

PART

6

PRODUCTIVITY, POPULATIONS, AND DECISION-MAKING

The interaction of all of the factors affecting productivity results in a dynamic balance between the characteristics of plants, or producers, and the requirements of animals, or consumers. This dynamic balance is dependent on the distribution of energy and matter through time, and the whole system operates within the basic laws of energy and matter. Knowledge of the relative importance of the different factors is necessary for an understanding of the concept of carrying capacity, for insight into the causes of population dynamics, and for decision-making in the management of natural systems. This part of the book includes analyses of the biological relationships between an animal and its range, with a discussion of the role of economics and sociopolitical factors in the decision-making process.