Diet Selection of Bighorn Sheep in Central Idaho[TWS]

Guy D. Wagner and Dr. James M. Peek
Dept. of Fish and Wildlife Resources, College of Forestry, Wildlife and Range,
University of Idaho, Moscow 83844

Rocky mountain bighorn populations in the Big Creek drainage of central Idaho experienced population declines, followed by years of low recruitment. It was

unclear whether disease alone caused population declines or whether several interacting factors combined to lower disease resistance. Knowledge of diet composition was necessary to assess the nutritional status of local bighorns. The objective of this study was to determine and interpret the seasonal diet selection of the non-migratory portion of the population. Microhistological analysis of composite fecal samples was used to determine diet composition, and plant samples were analyzed for crude protein, digestibility, and macro and micro nutrients to examine forage quality. Graminoids made up the majority of the diet throughout the year. During spring green-up when protein content and digestibility of grasses were at peak levels, consumption of forbs and browse declined. However, forbs and browse provided important sources of nutrients, especially protein, at critical times of the year when grasses were low in nutritional value and digestibility. Non-migratory bighorns had developed flexible and dynamic feeding behaviors that allowed them to meet their nutritional needs while remaining in a relatively warm, dry environment. Managers should focus on providing a diversity of plant species in all forage categories. Invasions of exotic plant species that reduce biodiversity may negatively impact bighorn sheep populations.