EVALUATION OF RELATIVE ABUNDANCE INDICES FOR FURBEARERS BASED ON WINTER TRACK COUNTS

Howard N. Golden, Alaska Department of Fish and Game, 333 Raspberry Rd., Anchorage, Alaska 99518

Managers require a method of monitoring furbearer population trends to be able to make more informed decisions regarding harvest. Winter track counts along transects or trails have been used in many areas to monitor furbearer populations. Ground counts have been used most often and may be more appropriate in limited areas under intensive management than aerial counts. However, aerial counts are able to sample larger areas of diverse habitat and provide needed insight into populations in inaccessible refugia. Regardless of the approach chosen, a technique must be sensitive enough to reflect actual changes in abundance. A study is being developed to test several assumptions made with winter track counts and to determine the precision and utility of track counts as relative abundance indices. The assumptions to be tested are: 1) track density increases in proportion to animal density; 2) track accumulation with time after a snowfall is constant; 3) track deposition relative to animal activity is stable; and 4) track counts among observers are equal. Tests of these assumptions will be conducted along aerial and ground transects to measure tracks/km of lynxes, martens, and snowshoe hares. Tests of assumption 1 will focus on track counts versus known or estimated densities relative to season, vegetation type, and prey abundance. For assumptions 2 and 3, variation in track counts will be examined relative to snowfall, season, vegetation type, prey abundance, and temperature and other weather factors. Tests of assumption 4 will evaluate the effects of differential skill and training among observers and the influence of several sightability conditions. Differences in counts attributable to sampling procedures will also be examined. Models will be developed to define relationships between track counts and relative abundance and to help direct further investigation.

SIXTH NORTHERN FURBEARER CONFERENCE

AGENDA AND ABSTRACTS

April 10-11, 1991
Fairbanks, Alaska