

**SPACE USE AND RESOURCE SELECTION BY EASTERN SPOTTED SKUNKS
IN THE OUACHITA MOUNTAINS, ARKANSAS**

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ABSTRACT

Once a common and economically important furbearer, the eastern spotted skunk (*Spilogale putorius*) is now listed as endangered, threatened, or a species of conservation concern throughout much of its historical range. Virtually nothing is known about the fundamental ecology of the species or the potential effects of forest management strategies on habitat use. To elucidate home range dynamics and habitat selection, we conducted telemetry-based field work in the Ouachita National Forest of western Arkansas. During two years of field work we collected locations at 28-hour intervals for 33 eastern spotted skunks. Using kernel-based utilization distributions and the volume of intersection index analysis, we found significant seasonal and intersexual differences in the home range dynamics. Adult males maintained spring ranges of 866 (\pm 235 SE) ha, which were much larger than the 76 to 175 (\pm 22-62 SE) ha ranges during the nonbreeding season and the 54 to 135 (\pm 7-30 SE) ha ranges of females. We observed little home range overlap between adults, especially between adult females. Using weighted compositional analysis we determined that during each season young shortleaf pine and hardwood stands were selected over other available habitat types. A comparison of used and available resting and denning sites using discrete choice analysis revealed similar patterns; selection for sites with young pine and old hardwood stands, higher canopy closures, rock and vine densities, steeper slopes, and smaller site entrances.

These findings suggest that eastern spotted skunks are solitary carnivores that select structurally complex habitat that enhances protection from predators. The species may be vulnerable to forest ecosystem changes that result in a more open canopy and herbaceous understory, a management strategy used extensively in parts of the Ouachita National Forest.