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## Effectiveness of coverboards to survey reptiles and small mammals in a tallgrass prairie

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Prairie Fork Conservation Area in Callaway County, Missouri, is a 711-acre restored prairie managed with prescribed burns. This study aimed to identify the effectiveness of cover boards as a method to survey reptile and small mammal species on a managed tallgrass prairie like Prairie Fork. A total of 55 cover boards were placed throughout prairie habitats and each board was checked once a week from 15 September – 15 November 2021. All reptile and small mammal species under the boards were identified and recorded along with the date and temperature. We used an occupancy modeling approach to quantify the effects of date and temperature on the probability of detecting reptiles and small mammals, respectively. Reptiles were found at 16 (29%) cover boards and most observations (67%) were of speckled kingsnakes (Lampropeltis holbrooki) with fewer sightings of prairie kingsnakes (Lampropeltis calligaster), eastern yellow-bellied racers (Coluber constrictor flaviventris), brown midland snakes (Storia dekayi), and common garter snakes (Thamnophis sirtalis). Small mammals were found at 25 (45%) sites and included consistent sightings of deer mice (Peromyscus maniculatus), North American least shrew (Cryptotis parva), and prairie voles (Microtus ochrogaster). Results suggest that cover boards were effective for surveying small mammals but less effective for reptiles. Observed small mammals were fairly diverse and representative of the community while reptile observations were mostly dominated by speckled kingsnakes and did not include some common species previously found in the habitat. As the fall progressed the probability of detecting snakes decreased, whereas the probability of detecting small mammals increased. This indicates that reptiles are most active in early fall with strong decreases in activity by mid-October and an opposite trend for small mammals. For future surveys, we would recommend focusing reptile sampling efforts before October and small mammal efforts after October.