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## **MULE DEER RESEARCH AND MANAGEMENT IN THE BITTERROOT VALLEY, WESTERN MONTANA**

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Mule deer in the Sapphire Mountains on the east side of the Bitterroot Valley exist across a variety of habitats, densities, and management strategies, including the most popular trophy buck management area in the state of Montana (Hunting District 270 in the south end of the Sapphires). As in many other western states, mule deer populations have declined over recent decades, despite relatively good fawn recruitment. Beginning in winter 2015-2016, we used ground-based darting to deploy GPS collars on 30 adult female deer in HD270 and HD204 (north end of the Sapphires) to evaluate seasonal movements and causes of mortality. These areas were chosen not only because they represent a spectrum of environmental and management conditions, but because extensive data on habitat and forage quality in this area was collected as part of preceding elk habitat research. To date, we have observed a wide variety of movement strategies, from resident deer maintaining a small home range year-round in areas of high private land ownership to migratory deer moving from summer to winter range. Causes of mortality consisted of coyote predation (n=2), human hunting (n=1), and unknown mortality (n=1) in HD204, and natural mortality (n=1) and mountain lion predation (n=2) in HD270. This is an ongoing study by which we hope to evaluate factors limiting deer populations to help inform future management.