

Rovang, S., Nielsen, S. E. and Stenhouse, G. 2014. In the Trap: detectability of fixed hair trap DNA methods in grizzly bear population monitoring. – Wildlife Biology doi: 10.2981/WLB.00033.

Appendix 1

Variables used to predict the probability of detection were divided into 5 themes: anthropogenic features, topographic and forest stand features, landcover, food and time.

Table 1. Variables hypothesized to influence grizzly bear occupancy or detectability of grizzly bears at two scales in west-central Alberta, Canada. Variables selected for a priori modeling following univariate analysis are denoted with subscripts; P = patch scale model (300 m), L = landscape scale model (1690 m).

Theme	Description	Variable	Data Range
Anthropogenic features	distance to road	rd_dec	0 to 1
	distance to trail	trl_dec	0 to 1
	distance to pipeline	pipe_dec	0 to 1
	distance to wellsite	well_dec	0 to 1
	distance to protected area _{P,L}	park_dec	0 to 1
	density of road	rd_dns	0.3 to 1.1
	density of trail	trl_dns	0 to 0.7
	density of pipeline	pipe_dns	0 to 0.5
	density of wellsite	well_dns	0 to 0.4
	proportion of forestry cutblocks	cblock	0 to 100
proportion of mining	mine	0 to 100	
Topographic features, forest stand features and risk	compound topographic index (CTI) _L	CTI	6 to 14
	terrain ruggedness index (TRI) _L	TRI	0 to 21
	elevation (DEM) (m) _{P,L}	DEM	936 to 2772
	distance to stream (m) _{P,L}	stream	0 to 1
	crown closure (%) _L	CC	0 to 100
Landcover	local canopy cover	cancov	0 to 5
	mortality risk	risk	0 to 10
	core	core	0 or 1

	upland tree	utree	0 or 1
	wetland tree _{P,L}	wtree	0 or 1
	upland herb	uherb	0 or 1
	wetland herb _L	wherb	0 or 1
	shrub	shrub	0 or 1
	water	water	0 or 1
	barren	barren	0 or 1
	forest age (yr)	ForAge	0 to 160
	density of <i>Hedysarum alpinum</i> _P	hedy_dns	0 to 6.7
	density of <i>Shepherdia canadensis</i> _P	shecan_dns	0 to 5.6
	density of <i>Heracleum lanatum</i>	herlan_dns	0 to 5.5
	cover class of <i>Hedysarum alpinum</i> _P	hedy	0 to 21
	cover class of <i>Heracleum lanatum</i>	herlan	0 to 12
	cover class of <i>Equisetum</i> spp.	equi	0 to 4
Food	cover class of <i>Trifolium</i> spp. _P	trif	0 to 6
	cover class of <i>Taraxacum officinale</i>	taroff	0 to 2
	cover class of <i>Shepherdia canadensis</i>	shecan	0 to 24
	cover class of <i>Vaccinium</i> spp.	vacc	0 to 8
	cover class of other fruit _P	ofruit	0 to 5
	seasonal food	sfood	0 to 100
	total food	tfood	0 to 600
Time	linear _{P,L}	sess	0 to 6
	quadratic _{P,L}	quad	0 to 36
