

(56) SUCCESS OF MOOSE HUNTERS: A NEW APPROACH FOR ASSESSING CPUE

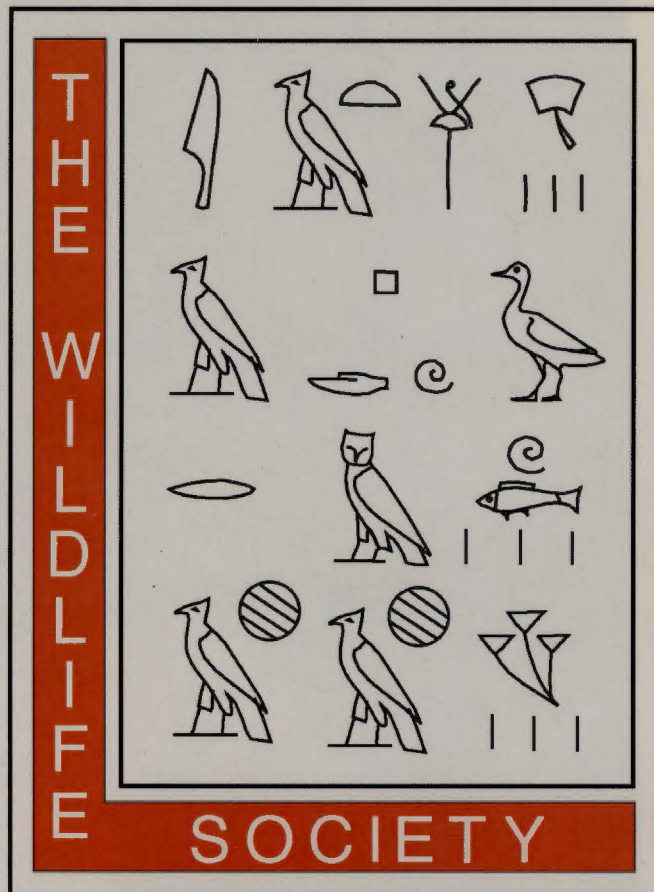
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Abstract: The relationship between hunters and their environment is a key component in managing wildlife populations. Characteristics, motivations, and effort by hunters are crucial to understanding whether a hunt will be successful. In addition to characteristics of hunters, we predicted that landscape characteristics and moose (*Alces alces*) densities would effect success of hunts. Modeling responses from harvest tickets returned by moose hunters in Interior Alaska between 1997 and 2001 indicated that location of a hunt (Game Management Unit), mode of transportation, type of hunt (e.g., general, registered, draw, or Tier II), use of commercial services, year, density of roads, hunter to moose ratio, moose density, and residency of hunters were important predictors of success. In addition, we determined that a linear-regression approach to measuring catch per unit effort (CPUE) was inappropriate, because it produced an inverse relationship between hunting effort and success. This outcome occurred because of the nature of most hunts, particularly for many large mammals, where the harvesting of an animal ends the hunt. Likewise, modeling of hunter success with logistic regression similarly was biased by measures of hunter effort. Consequently, we used a time-to-event Weibull regression that provided a substantial improvement over standard models of CPUE. This model accurately illustrated the positive relationship between effort and success, and can be used to model length of hunt along with other covariates related to hunters and landscape characteristics for predicting success.



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