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## WINTER ECOLOGY OF THE SHIRAS MOOSE ON THE MOUNT HAGGIN WILDLIFE MANAGEMENT AREA

Braden O. Burkholder,\* 1820 Meadowlark Lane, Butte, Montana 59701, bburkholder@mt.gov

Vanna J. Boccadori, Montana Fish, Wildlife and Parks, 1820 Meadowlark Lane, Butte, Montana 59701, vboccadori@mt.gov

Robert A. Garrott, Fish and Wildlife Management Program, Department of Ecology, Montana State University, Bozeman, Montana 59717, rgarrott@montana.edu

Moose (*Alces alces shirasi*) populations across Montana have expanded in the last century, both in geographic range and in population size. This expansion has had a negative impact on moose winter range in some locations where moose have overutilized key browse species. Excessive and unsustainable browsing has the potential to reduce local biodiversity and carrying capacity of moose and other ungulates. The browse species of interest in this study were willow (*Salix* spp), a highly palatable and abundant browse source for moose on many winter ranges, including our study area in southwestern Montana. The objectives of this study were to determine patterns of willow community use by selected female moose during winter and to quantify willow utilization across the study area to examine population scale habitat use through browse patterns. To accomplish these objectives we deployed GPS collars on 18 cow moose, 6 each in the winters of 2007, 2008, and 2009-2010. We also completed large scale, systematic browse surveys in the springs of 2008, 2009 and 2010. Results indicated cow moose spent the plurality of the winter within willow communities (48.4%, 48.2%, 51.8%, and 49.8% of locations in the winters of 2007, 2008, 2009, and 2010, respectively), but the estimated percentage of browsed willow twigs across the study area was low (11.5%, 8.0%, and 8.3% in 2008, 2009, and 2010, respectively). Our data suggest that while moose have the potential to significantly impact willow communities, this did not appear to be the case on the Mount Haggin WMA at current moose densities.