

B.C. Mountain Goat Workshop, Prince George, BC 2005

Project Title: Effects of Helicopters on Canyon-Dwelling Mountain Goats in Northeast British Columbia

1. Project Leader(s): Jeff Matheson

2. Project Team Members: Steve Moore, Clint Smyth, Bill Nalder

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4. Project location: Belcourt Creek

Coastal: Transition: Interior:

5. Project timeframe: Start (month/year): 8/2003 End (month/year, or ongoing): 4/2004

6. Project status: Data collection Analysis Write-up Publication

7. Project objectives: (briefly describe the primary objectives of your project)

Determine effects of helicopters on canyon-dwelling mountain goats.

8. Project descriptors (select all that apply):

Research

Habitat Use:

Forestry Interactions:

Management

VHF collars:

Oil & Gas Interactions:

Inventory

GPS collars:

Mineral Exploration:

Predation:

Harvest:

Aerial Disturbance:

Habitat Modeling:

Population Dynamics:

Human Disturbance:

Other:

8. Project description (provide a brief description of your project including methods and main findings or results to date):

During a heli-portable seismic program, we studied a population of mountain goats (*Oreamnos americanus*) inhabiting river canyons in northeast British Columbia, Canada. We first conducted ground and aerial-based inventories and then monitored mountain goat behavioural responses while helicopters were operating in the vicinity of goats. To minimise disturbance to goats, a mitigation strategy was developed prior to commencement of helicopter activity. During all helicopter activities, biologists monitored goat behaviour and terminated helicopter activity if goats appeared alarmed or ready to take flight. Helicopter type, distance to helicopter, goat age and sex, behavioural activity and behavioural response to helicopter were recorded for each observed goat.

In general, goats exhibited an increased level of awareness, alertness and alarm with decreasing helicopter distance. At distances between 500 and 2000 m, 80% of goats exhibited either no response or an unconcerned response to helicopters. At distances less than 500 m, 18% of goats were concerned or took flight. The goats in our study appear to show a lower alarm response than those reported by other authors. We suggest that this may be due to the way helicopters were managed by terminating flights when goats were showing increasing levels of alertness and alarm. Other potential factors include the lower visibility of helicopters by goats within the narrow canyons, short-term

habituation process to helicopters since helicopters usually began far and approached slowly and repeated exposure.

9. Project documentation (provide a list of citations for all progress, final, or published reports)

Matheson J., C. Smyth, D. Ebner, B. Nalder and S. Moore. 2004. Management of Heliportable Geophysical Activities in Mountain Goat Habitat in Northeast British Columbia: Recommendations & Implications For Petroleum Exploration. Prepared for Veritas Energy Services. Prepared by EBA Engineering Consultants Ltd.

Matheson J., S. Moore, C. Smyth and B. Nalder. 2004. Effects of Helicopters on Canyon-Dwelling Mountain Goats in Northeast British Columbia. Unpublished manuscript. Currently in review for Wildlife Society Bulletin.