Winter Feeding Ecology of Mule Deer, Elk, And Cattle Along Montana's East Front[TW]

Scott A. Hemmer, and C. Les Marcum
Department of Ecosystem and Conservation Sciences
University of Montana
Missoula, MT 59812

Richard Keigley
USDI Geological Survey
Bozeman, MT 59717

Gary Olson
Montana Department of Fish, Wildlife, and Parks
Conrad, MT 59425

Mule deer (*Odocoileus hemionus*) and elk (*Cervus elaphus*) populations have increased near the Theodore Roosevelt Memorial Ranch (TRMR) along Montana's ast Front. The appearance of browse on the ranch suggested that some species have experienced intense browsing pressure. The purpose of this study was to examine the condition of chokecherry (*Prunus virginiana*), aspen (*Populus tremuloides*), and creeping juniper (*Juniperus horizontalis*) on the TRMR and assess the future impacts of current browsing pressure on these plant species. Other goals of the study were to reconstruct a browsing history for chokecherry and aspen relative to recent increases in ungulate numbers, and examine winter forage utilization through fecal analysis. The effect of browsing on species condition was determined by comparing growth rates and live dead indices of plants exposed to browsing to those of plants protected by exclosures. Results indicate that most aspen were not intensely browsed, but the condition of chokecherry and horizontal juniper had been affected by browsing. Aspen appeared to be growing out of the browse zone and attaining their potential height, but current browsing pressure prevented chokecherry stems from reaching their normal stature. Browsing history indicated that increased browsing pressure on chokecherry and aspen in the mid-to-late 1980s, corresponded to a large increase in mule deer and elk numbers. However, fecal analysis suggested that chokecherry and aspen were not a significant component of mule deer and elk winter diets. In winter, mule deer fed primarily on Juniperus spp., and elk fed mostly on graminoids.