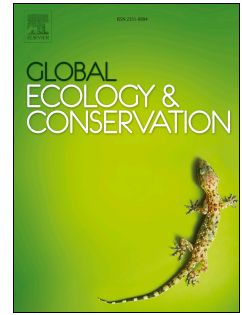


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Reconsidering habitat associations in the Anthropocene

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1 **Reconsidering Habitat Associations in the Anthropocene**

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9 **ABSTRACT**

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

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