

EVALUATION OF A WOLF AND WOLVERINE POPULATION ESTIMATION
TECHNIQUE BASED ON PROBABILITY SAMPLING

Craig Gardner, Alaska Department of Fish and Game, Glennallen,
Alaska 99588

Earl F. Becker, Alaska Department of Fish and Game, Anchorage,
Alaska 99518

Using field tests, we assessed the suitability of a furbearer estimation technique (Becker, in press) for estimating wolf (Canis lupus) and wolverine (Gulo gulo) populations in southcentral Alaska. We found that the estimator is sensitive to violations of 5 critical assumptions. Survey conditions most likely to effect the assumptions are differential or shallow snowfall, dense vegetation, caribou tracks, wolves remaining on a kill between the end of snowfall and the survey and the propensity of wolverines to hide and to follow other wolverines. The likelihood for violation is low if surveys are only conducted in bright sunlight and after snowfalls of greater than 7 cm. Our simulation tests show that the precision of the estimator can be influenced by the number of systematic samples, the number of transects per sample and the number of days between the survey and the end of snowfall. During field tests the wolverine estimates have been more precise than the wolf estimates. The amount of snowfall must be considered when determining the timing of the survey. For shallow snowfalls (5-10 cm) shorter time periods between the end of snowfall and survey will be required for both wolverines and wolves. Managers can expect to pay \$1,600 to \$2,000 and \$1,900 to \$2,600 for wolverine and wolf study areas (based on a \$135/hour aircraft cost) measuring 1,865 to 2600 km² and 4,500 to 5500 km², respectively. Survey costs are dependent on size, topography and habitat of the study area, the number of transects, ease of tracking and aircraft costs.

SIXTH NORTHERN FURBEARER CONFERENCE

AGENDA AND ABSTRACTS

April 10-11, 1991
Fairbanks, Alaska

