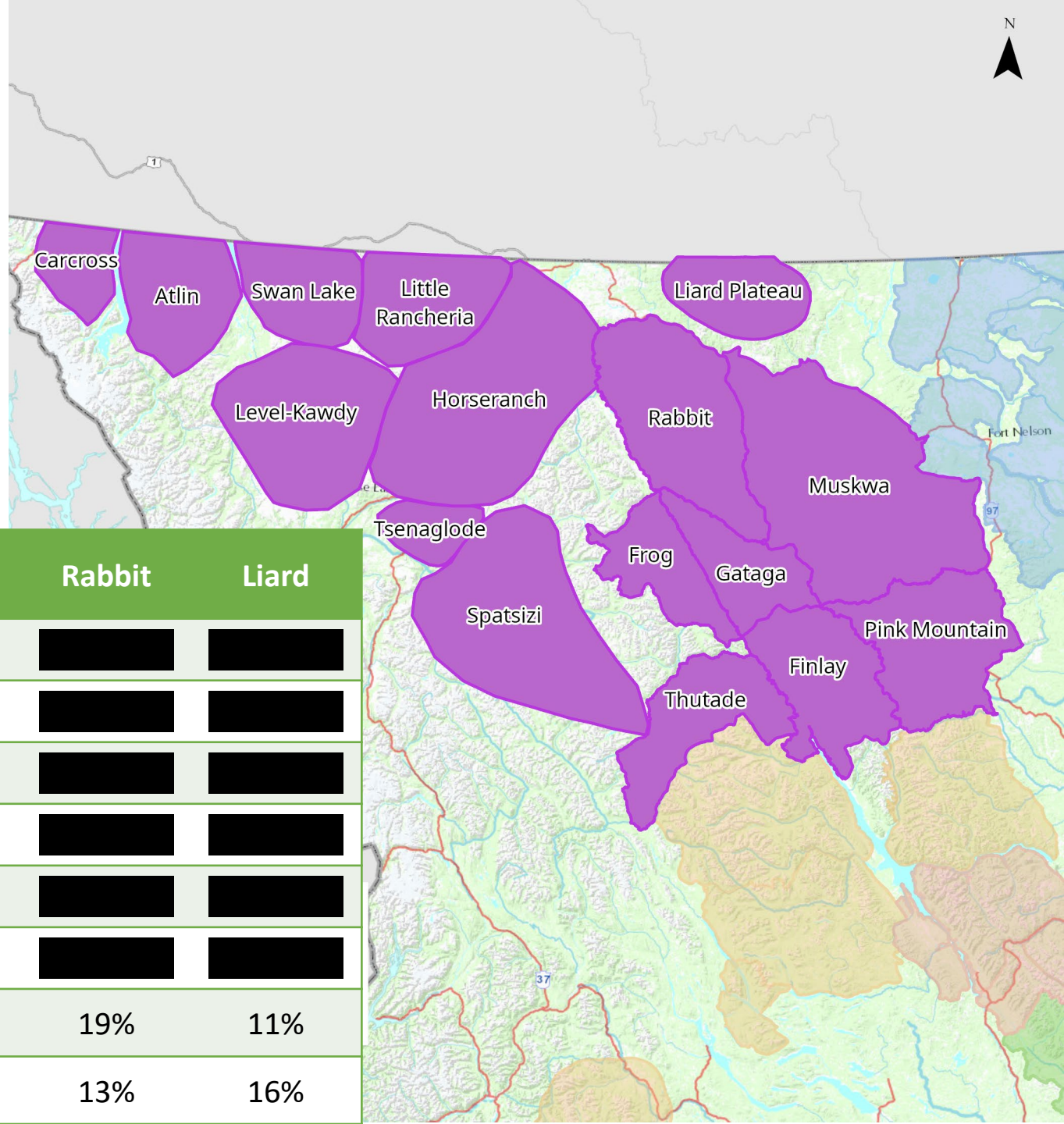
We flew 13,000 km and collected 393 samples.

These samples will help identify individual caribou in the Westside Fort Nelson range and will provide a population estimate.

BC Boreal Caribou DNA survey # 2 – Chinchaga – planned for 2022-23



Northern Mountain



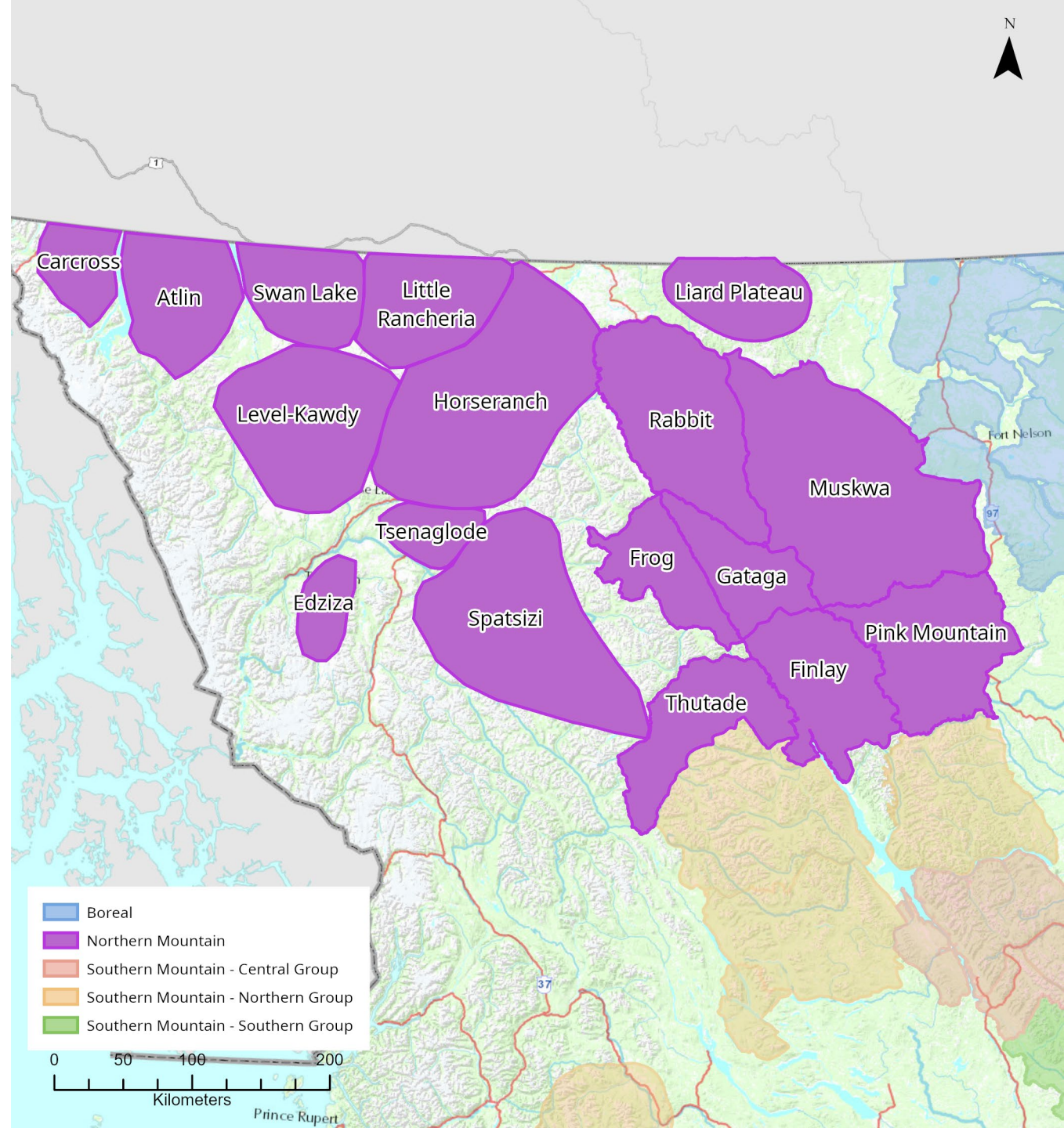
Survey history – calf recruitment data

	Graham	Pink Mountain	Muskwa	Gataga	Frog	Rabbit	Liard
2015	13%						
2016	12%	8%					
2017	15%	10%	22%*				
2018		16%	21%				
2019	15%						
2020	11%		18%				
2021	17%	17%		11%	13%	19%	11%
2022	18%	13%	16%			13%	16%

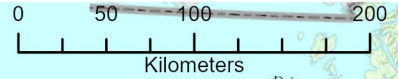
Captures 2022



Range	# of collars deployed Jan 2022	# of active collars Sep 2022	# of deaths since April 1 st 2022
Liard	8	6	3
Frog	6	12	1
Gataga	7	9 (incl. 7 in R)	1
Rabbit	14 (incl. 1 in HR)	28	4
Muskwa	7	18	0
Pink	8	18 & 3 VHF	0
Graham	4	12 & 3 VHF	0
TOTAL	54	103 & 6 VHF	9



■ Boreal
■ Northern Mountain
■ Southern Mountain - Central Group
■ Southern Mountain - Northern Group
■ Southern Mountain - Southern Group



Inventory 2022

- Muskwa
- Liard
- Rabbit
- Pink Mountain
- Graham



	Survey count	% calves	Calves : 100 cows	Bulls : 100 cows	Adult female survival	Pop estimate
Muskwa 2022 (recruitment)	229	15.7	29	54	96%	NA
Liard 2022 (MR)	151	15.9	30	58	NA	151 (SCF=1)
Pink 2022 (recruitment)	205	12.7	21	24	90%	NA
Graham 2022 (recruitment)	73	17.8	39	42	100%	NA
Rabbit 2022 (MR)	1063	13.1	26	47	75%	1110 (SCF=0.95)
TOTAL	1721	13.8	26	46		





Central Mountain – Inventory 2022

Renewal target

15-16% of calves in pop

25 calves:100 cows

	Females	Bulls	Uncl Ad	Calves	Uncl Juv	Total	% calves	Calf:cow	Bull:cow	Adult female survival	Pop estimate
Klinse Za 2022 (11 yearlings not in table)	38	42	3	20	11	114	17.5	0.53	1.11	96.20%	114 (SCF=1)
Kennedy Siding 2022 (Photo Census)	44	48	0	23	0	115	20	0.52	1.09	100%	115
Quintette 2022 (new boundary; MR)	40	24	4	18	0	86	20.9	0.45	0.60	100%	106 (SCF=0.8125)
Bearhole-Redwillow 2022 (AB data)	6	2	0	2	0	10	20	0.33	0.33		NA
Narraway 2022 (Monkman area)	10	2	6	6	0	24	25	0.60	0.20	75%	NA
South Narraway 2022 (AB data)	33	25	0	15	0	73	20.5	0.45	0.76		
TOTAL	171	143	13	84	11	422	19.9%	0.49	0.84		

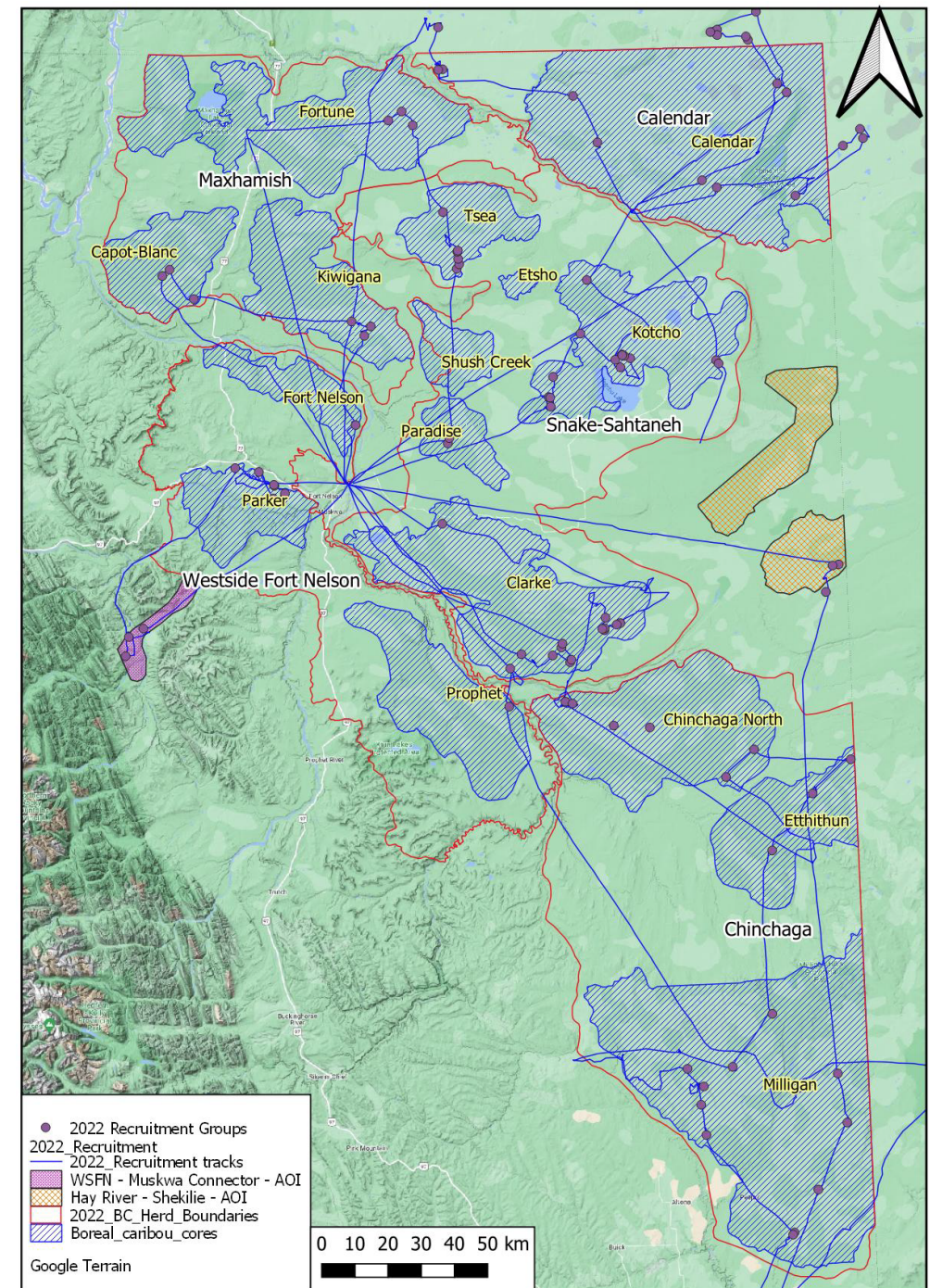
Boreal - Inventory 2022

Renewal target

15-16% of calves in pop

25 calves:100 cows

	Females	Bulls	Uncl Ad	Calves	Total	% calves	Calf:cow	Bull:cow	Adult female survival
Calendar	138	58	3	32	231	13.9	0.23	0.42	72%
Chinchaga	110	24	3	30	167	18.0	0.27	0.22	100%
Hay River	28	17	0	5	50	10.0	0.18	0.61	NA
Maxhamish	70	24	0	18	112	16.1	0.26	0.34	94%
Snake-Sahtaneh	204	64	7	36	314	11.5	0.18	0.31	90%
Westside Fort Nelson	61	23	2	12	98	12.2	0.20	0.38	100%
TOTAL	614	210	15	133	972	13.7	0.22	0.34	



Inventory 2022

Renewal target
15-16% of calves in pop
25 calves:100 cows

	Females	Bulls	Uncl Ad	Calves	Total	% calves	Calf:cow	Bull:cow	Adult female survival	Pop estimate
Muskwa 2022 (recruitment)	124	67	2	36	229	15.7	0.29	0.54	96%	NA
Liard 2022 (MR)	79	46	2	24	151	15.9	0.30	0.58	NA	151 (SCF=1)
Pink 2022 (recruitment)	124	30	25	26	205	12.7	0.21	0.24	90%	NA
Graham 2022 (recruitment)	33	14	13	13	73	17.8	0.39	0.42	100%	NA
Rabbit 2022 (MR)	543	254	130	139	1063	13.1	0.26	0.47	75%	1110 (SCF=0.95)
TOTAL	903	411	172	238	1721	13.8	0.26	0.46		