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## **\*\*FINE SCALE NEST SITE SELECTION OF GREATER SAGE-GROUSE IN THE CENTENNIAL VALLEY, MONTANA**

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The purpose of this study was to determine fine scale nest site selection of greater sage-grouse (*Centrocercus urophasianus*) in the Centennial Valley, MT. A total of ninety nests were found during 2014-2015 using radio-collared sage-grouse. Vegetation surveys were conducted at nests and random sites that measured the nest shrub and the cover available within 3m of the nest. Length of the branch over the nest (Lgth.LB), average axis width of the nest shrub (AvgAxis), lateral cover of the nest shrub (LCShrub), aerial cover of the nest shrub (ACShrub), and height of the lower branch over the nest (Ht.LB) were the habitat variables that received the most support. All habitat variables that were included in the top model were nest shrub morphological characteristics and cover provided by the nest shrub. Therefore, there is strong support that sage-grouse in the Centennial Valley are selecting nest sites based on the morphology of the nest shrub and the cover provided by that nest shrub. None of the habitat variables associated with herbaceous cover received much support for inclusion in our models. On average, residual cover (i.e. grass from previous year) provided concealment

for only 4% of the nest bowl. The relative probability of a shrub being selected for a nest site is maximized when Lgth.LB >75cm long, AvgAxis >130cm wide, LCShrub >80%, and ACShrub > 70%. Managers should focus on conserving mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*) and three-tip sagebrush (*Artemisia tripartita*) habitats because they were more likely to meet those shrub characteristics.