THE BIOLOGY AND MANAGEMENT OF WILD RUMINANTS

CHAPTER NINE

MINERAL, WATER, AND VITAMIN METABOLISM OF WILD RUMINANTS

by

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CHAPTER 9. MINERAL WATER, AND VITAMIN METABOLISM

Minerals, water, and vitamins are essential components of life processes. The role of minerals in the growth and annual cycle of wild ruminants is obvious. Skeletal growth is extremely rapid, and antler growth in those species which grow a new set of antlers each year is truly remarkable. Water is the major component in body tissue. Vitamins have little identifiable mass in the body, but they have major roles in physiological processes.

The importance of mineral, water and vitamin balances is not reflected by the amount of literature available on these subjects. An understanding of basic life processes is such an important foundation for management, yet the literature on these subjects is very sparse. The explanation for this may likely include the tendency for management to be approached from the management end, and the difficulty in studying the interrelated roles of minerals and vitamins in free-ranging animals. Neat experiments are not easily done with minerals and vitamins. Much of the research in such areas is done with small laboratory animals, for several good reasons.

This chapter includes a few basic ideas on the three TOPICS--mineral, water, and vitamin metabolism--and lists of published literature. The requirements for each of these three categories of nutrients could be used to calculate carrying capacity in the same way as energy and protein were used, except that neither the requirements nor the chemical components of forage have been determined precisely enough to make such calculations possible. Think of the nutrient requirement: nutrient supply concept underlying the calculation of carrying capacity, even if precise calculations cannot be made.