

# Caribou Monitoring Unit

Alberta Biodiversity Monitoring Institute,  
Fall Update 2016





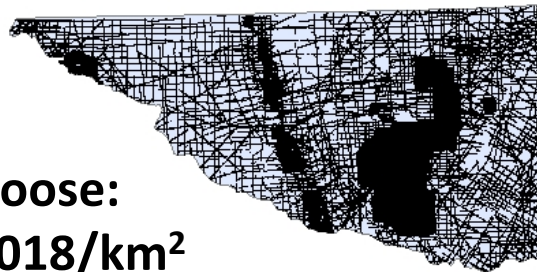


**Increasing  
prey**



**Native Prey**

**Moose:**  
**0.018/km<sup>2</sup>**



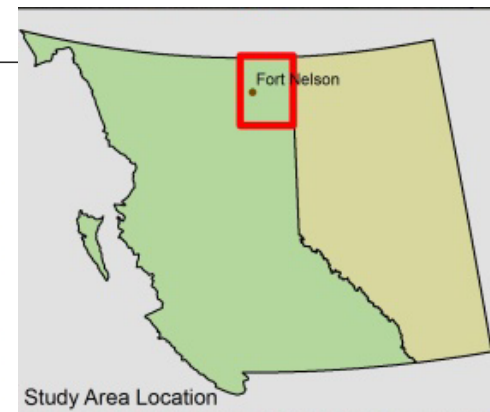
**Moose:**  
**0.25/km<sup>2</sup>**



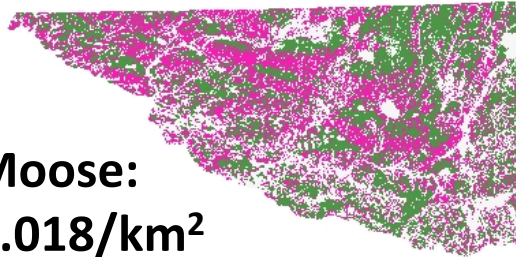
**Moose:**  
**0.15/km<sup>2</sup>**



— Linear Features  
■ Boreal Caribou Range



**Moose:**  
**0.018/km<sup>2</sup>**



**Moose:**  
**0.25/km<sup>2</sup>**




**Moose:**  
**0.15/km<sup>2</sup>**



**Legend**

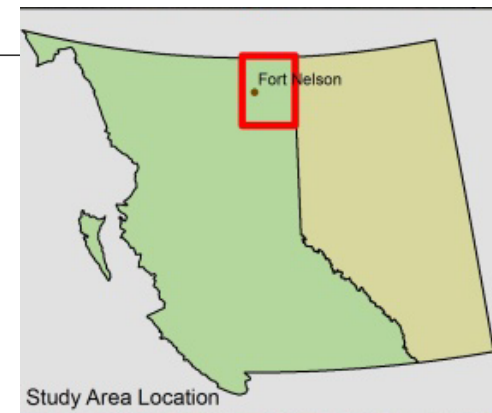
**Ducks Unlimited Land Cover**

**ClassName**

 Other

 Bog

 Nutrient Poor Fen





# Human footprint, habitat (climate?), wolves and boreal caribou population growth rates

Robert Serrouya<sup>1</sup>, Harry van Oort<sup>2</sup>, Craig DeMars<sup>3</sup>, and Stan  
Boutin<sup>1,3</sup>

September 2016

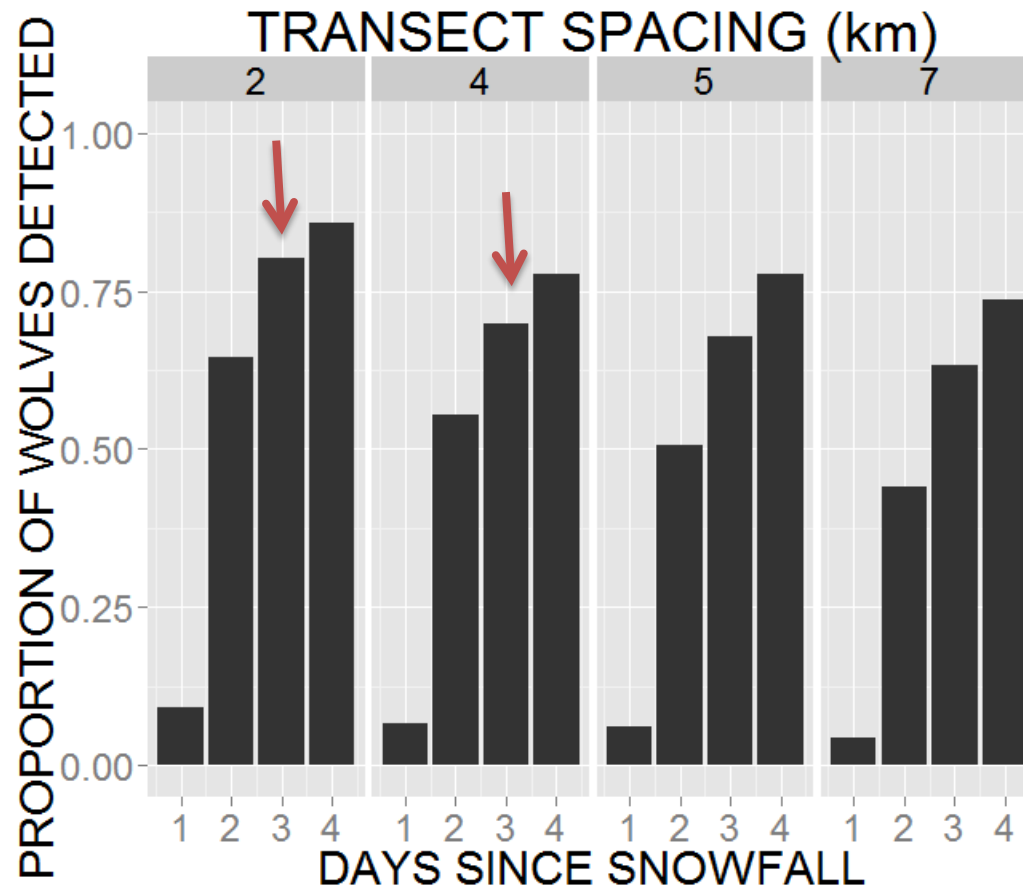
1. Alberta Biodiversity Monitoring Institute
2. Kingbird Biological Consultants Ltd
3. University of Alberta

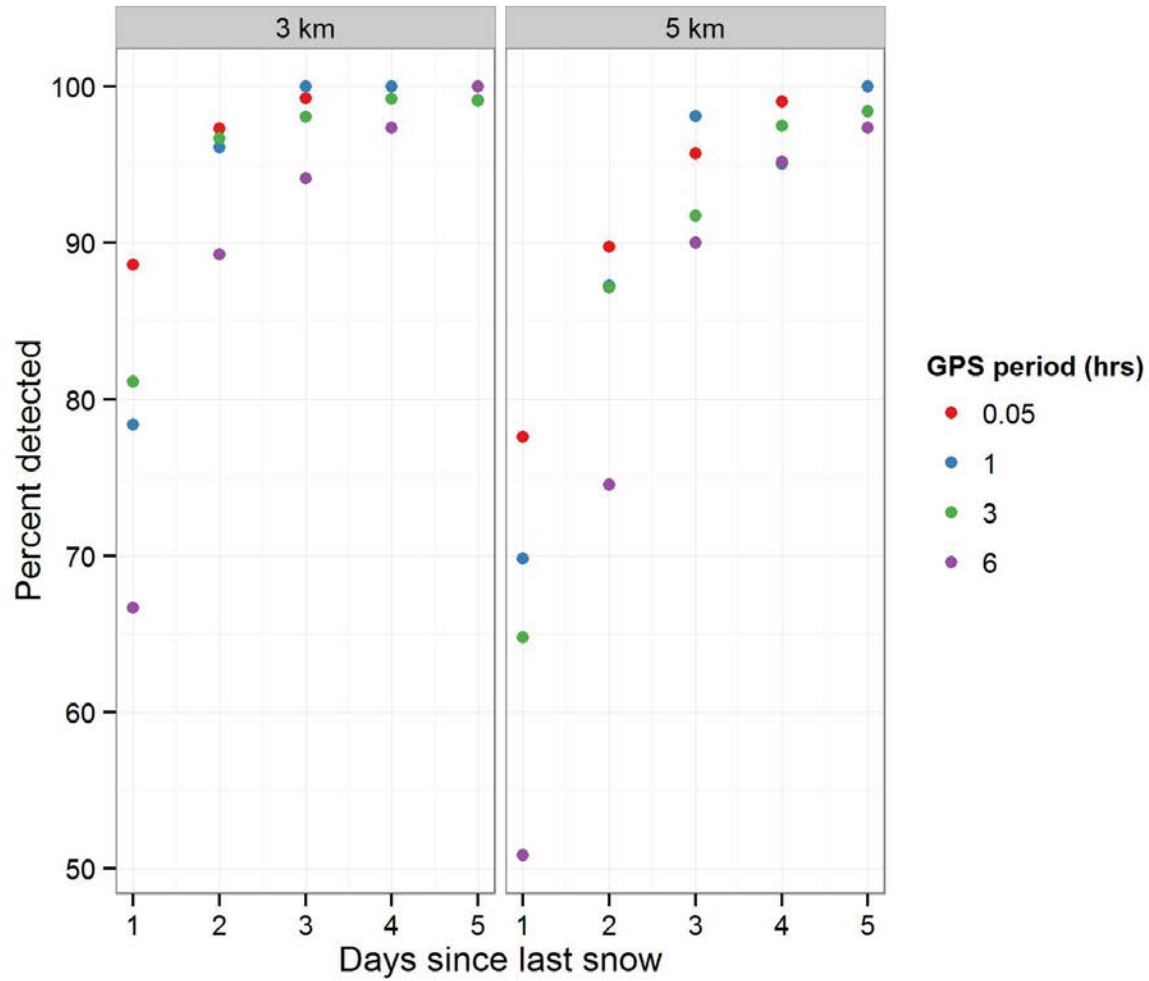




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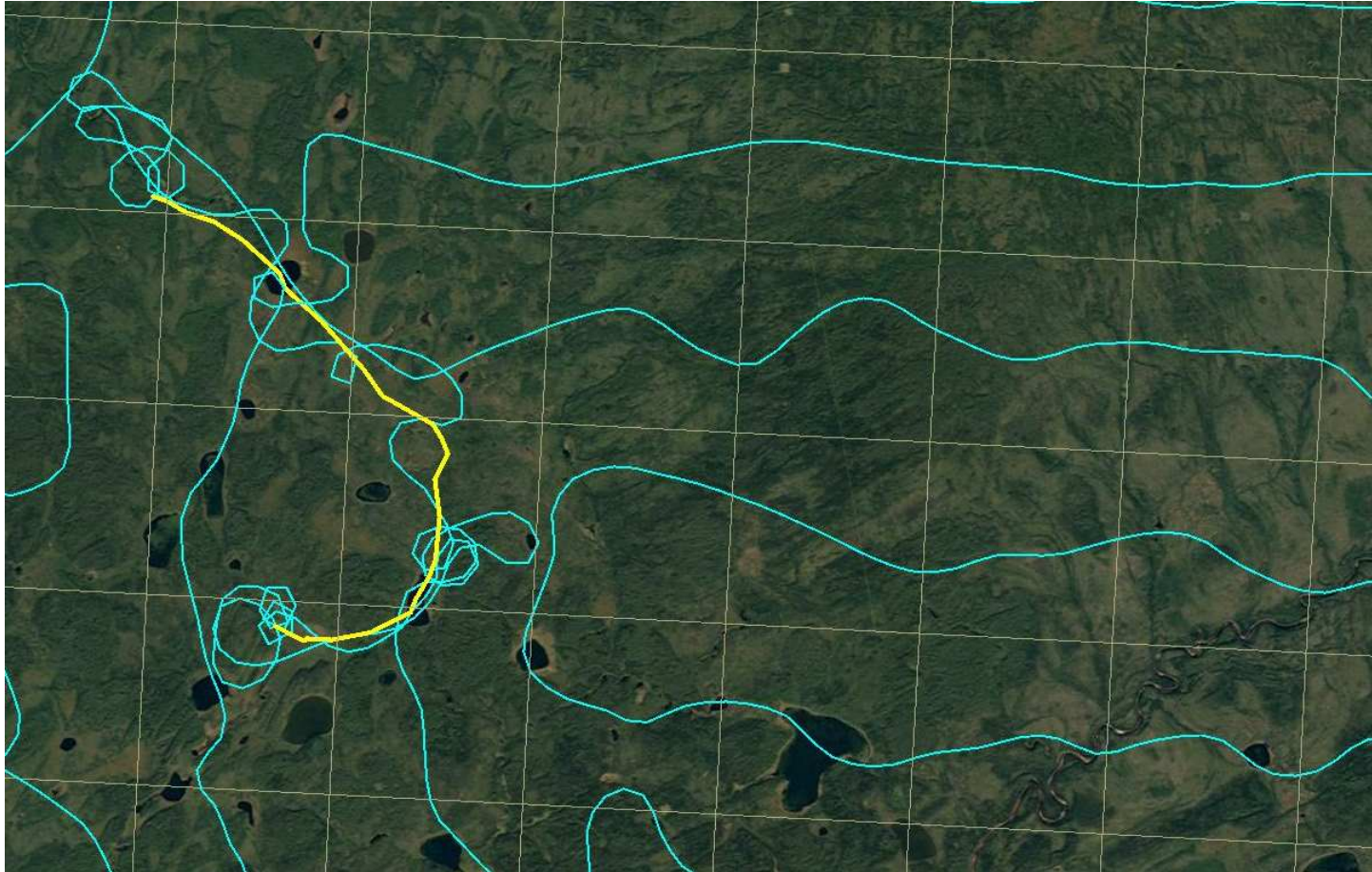




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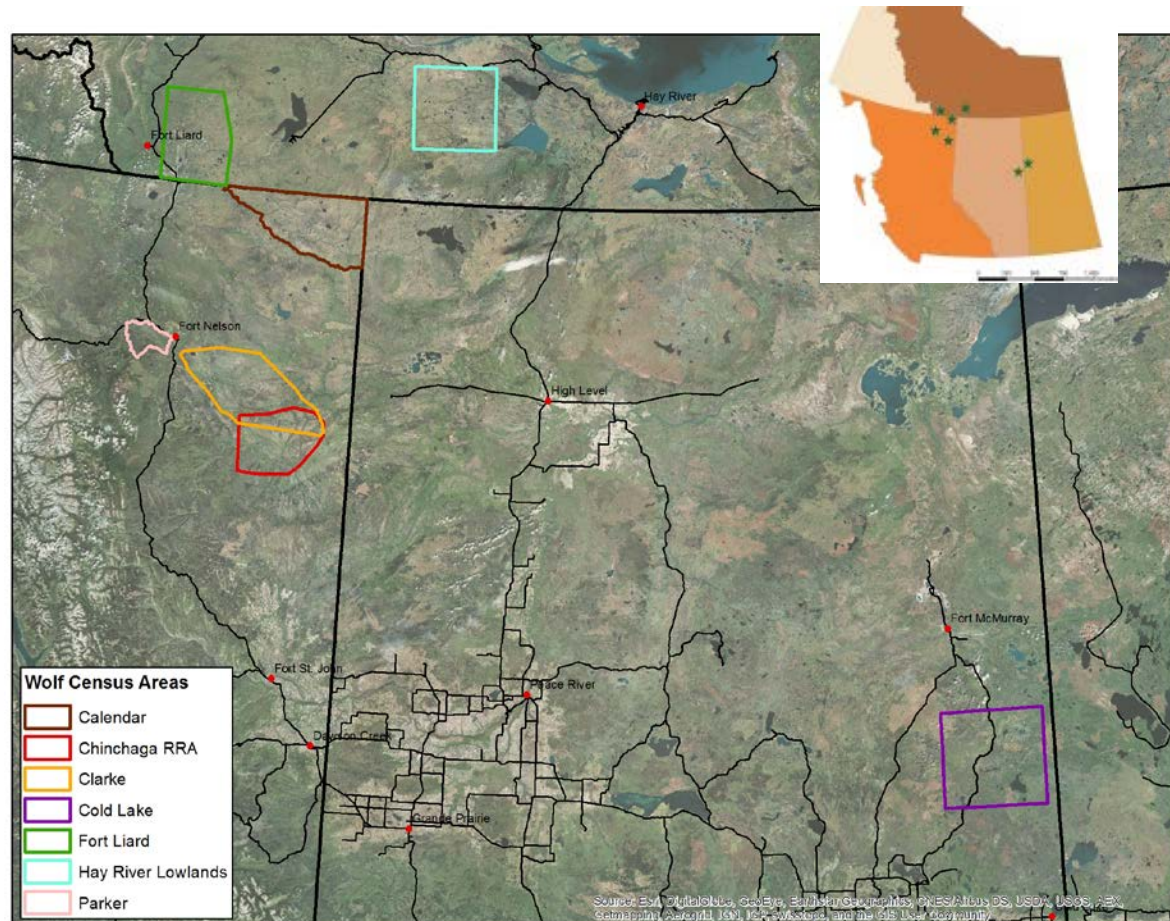




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# Caribou Monitoring Unit

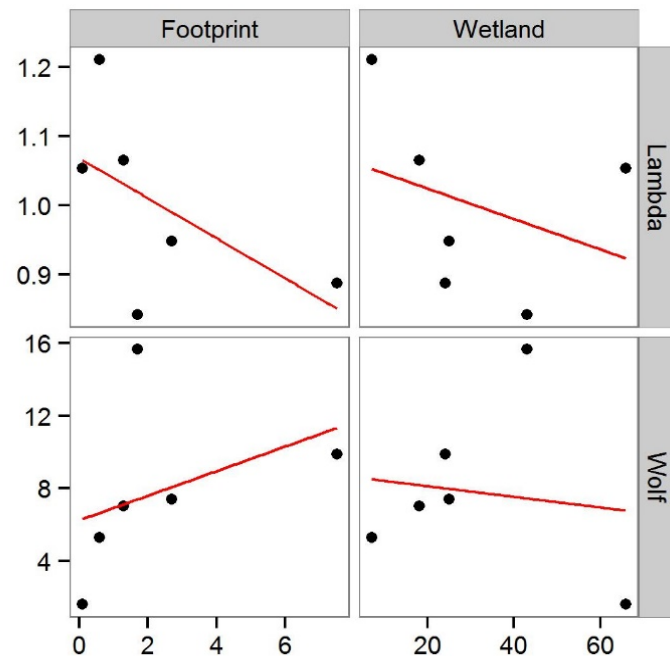
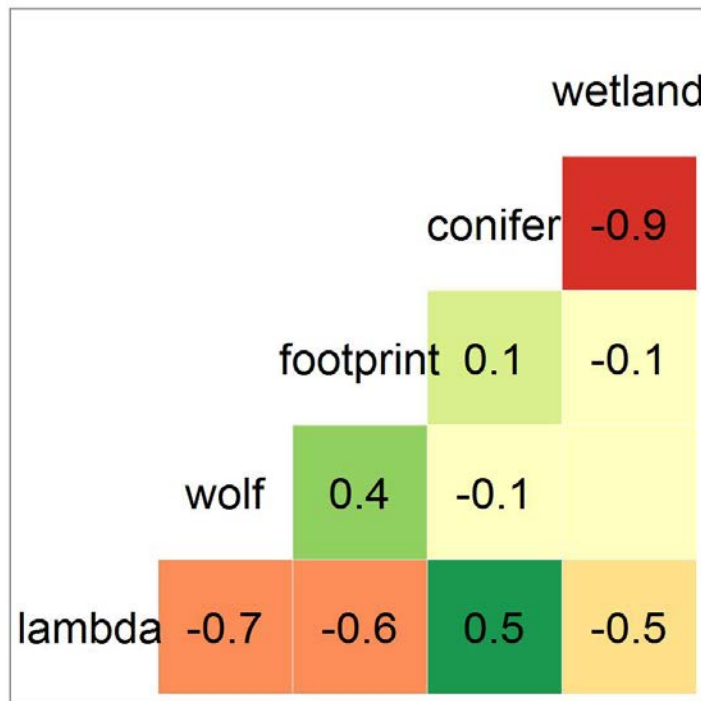


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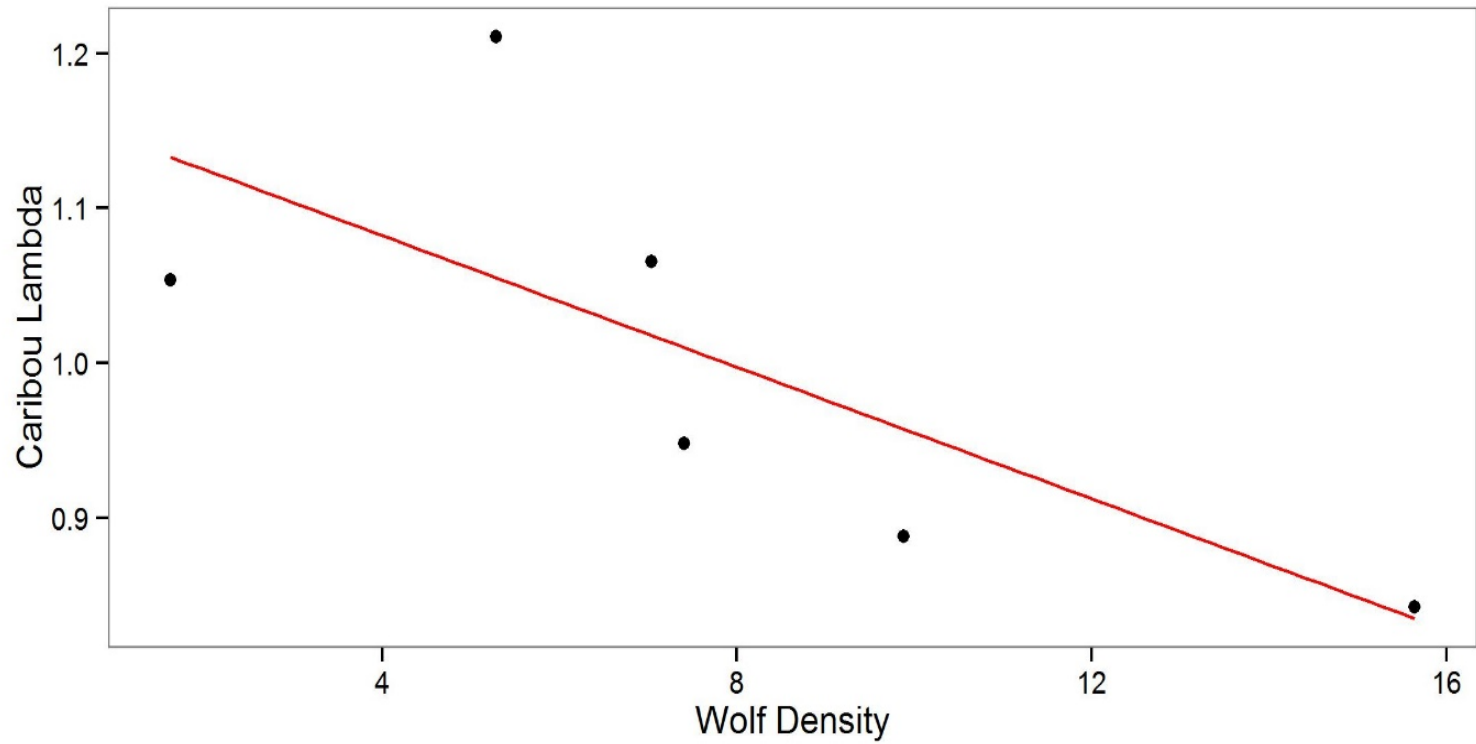




- Preliminary results (only 6 data points)
  - Wolf densities ranged from 1.6/1000 km<sup>2</sup> in NWT to 15.6/1000 km<sup>2</sup> in northeast BC

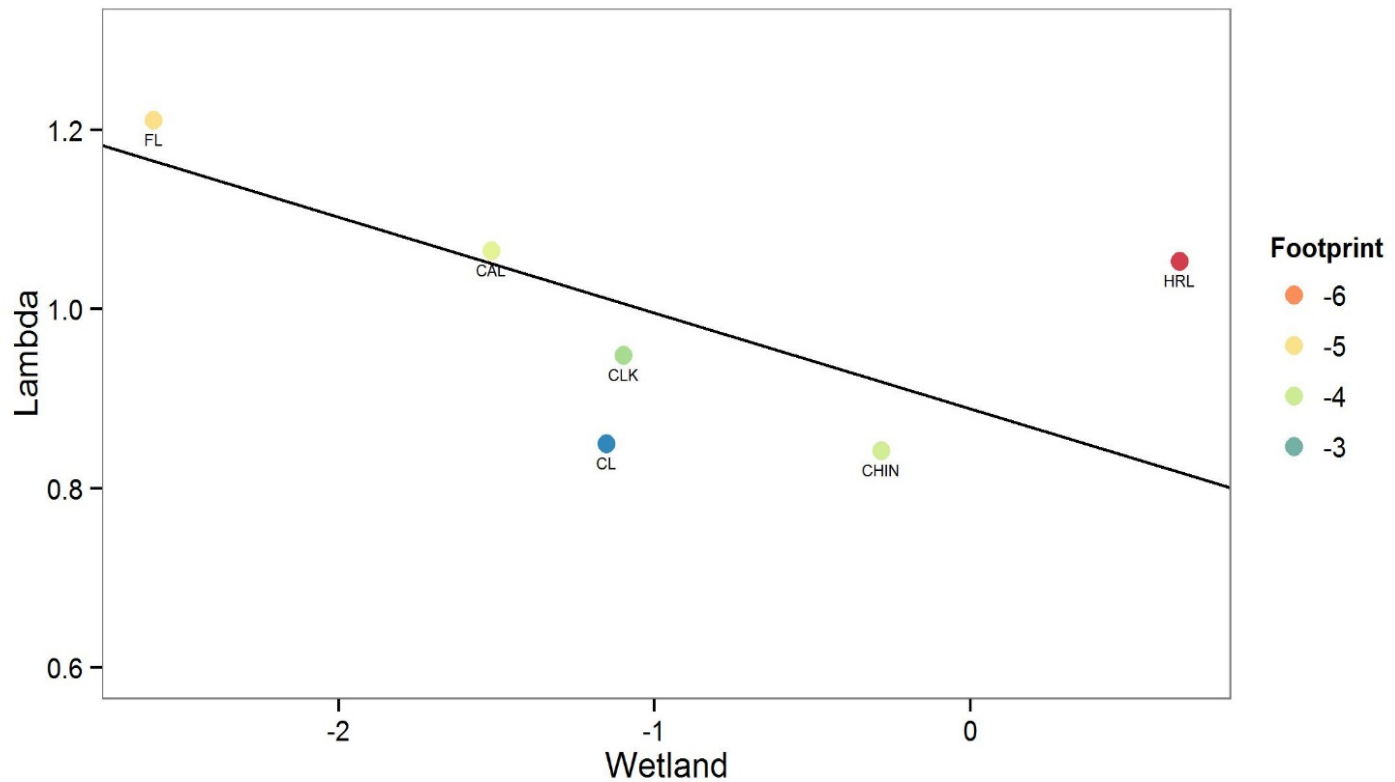






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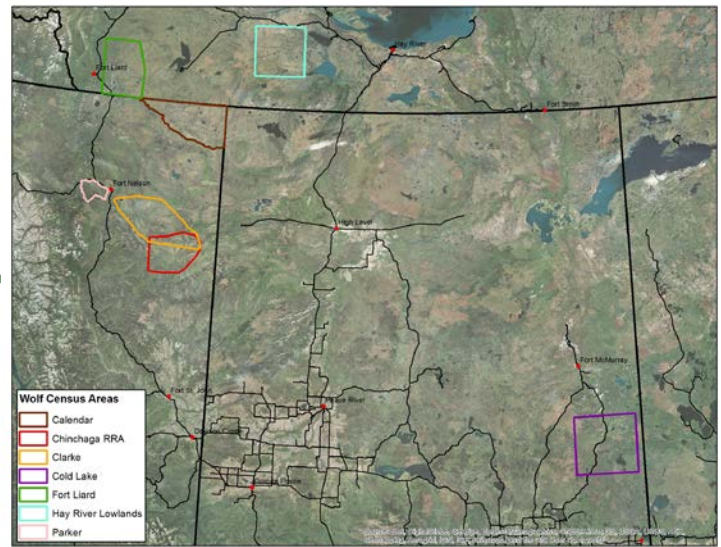
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Lambda  $\sim$  Footprint ( $p < 0.01$ ) + wetland ( $p < 0.01$ );  $R^2 = 0.92$  ?????

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WSU	Geometric mean Lambda (n)	Collared Wolf Packs	Year of Wolf Survey	Number of Packs	Min. Count	Max. Count	Wolf Density (/1000km <sup>2</sup> )
CAL	1.07 (1)	-	2015	5	32	35	7.0
CHIN	0.84 (1)	-	2015	8	52	61	15.6
CLK	0.95 (1)	1/1	2015	6	32	38	7.4
CL	0.82 (5)	3/6	2016	16	66	74	9.9
FL	0.98 (5)	-	2016	4	21	23	5.3
HRL	0.87 (2)	-	2016	2	8	9	1.6





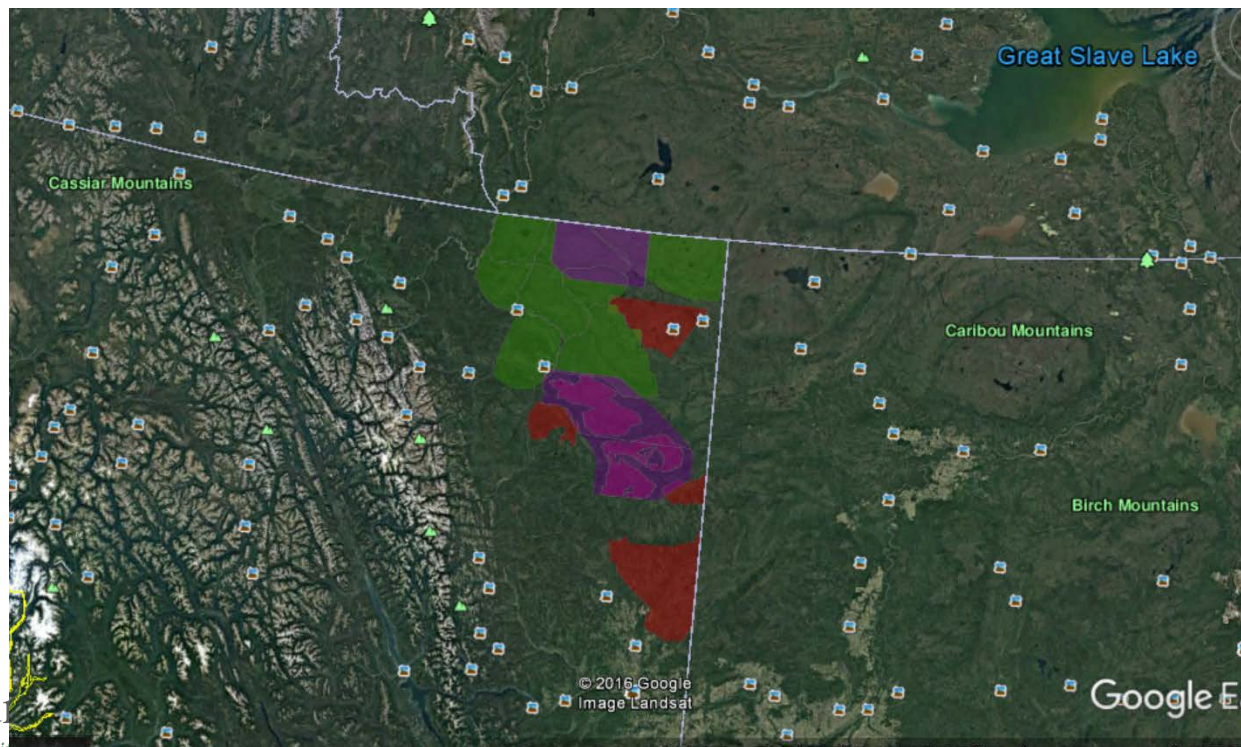
## *Conclusions*

1. Data are extremely preliminary
2. So, is it footprint, or habitat? So far, it's a tie.
  - Can't expect to pull the same management lever everywhere and get the same responses
3. Climate – Sophie Gilbert is looking for climate signals on boreal caribou recruitment and survival rates.
  - We know from Kim Dawe's work that warming has played a major role in deer expansion.

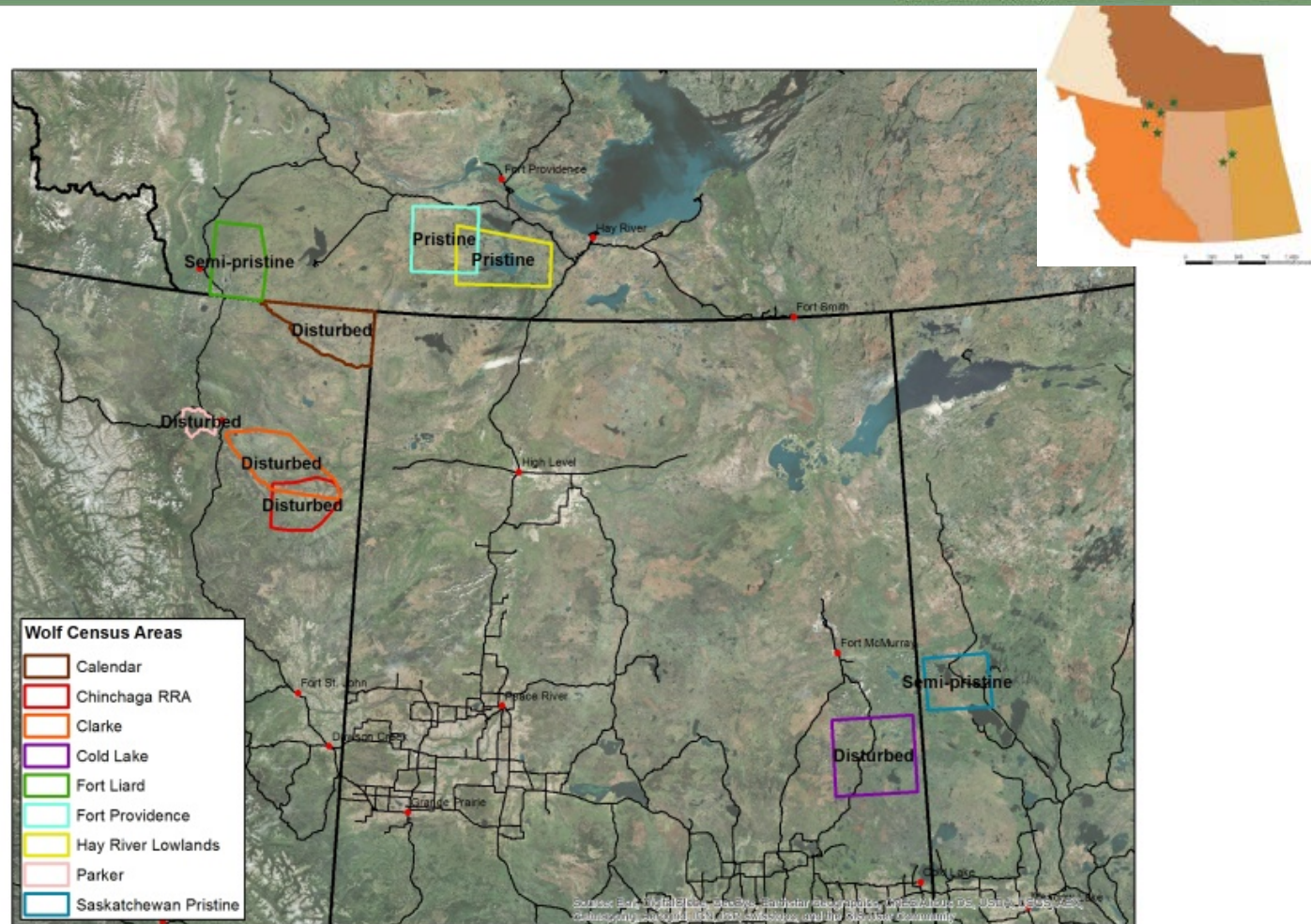


## *Next Steps*

- Add moose data to all analyses



# Confounded with latitude!



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# Acknowledgements



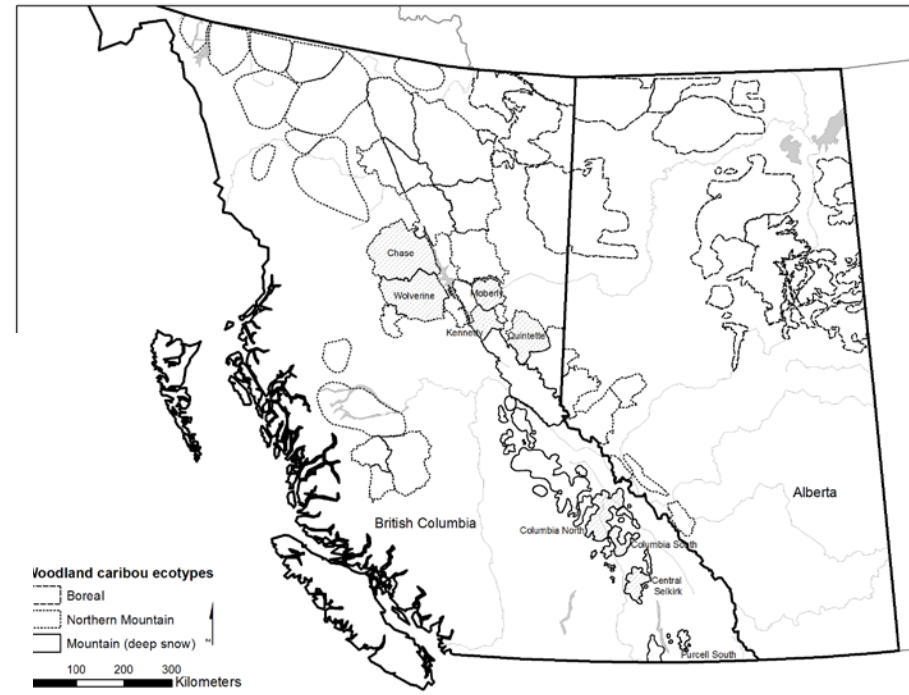
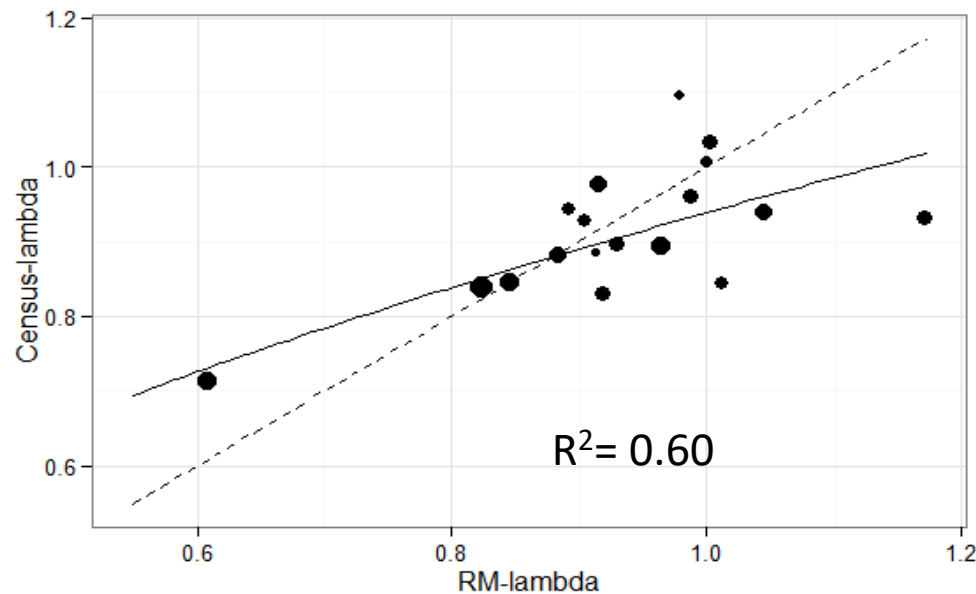
- Allicia Kelly, Nic Larter, James Hodson
- Glen Watts, Jim Fink, Derek Drinnan
- Danny Beaulieu, Edward Landry, Jim Deneron and Floyd Bertrand in Fort Liard, Jon Gareau, Michael Cody, Dave Hervieux and Barb Maile and Kendal Benesh
- **Funding:** BC Oil and Gas Research and Innovation Society, NWT government, the Regional Industry Caribou Collaboration, the Canadian Energy Pipeline Association, the Environmental Studies Research Fund

# Caribou Monitoring Unit



## Chair Support

- Are Caribou *Really* declining?



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