

Table S1. Landcover types classified with Landsat TM satellite imagery in the home range of the Atlin herd of northern mountain woodland caribou in northern British Columbia. Overall classification success of the landcover classification model was 75%.

Cover Type	Description
LP/Lichen	Level areas with well-drained soils that support stands of lodgepole pine (<i>Pinus contorta</i> var. <i>latifolia</i>) and an understory of <i>Cladina</i> and <i>Cladonia</i> species.
Spruce/Fir	Forest dominated by white spruce (<i>Picea glauca</i>) and sub-alpine fir (<i>Abies lasiocarpa</i>) with minor components of lodgepole pine.
Mixed Conifer	Older stands that comprise variable composition of white spruce, sub-alpine fir, and lodgepole pine.
Aspen	Over-grown, high shrub, or closed stands of trembling aspen (<i>Populus tremuloides</i>) that may contain black cottonwood (<i>Populus balsamifera</i> spp. <i>trichocarpa</i>).
Mixedwood	Medium-aged stands that comprise variable composition of white spruce, sub-alpine fir, lodgepole pine, trembling aspen and black cottonwood.
Krummholz	Windswept landscape near tree-line characterized by stunted vegetation in a variety of species including, white spruce and sub-alpine fir.
Alpine Tundra	Rolling alpine tundra characterized by sedge and altai fescue (<i>Festuca altaica</i>) dominated meadows. Mountain heather (<i>Cassiope</i> spp.), crowberry (<i>Empetrum nigrum</i>), mountain avens (<i>Dryas</i> spp.) and lichen communities are also common.
Low Valley Salix	Shrub, sedge, and forb dominated lowlands with high water table usually dominated by <i>Salix</i> species.
Alpine Shrub	Alpine environments dominated by low-height plant species such as scrub birch (<i>Betula glandulosa</i>) and <i>Salix</i> species
Rock/Talus	Rocky terrain with very sparse vegetation. Can include lichen cover of <i>Umbilicaria</i> , <i>Cetraria</i> and <i>Cladina</i> species.
Snow/Ice	High elevation areas above the tree-line or otherwise dominated by glaciers and heavy snow.
Water	Area of low slope and depression where water aggregates and the water table is above grade.
Burned LP	Recent burns (since 1950) comprising dense stands of young lodgepole pine.

Notes: Abbreviations are LP, lodgepole pine (*Pinus contorta* var. *latifolia*).

Table S2. Results of model selection for caribou second-order resource selection models of the Atlin herd of northern mountain woodland caribou in northern British Columbia. Selection was measured in winter (Nov15-May15) and summer (May16-Nov14) from 2000-2002.

winter	N	LL	K	ΔAIC
Random intercept	13862	-7759.2	19	0
Fixed-effect	13862	-7766.3	19	14.4
summer	N	LL	K	ΔAIC
Random intercept	18678	-9409.1	17	0
Fixed-effect	18678	-9408.5	17	20.4

Notes: Abbreviations are LL, log likelihood; k, the number of parameters; ΔAIC, difference from the model with the lowest Akaike information criterion value; and N, number of observations

Table S3. Estimates of caribou selectivity (β) coefficients and standard errors (SE) from generalized linear mixed models with a random intercept at the second-order scale for the Atlin herd of northern mountain woodland caribou in northern British Columbia. Selection was measured in winter (Nov15-May15) and summer (May16-Nov14) from 2000-2002. Positive selectivity coefficients indicate selection for that covariate and negative selectivity coefficients indicate avoidance. Squared terms (such as slope²) indicate that the relationship was quadratic (i.e., caribou selected for intermediate slopes). Selection for high values of hillshade represent selection for western slopes with high sun exposure. In the winter model, percent snow cover coefficients were square transformed.

Second-order Covariate	Summer		Winter	
	Selectivity β	SE	Selectivity β	SE
LP/lichen	-0.733	0.1465	0.569	0.0624
Mixed Con	-0.857	0.0920		
Krummholz	0.329	0.1131	-0.919	0.1399
Burn LP			-0.866	0.1684
Spruce/fir			0.232	0.0625
Low Valley Salix			0.687	0.0937
Alpine Shrub	0.495	0.1031		
Alpine Tundra	0.596	0.1117	-0.699	0.1634
Rock	0.298	0.1388	-1.659	0.6140
Water	-3.198	0.3123	-0.827	0.1519
Elevation	0.012	0.0012	0.017	0.0012
Elevation ²	-4.44E-06	4.540E-07	-7.23E-06	5.640E-07
Slope	0.037	0.0078	-0.050	0.0034
Slope ²	-0.002	0.0002		
Hillshade	0.004	0.0006	0.006	0.0009
NDVI summer	-2.71E-04	1.660E-05	0.003	0.0003
NDVI summer ²			-2.83E-07	2.310E-08
Percent Snow winter	8.212	0.3753	9.552	0.6575
Percent Snow winter ²			-7.655	0.4531
Human ZOI summer	-0.478	0.0608		
Human ZOI winter			-0.954	0.0739
Constant	-14.990	0.6986	-22.795	1.1244

Notes: Abbreviations are LP, lodgepole pine; NDVI, Normalized Difference Vegetation Index; ZOI, Zone of Influence.

Table S4. Estimates of caribou selectivity (β) coefficients and standard errors (SE) from conditional logistic regression at the third-order scale for the Atlin herd of northern mountain woodland caribou in northern British Columbia. Selection was measured winter (Nov15-May15) and summer (May16-Nov14) from 2000-2002. Positive selectivity coefficients indicate selection for that covariate and negative selectivity coefficients indicate avoidance. Selection for high values of hillshade represent selection for western slopes with high sun exposure. Avoidance of the human zone of influence was not significant in winter and thus not included in the model.

Third-order Covariate	Summer		Winter	
	Selectivity β	SE	Selectivity β	SE
Mixed Conifer	-0.466	0.0747		
Mixed Wood	0.873	0.2666	0.331	0.0860
Alpine Tundra	0.129	0.0564	-0.606	0.2818
LP/Lichen			0.311	0.0716
Spruce/Fir			0.264	0.0708
Water	-3.654	0.4643		
Elevation	0.006	0.0003	0.002	0.0005
Slope	-0.038	0.0032	-0.017	0.0050
Hillshade	0.004	0.0007	0.009	0.0012
NDVI summer	6.93E-05	2.04E-05		
Percent Snow winter	4.271	0.6386	-1.308	0.3714
Percent Snow summer	-4.147	0.2913		
Human ZOI summer	-1.182	0.3375		

Notes: Abbreviations are LP, lodgepole pine; NDVI, Normalized Difference Vegetation Index; ZOI, Zone of Influence.

Table S5. Estimates of caribou selectivity (β) coefficients and standard errors (SE) from realized and potential generalized linear mixed models with a random intercept at the second-order scale for the Atlin herd of northern mountain woodland caribou in northern British Columbia.

Selection was measured in summer (May16-Nov14) from 2000-2002. The realized model includes the human zone of influence (ZOI) covariate, while potential model does not. Positive selectivity coefficients indicate selection for that covariate and negative selectivity coefficients indicate avoidance. Squared terms (such as slope²) indicate that the relationship was quadratic (i.e., caribou selected for intermediate slopes). Selection for high values of hillshade represent selection for western slopes with high sun exposure.

Covariate	Realized		Potential	
	Selectivity β	SE	Selectivity β	SE
LP/lichen	-0.7327	0.1465	-0.7336	0.1455
Mixed Con	-0.8568	0.0920	-0.8438	0.0891
Krummholz	0.3286	0.1131	0.3285	0.1083
Alpine Shrub	0.4950	0.1031	0.4755	0.0955
Alpine Tundra	0.5956	0.1117	0.5854	0.1089
Rock	0.2981	0.1388	0.3077	0.1376
Water	-3.1979	0.3123	-3.2067	0.3113
Elevation	0.0121	0.0012	0.0120	8.37E-04
Elevation ²	-4.44E-06	4.54E-07	-4.39E-06	3.29E-07
Slope	0.0374	0.0078	0.0351	0.0078
Slope ²	-0.0023	2.27E-04	-0.0022	2.26E-04
Hillshade	0.0036	5.82E-04	0.0038	5.75E-04
NDVI summer	-2.71E-04	1.66E-05	-2.71E-04	1.51E-05
Percent Snow winter	8.2122	0.3753	8.4300	0.3651
Human ZOI summer	-0.4785	0.0608		
Constant	-14.9905	0.6986	-15.2352	0.5526

Notes: Abbreviations are LP, lodgepole pine; NDVI, Normalized Difference Vegetation Index; ZOI, Zone of Influence.

Table S6. Estimates of caribou selectivity (β) coefficients and standard errors (SE) from realized and potential generalized linear mixed models with a random intercept at the second-order scale for the Atlin herd of northern mountain woodland caribou in northern British Columbia. Selection was measured in winter (Nov15-May15) from 2000-2002. The realized model includes the human zone of influence (ZOI) covariate, while potential model does not. Positive selectivity coefficients indicate selection for that covariate and negative selectivity coefficients indicate avoidance. Squared terms (such as slope²) indicate that the relationship was quadratic (i.e., caribou selected for intermediate slopes). Selection for high values of hillshade represent selection for western slopes with high sun exposure. Percent snow cover coefficients were square transformed.

Covariate	Realized		Potential	
	Selectivity β	SE	Selectivity β	SE
LP/lichen	0.569	0.0624	0.594	0.0620
Krummholz	-0.919	0.1399	-0.897	0.1394
Burn LP	-0.866	0.1684	-0.795	0.1678
Spruce/fir	0.232	0.0625	0.264	0.0618
Low Valley Salix	0.687	0.0937	0.724	0.0929
Alpine Tundra	-0.699	0.1634	-0.642	0.1628
Rock	-1.659	0.6140	-1.621	0.6154
Water	-0.827	0.1519	-0.781	0.1500
Elevation	0.017	0.0012	0.019	0.0012
Elevation ²	-7.23E-06	5.640E-07	-7.82E-06	5.620E-07
Slope	-0.050	0.0034	-0.051	0.0033
Hillshade	0.006	0.0009	0.006	0.0009
NDVI summer	0.003	0.0003	0.003	0.0003
NDVI summer ²	-2.83E-07	2.310E-08	-2.79E-07	2.300E-08
Percent Snow winter	9.552	0.6575	9.607	0.6502
Percent Snow winter ²	-7.655	0.4531	-7.663	0.4486
Human ZOI winter	-0.954	0.0739		
Constant	-22.795	1.1244	-23.652	1.1176

Notes: Abbreviations are LP, lodgepole pine; NDVI, Normalized Difference Vegetation Index; ZOI, Zone of Influence.