Determining factors affecting moose population change in British Columbia: an update.

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ABSTRACT

In response to declining moose numbers in central British Columbia (BC), the BC Ministry of Forests, Lands and Natural Resource Operations initiated a five-year (December 2013–March 2018) provincially coordinated, moose-research project. The primary research objective is to identify the causes and rates of cow moose mortality and examine factors that contributed to their increased vulnerability, with particular reference to the landscape-change hypothesis. Cow moose were instrumented with GPS (Global Positioning System) radio collars and monitored in five study areas that were selected based on their moose population trend and

landscape conditions, particularly the degree of mountain pine beetle salvage logging and associated road building. Samples were collected during capture for health testing. Rapid-response, mortality-site investigations were the key technique to determining probable cause of death of the collared cows. As of April 19, 2016, 336 cow moose had been fitted with GPS collars. The majority of cow moose were in good body condition, had pregnancy rates within the normal range, and showed no indication of immediate disease or parasite concerns at the population level. During this study period, the status of radio-collared cow moose was: 243 active, 49 failed (i.e., either stopped collecting location data or slipped from moose), and 44 mortalities. Probable cause of death for the 44 mortalities was predation (20), hunting (9; licensed 1, unlicensed 8), apparent starvation (4), vehicle collision (1), natural (1), unknown natural (1), health-related (1), unknown health-related (4), and unknown (3). The combined annual survival rate of cow moose from all study areas was 92 ± 8% in 2013/14, 92 ± 5% in 2014/15 and 88 ± 4% in 2015/16 (to April 19, 2016) — all within the normal range for stable moose populations. Preliminary results determined predation was responsible for 45% of the collared moose mortalities. Health testing is pending on samples collected from these collared moose mortalities which may provide insight on body condition or pre-existing conditions that may have increased their vulnerability to predation.