The Effect Of Snow Compaction On Coyote And Lynx Winter Ecology[TWS]

Jay A. Kolbe, John R. Squires and Leonard F. Ruggiero, Rocky Mountain Research Station, USDA Forest Service, Missoula, MT 59807

Dan Pletscher, Wildlife Biology Program, University of Montana, Missoula, MT 59807

Coyotes (*Canis latrans*) and Canada lynx (*Lynx canadensis*) are sympatric throughout much of the lynx's southern range. Researchers and managers have suggested that presence of compacted snowmobile trails may allow coyotes to access lynx habitat in winter from which they would have otherwise been excluded by deep, unconsolidated snow. This could then allow coyotes to more effectively compete with lynx for snowshoe hares, the lynx's primary prey, throughout the year. We investigated how coyotes interacted with compacted snow trails by conducting carnivore track surveys and snow tracking radio-collared coyotes in areas having both documented lynx presence and moderate levels of recreational snowmobile use. Coyotes generally remained in lynx habitat under deep snow conditions (>1 m) from January through March. Coyotes traveled an average of 368 m from compacted snow trails while randomly generated and located tracks in the same areas averaged 339 m from compacted snow trails. Coyotes were primarily scavengers in winter and feed sites were no closer to compacted snow than random expectation. Coyotes neither demonstrated a strong spatial affinity for compacted snowmobile trails nor did they prey heavily on snowshoe hares. Compacted snowmobile trails unlikely facilitated increased exploitation competition between coyotes and lynx for snowshoe hares on our study area.