

Wolverine (*Gulo gulo luscus*) m-gugu

#	<u>Topic</u>	<u>Description</u>
1	Ecosection	BBT, CPK
2	Biogeoclimatic subzone/variant	ICHmw1, ICHwk1, ESSFmm1, ESSFmmp, ESSFwc2, ESSFvv, ESSFvvp, AT (Stevens 1993)
3	Habitat requirements	<p>Wolverines are a secretive high elevation species with an extensive home range. Males are capable of utilizing up to 600 km² as their home range, while females up to 300 km². (Krebs 1997) (Hatler 1989) With such a large home range it is difficult to pinpoint specific areas as being more suitable than others; as adults are capable of traveling up to 40 km in one day in their endless search for food. Studies in northern Montana (Hornocker 1981) and in B.C. (Krebs 1997) have found that wolverines show a strong preference for “Abies dominated forests”, of the ESSF zone, while avoiding burns, dense young timber and wetlands. This ESSF preference is seasonal in nature. Halter (1989) found that open high elevation ESSF forest and parkland and Alpine Tundra areas are preferred for feeding in the summer when prey species such as ground squirrels, mice, and ground nesting birds are more readily available. ICH forests and associated avalanche chutes and lower elevation ESSF forests are used more often in the winter, because the summer prey species are in lower abundance and ungulate carrion, at these lower elevations, is in greater abundance.</p> <p>Talus, rock outcrops and ice may be used for migration and scavenging for all seasons (again rated higher in summer than in the winter).</p> <p>This animal does not return to a daily nesting site, instead it uses suitable locations along its daily travel route. Expecting and maternal females show a preference for building their natal and maternal nests in lower elevation avalanche chutes or areas with abundant snow cover and coarse woody debris (in the form of downed logs). It has been documented that females strongly avoid any interaction with humans and all known den sites in the Revelstoke area have been found in remote, roadless drainages (Krebs 1997) Nests are built in snow caves or in a combination of snow drifts and fallen trees or thick blow down. Kitts are born in these dens in February. (Hatler 1989)</p> <p>Wolverines avoid dry open forests. (Stevens and Lofts 1988) (Hatler 1989)</p>
4	Assumptions	<p>Gentle-moderately sloping, submesic-subhygric, forested habitats in the ESSFwc2 (FA, FR, FF, FV, FD) ESSFvv (FR, FB, MR, FV,) , and ESSFmm1 (FA, LC, AB, FD, FH) will all be rated Moderate-High for structural stages 5-7 for the general living activity, in all seasons. The remaining structural stages will be rated Low. The other ecounits will be rated up to Moderate if structural stage is 5-7 and forest canopy is not too open, and up to Low for all other structural stages. Avalanche chute units in these three subzones will be rated up to Moderate for feeding, and the conifer containing chutes will be rated up to Moderate for feeding and breeding (winter-spring).</p> <p>Parkland (ESSFvvp, ESSFmmp1) and AT zones will be rated higher in the summer and fall than in winter and spring: up to Moderate in summer and Low in winter, with a preference for areas of higher prey concentrations such as moist meadows and areas with deep soil.</p> <p>Male wolverines appear to spend proportionally more time in the ICH subzones than do the females. This is probably due to female nest selection in the ESSF.</p> <p>Mature and old-growth forests (structural stage 5-7) and avalanche run out chutes of the 2 ICH subzones are most likely used only in winter and early spring and therefore will only be rated for these two seasons. ICHmw1 (HF, LJ, HM, DS, RD, HO, RH) will be rated up to moderate for general living in structural stages 5-7 and Nil-Low for all others while the avalanche chutes (AF, AM, MD, PF) will be rated up to Moderate for feeding on winter killed ungulates and small mammals.</p> <p>ICHwk1 (HO, HF, RD, RH, CD, RC) will be rated up to moderate for general living in structural stages 5-7 and Nil-Low for all others, while the avalanche chutes (AB, AF, LH) will again be rated up to Moderate for feeding..</p>
5	Forage preferences	<p>Winter: primarily a scavenger - feeding on ungulate carrion and robbing trap lines.</p> <p>Summer: feed on squirrel, ground squirrel, ground nesting birds and their eggs, and</p>

insects and their larvae (Hatler 1989) (Stevens and Lofts 1988) (McTaggart-Cowan and Guiguet 1973)

6 **Seasonal requirements & patterns**

Migration pattern dominated by the availability of food rather than weather; Will winter in lower slope ICH and lower elevation ESSF forests due to presence of carrion and decrease in prey abundance at higher elevations.(Hatler 1989)

7 **Notes**

Young born in dens, in natural caves or rock slides, between February and April
Clearings and forest openings of stage 2-3, rate Moderate-Low for migration which is done in a cautious manner and at a hurried pace
(Hatler 1989)(Stevens and Lofts 1988) (Banfield 1981)
Assessed on a 4-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.