

Home Range and Habitat Selection Patterns of Mule Deer in a Restoration-Treated Ponderosa Pine Forest

R. Fenner Yarborough¹ and Catherine S. Wightman¹

Abstract—Forest restoration treatments are currently being conducted throughout the state of Arizona. Restoration treatments open the existing forest structure and may improve foraging habitat for mule deer (*Odocoileus hemionus*) but may reduce the suitability of day bed sites or decrease fawn recruitment due to removal of sufficient hiding cover. To evaluate mule deer habitat selection patterns across a restoration-treated ponderosa pine (*Pinus ponderosa*) landscape, we outfitted 15 female mule deer with GPS store-on-board collars in 2003. Our main objectives were to evaluate habitat selection within home ranges and core use areas, to evaluate whether female mule deer select different habitats during the fawning period, and to compare habitat selection patterns among day, night, and crepuscular hours. In 2004, we retrieved 2 collars from mortalities and plotted the location data in a Geographic Information System. Average home range size in summer was 2848.773 km 100% MCP (minimum convex polygon (Hayne (1949))), 1736.526 km 95% MCP, and 1430.019 km 95% kernel estimates. We found mule deer in most habitat types except meadows and shrub lands during the day. We have recovered two collars and found that restoration-treated habitats were used 76% of the time during night hours, 26% during the day and 54% during crepuscular hours for one individual and found that the other deer used the treatment areas 76% during the day, 84% at night, and 73% at dusk. We plan to complete our data analysis after we retrieve all GPS collars in fall 2005.

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¹ Arizona Game and Fish Department, Research Branch, Phoenix, AZ.

Reference

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