Tracking Elk Hunters with GPS ™s

L. Jack Lyon
USDA Forest Service, Intermountain Research Station, Missoula, Montana, MT
and Milo G. Burcham
University of Montana, Missoula, MT

As a part of a study of elk hunting techniques and hunter behavior, we used battery powered GPS units to record hunter locations at 15 second intervals during 29 hunting expeditions in 1993. GPS units were carried in a back pack with the antenna protruding on a short cable. At the end of the hunting day, data were downloaded to a PC and converted to UTM coordinates. Subsequent analysis within a GIS system enabled us to determine time and motion budgets for hunter effort, estimate the departure distance from roads and hunting camps, and evaluate the influence of closed roads on hunting technique. Hunter locations were overlaid on other GIS layers to determine time spent in different vegetation types, and topographic situations selected for hunting. In this paper we discuss logistics and limitations and present some preliminary results. Although our sample size is very limited at this time, we expect to detect differences in hunting technique between bow hunters and rifle hunters, evaluate the influence of various vegetation types and topography on hunters, and eventually develop mathematical models to predict the influence of hunter density on elk vulnerability.