**Seeking Out the Hoary Marmot: Habitat Characteristics of an Alpine Obligate

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Alpine ecosystems likely will be impacted by climate change, which will shift distributions of alpine species. To predict these shifts reliably, an increased understanding about the habitat characteristics that are important to alpine species will be necessary to manage for their continued presence on the landscape. We have very limited information about habitat for hoary marmots (*Marmota caligata*) in Montana. To address this knowledge gap, we investigated the relative importance of habitat characteristics for marmot occupancy. During the summers of 2014 and 2015, we surveyed 184 sites in 5 mountain ranges throughout western Montana. We surveyed each site 2-5 times (average = 4.25 surveys/site) and detected marmots in 61 sites using two survey methods. Wind speed, survey method, cloud cover, and percent of the site that was visible all influenced detection probability. We estimated that marmots occurred in 36% of all sites (95% CI = 29-46%). Occupancy of marmots increased with snow and shrub cover and decreased with slope and distance to water. Given that snowpack, precipitation, and water sources are predicted to be impacted by climate change, our results begin to illustrate where this species of concern may become susceptible. If snowpack and the number of water sources decrease or shift geographically, this may reduce or alter the available habitat for marmots. We hope to augment the paucity of information about hoary marmots at the southern end of their distribution and aid management of this species under an uncertain climate future.