

GRIZZLY BEAR DENNING AND POTENTIAL CONFLICT AREAS IN THE GREATER YELLOWSTONE ECOSYSTEM ^{tw}

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Increasing winter use of steep, high elevation terrain by backcountry recreationists has elevated concern about disturbance of denning grizzly bears (*Ursus arctos*) in the Greater Yellowstone Ecosystem (GYE). To help identify areas where such conflicts might occur, we developed a spatially explicit model to predict potential denning areas in the GYE. Using a scan area of 630 m around each location, we assigned site characteristics, or attributes, to 344 den locations of telemetered grizzly bears from 1975-99. Attributes identified as predictors for the analysis included elevation, slope, an index of solar radiation, and forest cover. We used the Mahalanobis distance statistic to model the similarity between sites used by denning bears and each cell in the data layers. We used the final Mahalanobis distance model to produce maps of the study area. Suitable denning habitat, based upon the model, is abundant within the GYE. Our results can be used by land management agencies to identify potential conflict sites and minimize effects of regulated activities on denning grizzly bears. We illustrate how the Gallatin National Forest (GNF) used the model to examine the extent of overlap between potential snowmobile use areas and suitable denning habitat as part of a Biological Assessment submitted to the USDI Fish and Wildlife Service.