

****Intra-Seasonal Shifts in Summer Elk Diet Composition**

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Elk (*Cervus canadensis*) require adequate forage to fulfill their seasonal nutritional requirements. Elk undergo their highest nutritional demands during summer to support critical life functions such as late gestation, lactation, and juvenile growth. During this period, variations in plant phenology significantly influence the quality and quantity of forage on the landscape. Recent literature has concentrated on late summer due to its limiting nature. Yet, growing evidence suggests that both early and late summer forage often fail to meet the nutritional demands of lactating and reproducing female elk. Further, there is limited knowledge surrounding the intra-seasonal dynamics of elk diet composition during summer. To address this, we utilized data from two elk populations in Montana, (i.e. Noxon and Blackfoot) and to examine the changes in elk diet composition between early and late summer. We determined diet composition using DNA metabarcoding of fecal samples, then used Principle Component Analyses (PCA) to examine the changes in elk diet over time. Our initial results indicate that late summer diets were more restricted than early summer diets in both study areas. In Noxon, elk primarily consumed shrubs, with forage species changing as summer progressed. Conversely, elk in the Blackfoot had diets comprised of forbs and showed little variation between early and late summer. Our findings enhance the understanding of elk forage use through summer and can help inform habitat management approaches for elk in summer habitat.