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Tree Farm Licence # 38

Developing A Procedure to Determine Mountain Goat Presence In Known Winter Range.

Goal: Develop an operating procedure for conducting forest practices adjacent to known mountain goat winter range.

Objective: Develop a system of field checking which will enable operations to determine the presence of mountain goats in their winter range that is not based solely on a rigid calendar window. Conversely, this will ensure that no unnecessary delays of forest development plans occur when goats are not occupying their winter range.

Discussion: The opportunity exists for International Forest Products Ltd. (Interfor) to develop an operating procedure for conducting forestry operations adjacent to goat winter range based not on the rigid criteria of a calendar window, but on the seasonal variability of snow depth and snow pack conditions. These conditions (depth and snow pack) are the primary non biological conditions that determine where mountain goats will congregate during the heavy snow winter months. The procedure developed must be flexible enough to allow planners the ability to operate in those areas where goats are not congregating at any given time and to be able to predict where the goats will be in the near future. Utilizing the information collected from snow depth, snow pack conditions and snow zones and the seasonal variability of each condition will provide that flexibility.

British Columbia Ministry of Environment Lands and Parks, Region 1 are conducting a telemetry study of mountain goats in the Kingcome Inlet area. Initial observations indicate that the migration window from summer to winter ranges is relatively short and heavily dependent on physical characteristics of the range. Mountain goat winter range is generally associated with overly steep terrain which affords prime escape terrain for the goats and/or sufficient tree cover to provide snow interception. On the mainland coast (Tree Farm Licence # 38) snow interception cover is utilized when the snow depth and pack condition inhibits the movement of the animals. The goats will then move into the lower elevations of their range, into cover, and utilize the clear ground close to tree boles and exposed rock ledges where snow cover is continually cleared by wind. Such sites require a minimal expenditure of energy to survive. When conditions allow the movement of the animals on top of the snow, with minimal sinking, the animals will utilize the higher elevations of their winter range where there is an abundance of escape terrain. The basis of these operations provides the rationale for the development of the following set of operating procedures in mountain goat winter range.

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Standard Operating Procedure for T.F.L. # 38 on Mountain Goat Winter Range

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FALL / EARLY WINTER

All mountain goats, it can be assumed, are obligate migrators based on a regular occurrence of snow in their ranges which causes them to move to search for suitable shelter and forage areas. It is generally agreed that after October 31 and depending on the snow pack condition and snow depth movement of mountain goats will occur. However, snow pack during these fall and winter months is likely to remain unconsolidated for longer periods of time making it difficult for the goats to utilize snow covered terrain. Monitoring of the snow line and pack conditions is critical in determining where goats will be, the condition of the depth of frozen crust on the snow pack will determine when the animals will be forced to use the lower extent of their winter range. (Emphasis is put on the lower limits of their range since this is where harvesting operations and goat habitat will interface).

Follow the following procedure during fall and winter months:

All activities (especially road construction) should be planned to be completed prior to October 31 in goat areas. Harvesting can continue after this date if goats are greater than 500 meters away from the block boundary. If road construction is to continue past this date, the area of utilized winter range will be determined using the following technique:

- A reconnaissance flight will be conducted within three days of the snow-line moving to within 500 meters (horizontal) distance from the forestry activities taking place.
- The Ministry of Environment will be notified that the flight will take place and informed that the results will be forwarded to them immediately upon completion.
- The following information will be recorded. (a data sheet is included in these protocols).

1. Identify all areas where mountain goat sign is located.
2. Note type of sign (tracks, sightings, etc.).
3. Note type of habitat being used (mature timber, rock bluff, etc.).
4. Note snow depth at snow-line.
5. Note snow depth where mountain goat sign is located.

MID WINTER

Mid winter is defined by the depth of the snow pack. If snow depth inside the cutblock is from 30 to 50 centimetres in depth and the leading edge (snow wedge) of the ephemeral snow pack is within 500 meters of the cutblock then it can be considered "mid winter".

The same reconnaissance and reporting procedure for the fall and early winter applies in mid winter.

Forest practices during the mid winter season are to be confined to falling only.

LATE WINTER / EARLY SPRING

In late winter and early spring the condition of the snow pack (depth of frozen crust) and the snow depth will determine what portion of their winter range is being used by the mountain goats. The same reconnaissance and reporting procedure is used at this time. Forest practices relate directly to where in the winter range the goats or sign is located.

1. **Goats less than 500 meters from forest practice.**

   No activities to be carried out.

2. **Goats from 500 to 1000 meters from forest practice.**

   Forest activities limited to falling and yarding.

3. **Goats greater than 1000 meters from forest practice.**

   Falling, yarding and road construction permitted.

Note: Blasting should be addressed on a site specific basis, consider:
i) topography (goats shielded by topography);
ii) area of utilization of winter range;
iii) amount of blasting planned (Twice per day vs. Every four hours).

HELICOPTER HARVESTING ALL SEASONS

The same procedure is used for helicopter harvesting activities as for non aerial systems. One additional consideration is to avoid flight paths from the block to the drop zone through occupied winter range.

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Mountain Goat Winter Range Utilization Report

1. Operating Area: _____(i.e. TFL; FL)
2. Watershed: _____
3. Block: _____
4. Flight Date: _____
5. Snow Depth in Block: _____(cm)
6. Weather: _____ (during flight)
7. Snow Depth at Snowline: _____(cm)
8. Sign Detection #: _____ (locate number on flight map)
9. Snow Depth at Sign: _____(cm)
10. Type of Sign: _____ (i.e. tracks; sighting; bed)
11. Habitat Type: _____(i.e. timber type; rock bluff)

Comments:

_____

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- One data sheet should be filled out for each sign detection;
- Sign detection number should be located on flight map;
- Separate sheet should be filled out for each sign detection;
- Only fill out field 1-7 on first sheet.