

Supplementary Materials

Table S1. Landscape covariates used in the development of the Far Eastern leopard model for the Russian Far East, 1997-2007.

Landscape covariates	Source/Description	Citations
Elevation (m), Slope, Hillshade	Shuttle Radar Topography Mission, ~90 m resolution. Hillshade was calculated to make northerly aspects large numbers.	NASA/USGS, Reuter et al. (2007)
Net annual primary productivity (kg/ha)	MODIS satellite product MOD17A2; estimated maximum gross primary productivity for 2004, 1km ²	Huete et al. (2002), Running et al. (2004), Turner et al. (2006)
Snow cover	MODIS satellite product MOD10A2; percentage of 16-day periods between Nov 1 and March 31 st with snow cover, 500m ²	Huete et al. (2002)
Vegetation communities	agricultural fields, grassland/meadows, regenerating burned or logged forests, shrub communities, oak forests, birch forests, Riverine deciduous and mixed conifer-deciduous forests, larch forests, Mixed Korean pine-deciduous forests, spruce-fir forests, wetlands, and alpine	Landsat5 satellite imagery based landcover classification (Ermoshin et al. 2004)
Distance to Zapovednik (km)	Distance in km from the edge of a Zapovednik	TIGIS (Pacific GIS Center)
Distance to roads (km)	Distance to paved and unpaved roads (not including forest roads)	TIGIS
roe deer, sika deer and wild boar	Probability of occurrence from RSPF models (see appendix)	See appendix 2

Table S2a. Comparison of the mean and standard deviations of continuous spatial covariates in the historic and current distribution of Far Eastern Leopards. Prey covariates are reported as the average probability of occurrence between 0 and 1.

Covariate	<u>Historic Range</u>				<u>Current Range</u>			
	Mean	SD	Min	Max	Mean	SD	Min	Max
Elevation	138.1	125.7	0	441	225.9	182.3	-5	913
Slope	15.1	5.8	1	35	14.0	4.43	1	37
Hillshade	35.1	61.8	0	181	49.3	65.9	0	181
Percent Snowcover	0.467	0.215	0	0.83	0.65	0.29	0	1
Distroad (km)	1.17	2.584	0	10.39	2.54	2.31	0	12.31
Distance to								
Zapovednik (km)	11.7	1831	0	120.1	6.99	8.99	0	32.02
Roe deer	0.748	0.126	0	0.992	0.731	0.097	0	0.998
Sika deer	0.751	0.231	0	0.991	0.922	0.091	0	0.994
Wild boar	0.536	0.198	0	0.912	0.615	0.179	0	0.851

Table S2b. Comparison of the mean proportion of categorical landcover covariates in the historic and current distribution of Far Eastern Leopards.

	Historic	Current
Landcover Type	Proportion	Proportion
Agriculture	0.124	0.07
Oak	0.084	0.109
Birch	0.043	0.007
Deciduous	0.267	0.149
Korean Pine	0.175	0.421
Larch	0.008	0.01
Disturbed Forest	0.069	0.07
Spruce-Fir	0.05	0.07
Shrubs	0.046	0.05
Meadow	0.03	0.04
Wetland	0.087	0.001
Alpine	0.01	0.01

Ungulate Prey Species Habitat Models

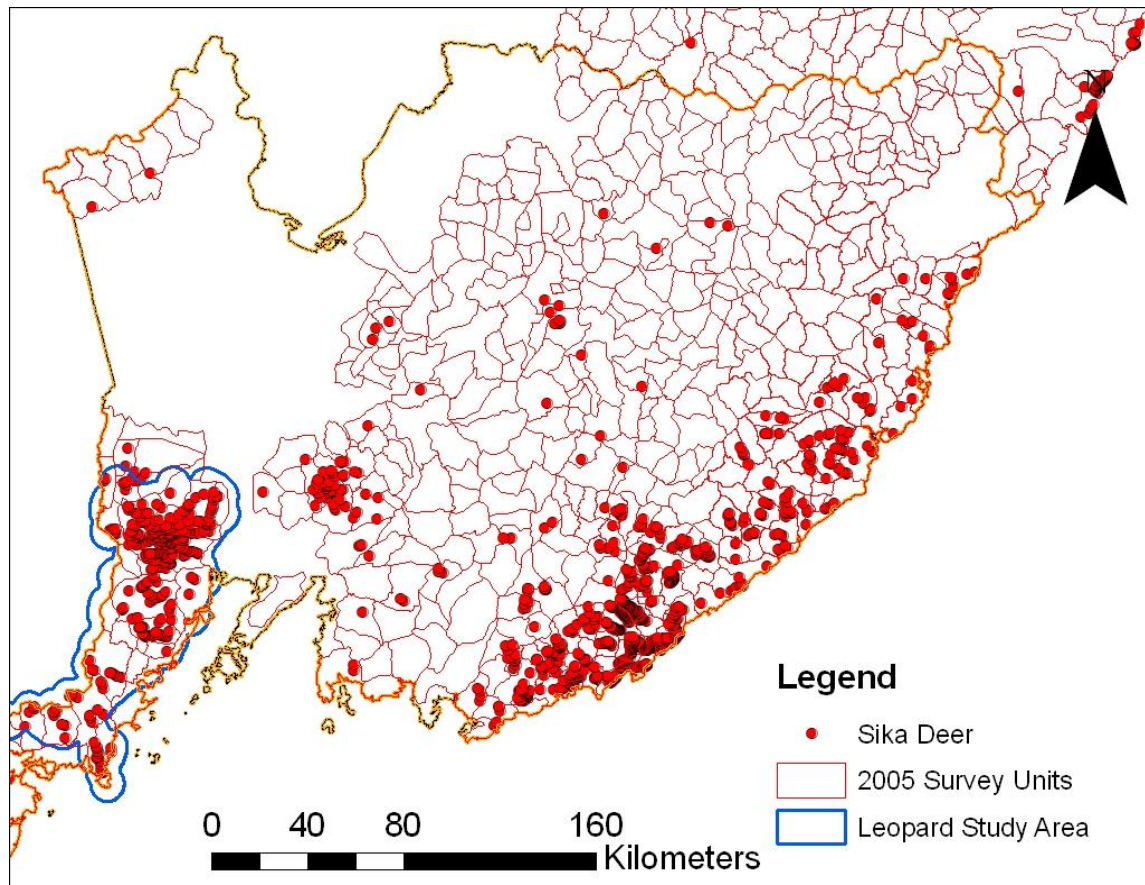


Figure S1 Sika deer sampling design in the southern Russian Far East, winter 2005, showing survey units, sika deer tracks, and the current range of Far Eastern leopards.

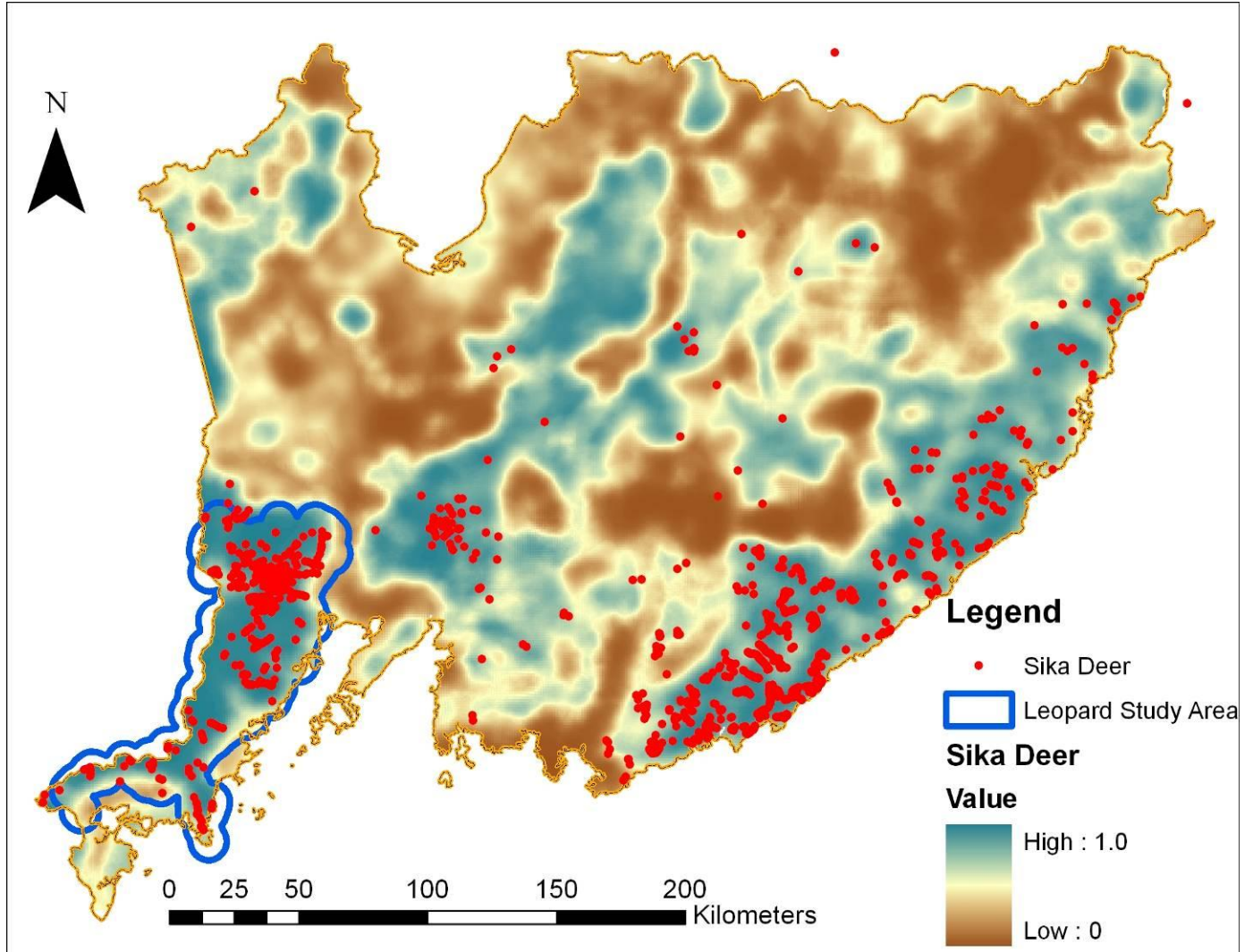


Figure S2. Probability of occurrence for sika deer in the historic range of the Far Eastern leopard in the Russian Far East, winter 2005.

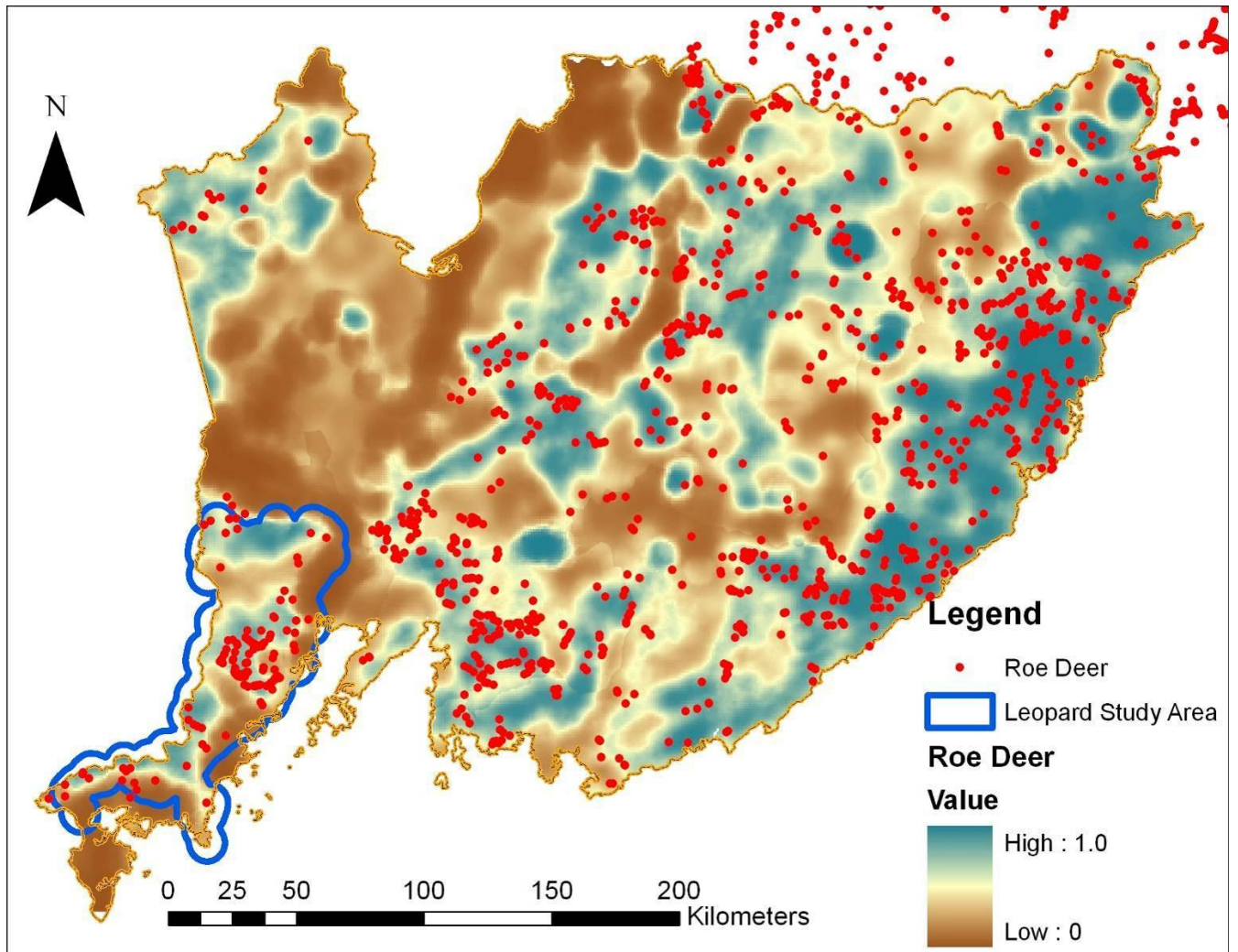


Figure S3. Probability of occurrence for roe deer in the historic range of the Far Eastern leopard in the Russian Far East, winter 2005.

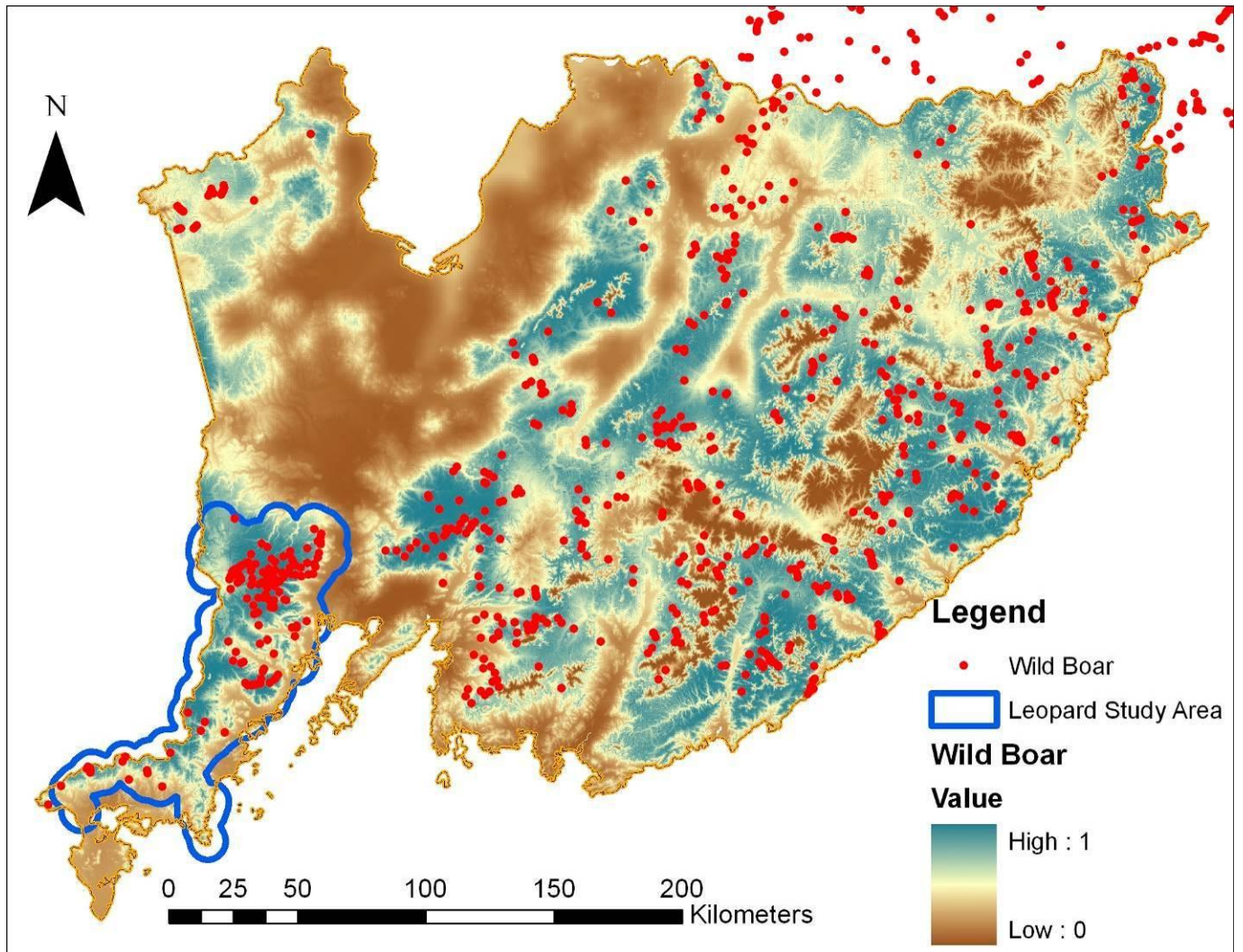


Figure S4. Probability of occurrence for wild boar in the historic range of the Far Eastern leopard in the Russian Far East, winter 2005.