Linear Features, Forest and Wolf Predation of Caribou Prey in West Central Alberta

GL909351

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The primary goal of this research was to determine how human activities affect caribou population dynamics through modification of predator-prey relationships.

This knowledge can then be used to develop appropriate conservation strategies across the range of caribou in west central Alberta and east central British Columbia. We investigated the genetic, demographic, and ecological (e.g. predator prey) dynamics of caribou hypothesizing two primary mechanisms for caribou declines:

1. Conversion by logging of old forests to early seral habitats results in high primary prey densities. Because of the strong numeric response of wolves (Canis lupus) to ungulate prey, logging, increases wolf density and thus predation rates on caribou (Weclaw and Hudson 2004, Lessard 2005, Sorenson et al. 2008).
2. Seismic exploration lines and access roads incre

ase predator efficiency by increasing the rate at which wolves kill prey because wolves select for, and move faster on, such linear features (James and Stuart-Smith 2000, Dyer et al. 2002, Neufeld 2006).

Collaborating researchers include Dr. Fiona Schmiegelow, Dr. Greg McDermid and his lab at the University of Calgary, and Dr. Stefano Mariani at the University of Dublin. This report describes the main objectives of the research project, and reports on progress in field activities and research over the period from January 1st, 2007 to December 31st, 2009.

Public Policy Issue

Biodiversity: Species Conservation: Mountain caribou/Boreal caribou

Knowledge Gap

predator-prey relationships.

Herds studied:

· Alberta: Mountain herds; A la Peche, Banff, Narraway, RedrockPrairie Creek, Redwillow, and South Jasper.

Boreal herds; Little Smoky

· British Columbia: Quintette, Moberly, Parsnip, Kennedy,

and Burnt Pine herds

2009 Final Report

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