

Ungulate Winter Range Information Document
Mountain Goat UWR, U-5-004
North Island-Central Coast District
Mid-Coast TSA

I. Context

Ungulate Winter Range (UWR) covering a total area of 153,305 ha within the Mid-Coast TSA was established on March 2, 2007 to provide protection for the winter habitat of mountain goats. The Order establishing this UWR (U-5-004) included a sunset date of December 31, 2009, with a clause intended to allow for future review and revision of the Order. On March 30, 2010, after several reconnaissance flights to assess the UWR units for habitat suitability and goat presence, John Youds (Ecosystems Section Head, Cariboo Region) and Volker Michelfelder (MoE Ecosystems Biologist) confirmed that there was no reason to rescind, nor any current plans to amend, the UWR. The determination was made that the Order and associated general wildlife measures (GWM) for mountain goats should continue to be in effect, though the Order was never authoritatively re-established.

Since 2010, additional information pertaining to mountain goat disturbance and winter conditions has been brought forward through the establishment of UWR Orders for the North Coast (U-6-010) and Sunshine Coast (U-2-003), which has prompted revisions to the Mid-Coast Order prior to its anticipated re-establishment. This information document explains the major recommended additions/changes to the Order to allow for feedback before the draft is submitted for formal review. These revisions pertain to the area of allowable activity within the UWR units, specified winter closure dates, and helicopter yarding activities. Not only are the revisions considered necessary to maintain provincial consistency with the more recently established Orders, but they are also needed to ensure the Order is consistent with the regulatory guidelines of the *Forest and Range Practices Act* and *Government Actions Regulation*. The new Order does not include boundary changes or introduce new UWR units at this time, although it is recognized that future boundary modifications on a polygon-specific basis may be possible by working closely with FLNRO staff. The regulatory framework outlining the conditions and criteria for a minor boundary amendment is included at the end of this document for reference.

II. Summary

Changes to General Wildlife Measure (GWM) 2

For reference, GWM 1 within U-5-004 reads: **Subject to General Wildlife Measure 2, timber harvesting shall not occur within the designated ungulate winter ranges established by this order.**

GWM 2 reads: **“A person may carry out timber harvesting activities within the boundaries of individual ungulate winter range polygons established by this Order, but may not impact the total area of ungulate winter range in a landscape unit by more than 10%.”** This allowance is

qualified by an obligation for notification and the provision of harvesting maps to the Ministry of Environment.

Since the establishment of the Mid-Coast Order, UWR Orders for both the Sunshine Coast (U-2-003) and North Coast (U-6-010) TSAs have been approved (2012). Comparatively, the Sunshine Coast Order provides for incursions based on the amount of productive forest within a specific UWR unit (i.e. 1 ha of incursion in UWR units with 30-50 ha of productive forest area; 2 ha of incursion in UWR units with 50-100 ha of productive forest, etc.), rather than issuing a set allowance for timber harvesting activities for all UWR units. This variable allowance equates to approximately 1-4% of impacted forest area, depending on the size of the productive forest within each UWR unit. There is no allowance for an incursion when UWR units contain less than 30 ha of productive forest because of the potential risk of removing critically important snow interception features. If this threshold is adopted for the Mid Coast, it will exclude >65% of the UWR units (containing productive forest) from permissible incursions. GIS queries on the composition of the 530 UWR units with <30 ha productive forest revealed that 459 (86%) are defined as non-contributing (as per TSR 3) and 69% of the remaining 71 units contain productive forest where more than half is defined as non-contributing. Therefore, allowing incursions into UWR units containing <30 ha of productive forest will not likely result in significant impact to mountain goat populations. Conversely, if GWM 2 remains worded as outlined above, there is the potential to remove too much timber in the blocks that do contain contributing forest. For example, the average size of a Mid-Coast UWR unit is 137 ha, which currently would give an allowance of 13.7 ha for timber harvesting activities, but with an average of just 42 ha of productive forest per unit, this would equate to the potential removal of nearly 33% of productive forest, depending on the area of forest that is part of the THLB – far exceeding the 1-4% established in the Sunshine Coast and thereby posing a risk of material adverse impacts to mountain goats owing to removal of the snow interception canopy.

Based on the above information and to maintain consistency with the more recently established Sunshine Coast Order, the recommendation is to change the wording of GWM 2 to:

Where primary forest activities are planned immediately adjacent to any UWR unit, GWM 1 does not apply to the area of an incursion along the UWR unit boundary if:

- a) the incursion is required to provide for a logical harvesting boundary or a logical road or trail location that utilizes a physical feature or administrative boundary; and**
- b) the area of the incursion, or multiple incursions cumulatively, do not exceed:**
 - i. 3% productive forest area in UWR units with <30 ha productive forest; or**
 - ii. 1 ha of productive forest area in UWR units with >30 ha to ≤50 ha productive forest area; or**
 - iii. 2 ha of productive forest area in UWR units with >50 ha to ≤100 ha productive forest; or**
 - iv. 3 ha or 1% of productive forest area, whichever is greater, in UWR units with >100 ha productive forest area.**

- c) the incursion exceeds 0.5 ha, and the area of the incursion is replaced with an equivalent or greater area of equal or better habitat contiguous to the UWR unit such that there is no net loss; and the incursion does not affect the intent or the integrity of the UWR unit; and
- d) boundaries of the incursion and any replacement habitat area are provided to the Director (via ESRI shape files) prior to the commencement of primary forest activities associated with the incursion.

Changes to General Wildlife Measure 8

The wording of GWM 8 within U-5-004 reads: **“If primary forest activities are scheduled between November 1 and April 15, and are situated within 500 meters of a goat winter range during severe winter conditions, an assessment will be carried out by a qualified professional to determine whether the activities should commence, and what conditions should apply, in order that the activities do not result in material adverse disturbance of wintering goats”.**

Firstly, it must be recognized that the sub-delegation of authority to a qualified professional is unlawful. There is no provision under the *Forest and Range Practices Act* that allows for this type of delegation. As such, this wording must be removed. Additionally, it is proposed that the winter limitation be extended from April 15 to June 1. This later start date for forest activity is reflected in the Sunshine Coast Order and was suggested by a professional panel who utilized a risk matrix that included considerations for winter severity, distance of disturbance from mountain goats, and the probability of occupancy of winter ranges. The window of limitation in the North Coast Order also extends into June (15th). However, it is recognized that goats are generally in better condition in the fall (compared to the spring when they have survived a period of winter deprivation) and as such, there is flexibility to move the beginning of the closure back to the 15 of November to allow for the completion of delayed harvesting. Though activities are restricted during this range of dates, specified “shoulder periods” are proposed for several weeks at the beginning and end of the closure to allow for conventional logging and related works provided that certain conditions are met with respect to snow depth, probability of goat occupancy, and the distance between the disturbance and goats. Additionally, there is the opportunity to apply for an exemption during the other winter months if necessary, provided an assessment has been completed by a qualified professional and a rationale is provided to the FLNRO decision maker.

With consideration to the above, the recommendation is to change the wording for GWM 8 to the following:

Conventional forest activities within 500 metres horizontal distance of a mountain goat winter range will not result in material adverse disturbance to goats and must take place during the period starting 1 June and ending 15 November.

There will be an additional GWM to allow for harvesting within the shoulder periods as outlined below:

GWM 8 does not apply between 15 November to 21 December or between 15 April to 1 June if the Regional FLNRO office is notified prior to the activity commencing and a written rationale that supports one or more of the conditions listed is made available upon request:

- a) distance between the activity and the location of mountain goats within the UWR unit is greater than 500 m; or,
- b) snow accumulation in the open within the area of the UWR unit being used by mountain goats is less than 30 cm at the time of the activity; or,
- c) there is low probability of goat occupancy within the UWR unit*.

*** Probability of occupancy may be determined after a review of historical data and completion of a field survey conducted by a qualified professional prior to the commencement of work.**

Addition of a General Wildlife Measure for helicopter-yarding activities:

The Sunshine Coast Order (U-2-003) includes a GWM for managing helicopter activities during winter within a 1500m distance adjacent to the ungulate winter range boundary; the North Coast Order specifies a distance of 2000m for winter helicopter activity. The 1500 m distance described in U-2-003 was recommended by a professional panel to minimize risk to mountain goat populations, and was based on the report *Recommended Guidance for Heli-logging Activities Near Ungulate Winter Ranges Established for Mountain Goats in the Sunshine Coast Timber Supply Area* (Wilson, 2011). The Deputy Minister concluded that the 1500 m distance was a reasonable balance between the risks to mountain goat and constraints on Forest Act agreement holders. Comparatively, the U-5-004 Mid-Coast Order does not contain a measure for helicopter activities, but did address the risk of helicopter logging to goats in the Appendix. With consideration to the above and other publications (Cote 1996; Frid 2003; Gordon 2004) including the *NWSGC Position Statement on Helicopter-Supported Recreation and Mountain Goats (2004)*, the recommendation is to add a GWM to the new Mid-Coast Order pertaining to helicopter-yarding activities. As outlined in the previous section, there will be specified shoulder periods within which harvesting may occur provided certain conditions are met.

With consideration to the above, the suggested wording for the GWM pertaining to helicopter activities is as follows:

Helicopter yarding activities are not permitted within a Specified Area of 1500 m line-of-sight from an UWR unit boundary from 15 November to 1 June.

There will be an additional GWM to allow for harvesting within the shoulder periods as outlined below:

GWM X does not apply if the Regional FLNRO office is notified prior to the activity commencing and a written rationale that supports one or more of the conditions listed is made available upon request:

- a) distance between the activity and the location of mountain goats within the UWR unit is greater than 1500 m line-of-sight; or,**
- b) snow accumulation in the open within the area of the UWR unit being used by mountain goats is less than 30 cm at the time of the activity; or,**
- c) there is low probability of goat occupancy within the UWR unit***

*** Probability of occupancy may be determined after a review of historical data and completion of a field survey conducted by a qualified professional prior to the commencement of work.**

III Mountain Goat Habitat and Minor Boundary Amendments

The U-5-004 shapefile containing the UWR unit polygons were derived from GIS habitat suitability modelling, air photo review and a degree of field-verification. At the operational scale, habitat assessments may be completed prior to harvest activity if amendments are needed to refine UWR polygon boundaries. The conditions and criteria that define minor boundary amendments are listed below. Further information, including guidance documents, First Nation consultation requirements and process details, can be obtained from the district or regional FLNRO office.

DEFINITIONS: THE FOLLOWING CONDITIONS AND CRITERIA DEFINE MINOR BOUNDARY AMENDMENTS:

Minor boundary amendments include amendments that fall under one of the following conditions:

- The current boundary does not follow the logical topographic and/or ecological feature (e.g. road or cutblock boundary) and the change to that boundary, including any replacement areas, does not affect the integrity of the designation.
- Compliance with a provision within the designation is not practicable (i.e., an exemption from a general wildlife measure would likely be granted), but a boundary amendment is more appropriate than an exemption because the likelihood of recruiting the area back into suitable habitat is unlikely.

Minor boundary amendments must meet all the following criteria:

- The amendment does not result in the complete removal of an existing designated polygon or the designation of a new polygon.
- Comment and review with affected parties other than the party that is making the request is not required (e.g., the new boundary will not affect other *Forest Act* or *Range Act* agreement holders or other legal designations). The only exception is where there is

an agreement with a First Nation that requires consultation on *all* boundary amendments.

- Timber supply impacts do not exceed the “budget” allocation, or any other deviation from established policy not previously approved by a statutory decision-maker.
- Consideration is given to replacing areas removed with an area equal, or of greater size and equal or better habitat value. For amendments over ≥ 2 ha, a replacement area must be proposed.

Major boundary amendments include all amendments that do not meet either of the conditions above or any one of the criteria outlined for a minor amendment.

IV References

Côté, S.D. 1996. Mountain goat responses to helicopter disturbances. *Wildlife Society Bulletin* 24:681-685.

Frid, A. 2003. Dall’s sheep responses to overflights by helicopter and fixed-wing aircraft. *Biological Conservation* 110:387-399.

Gordon, S. M. And S. F. Wilson. 2004. Effect of helicopter logging on mountain goat behaviour in coastal British Columbia. *Biennial Symposium of the Northern Wild Sheep and Goat Council* 14:49–63.

NWSGC. 2004. NWSGC position statement on helicopter supported recreation and mountain goats. Available: <http://www.nwsgc.org/StatementMountainGoats.pdf>

Wilson, S.F. 2011. Recommended guidance for heli-logging activities near ungulate winter ranges established for mountain goats in the Sunshine Coast Timber Supply Area. Prepared for: BC Ministry of Forests, Lands and Natural Resource Operations. Victoria, B.C. 23 pp.