Anthropogenic influences on the distribution of a Vulnerable coniferous forest specialist: habitat selection by the Siberian musk deer *Moschus moschiferus*

JONATHAN C. SLAGHT, BRIAN MILAKOVSKY, DARIYA A. MAKSIMOVA, IVAN V. SERYODKIN VITALIY A. ZAITSEV, ALEXANDER M. PANICHEV and DALE G. MIQUELLE

TABLE S1 Descriptions of covariates collected during winter 2012–2013 in and adjacent to the Sikhote-Alin Biosphere Reserve, Primorskii Krai, Russia (Fig. 1).

Covariate	Estimated	Description
Harvest	In the field	Forest cut or not
Distance to harvest	Remotely	m
Snow depth	In the field	cm
Lichen load	In the field	% trees with lichens; three categories: 0–10, 10–50 & >50%
Lichen availability	In the field	1–3: low to high availability
Tree species composition of upper storey	In the field	Proportion of pine, fir, spruce, larch, deciduous trees & snags in the upper canopy
Canopy cover	In the field	Amount of upper canopy closure (%)
Animal tracks	In the field	Fresh (<24 hours) tracks of all ungulates (except musk deer *Moschus moschiferus*), predators & people
Topography	Remotely	Topographic position index: continuous value where extreme negative values represent valleys (c. 300), values near zero represent slopes & extreme positive values represent ridges (c. 300)
Aspect	Remotely	°, based on a digital elevation model
Elevation	Remotely	m above sea level, based on a digital elevation model
Distance to main road	Remotely	m
Distance to logging road	Remotely	m

TABLE S2 Candidate models to explain musk deer occupancy in and adjacent to the Sikhote-Alin Biosphere Reserve, Primorskii Krai, Russia (Fig. 1).

Model	Description
p(.)psi(dHarvest)	Influence of distance to harvest alone
p(.)psi(Harvest)	Influence of harvest alone
p(.)psi(dMainRoad)	Influence of distance to main road alone
p(.)psi(LichenHigh)	Influence of high lichen load alone
p(.)psi(DrkCon)	Influence of proportion of dark conifers alone
p(.)psi(dHarvest+dMainRoad)	Additive influence of distance to harvest & roads. Tests if, in combination with roads, proximity to harvest is important.
p(.)psi(DrkCon+LichenHigh)	Additive influence of proportion of dark conifers & high lichen load
p(.)psi(Harvest+dMainRoad)	Additive influence of harvest & roads. Tests if, in combination with roads, harvest is important.
p(.)psi(LichenHigh+dHarvest)	Additive influence of high lichen load & distance to harvest site
p(.)psi(LichenHigh+dMainRoad)	Additive influence of high lichen load & distance to main road
p(.)psi(dHarvest+dMainRoad+LichenHigh)	Additive influence of distance to harvest, roads, & high lichen load. Tests if, in combination with roads, proximity to harvest & high lichen load is important.
p(.)psi(dHarvest+dMainRoad+LichenAvail)	Additive influence of distance to harvest, roads, & lichen availability. Tests if, in combination with roads, proximity to harvest & lichen availability is important.
p(.)psi(dHarvest+dMainRoad+LichenHigh+DrkCon)	Additive influence of distance to harvest & roads. Tests if, in combination with roads, proximity to harvest, high lichen load, & proportion of dark conifers is important.
p(.)psi(TPI+Elevation+Aspect+DrkCon+LichenHigh)	Additive influence of all natural conditions: topographic position, elevation, aspect, high lichen load, & proportion of dark conifers.