

## Mountain Goat (*Oreamnos americanus*) m-oram

#	<u>Topic</u>	<u>Description</u>
1	<b>Ecosection</b>	CPK
2	<b>Biogeoclimatic subzone/variant</b>	ESSF mm1, ESSFmmp, ESSFwc2, ESSFvv, ESSFvvp, AT (Stevens 1993)
3	<b>Habitat requirements</b>	<p>Mountain goats inhabit rugged terrain composed of cliffs, ledges, projecting pinnacles and talus slopes. Habitat selection by Mt. goats is often determined by needs for security from predation rather than for forage requirements. One study showed that the distance to cliffs was the most important factor determining goat distribution and that summering goats made little use of foraging areas over 400m from cliffs. (USDA Forest service 1997)</p> <p>Within this high elevation security area mountain goats make use of a number of different habitat types throughout the year. Winters are spent on snow free, well ledged or fractured, cliffs, and very steep terrain with interspersed vegetation. Relatively open, unforested, steep, south facing slopes, with slope greater than 40 ° (so snow is shed rapidly) are preferred. In extreme conditions upper elevation ESSF and ESSF parkland forests may be of benefit by intercepting and redistributing snow and providing forage. (USDA Forest service 1997) (Wright)</p> <p>During the summer months, goats often use areas of lush herbaceous forage in alpine grasslands, meadows, and grassy slide-rock slopes of the AT and ESSF parklands. Timbered areas and avalanche tracks in the ESSF subzones may also be used during migration or movement between cliff bands and feeding areas. When crossing areas that are without escape terrain goats repeatedly use the same trails (USDA Forest service 1997). Kids are born between May-June on the steepest most rugged areas of the goat's range. (Stevens and Lofts 1988) (Wright) (Banfield 1981)</p>
4	<b>Assumptions</b>	<p>Because of the mountain goats preference for high elevation habitat, with strong preference for habitat with escape and security cover, only the ESSF and AT zones will be rated for. In the AT zone both sedge meadow ecounits (SM, SP) rate 1 for feeding in the snow free part of the year. The heather dominated ecounit (HP) is rated 2 on warm aspects (w) and 3 on cool (k). The SP ecounit rates 3-4 for cover while cliffs and rock outcrops (CL, RO) rate 1 for feeding, cover, and breeding if on warm aspects and 2 if on cool. These units are used year round. Talus slopes (TA) and rubble (RU) are rated 2 and 3 for warm and cool aspects respectively. Exposed soil (ES) is rated the same as the TA ecounit for the spring summer and fall seasons.</p> <p>Steep slopes of the ESSFvvp can also be potential goat habitat. The steep sloping initiation zones of the avalanche chutes (BM, BR) rate 3-4 for summer-fall feeding, and 4-5 for cover, and rate 6 for winter. Ecounits with significant conifer cover (BH, MR) and aspect modifiers (w,k) rate 4-5 for feeding and thermal cover in all seasons. The HP ecounit will rate up to 3 for feeding in the summer while the SS, VP, SP, GS meadows may rate up to 2 for spring, summer and fall feeding.</p> <p>In the ESSFvv, steep sloping forests (FB, MR) of structural stage 5-7 rate 4-5 for feeding, and thermal cover in all seasons. The alpine meadows (HP, MS, VH) rate up to 4 for spring - summer feeding.</p> <p>In the ESSFwc2 the forested units are potential feeding and cover areas. Those areas with significant slopes and within relatively close proximity to escape cover (FB, FR, FF) can be rated 4-5 with warm aspects receiving a higher rating than cool. The initiation zone of steep, upper slope avalanche tracks (AF, BF, VH) are rated 3 for summer and fall feeding.</p> <p>The significant slope, high elevation forests of the ESSFmm1 (FB) rate up to 4 for feeding and cover year round. Avalanche tracks and meadows (HP, VP, VH) are potential feeding areas, rating 3-4 in most cases.</p> <p>The ESSFmmp1 rates slightly higher than the mm1. Most units rate 3-4 for feeding but the VG, VA, SP ecounits and the warm aspect HPw ecounit rate 2-3 for summer feeding. Avalanche track units (BM) rate 3-4, while lower and toe slope units are rated low (5-6).</p>

- In all ESSF subzones warm aspect cliffs, rock outcrops and talus (CLw, ROw, TAw) rate 1-3 for all activities while cool aspects (CLk, ROk, TAk) rate slightly lower 2-4.
- 5 **Forage preferences** Winter: needles of all conifer species except spruce; grasses, sedges, rushes and forbs exposed on windblown slopes; twigs of deciduous shrubs such as willows and huckleberries  
Summer: grasses and forbs such as pea family members, leaves of deciduous shrubs (Wright) (Banfield 1981) (USDA Forest service 1997)
- 6 **Seasonal requirements & patterns** No marked seasonal migration pattern; More widespread in summer, with a preference for concentrating in subalpine forests and on south facing cliffs in extreme winter weather (Banfield 1981)
- 7 **Notes** All forage and cover habitat is only used if it is in close proximity to steep sloping cliffs for escape  
Rut takes place on the steep slopes that these mammals inhabit in November  
Kidding occurs extremely rough, steep, rocky terrain (Wright 1981)  
Assessed on a 6-class / 4 season rating scheme

## Literature Cited

- Apps C. 1995. East Kootenay Fisher Reintroduction Habitat Feasibility Assessment. unpublished report  
to the Ministry of Environment Wildlife Branch. Cranbrook. B.C.
- Banfield, A.W.F. 1981. The Mammals of Canada. University of Toronto Press.
- Burke, T. *et al* 1985 Technical / Agency Draft. Selkirk Mountains Woodland Caribou Recovery Plan. U.S. Fish and Wildlife Service Portland Oregon, in Cooperation with B.C. Ministry of Environment Wildlife Branch Victoria B.C.
- Caceres, C. 1997. Progress Report. Northern Long-eared Bat. unpublished report. Columbia Basin Fish and Wildlife Compensation Program. Nelson B.C.
- Campbell, W.R. N.K. Dawe, I. McTaggart-Cowan, J.M. Cooper, G. W. Kaiser, M.C.E. McNall, 1990. Birds of British Columbia. Volume 1. Nonpasserines. Introduction and Loons through Waterfowl. Royal B.C. Museum, Environment Canada, Canadian Wildlife Service
- Campbell, W.R. N.K. Dawe, I. McTaggart-Cowan, J.M. Cooper, G. W. Kaiser, M.C.E. McNall, 1990. Birds of British Columbia. Volume 2. Nonpasserines. Diurnal Birds of Prey through Woodpeckers. Royal B.C. Museum, Environment Canada, Canadian Wildlife Service
- Campbell, W.R. K.H. Morgan, C. Palmateer. 1988. Wildlife Habitat Handbooks for the Southern Interior Ecoprovince Volume 2: Species Notes for Selected Birds. Ministry of Environment, Lands and Parks. Ministry of Forests. Victoria B.C
- Child, K. Caribou in British Columbia. Brochure. Wildlife Branch B.C. Ministry of Environment, Lands and Parks.
- Erlich, P.R., D.S. Dobkin, and D. Wheye. 1988. The Birder's Handbook. A Fieldguide to the Natural History of North American Birds. Simon and Shuster Inc. New York
- Krebs, J. and D. Lewis. 1997. CBFWCP/HCTF Project Progress Report. Kootenay Wolverine. Columbia Basin Fish and Wildlife Compensation Program
- Hatler, D.F. 1989. A Wolverine Management Strategy for British Columbia. Wildlife Bulletin No. B-60. B.B. Ministry of Environment. Wildlife Branch. Victoria B.C.
- Hornocker, M.G. and H.S. Hash. 1981. Ecology of the Wolverine in northwestern Montana. Can. J. Zool. 59:1286-1301.
- Lofroth, E.C. Grizzly Bears in British Columbia. Brochure. Wildlife Branch B.C. Ministry of Environment, Lands and Parks.
- McLellan, B. 1997. Personal communication.
- McTaggart-Cowan, I. C.J. Guiget. 1973. The Mammals of British Columbia. Handbook No. 11. B.C. Provincial Museum. Victoria.
- Ministry of Environment, Wildlife Branch. Management Guidelines for British Columbia. Fisher
- Nagorsen, D.W. R.M. Brigham. 1995. Royal British Columbia Museum Handbook. Bats of British Columbia. Volume 1 The Mammals of British Columbia. UBC Press. Vancouver.

- Ritcey, R. Moose in British Columbia. Brochure. Wildlife Branch B.C. Ministry of Environment, Lands and Parks.
- Simpson, K. and G. Woods. 1987. Movements and Habitats of Caribou in the Mountains of Southern British Columbia. Wildlife Bulletin No. B-57. B.C. Ministry of Environment and Parks. Nelson. B.C.
- Stevens, V. and S. Lofts. 1988. Wildlife Habitat Handbooks for the Southern Interior Ecoprovince Species Volume 1: Species Notes for Mammals. Ministry of Environment, Lands and Parks (Wildlife Branch). Ministry of Forests (Research Branch). Victoria B.C.
- Stevens, V. 1993. Wildlife Diversity in British Columbia: Distribution and Habitat Use in Biogeoclimatic Zones Draft Report. Wildlife Interpretations Subgroup. B.C. Ministry of Environment, Lands, and Parks. B.C. Ministry of Forests. Victoria B.C.
- U.S.D.A. Forest service. 1997. *Oreamnos americanus*. Biological Data and Habitat Requirements. Fire Effects Information Web page (<http://www.fs.fed.us/database/feis/animals/mamals/ORAM>)
- Wright, R. Mountain Goats in British Columbia. Brochure. Wildlife Branch B.C. Ministry of Environment, Lands and Parks.