A Scary Animal in a Risky Landscape. Jayme L. Waldron*1, Shane M. Welch1, & John Holloway2.

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ABSTRACT:

Negative human wildlife interactions are often contingent on a species' spatial ecology and habitat use. Interaction outcomes can contribute to species imperilment and are exacerbated when the wildlife species suffers human persecution. Wildlife species that incorporate the spatial signatures of human activity into their landscape can avoid human contact and thus reduce their risk exposure. We used radio telemetry data collected between 2008 and 2015 to examine movements (e.g., habitat use and range fidelity) of an eastern diamondback rattlesnake (Crotalus adamanteus; EDB) population located in coastal Beaufort County, South Carolina. We used LoCoH to estimate home ranges and a landscape classification that included anthropogenic activity-based patches to incorporate risk exposure to humans into EDB spatial ecology. Our observations of home-range size and configuration suggest that EDBs restrict their habitat use to areas with low human activity and actively avoid areas that increase exposure to risks. Specifically, EDBs avoided areas that, 1) lacked vegetative ground cover (avoidance of mowed, open spaces), 2) had high human activity, and 3) high vehicular traffic volume. The results of this study suggest that, within an anthropogenic landscape, EDBs incorporate risk into their spatial ecology. This information will aid efforts by natural resources personnel to monitor the EDB population and take preventative measures to reduce human-rattlesnake encounters.