

Ecosphere

Effects of urbanization on cougar foraging ecology along the wildland-urban gradient of western Washington

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APPENDIX S1

RESULTS

The distributions of kill site locations from study period 1 and study period 2 were roughly equivalent across the wildland-urban gradient, minimizing the likelihood that differences in cougar diets between study periods were a function of differences in sampling effort in residential areas (Table A1). Spatially, the frequency of synanthropic species in cougar diets was positively associated with increases in building density, and synanthropic species occurred on average in areas with greater building density than either ungulate or rodent prey species (Fig. A1). Nevertheless, the ungulate prey group accounted for the vast majority of cougar kills during this investigation. The probability of ungulate and rodent predation as a function of building density (Fig. A2) was bifurcated according to sex and study period because such probabilities are based on the effects in each of the top GLMM models.

Table S1. Total kills made by cougars across both study periods at three levels of building density. The mean for building density across all kills was 0.05; hence, the three categories of building density were created to correspond with wildland areas, residential densities below the mean, and residential densities above the mean. Sampling effort was consistent between study periods across the wildland-urban gradient.

Building Density (ha)	Study Period 1	Study Period 2	Total
0	199	213	412
0 – 0.05	23	29	52
> 0.05	52	47	99

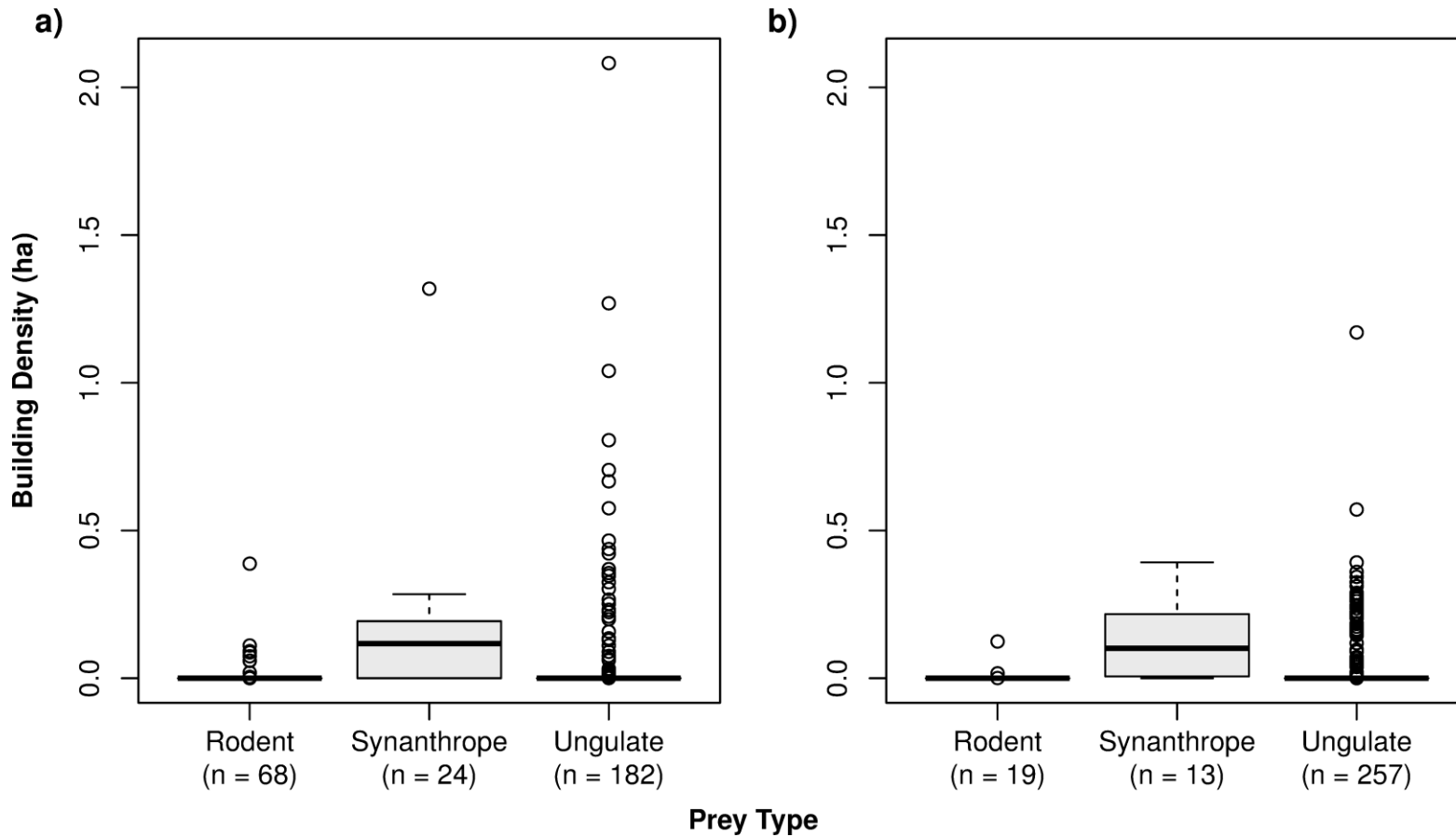


Figure S1. Average building density at cougar kill site locations according to prey type. Plots are separated according to study period, with synanthropes consistently being killed in areas with greater building density than ungulates and rodents. Boxplots represent the lower (25%) and upper (75%) quartiles with the middle band representing the median (50th percentile). Error bars provide a 95% confidence interval for the difference in group means (McGill et al. 1978, Chambers et al. 1983). Open circles represent building density values for individual kills in each prey group.

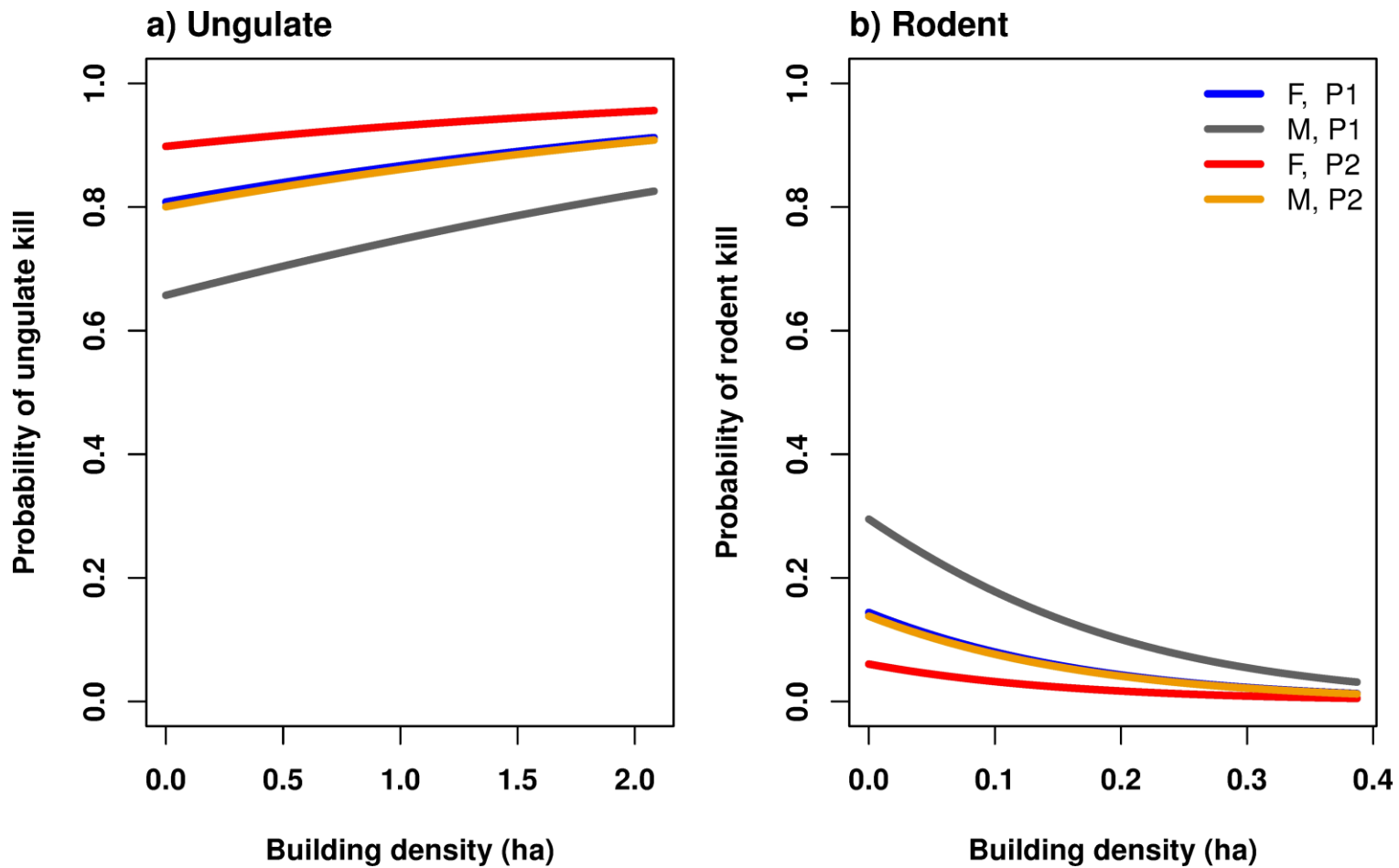


Figure S2. Probabilities for ungulate and rodent predation as a function of building density. Blue lines indicate females from study period 1, gray males from study period 1, red females from study period 2, and gold males from study period 2. 95% confidence intervals are not included to improve figure legibility.