

**ORDER – Ungulate Winter Range**  
**#U-2-004 - Mountain Goat**  
**TFL 39, Block 1 (Sunshine Coast Forest District)**

This order is given under the authority of sections 9(1), 9(2) and 12(1) of the *Government Actions Regulation* (B.C. Reg. 582/2004) (GAR).

1. The Deputy Minister of Environment, being satisfied that:
  - i. the following areas contain habitat that is necessary to meet the winter habitat requirements for Mountain Goat (*Oreamnos americanus*); and
  - ii. that habitat requires special management that is not otherwise provided for under GAR or another enactment;

orders that:

- a) the areas shown in the map set out in the attached Schedule A (U-2-004) and contained in the ungulate winter range (UWR) spatial layer stored in the Geographic Warehouse (*tuwr\_bc*) are established as an ungulate winter range U-2-004 for Mountain Goat. The centre point of the line on the attached Schedule A is what establishes the UWR boundary, and
- b) if there is a discrepancy between the areas shown in the map set out in the attached Schedule A and the UWR spatial layer stored in the Geographic Warehouse (*tuwr\_bc*), the areas as detailed in the UWR spatial layer will take precedent.

2. The Deputy Minister of Environment, being satisfied that
  - i. the general wildlife measures (GWMs) described below are necessary to protect or conserve Mountain Goat; and
  - ii. GAR or another enactment does not otherwise provide for that protection or conservation;

orders that

- a) the GWMs outlined in Schedule 1 are established for the UWR U-2-004; and
- b) GWM 6 outlined in Schedule 1 is established and applies to a 500 meter Specified Area surrounding each ungulate winter range unit.

3. The general wildlife measures outlined in Schedule 1 do not apply for the purposes of exploration, development and production activities when these activities have been authorized for the purpose of subsurface resource exploration, development or production by the *Mineral Tenure Act*, the *Coal Act*, the *Mines Act*, the *Petroleum and Natural Gas Act*, the *Pipeline Act* or the *Geothermal Resources Act*.

## *Definitions*

Words and expressions not defined in this order have the meaning given to them in the *Forest and Range Practices Act* (FRPA) and the regulations made under it, unless context indicates otherwise.

**functioning winter range** includes the forested component of a winter range (not escape terrain) and is defined as areas of mature forest or old-growth forest suitable for Mountain Goat use during winter. Key attributes include forest stands that are situated within 400m of escape terrain, have well developed crowns that provide snow interception cover, are situated on warm aspects (110 – 270 degrees), support the presence of key mountain goat forage species, and wherever practicable are in patches larger than 40 ha in size.

**incursion** means timber harvesting or road construction that is located within an ungulate winter range unit boundary where no harvesting or road building is otherwise permitted to occur.

**productive forest land base** means forest included as either contributing, partial contributing or non-contributing land base as derived from TFL 39 Management Plan 8.

**Regional Manager** means the Ministry of Environment Regional Manager, Environmental Stewardship Division, South Coast

**UWR unit** means a portion of UWR U-2-004 that is a discrete polygon.

### **Schedule 1 – General Wildlife Measures**

1. Timber harvesting and road construction is not permitted within UWR units: DAN 04, EL 03, EL 04, GI 02, GI 03, GL 04, PL 01B, PL 05, PL 06, PL 08, PL 09, PL 12, POW 01, POW 02, TH 01, TH 07, TH 08A, TH 09; except if road access through GI 03 is required to access timber beyond the UWR unit.
2. GWM 1 does not apply if:
  - a) timber harvesting within the UWR unit is necessary to create guyline tiebacks for timber harvesting provided trees that fall within the UWR unit boundary are retained on site to function as coarse woody debris; or
  - b) cutting of trees is for the purposes of traditional and cultural activities, as authorized under a Free Use Permit.
3. Timber harvesting, road construction, and silviculture activities within the UWR units listed in Table 1 may occur provided that it will result in retention of the productive forest land base, as derived from TFL 39 Management Plan 8, consistent with the retention amounts listed in Table 1. In addition:
  - a) Results from timber harvesting or road construction activities must be made available to a Ministry of Environment or Ministry of Forests and Range official upon request.

- b) Where productive forest land base within the UWR unit has been harvested and has developed attributes consistent with functioning winter range, additional harvesting can be completed as per retention amounts in Table 1.
- c) Retention amounts in Table 1 for PL 07 and PL 02 do not apply to road construction through the UWR units to access timber beyond the UWR units.

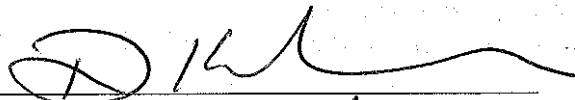
**Table 1: Required retention levels (GWM #3) of productive forest land base within UWR units.**

UWR unit	Amount of productive forest land base to be retained within UWR unit (%)
PL 01A	95
DAN 01, DAN 02, DAN 03, GL 01, GL 02A, GL 02B, GL 05, GL 07, KH 02, LO 02, PL 02, PL 04, PL 07, PL 10, PL 11, PL 13, POW 03, TH 02, TH 03, TH 04, TH 05, TH 06, TH 08B, TH 10, WA 01	90
GL 08	85
KH 01, POW 05	80
GI 01, LO 01, LO 03, PL 03, PL A3, POW 04	75
EL 01, EL 02, EL A1, EL A2, GI A1, PL A1, PL A2, POW 06, TH A1	50

- 4. Where timber harvesting or road construction are planned immediately adjacent to any UWR unit with >30 ha productive forest area, GWM 1 or GWM 3 do 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;
  - b) the area of the incursion, or multiple incursions cumulatively, do not exceed:
    - i. 1 ha of productive forest area in UWR units with >30 ha and ≤50 ha productive forest area; or
    - ii. 2 ha of productive forest area in UWR units with >50 ha to ≤100 ha productive forest area; or
    - iii. 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 integrity of the UWR unit; and
  - d) the incursion as per GWM 4 a) or b), and any replacement habitat as per GWM 4 c) are provided to the Regional Manager (via ESRI shapefiles) prior

to the commencement of primary forest activities associated with the incursion.

5. Where timber harvesting, road construction or silviculture activities are permitted in GWMs 1, 2, 3 or 4 they must occur between May 1 and October 31 of a calendar year, except:
  - a) within UWR units GI 01, GL 01, GL 02A, GL 02B, GL 05, GL 08, PL 02, PL 04, PL 11, PL 13 where timber harvesting activities may also occur between April 15 and April 30 of a calendar year, provided that the UWR unit is not occupied by mountain goats; or
  - b) for application of ground-based fertilization and ground-based tree planting.
6. Helicopter logging that occurs within a Specified Area of 500 m horizontal distance of an UWR unit must take place from May 1 to October 31 of a calendar year.
7. Do not use pesticides, except for:
  - a) individual tree treatment or spot treatment within 1 meter around individual conifer crop trees on any cut blocks within the ungulate winter range ;
  - b) the use of *Bacillus thuringiensis* var *kurstaki* for the control of western spruce budworm;
  - c) the use of beetle pheromones for the control of bark beetles; or,
  - d) the application of herbicides to control invasive plants or noxious weeds.



Signed this 11 day of August, 2010  
Doug Konkin, Deputy Minister  
Ministry of Environment

## Appendix 1:

The following information is provided by MoE as background information and support to the order establishing UWR U-2-004. This appendix is not part of the order.

1. **Activities to which the order does not apply:** Section 2(2) of the *Government Actions Regulation* states

An order under any of sections 5 to 15 does not apply in respect of

- a) any of the following entered into before the order takes effect:
  - i. a cutting permit;
  - ii. a road permit;
  - iii. a timber sale license that does not provide for cutting permits;
  - iv. a forestry license to cut issued by a timber sales manager under section 47.6 (3) of the Forest Act;
  - v. subject to subsection (3), a minor tenure,
- b) a declared area,
- c) areas described in section 196 (1) of the Act, and
- d) areas referred to in section 110 of the Forest Planning and Practices Regulation (FPPR).

2. Authority to consider an exemption from these GWMs is provided in section 92(1) of the FPPR and section 79(1) of the *Woodlot License Planning and Practices Regulation*. An exemption may be provided if the Minister's delegate is satisfied that the intent of the GWM will be achieved or that compliance with the provision is not practicable, given the circumstances or conditions applicable to a particular area.

An exemption application should be submitted to the Minister's delegate (Regional Manager for the region in which the order applies) with a rationale describing the nature of the problem and options to integrate winter range conservation with proposed forest practices. This submission will assist in timely consideration of the matter, and will inform the conditions, if any, of the exemption that may be granted prior to commencement of activities. Upon receipt of a complete exemption application, a determination for timing window exemptions will be processed within 10 calendar days, all other exemptions will normally be handled within 14 calendar days of arrival at the MoE Regional office. Incomplete packages will be returned to the proponent for resubmission. A template for exemption requests is available at: <http://www.env.gov.bc.ca/wld/frpa/index.html>

3. For the purposes of GWM 1, exemptions will normally be considered if they result in enhancing quality of the winter range habitat as determined by the Regional Manager; or for road construction where there is no other practicable option. 'Enhancing quality' means improvement of second growth young forest stands to increase future snow interception cover for ungulates (e.g. thinning dense young forested stands to improve crown size over time), or innovative habitat enhancement techniques.

GWM1 does not apply to road maintenance, road deactivation, or brushing within the

right-of-way on existing roads or trails in the UWR. These activities should be carried out in a manner that will not affect the intent or integrity of the UWR.

4. For purposes of GWM 3, the table in Appendix 2 shows the area of productive forest land base that is available for harvest by UWR unit. The intent of GWM 3 is that any harvesting maintains the integrity and function of the UWR unit. Any biological assessment to determine the integrity and function of a winter range should be conducted by a qualified professional with appropriate training and experience for the work being completed. Any clearing for road construction purposes will be accounted as part of the amount available as described by the table in Appendix 2.

The 9 UWR units referenced in Table 1 as 50% retention have been included in the UWR package as "assessment areas" and are intended to provide future goat management options (e.g. recruitment). At the time they were designed, they did not have goat use, but do contain marginally suitable goat winter range attributes. GWM 3, specific to these UWR units, is purposely less prohibitive.

5. The intent of GWM 4 is to facilitate pre-authorized boundary exemptions for those UWR units with >30 ha productive forest area provided that MOE is notified prior to the incursion taking place.

Examples of incursions include a cut-block, road, trail or landing that overlaps an UWR boundary where: a) the intent of the UWR boundary was to follow a creek/road and in some areas the boundary extends slightly beyond the creek/road due to a GIS mapping error and creates the overlap; or b) unintentional overlap occurs with an engineered primary forest activity that becomes evident when comparing map scales (e.g. 1:20000 vs 1:5000); or c) *Forest Act* agreement holders can demonstrate that the block, road, trail or landing are located in a logical location and the incursion does not exceed the amount allowed.

In almost all instances the amount of incursion is anticipated to affect a small area. No replacement area is required when the discrepancy is: a) caused by GIS boundary mapping error since the intent of the winter range has not been altered; or b) the cumulative overlap is <0.5 ha. In other situations, the intended result is that where a boundary amendment is suggested by a *Forest Act* agreement holder and when the reduction is measurable ( $\geq 0.5$  and  $\leq 3$  ha or  $< 1\%$  measured cumulatively in any UWR unit), there will be no net loss to the winter range. Delineation of equal or better UWR habitat, in quantity and quality, will be required. If replacement habitat is required and equal or better habitat is not available contiguous to the UWR unit in question then the incursion cannot proceed under this GWM. Boundary amendments meeting the conditions identified in GWM 4 will be periodically reviewed by MoE and the UWR unit boundary officially amended under the *Government Actions Regulation*. In any instances where the conditions in GWM 4 cannot be met, proposed primary forest activities will require an exemption as outlined under section 2 in this Appendix.

UWRs with <30 ha of productive forest area are excluded from GWM 4 (b)(i) because of potential adverse impacts to the small amount of snow interception cover

from an incursion (that would be additive to any permitted harvesting in GWM 3). An exemption request for any incursions in UWR units <30 ha should be submitted to the Regional Manager, as per section 2 in this Appendix.

In addition to reporting incursions to the Regional Manager prior to commencement of timber harvesting or road construction as per GWM 4 (d), it is the proponent's responsibility to keep accurate records of each occurrence. Records must also be made available to a MoE or Ministry of Forests and Range official upon request.

6. The intent of GWM 5 is to prevent disturbance to mountain goats by only allowing activities to occur within an UWR outside of sensitive winter periods, since goats during winter are most stressed and in poor physical condition.
7. During the two week extension in GWM 5(a) for timber harvesting in certain UWR units, the tenure holder is responsible to ensure that Mountain Goats are not present within the UWR; the intent is to not disturb nanny and kid nursery herds with timber harvesting activities that occur from April 15 to April 30.
8. With respect to GWMs 5 and 6, exemptions for operating beyond the normal timing period or within the 500m specified area may be granted on a biweekly, weekly, or daily basis, dependent on time of year, weather conditions and presence of goats. Exemptions will not normally be considered during the mid winter period of December 1 to March 31 due to the high likelihood of disturbance impacts to goats from helicopter logging. Any biological assessments completed for exemption requests should be conducted by a qualified professional with appropriate training and experience for the work being completed. The proponent should consider:
  - MoE recognizes that the 500 m setback (in GWM 6) is a risk-tolerant approach based on socio-economic considerations in TFL 39, Block 1 (i.e. existing literature and professional opinion indicates that behavioral effects occur at distances up to 2000 m; Côté 1996, Festa-Bianchet & Côté 2008). While behavioural impacts from helicopter activity near goats are clear and measurable, impacts at the population level are difficult to measure. Joint monitoring (MOE and licensees) is required to show the efficacy of the approach piloted in this order and to determine impacts to goats. If impacts are substantial then MoE will revisit the 500 m setback. This provision is not considered by MoE as precedent setting and is viewed as a "pilot" tied to this order.
  - Each request for an exemption will be evaluated based on local site characteristics and according to the historical intensity of mountain goat use of an area, type of work proposed, current weather conditions and short and long term weather forecasts.
  - It is the proponent's responsibility to conduct a brief survey (methods to be determined by a qualified professional) to confirm that goats are not present within 500 m horizontal distance of the proposed helicopter activity (GWM 6), or occupying their winter range where they can be disturbed (GWM 5). MoE regional staff may be able to participate in surveys. The survey should be done near the beginning/end of the normal timing period, and if any sign of

mountain goat activity (tracks or animals) is noted within 500 m of the proposed operational area (GWM 6) or within the UWR unit (GWM 5), proponents must understand that their planned activity will result in disturbance to goats; and the exemption request should not be submitted. MOE cautions that it is difficult to confirm occupation during early or late winter when snow may not be readily present (to see tracks), and as such professionals should use the precautionary principle.

- Please note that helicopter flights alone can cause disturbance to wintering goats. Repeated over flights of occupied goat winter range habitats are not to occur. Survey results must accompany the exemption request.
  - Duration and frequency of the exemption request has to be defined (i.e. duration meaning inclusive calendar days from start to finish including clean up and moving equipment; frequency meaning number of active days).
  - When an exemption has been granted, work may continue when minor snowfalls occur (i.e. < 8 hours duration and < 0.3m depth). However, when snowfalls exceed this duration or amount proponents should closely monitor for presence of goats, and anticipate that continued activity may result in disturbance to goats. For this reason, work areas are to be kept small so operations can be stopped on short notice.
9. The intent for determining the 500m horizontal distance in GWM 6 is to use line of sight from the helicopter to the UWR unit. Topographic barriers between the block and UWR unit may ameliorate this distance.
10. These GWMs do not apply to persons complying with the *Worker's Compensation Act* and the regulations under that Act (e.g. danger tree felling). Consistent with section 2(3) of the *Forest Planning and Practices Regulation*, exemptions from these GWMs are not required to meet safety requirements.



**Appendix 2: Productive forest area available for harvest as per GWM 3, by UWR unit in U-2-004**

UWR unit ID	Total Hectares	Netdown (%)	Total productive Forest: MP8 (ha)	Productive Forest land base available for harvest after netdown applied (ha)
DAN 01	104.4	90	77.3	7.7
DAN 02	105.7	90	59.2	5.9
DAN 03	290.2	90	91.2	9.1
EL 01	186.8	50	102.4	51.2
EL 02	386.9	50	238.2	119.1
EL A1	62.2	50	30.3	15.2
EL A2	183.5	50	62.5	31.3
GI 01	467.5	75	136.1	34.0
GI A1	121.3	50	63.6	31.8
GL 01	386.6	90	111.0	11.1
GL 02A	138.2	90	55.5	5.5
GL 02B	34.9	90	17.0	1.7
GL 05	134.1	90	20.9	2.1
GL 07	167.7	90	14.5	1.4
GL 08	224.9	85	127.5	19.1
KH 01	415.3	80	261.2	52.2
KH 02	87.9	90	41.1	4.1
LO 01	1712.6	75	426.4	106.6
LO 02	238.0	90	99.9	10.0
LO 03	196.8	75	118.6	29.7
PL 01A	376.1	95	71.0	3.5
PL 02	130.6	90	76.8	7.7
PL 03	435.7	75	148.2	37.0
PL 04	223.6	90	77.1	7.7
PL 07	272.3	90	102.6	10.3
PL 10	239.9	90	41.9	4.2
PL 11	114.8	90	38.5	3.8
PL 13	137.1	90	46.8	4.7
PL A1	122.9	50	37.0	18.5
PL A2	98.1	50	59.2	29.6
PL A3	81.3	75	32.6	8.1
POW 03	78.9	90	36.0	3.6
POW 04	233.5	75	71.9	18.0
POW 05	596.7	80	239.2	47.8
POW 06	183.6	50	84.0	42.0
TH 02	394.6	90	52.6	5.3
TH 03	159.2	90	17.6	1.8
TH 04	401.5	90	74.7	7.5
TH 05	257.9	90	31.0	3.1
TH 06	202.4	90	60.1	6.0
TH 08B	121.7	90	33.5	3.3
TH 10	111.8	90	13.4	1.3
TH A1	54.9	50	15.3	7.7
WA 01	310.6	90	26.5	2.7
<b>Totals</b>	<b>10985.0</b>	<b>3641.7</b>	<b>3641.7</b>	<b>834.1</b>