

from other areas. The program will permit a comparison of data from similar and contrasting climatic regions both here and abroad. Such comparison will make possible an unprecedentedly broad evaluation of the interactions among the components of these ecosystems.

An understanding of the ways in which such large ecosystems operate, and the extent to which they can be manipulated, will lead to the development of a new level of ecological theory. Emphasis will be placed on primary productivity and its meaning for man, on trophic structure, energy-flow pathways (food chains), limiting factors, interactions of species, biogeochemical cycling, species diversity, and other attributes which interact to regulate the structure and function of communities.

The program is not to be restricted to natural areas; it will strive to compare ecosystemic processes in environments under various degrees of control by man. Ecological succession should serve as a background in which the general objectives can be pursued. The principles of succession are central to the growing difficulties in the relation between man and nature; yet very few of the generally accepted ideas concerning succession have been tested experimentally or related to whole landscapes as they exist at any one time.

Coordinated studies are to be undertaken within several of the major biotic areas (or terrestrial ecosystems) of the United States. Entire drainage basins will be used for simultaneous study of terrestrial and aquatic environments. Aquatic and terrestrial components of ecosystems must be studied together because they have strong, mutual interactions.

The program will seek to achieve its objective--better understanding of complete ecosystems--through the catalysis of new concepts. These are needed to make possible an evaluation of man's dual role as a manipulator of, and a functional component in, ecosystems.