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Temporal and Spatial Niche Partitioning in a Small Mammal Community

Captive breeding and population reintroduction are last resort measures that are increasingly necessary to save endangered species from extinction. Success rates have improved slowly since early reintroductions, with greater attention now paid to habitat type, food availability, dispersal, and predation risk. Theory predicts that persistence of a reintroduced population is more likely when competition is low; however, competitive relationships are rarely considered when planning reintroductions. In a community of species that are similar in their habitat requirements, niche partitioning is a plausible mechanism of stable coexistence. Species may utilize different microhabitat, or use the same habitat patches but at different times of the day or in different seasons. Through trapping multiple locations with varying abundances of rodents, I will determine whether microhabitat use and peak activity times for pocket mice vary within a night and across seasons with competitor abundance. My research on temporal and spatial niche partitioning, along with my previous research of agonistic interactions and cache pilfering, will help clarify the interspecific relationships that structure the community and maintain species diversity. My findings will contribute to the management and conservation of the endangered Pacific pocket mouse through selection and competitor management of reintroduction sites for captive bred pocket mouse populations.



Pocket mouse habitat in Riverside County