

WINTER HABITAT UNITS OF CARIBOU IN THE ENTIAKO RIVER AREA, WEST CENTRAL BRITISH COLUMBIA

Boundary of biogeoclimatic subzone/variant

DL5 // FW Dry Lichen age class 5 dominant, Forested

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Wetland subdominant.

SUBZONE/VARIANT NAME

Sub-Boreal Spruce

Dry, Cool, Central Sub-Boreal Spruce

Very Dry, Cold, Southern

Subzone, Entiako River

Boundary of caribou habitat unit

Biogeoclimatic subzone and variant

	3. I	Description (of Caribou Habitat U	Jnits	
ject to conflicting land use caribou habitat interests, and	BIOGEO. SUBZONE/ VARIANT	HABITAT UNIT SYMBOL(PHASE) NAME	SITE FEATURES	ASSOCIATED VEGETATION	CARIBOU HABITAT IMPORTANCE
and Parks has been monitoring part of a cooperative West habitat mapping program was ved staff from the Ministry of ince George regions), Ministry and a consultant (Shearwater	SBSa2	DL Dry Lichen	Well to rapidly drained glaciofluvial material (often eskers); Orthic Dystric Brunisols and Orthic Regosols; high percentage of coarse fragments and usually sandy; very dry to dry.	Stands are typically very open and poorly productive lodgepole pine. Consistently occurring shrubs are Shepherdia canadensis, Spiraes betulifolia, and Rosa acicularis (all with very low cover values). Only Arctostaphylos uva-ursi occurs with significant cover in the patchy, sparse herb layer. Occasionally found are Oryzopsis pungens, Vaccinium caespitosum, and Linnaes borealis. The moss/lichen layer is dominated by frut-	Ground lichen cover usuall more than 40% (mean cover 50%). Excellent winter habitat, abundant ground lichens and often with significant amounts of tree lichens. Evidence of cratering for ground lichens and trim lines sometimes present on tree lichens.
was provided by the ministries ent with Westar Timber Ltd.		DL(1) Dry lichen,		icose lichens, primarily <u>Cladina</u> spp. and <u>Cladonia</u> spp. Age class 2 may have higher pine cover and less herb and lichen cover. Age class 1 is rare.	Age class 3,4 and 5 excellent; age class 1 and 2 use less.
at units, data were collected		* kinnikinnick phase LM Lichen - Moss	Well drained morainal blankets often	Similar to main unit, but with higher Arctostaphylos uva-ursi (kinnikinnick) cover and less herb and lichen cover. Open to reasonably stocked, but poor	Lower caribou habitat rating than main unit but still relatively high. Ground lichen mean cover
nce vegetation-soil-mensuration oil plots; 3) polygon checks ped polygons). Categories 1 and ided 164 records.			with a thin glaciofluvial capping; Orthic Dystric Brunisols and Brunisolic Gray Luvisols; coarse fragment content may be high, soils vary in texture from sandy to clay loam; dry.	lodgepole pine (sparse crowns) with scat- tered white and black spruce. Shepherdia canadensis, Spiraea betulifolia, and Rosa acicularis are consistently present but with low cover values. Juniperus communis appears infrequently. Characteristic of the sparse herb layer are Linnaea borealis, Cornus can- adensis, Arctostaphylos uva-uxsi and Vaccin- ium caespitosum. The moss/lichen layer typ-	30%. Good winter habitat adequate supply of ground lichens over much of unit. Signs of use in form of winter scats.
oolygons (on 1:50 000, black and inalized, then plotted onto the connotative of caribou habitat the primarily forested units.			•	ically occurs as a continuous sparse cover of Cladina spp. and Cladonia spp. interspersed with patches of Pleurozium schreberi, in matrix of pine needles. Age classes 3 and 4 dominant, 5 occurs frequently. Age class 2 occurs in areas of recent fires, often with more lichen than moss cover. Age class 1 is rare.	
requests for maps and /or data ional Ecologist, Ministry of .C. V0J 2NO.	·	LH(1) Lichen - Hoss, * Black Spruce phase	This phase is typically on glacio- fluvial material; soils probably cold and nutrient-poor.	Open to sometimes dense, poorly growing mixed stands of lodgepole pine and black spruce. Lower vegetation layers similar to that of main unit.	Ground lichen mean cover 35%. Caribou habitat importance same as for main unit.
		H Koss	Typically gently sloping morainal blankets, occasionally glaciofluvial or lacustrine deposits; Orthic Dystric Brunisols, Brunisolic Gray Luvisols, and gleyed phases of both; loam to clay loam; mesic to moist.	Moderately open (occasionally closed) stands of lodgepole pine and spruce. Spiraea betulifolia and young spruce characterize the patchy, sparse shrub layer. Lonicera involucrata and Vaccinium membranaceum occur sporadically. Cornus canadensis, Linnaea borealis, Arctostaphylos uva-ursi, and Vaccinium caspitosum occur consistently with low cover values. The moss/lichen layer is dominated by a continuous cover of Pieurozium schreberi, with minor amounts of Ptilium Crista-castrensis, and Peltigera aphthosa.	Ground lichen mean cover .9%. Very poor habitat, low cover of useable lichen (most of that present is <u>Peltiqera</u> spp.). May be used as thermal cover during exceptionally cold spells, and also for feeding on tree lichens that are occasionally abundant (especially
subzone/variant		H(1) Moss, Aspen		Age classes 3,4 and 5 are dominant. Class 2 appears with continuous moss cover and less herb and shrub cover. Age class 1 is rare. Not mapped, occurs as very small areas of	near lakes and streams). Same as for main unit.
ûnit.		* phase M(2) Moss, Black phase	Usually on cool, north and east aspects of slopes above lakes or in guilles.	trembling aspen, with continuous moss cover. Shrub and herb layers may be better developed than main unit (no information). Mixed open to closed stands of lodgepole pine, black and white spruce. Ledum groenlandicum is often present in the shrub layer. Empetrum nigrum often dominates the herb layer.	Same as for main unit.
variant		SF Seepage Forést	Gently sloping to level fluvial blan-	The continuous carpet of mosses dominated by Pleurozium schreberi, Ptilium crista-castrensis, and Hylocomium splendens. Open forests of white spruce with scattered	Ground lichen mean cover
oox 3)			kets, fluvial fans, morainal blankets (often with organic veneer), and organic blankets; Orthic Humic Gleysols, Orthic Gleysols, Gleyed Cumulic Regosols, and occasionally Typic Mesisols, Gleyed Sombric Brunisols, and Gleyed Dystric Brunisols; sand to clay; moist to wet; generally on slopes adjacent to lakes, in meltwater channels and along waterways.	lodgepole pine. Common shrubs in the patchy shrub layer are Lonicera involucrata, Rosa acicularis, and Ribes lacustre. The sparse but continuous herb layer is dominated by Equisetum arvense and Calamagrostis canadensis. Other characteristic herbs are Linnaca borcalis, Petasites palmatus, and Mitella nuda. the patchy moss/lichen layer is dominated by Hylocomium splendens, Pleurozium schreberi, and Ptilium cristacastrensis. Because of a lack of fires on these units, age classes 4 and 5 are common. Age class 2 and 3 are infrequent.	1.5%. Relatively low capa bility as winter food for caribou, but sometimes disproportionately high sign of use in this unit. This may be because of proximity to travel routes or the occasional abundanc of tree lichens.
tely equal.		SF(1) Seepage Forest, Active Fluvial	Occurs on active floodplains; sandy and gravelly soils.	Age class I does not occur. Throughout this unit openings dominated by Salix spp. occur. Infrequent occurrence, very similar to main unit. Alnus incana may dominate.	Same as main unit.
second (no % implied). = Seepage Forest age class 4. ass 5 dominant, Forested nt.		SF(2) Seepage Forest, Glow Moss phase	Consistently on morainal blankets, slopes immediately adjacent to wetlands; Gleyed Gray Luvisols and Orthic Gleysols; often with a layer of cobbles at surface; loamy sand to clay; moist to wet.	Mixed open forests of lodgepole pine, white spruce, and black spruce. Sparse shrub layer dominated by <u>Retula glandulosa</u> , young spruce, and occasionally <u>Salix</u> spp. Characteristic of the patchy herb layer are <u>Cornus canadensis</u> , <u>Linnaea borealis</u> , <u>Calamogrostis canadensis</u> , and <u>Empetrum rigrum</u> . <u>Pleurozium schreberi</u> and <u>Aulacomnium palustre</u> dominate the moss/lichen layer. Also characteristic are <u>Peltigera aphthosa</u> , <u>Cladina</u> spp. and	Ground lichen mean cover 16%. Capability for caribou use higher than that of the main unit; signs o heavy use adjacent to wet lands.
		SF(3) Seepage Forest, * Aspen phase.	Relatively uncommon.	Cladonia spp. Open forests dominated by trembling aspen, with minor lodgepole pine, white spruce, and black spruce. Shepherdia canadensis, and Spiraea douglasil are common shrubs. A lush continuous herb layer is dominated by Vaccinium caespitosum, Linnaea borealis, Rubus pubescens, Cornus canadensis, and Epilobium angustifolium. The moss/lichen layer is characterized by Pleurozium schreberi and	No information.
And the second s	 truti, i se styra	FW Forested Wetlands	Level organic blankets and veneers over morainal and fluvial material; Typic Fibrisols and Typic Mesisols; wet.	Open, scrubby, black spruce forests, with a continuous cover of Ledum groenlandicum. Carex spp., Empetrum nigrum, and Calamagrostis characterize the patchy herb layer. Sphagnum spp. dominate the continuous moss/lichen layer.	Ground lichen mean cover 2%. Relatively low capa- bility to support winter caribou use, although abun dance of tree lichens fre- quently increases the capa
riants		NW Nonforested Wetlands	Level organic blankets and organic veneers over morainal and fluvial material; Typic Fibrisols and Typic Hesisols; wet to very wet (watertable at or near surface).	Except for occasional black spruce or lodge- pole pine, trees are lacking. The sparse shrub layer is characterized by <u>Betula</u> <u>glandulosa</u> , <u>Ledum groendlandicum</u> , and <u>Salix</u> . spp. <u>Carex</u> spp. dominate the continuous herb layer. <u>Sphagnum</u> spp. are the dominant	Dility of the unit. Ground lichen mean cover <1%. Little capability for supporting winter caribou use, although local sources have observed car- ibou gathering, and the
DESCRIPTION		W Wetlands	Amalgamation of Forested Wetlands and Nonforested Wetlands used for map units where it was impossible to separate the	mosses. Combination of species descriptions for Forested Wetlands and Nonforested Wetlands.	animals may crater for sedges. Same as for Forested and Nonforested Wetlands.
Occurring between 900m and 1300m throughout the study area, except on the flanks of the Fawnie Mountains where the upper limit is 1200m. Poorly	SBSđ	DL Dry Lichen	wetland units. Well to rapidly drained glaciofluvial material (often eskers); Orthic Dystric Brunisols and Orthic Regosols; high percentage of coarse fragments and usually sandy; very dry to dry; local and infrequent.	No samples in SBSd, but probably very similar to unit in SBSa2. Only age classes 3 and 5 occur.	Excellent winter habitat, ground lichens common, but unit is uncommon.
developed shrub and herb layers. Shepherdia canadensis is usually abundant; Vaccinium membranaceum is rare. Moss layer is usually prominent; ground lichens may reach abun-		LH Lichen - Hoss	Well drained morainal blankets often with a thin glaciofluvial capping; Orthic Dystric Brunisols and Brunisolic Gray Luvisols; coarse fragment content may be high, sand to clay loam; dry.	Open stands of lodgepole pine with scattered white spruce. Shepherdia canadensis dominates the shrub layer. Arctostaphylos uvaursi, Linnaea borealis, and Vaccinium caespitosum are common herbs. Dominant in the moss/lichen layer are Cladonia spp., Peltiquera spp. and Pleurozium schreberi. Age classes 3,4 and 5 are common; 1 and 2 do not appear.	Good winter habitat, adequate supply of ground lichens over much of unit.
courring above 900m primarily north of Natalkuz/Tetachuck ake, except for a narrow belt on the south side of the lakes.	A Continue de Contra de Co	H Hoss	Gently sloping morainal blankets; Orthic Dystric Brunisols and Bruni- solic Gray Luvisols; loam to clay; mesic.	Open to closed mixed stands of lodgepole pine and white spruce, with occasional occurrence of subalpine fir. Shepherdia canadensis, Rosa acicularis, and Spiraea betulifolia are characteristic shrubs. Common herbs are Yaccinium caespitosum, Arctostaphylos uva-ursi, Cornus canadensis, and Linnaea borealis. The continuous moss/lichen layer is dominated by Pleurozium schreberi and Peltigera aphthosa. Age classes 3,4 and 5 are common; 1 and 2 do not occur.	Very poor caribou habitat, low cover of useable groundlichen (most of that present is Peltigera spp.). May be used as thermal cover during exceptionally cold spells.
Trembling aspen is relatively common. Shrub layers poorly leveloped but herb and moss ayers are typically well-leveloped.		AF Aspen Porb	Gently to steeply sloping morainal blankets, colluvial blankets, and colluvial veneers over rock; generally south and west-facing; Orthic Helanic Brunisols and Brunisolic Gray Luvisols; loam to clay loam; dry to moist with relatively high nutrient status.	Open trembling aspen forests, with character- istle shrubs of Shepherdia canadensis, Rosa acicularis, and Spiraea betulifolia. The continuous, lush herb layer is dominated by Aster conspicuus, Arctostaphylos uva-ursi, Galium boreale, Elymus glaucus, Bromus spp., and Smilacina racemosa. Mosses and lichens are generally lacking. Age class 3 is common; classes 1,2 and 4 also occur.	Virtually no capability for caribou use.
		SF Seepage Forest	Gently sloping to level fluvial blan- kets, fluvial fans, and morainal blan- kets; Orthic Humic Gleysols, Orthic Gleysols and Gleyed Cumulic Regosols; sand to clay; moist to wet; generally on flat-lying uplands north of Tetachuck Lake.	Mixed open forests of white spruce, black cottonwood, and trembling aspen. Lonicera involucrata dominates the shrub layer. Characteristic herbs are Equisetum arvense, Cornus canadensis, and Rubus pubescens. Common mosses are Hylocomium splendens, Pleurozium schreberi, Mnium spp., and Aulacomnium palustre. Age classes 3,4 and 5 common; 2 is rare; 1 does not occur.	Relatively low capability as winter food source, but proximity to travel routes and occasional abundance o tree lichens result in relatively high use in places.
Jim Pojar (MOFL, Smithers). and Jim Pojar (MOFL, nearwater Ecological		SF(2) Seepage Forest, Glow Moss phase	Consistently on morainal blankets, slopes immediately adjacent to wetlands; Gleyed Gray Luvisols and Orthic Gleysols; often with layer of cobbles at surface; sand to clay; moist.	Mixed open forests of lodgepole pine, white spruce, and black spruce. Betula glandulosa is a common shrub. Common herbs are Cornus canadensis, Linnaea borealis, and Calamagrostis canadensis. Pleurozium schreberi and Aulacomnium palustre dominate the moss/lichen layer. Age class 3,4 and 5 are common; 2 is rare; 1 is absent. Age class 2 and 3 may consist of dense, mixed black and white spruce.	Capability to support winter caribou use higher than that of main unit.
Fuhr (MOEP, Victoria), y MacKinnon (MOFL, Prince		FW Forested Wetlands	Level organic blankets and organic veneers over morainal and fluvial material; Typic Fibrisols and Typic Mesisols; wet.	Open scrubby black spruce forests, with a continuous open cover of Ledum groenlandicum. Carex spp. dominate the herb layer. A continuous cover of Sphagnum spp. is usually present.	Relatively low capability to support winter caribou use, although frequent abundance of tree lichens may offset the scarcity of ground lichens.
earwater Ecological Services).	-	NW Nonforested Wetlands W Wetlands	Level organic blankets and organic veneers over moralnal and fluvial material; Typic Fibrisols and Typic Mesisols; wet to very wet (watertable often at or near the surface). Amalgamation of Forested Wetlands and Nonforested Wetlands used for map units	Trees are lacking. <u>Betula glandulosa</u> , <u>Ledum groenlandicum</u> , and <u>Salix</u> spp. have a scattered occurrence. <u>Carex</u> spp. dominate the continuous herb layer. <u>Sphagnum</u> spp. are characteristic of the moss layer. Combination of species descriptions for Forested and Nonforested Wetlands.	ground lichens. Little capability for providing winter food for caribou, although the animals may crater for sedges. Same as for Forested and Nonforested Wetlands.
•			where wetland form is not identifiable.	ACCTAINS.	