

MAINTENANCE OF MOOSE COLLARS TO SUPPORT UNBC RESEARCH PROJECT

Moose ID: 15-5609, Collar ID: GSM18328

Prepared by: Ingebjorg Jean Hansen

*Moose
mortality
investigation
no. 4 – January
18, 2016*

Summary

Moose ID: 15-5609

Collar type: Vectronics Vertex

Collar ID: GSM18328

Sex: Female

Area: Fortune

Frequency: 153.240

Cause of death: wolf predation (highly probable)

Date of death: January 11 2016 (mortality notice received); January 12 2016 (reduced movement noted)



Figure 1. Moose 15-5609 collar as found January 18 2016

Background:

On January 15, 2016, we received notification of potential mortality for moose ID 15-5609 by Caslys Consulting Ltd. (Caslys). Caslys indicated that movement rates were extremely low on this collar since January 12, 2016, and that they had received a mortality notice from Vectronics on January 11, 2016. On January 18, 2016, we deployed to retrieve the collar just into the Northwest Territories. Eva Needlay of the Fort Nelson First Nations assisted with this investigation.

Methods:

The mortality site was accessed via helicopter from the Fort Nelson airport. The last known location of the collar was used to set the flight path and aerial telemetry techniques were used to get an exact location of the collar prior to landing. Location, habitat details, and photographs were taken. The time elapsed since mortality limited the biological samples available from moose 15-5609 as no remains were present and only wolf scat could be collected. The sampling protocol followed the BC Moose Research Mortality Investigation Form from the BC Ministry of Forests, Lands and Natural Resources (see *Appendix A*). Wildlife health ID numbers were assigned to each sample and are linked to the moose ID number.

Results and Discussion:

The collar was located by handheld telemetry at 60.129020°, -122.213770°, or UTM 10V 543682, 6666039 just across the BC-NWT border, north of the Fortune Core study area. The collar was damaged by wolves but much of the leather was still intact (fig. 1). This location was approximately 13m from the final location provided by the satellite data and 18m from the suspected kill site. A secondary feeding site 145m away from the primary kill site, was heavily trampled and obvious from the air, but smaller in size and had fewer wolf tracks/trails and scat. A 50m radius search around the kill site, collar, and secondary feeding site, revealed only wolf scats (fig 2). These were collected, labelled and given health ID number 15-5609-1. The wolf scat contained moose hair. Moose pellets were not observed on site, nor was any hair, despite extensive scuffing of the ground in the compacted areas. A potential wolverine track was noted but not fresh, and was a likely scavenger at the site. Wolf predation is the probable cause of mortality. Due to the time lag between the mortality event and when collar retrieval occurred it is difficult to determine whether there could have been any additional or complicating factors associated with this mortality prior to predation.

The collar was found under the snow at the edge of the kill site in a patch of black spruce (fig 3). Aerial and ground observations identified that the actual kill location was 13m to the northeast where the habitat consisted of a small opening in the stunted spruce. Ground cover that could

be observed consisted of grasses and small shrubs (fig 4). The secondary feeding site 145m to the northwest, was a similar opening (fig 5).

There was some post-mortem movement of this collar, likely attributed to wolves but the final location received by satellite three days prior to the investigation was only 13m from the actual location of the collar.

Figures: Moose 15-5609



Figure 2. Wolf scat were the only biological samples found on January 18 2016



Figure 3. Standing at collar location looking towards kill site January 18 2016 (looking north)



Figure 4. Aerial view of kill site showing multiple wolf tracks/trails leading to and from the location January 18 2016



Figure 5. Secondary feeding site location 145m to the northwest with similar open landscape to the kill site January 18 2016

Appendix A: Field Notes / BC Moose Research - Mortality Investigation Form

BC MOOSE RESEARCH - MORTALITY INVESTIGATION FORM

Date: Jan 18th / 16 Date of Mortality (signal): Jan 11 / 16 Days elapsed since death: 7
 Personnel: Inge Jean Harrison, Eva Neuday, Tom Halburck (pilot)
 General Location: NWT; just nr. of 60°
 Waypoint: 15-5609 UTM: Zone 10VE: 542683 N 6666053
 Lat: 60.129135° Long -122.213759°
 Wildlife Health ID: 15-5609
 Ear Tag #: 0-783 Collar Recovered: Y / N Ser. No.: 18328
 Carcass Located: Y / N Collar Condition: Functional Damaged Destroyed

DESCRIBE THE MORTALITY SITE and TAKE PHOTOS (Tracks, Scat, Blood, Signs of Struggle, etc)

Tracks coming to and from 2 different paddalaka areas.
Ground investigation led me / Eva to realize that site
nearest collar was kill site. Site 2 was secondary feeding site.
Only wolf scat scollar found. NO moose hair, bones, etc / despite
staying both sites.
 Snow Crust: Heavy Light Fluffy Snow Depth (cm): 55 Sinking Depth (cm) 33

EXTERNAL - Describe abnormalities, collect samples, take photos

Choose all that apply

Carcass Location	Carcass Condition	Carcass State	Body Condition	Skin / Hair Coat
<input type="checkbox"/> In Open <input type="checkbox"/> Concealed <input type="checkbox"/> Buried <input checked="" type="checkbox"/> <u>unk.</u>	<input type="checkbox"/> Fresh <input type="checkbox"/> Frozen <input type="checkbox"/> Decomposed <input checked="" type="checkbox"/> <u>unk.</u>	<input type="checkbox"/> Intact <input type="checkbox"/> Disarticulated <input type="checkbox"/> Scattered <input checked="" type="checkbox"/> Scavenged <input checked="" type="checkbox"/> <u>unk.</u>	<input type="checkbox"/> Excellent <input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input type="checkbox"/> Emaciated <input checked="" type="checkbox"/> Undetermined	<input type="checkbox"/> Normal <input type="checkbox"/> Hide Inverted <input type="checkbox"/> Missing Hair <input type="checkbox"/> External Parasites <input type="checkbox"/> Abnormal Skin <input type="checkbox"/> Lumps / Warts <input checked="" type="checkbox"/> <u>unk.</u>
Discharge / Blood	Diarrhea / Feces	Hoof Condition	Bones / Legs / Joints	Mouth / Teeth
<input type="checkbox"/> None <input type="checkbox"/> Mouth <input type="checkbox"/> Nose <input type="checkbox"/> Anus <input checked="" type="checkbox"/> <u>unk.</u>	<input type="checkbox"/> None <input type="checkbox"/> Normal Pellets <input type="checkbox"/> on Tail + Hind-legs <input checked="" type="checkbox"/> <u>unk.</u>	<input type="checkbox"/> Normal Wear <input type="checkbox"/> Worn <input type="checkbox"/> Overgrown <input checked="" type="checkbox"/> <u>unk.</u>	<input type="checkbox"/> Normal <input type="checkbox"/> Chewed <input type="checkbox"/> Fractured <input type="checkbox"/> Compound <input checked="" type="checkbox"/> <u>unk.</u>	<input type="checkbox"/> Normal Wear <input type="checkbox"/> Irregular / Worn <input type="checkbox"/> Broken <input checked="" type="checkbox"/> <u>unk.</u>

Comments / Details

→ Kill site
2 main sites. 1° site well packed in 20m x 10m in size
2° site well packed in 200m away and 10m x 5m
in size.
Many tracks leading to E from 1° site.
Collar close to 1° site, half missing. found a few leather
bits in middle of 1° site. Lots scat, urine but absolutely
no remains or even hair.
Some potential wolverine tracks @ 2° site.

INTERNAL - Record all abnormalities, collect samples and take photos

	Normal	Abnormal	Comments
Lungs / Trachea	<input type="checkbox"/>	<input type="checkbox"/>	
Heart	<input type="checkbox"/>	<input type="checkbox"/>	
Muscle	<input type="checkbox"/>	<input type="checkbox"/>	
Liver	<input type="checkbox"/>	<input type="checkbox"/>	
Kidney	<input type="checkbox"/>	<input type="checkbox"/>	
Spleen / Lymph nodes	<input type="checkbox"/>	<input type="checkbox"/>	
Stomachs / Intestines	<input type="checkbox"/>	<input type="checkbox"/>	
Skull / Spine	<input type="checkbox"/>	<input type="checkbox"/>	
Reproductive Tract	<input type="checkbox"/>	<input type="checkbox"/>	

n/a no carcass found

If Pregnant: Record sex and crown rump length(s) of fetus(es) Sex: ___ CR Length (cm): ___

Back Fat Depth (mm): _____ Sex: ___ CR Length (cm): ___



Comments/ Details

no carcass found

CAUSE OF DEATH (follow key and check appropriate boxes)

Confidence Level	Predation	Non-Predation	Unknown
<input type="checkbox"/> Definitive <input checked="" type="checkbox"/> Probable <input type="checkbox"/> Possible	<input checked="" type="checkbox"/> Wolf <input type="checkbox"/> Bear <input type="checkbox"/> Cougar <input type="checkbox"/> Unknown	<input type="checkbox"/> Collision <input type="checkbox"/> Hunter Kill <input type="checkbox"/> Hunter Wounded <input type="checkbox"/> Accident <input type="checkbox"/> Other	<input type="checkbox"/> Unknown

highly

Comments/ Details

*tracks showed in but not wolf
typical kill site w/ lots of trails, scat urine (all wolf)*

SAMPLES (check if taken)

SAMPLES	STORAGE	REASON for COLLECTION
<input type="checkbox"/> Long Bone	Freeze	For Body Condition Index (Bone Marrow Fat)
<input type="checkbox"/> Jaw	Freeze	For Size and Growth
<input type="checkbox"/> Teeth	Freeze	For Aging
<input type="checkbox"/> Head (if Intact)	Freeze	For CWD
<input type="checkbox"/> Kidney + Fat	Freeze	For Body Condition Index (Kidney Fat)
<input type="checkbox"/> Liver (3 x 3 cm)	Freeze	For Toxicology
<input type="checkbox"/> Kidney (3 x 3 cm)	Freeze	For Contaminants
<input type="checkbox"/> Intestines	Freeze	For Parasites
<input type="checkbox"/> Muscle	Formalin	For moose measles / Parasites
<input type="checkbox"/> Predator DNA swab	Dry	For Predator Identification
<input type="checkbox"/> Predator Hair	Dry	For Predator Identification
<input checked="" type="checkbox"/> Predator Scat	Freeze	For Predator Identification

Photos Taken?

Send Samples to:
Cait Nelson
2080 Labrieux Road
Nanaimo, BC
V9T 6J9

4

BODY CONDITION SCORING SYSTEM		
Body Condition	SCORE (Franzmann 1977)	PHYSICAL DESCRIPTION (Franzmann 1977)
	10	Prime, fat animal with thick, firm rump fat by sight. Well fleshed over back and loin. Shoulders and rump round and full.
	9	Choice, fat moose with evidence of rump fat by feel. Fleshed over back and loin. Shoulders round and full.
5 Excellent	8	Good, fat moose with slight evidence of rump fat by feel. Bony structures of back and loin not prominent. Shoulders well fleshed.
4 Good	7	Average moose with no evidence of rump fat, but well fleshed. Bony structures of back and loin evident by feel. Shoulders with some angularity.
3 Fair	6	Moderately fleshed moose beginning to demonstrate one of the following conditions: (A) definition of neck from shoulders; (B) upper foreleg (humerus and musculature) distinct from chest; or (C) rib cage prominent.
2 Poor	5	Two of the characteristics listed in 6 are evident.
1 Emaciated	4	All Three of the characteristics in 6 are evident.
	3	Hide fits loosely about neck and shoulders. Head carried at a lower profile. Walking and running postures appear normal.
	2	Sings of malnutrition. Outline of the scapula evident. Head and neck low and extended. Walks normally but trots and paces with difficulty, cannot canter
	1	Point of no return. Generalized appearance of weakness. Walks with difficulty; cannot trot, pace or canter.
✓	(0)	Dead.

- no carcass found
- cannot determine condition.