

Wildlife Biology

WLB-00494

Mumma, M. A., Bastille-Rousseau, G., Gullage, S. E., Soulliere, C. E., Mahoney, S. P. and Waits, L. P. 2019. Intrinsic traits of woodland caribou *Rangifer tarandus caribou* calves depredated by black bears *Ursus americanus* and coyotes *Canis latrans*. – Wildlife Biology 2019: wlb-00494

Appendix 1

Front

Newfoundland
Labrador
Environment and Conservation

Calf Mortality Data Sheet

Area: MR ^{NORTH} LP NP Date: 2010-06-09 Field Staff: Porter/Mumma

Lat(decimal degrees): 48.24317 Long: 55.32952

Collared calf? Y N

Animal ID: MR-2010-016 VHF Freq: 164.083

Ear Tags: Left Colour: — Left Number: —
Right Colour: Orange Right Number: 641

Doe Present? Y N

Calf remains collected? Y N

Collar Condition

Collar attached to calf carcass? Y N

Staples intact? Y N

Bite marks in collar? Y N (if yes, distance between bite marks: _____ cm)

Collar chewed? Y N

Blood stains on collar? Y N

Calf Carcass Condition

Too consumed to assess condition? Y N (if yes, go to Predator Evidence section)

Carcass buried? Y N (if yes, circle Complete or Partial)

Hole excavated? Y N

What is the hole covered over with? Moss Leaf Litter Dirt Other

Calf body dismembered? Y N Unkn

Decapitated? Y N Unkn

Skinned out? Y N Unkn

Skull cap removed? Y N Unkn

Throat trauma (circle one) None Light Moderate Severe Unkn

Punctures in body? Y N Unkn (if yes, locations of punctures: _____)

Broken jawbone? Y N Unkn

Crushed skull? Y N Unkn

Hole in side of abdomen? Y N Unkn (if yes, were organs consumed? Y N)

Ribs broken off? Y N Unkn

Hoof tips chewed? Y N Unkn

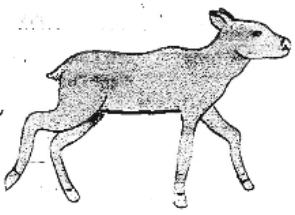
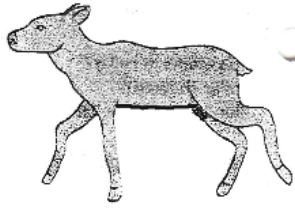
Back

Predator Evidence:

	Unknown	Bear	Coyote	Lynx	Eagle	Collected?
Sighting						
Scat		✓				Y N
Track						
Hair/feathers						Y N

Notes: Typical Bear. Skin out,
Skull crushed, eaten.
Long bones crushed, marrow eaten,
Hide left in a "neat" pile.
Bear scat collected nearby

Calf's Right Side

Calf's Left Side

CAUSE OF DEATH: black bear.

Mortality Site Characteristics

Slope: 40 ° (estimated to nearest 5°)

Aspect (circle one) N NE NW S SE SW E W

Topography (circle): hummocky rocky flat boggy

Estimated distance to nearest tree cover: 100 m

Photo numbers: 1201 → 1212

Camera Owner: 1046

DON'T FORGET TO FILL OUT A GROUND-TRUTHING SHEET FOR EACH MORTALITY SITE

80% Low scrub / 20% Grass
 - Crowberry
 - blueberry
 mature sallow 30m diam
 + burnt over

Figure A1. Mortality observation sheet (front and back) for a woodland caribou *Rangifer tarandus caribou* calf collared in the Middle Ridge study area during the spring of 2010 in Newfoundland, Canada.

Table A1. The fate up to 60 days post-birth of each woodland caribou *Rangifer tarandus caribou* calf collared in the spring of 2010, 2011 and 2012 in Newfoundland, Canada and the predator identification results as determined using molecular tools and a boosted regression tree to predict the predator species.

Fate	Total	Species	Molecular	Species	Predicted
Predation	112	Bear	35		
Collar only	17	Coyote	34		
Natural causes	2	Fox	2	Bear	20
Drowned	1	Multiple	6	Coyote	23
Capture-related	2	Failed	28		
Alive	194	Not swabbed	7		
Total	328	Total	112	Total	43

Table A2. The fate up to 60 days post-birth of each woodland caribou *Rangifer tarandus caribou* calf collared in the spring of 2010, 2011 and 2012 in Newfoundland, Canada and whether or not they were included in cumulative incidence functions and cause-specific Cox proportional hazards models. *Calves were excluded from the analyses because they were collared within a study area undergoing a coyote removal experiment (n = 37), were missing sex, mass, or hindfoot length (n = 31), died prior to verifying they had re-bonded with the female after collaring (n = 5), or because of collar failure (n = 1).

Fate	Total	Excluded*	Included
Bear	55	12	43
Coyote	57	13	44
Collar only	17	4	13
Natural causes	2	0	2
Drowned	1	0	1
Capture-related	2	2	0
Alive	194	51	143
Total	328	82	246

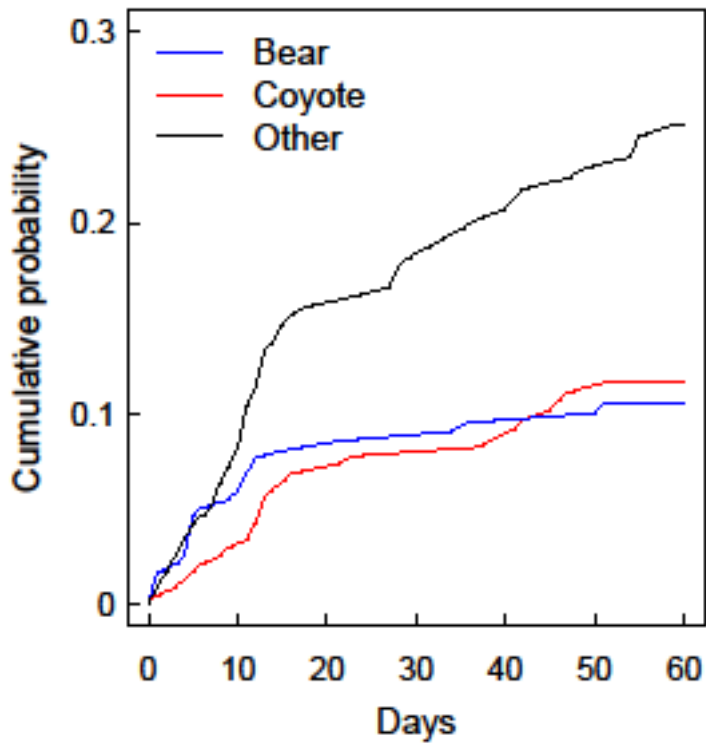


Figure A2. Cumulative incidence functions depicting the cumulative probability of a woodland caribou *Rangifer tarandus caribou* calf being killed by a black bear *Ursus americanus*, coyote *Canis latrans*, or other (or unknown) cause from 0–60 days in Newfoundland, Canada in 2010, 2011, 2012 based on predator species identifications using only molecular techniques.