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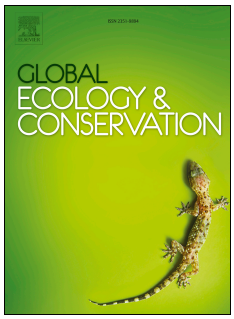

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Reconsidering Habitat Associations in the Anthropocene

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ABSTRACT

The California ground squirrel (*Otospermophilus beecheyi)* is generally undervalued despite serving as an ecosystem engineer in grassland ecosystems. Evidence of significant engineering effects by squirrels indicates that population reductions have cascading effects on other species, including several conservation-dependent species. While the theory and practices behind habitat association studies are already well established, our application of this approach helped identify priority management options in degraded grasslands expected to change further under shifts in climate. In this study we conducted surveys for California ground squirrels throughout San Diego County grasslands and examined habitat covariates to determine the ecological variables currently associated with occurrence. The primary objectives were to 1) improve our understanding of the habitat variables associated with squirrel presence, and 2) develop a predictive model for squirrel habitat suitability at a local scale. The most predictive models included significant main effects for percent sand (as a component of soil texture) and vegetation cover. A 10% increase in vegetation cover was associated with 1.3 fold lower odds of squirrel presence, whereas a 10% increase in percent sand was associated with 2.0 times higher odds of squirrel