

Appendix 1. List and descriptions of all candidate variables evaluated for inclusion into presence-only MAXENT territory distribution models for the California spotted owl (*Strix occidentalis occidentalis*), Northern goshawk (*Accipiter gentilis*), and female Pacific marten (*Martes caurina*) in the Lake Tahoe Basin of California and Nevada.

Variable	Description	Source	Variables Used and Optimal Scale		
			Spotted owl	Northern goshawk	Female Pacific Marten
Biophysical					
Mean Aspect	Focal mean of aspect values	USGS 30-m Digital Elevation Model (DEM)	Yes 1950 m	Yes 500 m	Yes 250 m
Mean Slope	Focal mean of percent slope values	USGS 30-m DEM	Yes 1200 m	Yes 500 m	Yes 500 m
Elevation <sup>2</sup>	Squared focal mean of elevation values	USGS 30-m DEM	Yes 800 m	Yes 500 m	Yes 250 m
Stream Density	Focal sum of streams present	USGS perennial stream GIS layer	Yes 1600 m	Yes 3100 m	Yes 1400 m
Min January Temperature	Focal mean of all temperature values	PRISM	Yes 800 m	Yes 700 m	Yes 750 m
Min April Temperature	Focal mean of all temperature values	PRISM	Yes 1950 m	Yes 700 m	Yes 250 m
Max July Temperature	Focal mean of all temperature values	PRISM	Yes 1950 m	Yes 700 m	Yes 250 m
Mean Annual Precipitation	Focal mean of all precipitation values	PRISM	Yes 1950 m	Yes 700 m	Yes 250 m
Mean May Precipitation	Focal mean of all precipitation values	PRISM	Yes 1950 m	Yes 500 m	Yes 250 m

Appendix 1. Continued.

Variable	Description	Source	Variables Used and Optimal Scale		
			Spotted owl	Northern goshawk	Female Pacific Marten
Vegetation Structure and Composition					
Total Biomass	Sum of pixels with live woody biomass: 1355-3240, 3241-7241, 7241-10,549, 10,549-31,668, >10,549 kg / ha	LANDIS-II	Yes 1600 m	Yes 700 m	Yes 1200 m
Maximum Age of all Tree Species	Sum of pixels with maximum ages: 40-70, 80-160, >170, >200 years	LANDIS-II	Yes 625-1600 m	Yes 500-1950 m	Yes 1200 m
CWHR Habitat Type, Size Class, Canopy Density Combinations <sup>1</sup>	Sum of pixels with specified CWHR type-size-canopy density combinations	Crosswalk from LANDIS-II output	Yes 1950 m	Yes 700 m	Yes 250-750 m
Bad CWHR Habitat Combinations <sup>2</sup>	Sum of pixels with specified CWHR type-size-canopy density combinations	Crosswalk from LANDIS-II output	Yes 800 m	Yes 2350 m	Yes 750 m
Prey Resource CWHR Suitability Indices					
Northern flying squirrel	Sum of habitat suitability values in all pixels	CWHR Habitat Suitability Index	Yes 1600 m	No	No
Deer Mouse	Sum of habitat suitability values in all pixels	CWHR Habitat Suitability Index	Yes 1950 m	No	No
Important year-round prey <sup>3</sup>	Sum of habitat suitability values in all pixels	CWHR Habitat Suitability Index	No	Yes 2350 m	Yes 1200 m

Appendix 1. Continued.

Variable	Description	Source	Variables Used and Optimal Scale		
			Spotted owl	Northern goshawk	Female Pacific Marten
Important nesting season prey <sup>4</sup>	Sum of habitat suitability values in all pixels	CWHR Habitat Suitability Index	No	Yes 500 m	No
Important denning season prey <sup>5</sup>	Sum of habitat suitability values in all pixels	CWHR Habitat Suitability Index	No	No	Yes 250 m
Disturbance					
Urban Development	Sum of all pixels classified as developed	TRPA development GIS layer	Yes 1950 m	Yes 500 m	Yes 500 m
Road Density	km / km <sup>2</sup> of paved and unpaved roads	TRPA roads GIS layer	Yes 1200 m	Yes 700 m	Yes 250 m

- 1 List of CWHR Habitat Type, Size Class, Canopy Density Combinations: California Spotted owl-Sierra mixed conifer/White fir/Size classes 4-5/Canopy density moderate-dense; Northern goshawk-Mesic mid-late seral forest/Red fir/White fir/Sierra mixed conifer/Subalpine conifer/Size class 4-5/Canopy density moderate-closed; Female Pacific marten-Mesic late seral forest/Red fir/White fir/Sierra mixed conifer/Subalpine conifer/Size class 5/Canopy density moderate-closed, Mesic mid seral forest/same as prior/Size class 4/Canopy density moderate-closed, Mesic early seral/same types as prior/size 2-3/Canopy density moderate-closed.
- 2 List of CWHR combinations used for Bad Habitats: California spotted owl-Jeffrey pine/Lodgepole pine/Subalpine conifer/Montane chaparral/All other non-forest habitats; Northern goshawk-Subalpine conifer/Montane chaparral or Canopy Density S-P; Female Pacific marten-Jeffrey pine/Lodgepole pine/Montane chaparral/all size class 3.
- 3 List of year-round important prey: Northern goshawk-Douglas' squirrel, Golden-mantled ground squirrel, 4 chipmunk species, Steller's jay, Northern flicker, American robin.
- 4 List of important nesting season prey: Northern goshawk-Douglas' squirrel, Steller's jay.  
List of important denning season prey: Female Pacific marten-Douglas squirrel, 4 chipmunk species, Golden-mantled ground squirrel.
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