

III. RECOMMENDATIONS

Although considerable effort is currently being directed to understanding natural communities and their interactions with man, much of it arises from special economic problems and particularistic aspects of agency missions. The comprehensive overview of man-in-nature, which is needed for harmonious adjustment of human populations to resources, is rarely attained. The following recommendations outline steps to be taken toward achieving this adjustment.

Protected natural areas

1. A group, composed of representatives from concerned Federal agencies and the academic community, should prepare a definitive list of natural ecosystem types.—The Department of the Interior, the Department of Agriculture, and the National Science Foundation, should jointly assume responsibility for this undertaking. Current efforts in this direction, including those in connection with the International Biological Program, should be recognized and integrated into the system.

2. The same group should recommend, for designation by the agency controlling the land, specific areas representing these types for protection as a natural areas.—These areas should be adequate in number and size to use for observational and experimental research and for monitoring. Priority should be given to areas presently under public control to assure their perpetuation.

3. If areas containing ecosystem types recommended by the group are not represented on Federal or other preserves, the group should consider how such areas might be acquired or access to them obtained through means such as lease or easement.

4. Designated areas should be available to any bona fide researcher, subject to sufficient regulation by the land-holding agency to protect them and prevent interference of one program with another.

Research

1. Greater attention should be given to studies within natural plant and animal communities.—In this general effort, increased emphasis should be given to an ecosystem approach in which these communities are considered in the context of the total environment in which they exist.

2. Agencies with major research programs pertaining to natural plant and animal communities should establish focal points and take other actions to facilitate interagency coordination, planning, support and conduct of programs.—No single agency has, or should have, exclusive jurisdiction in supporting research on this subject, since research related to natural areas is an essential part of the mission, responsibilities of several agencies. Communication among agencies and within the scientific community needs to be improved to prevent undesirable duplication and to insure complete coverage. OST should assume responsibility for assuring necessary coordination.

3. A small number, perhaps six to ten, of major intensive ecosystem studies should be conducted. As no single agency has the total capability to perform the major ecosystem studies outlined above, the agencies concerned should undertake a coordinated program including sharing of funding and support.—The ecosystem orientation of many small-scale studies, past and present, needs to be expanded and applied to very large and complex systems, such as forests, grasslands, large lakes, estuaries and rivers with emphasis on interrelationships within and between components. The competence of both Federal and non-federal scientists should be utilized. This activity may necessitate a reorientation of some current efforts.

4. In research on intensively managed areas where the findings may have application to natural plant and animal communities, greater attention should be given to designing experiments and interpreting results from the standpoint of their ecological implications.

5. Increased research should be performed to provide a basis for making the best possible judgments on the benefits and losses which accrue from the interactions of man and natural communities.

6. In seeking to increase ecologically oriented research commensurate with their missions, agencies should emphasize—(a) Fundamental Processes Operating and Affecting Plant and Animal Communities—

1. basic life and life-supporting processes.
2. how living things relate to and affect one another.