

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

**Project Title:** Ospika Goat Adaptive Management Trial: Timing, frequency and duration of visits to mineral licks by mountain goats before and after forest harvesting

1. **Project Leader(s):** Mari Wood, Fraser Corbould
2. **Project Team Members:** Mari Wood, Fraser Corbould, Greg Blackburn, Doug Heard, Dale Seip, Scott McNay, Pamela Hengeveld, and Doug Ambedian
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Email: mari.wood@gov.bc.ca Web page: <http://www.bchydro.com/pwcp/>
4. **Project location:** Ospika River drainage, north-central B.C.  
Coastal:  Transition:  Interior:
5. **Project timeframe:** Start (month/year): Mar 02 End (month/year, or ongoing): Ongoing
6. **Project status:** Data collection  Analysis  Write-up  Publication

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

To determine the impacts of different forest harvesting options on mountain goat use of low-elevation mineral licks and access trails. Treatments include retention of a buffer strip along a forested access trail (150m either side of the trail), and no buffer strip (i.e. clearcut).

8. **Project descriptors** (select all that apply):

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|--|--|--|
| Research <input checked="" type="checkbox"/>   | Habitat Use: <input checked="" type="checkbox"/>         | Forestry Interactions: <input checked="" type="checkbox"/> |
| Management <input checked="" type="checkbox"/> | VHF collars: <input checked="" type="checkbox"/>         | Oil & Gas Interactions: <input type="checkbox"/>           |
| Inventory <input type="checkbox"/>             | GPS collars: <input type="checkbox"/>                    | Mineral Exploration: <input type="checkbox"/>              |
| Predation: <input type="checkbox"/>            | Harvest: <input type="checkbox"/>                        | Aerial Disturbance: <input type="checkbox"/>               |
| Habitat Modeling: <input type="checkbox"/>     | Population Dynamics: <input checked="" type="checkbox"/> | Human Disturbance: <input type="checkbox"/>                |

Other:

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

Mountain goats primarily use high elevation, steep escape terrain, however, forested habitats are often used for obtaining forage in winter, and for accessing low-elevation mineral licks in spring, summer, and fall. Goats rely heavily on mineral licks to replenish sodium reserves that are flushed from the body due to the intake of potassium-rich spring forage. Licks and their forest access trails are traditionally used by successive generations of goats. Although goats are thought to be particularly sensitive to disturbance from and displacement by various industrial activities, it is unknown how adaptable they are to relatively quick, large-scale habitat modifications given their

strong fidelity and traditional use of mineral licks and trails. Many wildlife managers believe that goats are sensitive to disturbance and that forestry activities near traditional licks and trail systems will have long-term negative effects. However, the direct or indirect impacts on goats when timber surrounding licks and trails is partially or completely removed are unknown. Current policies for the management of mountain goats and their associated mineral licks and access trails in BC are clearly inadequate at this time and provide no specific direction for the operational management of forest harvesting.

We propose to monitor the behavioural response of goats to different forest harvesting strategies, then, in co-operation with Canfor and the government agencies, model these results to assist in developing new management strategies and/or policies. An experimental approach is being used to evaluate the impacts of harvesting timber adjacent to primary access trails on the use of mineral licks by goats. The project study design initially involved monitoring goat use at 4 mineral lick complexes in the lower Ospika Valley over a 6-year period. Data would be collected for at least 1 year of pre-manipulation and 2 years of post-manipulation at each of 2 treatment licks: 1) retention of approximately 150m of timber on each side of a goat access trail ("Buffered"), and 2) complete removal of timber along one side of an access trail ("Partially Buffered"). The 3rd and 4th mineral licks served as controls. The behavioural response of collared and un-collared goats at the licks would be monitored by remote radio-telemetry dataloggers and remote cameras. Logging adjacent to the "Buffered" trail occurred in the winter of 02/03, while harvesting along the "Partially Buffered" trail was permanently cancelled by Canfor in Dec 04. Currently, removal of the forested buffer retained as the first treatment site (the "Buffered" scenario) is being investigated as a substitute treatment. The "No Buffer/Clearcut" treatment would involve complete removal of the buffer strip along the trail.

In the April to November period of 2002, 2003 and 2004, remote telemetry dataloggers and remote cameras were established at the 4 Ospika licks and along access trails. Equipment was maintained and downloaded on a regular basis. Future monitoring plans are dependent on the feasibility of conducting the second treatment to test the "No Buffer/Clearcut" scenario. If the buffer strip is harvested in winter 05/06, monitoring will continue for 3 more years: 1 year of pre (2005) and 2 years of post (2006, 2007) harvesting data collection. If harvesting of the buffer strip is not feasible, then one final year of monitoring will be conducted in summer 2005, thus resulting in 1 year of pre and 3 years of post-treatment data for the original "Buffered" lick scenario). Radio-collared goats are also being monitored biweekly by fixed-wing aircraft during the April to November period to determine movements and range use between lick visits, and to detect mortalities.

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

Data on file, PFWWCP, Prince George, BC. Final project report and publications upon completion of project.