

GRIZZLY BEAR POPULATION DENSITY IN NORTHEASTERN ALASKA, A TEST OF METHODS

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Grizzly bear (*Ursus arctos*) populations in northeastern Alaska exist at the northern limits of the species range, and occupy coastal plain habits and mountainous alpine habitats beyond the tree line. Densities are usually low and these populations are characterized by low reproductive rates in part due to an extended cub rearing period. Aerial strip and line transect surveys of coastal plain habitats and aerial quadrat surveys of mountainous habitats were conducted to estimate grizzly bear densities in the region during July 1985. Independent relocations of radio-collared bears were used to estimate sightability correction factors for all surveys. Also, a group size bias correction factor was also applied to the survey data. A large portion of the grizzly bear population was also marked as part of an ongoing movement study, and a mark-resight population estimate was also derived from the survey data.

Aerial surveys were flown at 150 m in all surveys and strip width on the coastal plain was 3.2 km, although effective strip width was only 1.6 km. A total of 2,620 km of transects were flown on the coastal plan. Because the terrain in the study area is so open, sightability was expected to approach 100 percent, as was the case in the mountain quadrats. However, sightability on the coastal plain portion of the study area was 60 percent. Estimates of bear densities ranged from a low of 1 bear/200 km<sup>2</sup> on portions of the coastal plain to 1 bear/58 km<sup>2</sup> in the adjacent foothills habitats. The paper will describe in detail the density estimates derived using the various estimation techniques and provide recommendations for estimation of grizzly bear density in open tundra habitats.

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# ABSTRACTS

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