MAINTENANCE OF MOOSE COLLARS TO SUPPORT THE NORTHEAST BC MOOSE RESEARCH PROJECT

Moose ID: 15-5622, Collar ID: GSM18293
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Summary

Moose ID: 15-5622

Collar type: Vectronics Vertex

Collar ID: GSM18293

Sex: Male

Area: Fortune

Frequency: 152.640

Cause of death: Unknown (likely wolf predation)

Date of death: March 18 2015

Figure 1. Moose 15-5622 collar as found May 1 2015

Background:

On April 23, 2015, we received notification of mortality by Caslys Consulting Ltd. (Caslys). Caslys indicated they had not received a mortality notice but that movement rates were extremely low on this collar. When the locations were plotted, the moose had moved mostly within a 20m radius area for over a month. Further investigation by Caslys, following collar retrieval revealed a mortality message had been sent from Vectronics on March 18 2015. Moose 15-5622 was captured on March 12, 2015.

Collar retrieval occurred on May 1, 2015. There were no opportunities for First Nations involvement on this mortality investigation due to timing.

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 precluded biological samples from moose 15-5622 as no carcass remains were observed. The sampling protocol followed the BC Moose Research Mortality Investigation Form from the BC Ministry of Forests, Lands and Natural Resources. 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 59.90307°, -122.25296°, or UTM 10V 541789, 6640852 and was badly chewed, likely by wolves. This location was approximately 520m from the final location provided by the satellite data and was in the far northeast corner of British Columbia, approximately 10km south of the Northwest Territories border in the Fortune Core study area. A 50m radius search around the collar revealed two wolf scats. These were collected, labelled and given health ID numbers (15-5622-1 and 15-5622-2). The wolf scat contained moose hair and a few shards of bone. Collared wolf data from an overlapping project (B. Culling, pers. comm) shows the Fortune wolf pack movements overlapping Moose 15-5622 on March 13 2015. Wolf predation is the likely cause of mortality. However given the proximity of the date of mortality (whether taken as March 13 2015 based on collared wolf data or March 18 2015 based on Vectronics data) to the date of capture, March 12 2015, capture myopathy or predisposition to predation linked to the stress of the capture cannot be ruled out.

The collar was found in a very dense patch of black spruce (see fig. 2,3,4,5), and based on previous experience, this location seemed too dense to be the actual kill location, if wolf kill was the ultimate cause of death. There was also a lack of scat and wolf sign in the immediate vicinity of the collar. It can be assumed the actual kill was nearby and the collar and various body parts were dragged to different locations over time. This would explain some of the post-

mortem movement of the collar (e.g. a movement of 65m on April 23 between 3am and 3pm when the Vectronics download data indicate a 3D capture or <5m accuracy).

Some of the post-mortem movements are concerning. The collar shows a few larger movements since the mortality signal was received (e.g. over 200m in one case) and the final location of the collar on May 1 2015 was over 500m away from the location received on April 23 2015 by Calsys. The download data provided by Vectronics indicates all locations are 3D, or <5m deviation. Given the purported low deviation of the locations, a tighter cluster of collar locations would be expected. Alternatively, confidence in the data would be increased if the locations showing large, one time movements outside of the 20m radius area were listed as having a poor accuracy (i.e. not 3D locations). Wolves will move collars around, and that could be part of the reason for collar movements, but it seems highly unlikely that wolves would be moving the collar every day for over a month, or moving them in the manner observed.

Figures: Moose 15-5622

Figure 2. Collar location May 1 2015 (looking north)

Figure 3. Collar location May 1 2015 (looking east)
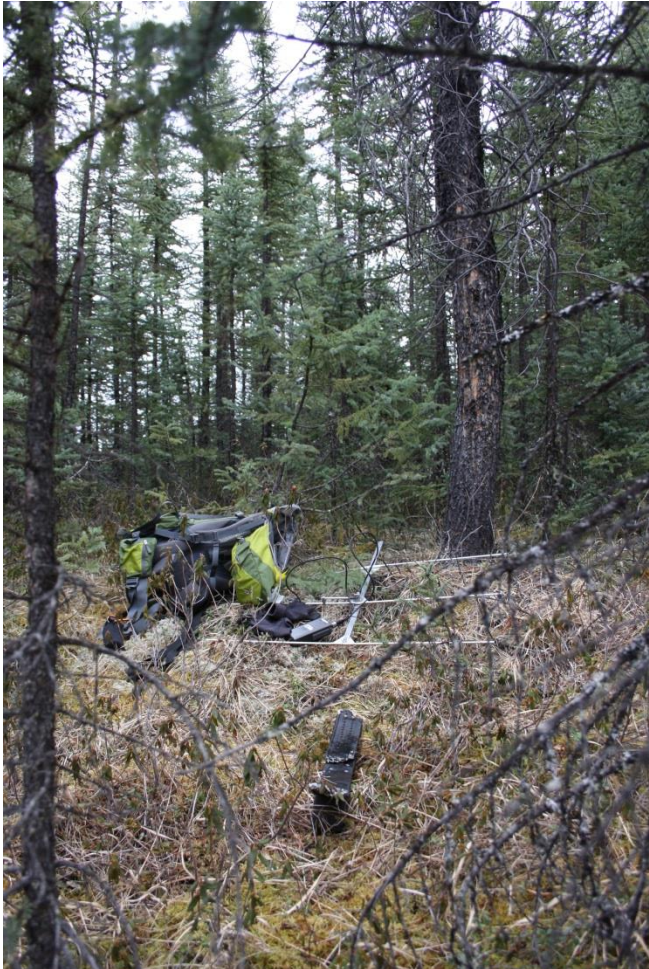
Figure 3. Collar location May 1 2015 (looking south)

Figure 4. Collar location May 1 2015 (looking west)