

EFFECTS OF FORESTRY ROADS AND CUTTING UNITS ON GRIZZLY BEAR HABITAT USE IN THE SELKIRK MOUNTAINS GRIZZLY BEAR ECOSYSTEM^{TWS}

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We investigated effects of forestry on grizzly bear (*Ursus arctos*) habitat use in the Selkirk Mountains of northern ID, northeastern WA, and southern BC from 1985-1991. We hypothesized that bears would avoid open, restricted, and closed forestry roads in that order. We also hypothesized that grizzlies would avoid managed cutting units (clearcuts and young forests) and prefer unmanaged units (natural openings and old forests). We used chi square goodness of fit and log-linear models to analyze habitat use for 11 bears (5F, 6M) in an area containing both open roads (public use allowed) and closed roads (no public use allowed) and 11 bears (7F, 4M) in an area containing restricted roads (forestry use only). Four of 5 females and 3 of 6 males avoided open roads and 3 of 5 females and 0 of 6 males avoided closed roads. No bears avoided restricted roads. Our results are inconsistent with the hypothesis that bears avoid open, restricted, and closed roads in that order. Zero of 5 females and 1 of 6 males avoided ($P<0.05$) clearcuts and 5 of 5 females and 3 of 6 males preferred openings in the open road area. No bears avoided clearcuts and 2 of 7 females preferred openings in the restricted road area. Four of 5 females and 2 of 6 males avoided young forests but 2 of 5 females and 2 of 6 males also avoided old forests in the open road area. Two of 7 females preferred and 1 of 7 avoided young forests but 6 of 7 females and 2 of 4 males avoided old forests in the restricted road area. The "apparent" avoidance of young forests in the open road area was due to avoidance of associated open roads. Our results are inconsistent with the hypothesis that bears avoid managed units (clearcuts and young forests) and prefer unmanaged units (old forests). Forestry activities alone (restricted roads, clearcuts, young forests) had no apparent negative effect on grizzly bear habitat use. Human recreational use (open roads) had the only observed negative effect on bear habitat use. We recommend that open roads not be intermixed with closed roads and that open roads be converted to restricted use whenever possible.