PAIGE A. ROSWELL, Dept of Biology, West Liberty University, West Liberty, WV, 26074; JOSH G. OTTEN, Dept of Biology, Cornell College, Mount Vernon, IA, 52314; and ZACHARY J. LOUGHMAN, Dept of Biology, West Liberty University, West Liberty, WV, 26074. Movement Ecology and Space Use of Western Hog-nosed Snakes (*Heterodon nasicus*) in a Heterogeneous Sand Prairie.

Understanding how semi-fossorial reptiles navigate landscapes is critical for linking behavior to environmental heterogeneity. Plains Hog-nosed Snakes (*Heterodon nasicus*) inhabit sand prairies where substrate, vegetation, and thermal conditions can vary sharply over short distances, yet quantitative data on their space use remain limited. We examined home range structure and movement patterns at Big Sand Mound Preserve in southeastern Iowa, a protected sand prairie characterized by well-drained sandy soils and heterogeneous vegetation. Snakes were tracked using radiotelemetry across multiple seasons. Home ranges were quantified using 95% Minimum Convex Polygons (MCP) and 50% Kernel Density Estimation (KDE). Movement distances and KDE centroids were used to assess seasonal trends and site fidelity. Home range analyses revealed substantial inter-individual variation. Females exhibited larger home ranges than males (mean MCP: 8.22 ha vs 3.09 ha), with standout individuals female one (20.42 ha) and female two (6.68 ha) representing the largest extents. Male ranges were smaller and less variable, with male one showing the largest male range (5.14 ha). Kernel Density Estimation mirrored the trends seen in MCP. Space use increased as the summer months progressed, and activity was sex-specific: females were more active in the afternoon, whereas males were more active in the morning. Preliminary analyses suggest moderate site fidelity, though continued tracking is needed to confirm long-term patterns. These ongoing results provide quantitative insight into snake spatial ecology in sand prairie systems and inform conservation of fragmented prairie landscapes.