

Biosphere Reserves Conference Revisited

Editor's Note: The following article is Bill Gregg's well-received memorandum to the Associate Director for Natural Resources, Dick Briceland, and constitutes Park Science's main report on the Conference on the Management of Biosphere Reserves, held in November 1984 at the Great Smoky Mountains NP.

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From the accounts given me by perhaps a score of participants, the conference successfully articulated the biosphere reserve concept and generated considerable enthusiasm for exploring ways to put the concept into practice within the biosphere reserve units. Indeed, probably the most important conclusion reached was that the biosphere reserve designation is not simply a gratuitous honor, but can provide a framework for improving scientific perspectives on the problems we face and our ability to implement practical solutions, as well as for developing coordinated regional approaches for conserving ecosystems and biological diversity.

As underscored in the keynote address, the biosphere reserve concept is in tune with the trend toward more integrated approaches to management as protected areas become more threatened by an increasing variety of human influences and it is no longer possible to underwrite their security in isolation from their regional and, for certain pollutants at least, even global context.

The conference began in plenary with a series of presentations on the biosphere reserve concept in general, and with respect to the particular management functions of biosphere reserves: research and monitoring, natural resource management, education and training, and cooperation among different institutions and at different levels. These background sessions were followed by workshops on topics of particular concern to managers: air pollution, use of renewable natural resources, use of nonrenewable natural resources, problem species (exotics, pests and diseases), and visitor activities. These are major causes of impact, and major consumers of NPS financial and human resources.

Workshop discussions were stimulated by presentation of an overview of the impact topic (by a scientist or program authority) and a case study of a particular biosphere reserve (by the manager). In applying the biosphere reserve concepts to each of the impact topics, participants generated a wide range of suggestions for action at the policy, program, and field levels. The suggestions from each workshop, which will be included in detail in the published proceedings due by late winter, were summarized in plenary session. The conference concluded with an succinct synthesis by Everglades Supt. Jack Morehead.

The conference's poster session, which contained about 40 exhibits and demonstrations was first-rate. The biosphere reserve concept was well-integrated into most of them. Topics included research and management programs in 15 biosphere reserves (13 U.S., one Canada, one Central America), digital cartography applications (NPS and Florida State University), museum collections in biosphere reserves, international training (University of Tennessee), the Global Environmental Monitoring Program (United Nations Environment Program), and the MAB program. Finally, we unveiled the 4-panel NPS-MAB exhibit on

biological diversity, which included a panel on the results of the ethnobotany study for the Smokies.

Some of the conclusions:

Establishing Policy. Policy-level endorsement by U.S. Government is needed (by legislation, and/or administrative action) to legitimize the biosphere reserve program.

Disseminating Information. Development and dissemination of information about biosphere reserves needs to be improved. The identity and functions of biosphere reserves, and implications for the designated areas, need to be clearly communicated to managers to provide a basis for action.

Building Biosphere Reserves. Most existing biosphere reserves are incomplete in terms of the ecosystems they contain and the functions they perform. A "complete" biosphere reserve must be developed opportunistically, often over many years, through linkages of complementary protected areas and cooperative activities. (A number of managers mentioned their desire to begin building the BR in their biogeographic region.)

Developing Multi-level Cooperation. Opportunities need to be explored for using the BR designation as a basis for expanding NPS involvement in cooperative activities at the local, regional, and international levels to improve the effectiveness of resource management.

Coordinating Projects Among Reserves. Coordination of activities between biosphere reserve units needs to be strengthened through pilot projects, especially between core areas (usually NPS) and experimental areas (usually FS).

Strengthening Long-term Monitoring. There is a need for increased support for coordinated, long-term ecological monitoring in biosphere reserves, which increasingly serve as regional and global benchmarks of environmental quality.

Strengthening Local Participation. Managers need to identify actions that can be taken to implement the BR as a regional planning and management concept in cooperation with the local community through special projects.

In addition to these general conclusions, several specific actions resulted:

National Parks and Conservation Association indicated its desire to establish a committee of interested nongovernmental organizations to promote the establishment and functional development of biosphere reserves.

Agreement was reached on initiating a pilot project involving a biosphere reserve in the U.S. (GRSM), Mexico, and the People's Republic of China. A coordinated inventory of cultural uses of the flora of each area will be developed based on the information management system for the ethnobotany project at the Smokies.

Environmental and natural history collections in biosphere reserves will receive special consideration in the ongoing revision of the NPS Museum Handbook.

Preliminary discussions were held regarding the convening of a symposium on biosphere reserves at the Fourth World Wilderness Congress (Colorado State University, Sept. 1987). I will be pursuing this possibility with Forest Service and others.

The U.S. biosphere reserve network contains many of our largest natural units and our most complex management systems. They are, in the main, well staffed by the people with extensive NPS field experience. Individually – and, more importantly, collectively – these units have exceptional potential to generate ideas and develop the new perspectives and ap-

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proaches we will need to sustain the National Park System in the years ahead.

Perhaps the major benefit of the conference was the opportunity it provided for dialogue among a dedicated and highly experienced group of NPS professionals, and the enthusiasm that resulted from this dialogue. Perhaps the best legacy it could leave would be the opportunity for these professionals to meet again from time to time to enable the Service to tape the knowledge and talent of a remarkable human resource.

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Quotes of Note at the MAB Conference

From **Bob Barbee**, Superintendent of Yellowstone NP:

"You see before you a man who has just been born again. I came to this Man and the Biosphere management conference to find out how to manage a biosphere reserve. What I'm finding instead is that the biosphere reserve concepts will help me manage my park."

From **Arturo Gomez-Pompa**, tropical forest ecologist from Mexico:

"I wish to register a passionate plea for this group to take the next step – beyond establishment of biosphere reserves. The real linkage of conservation, research and development on an international scale is what the worldwide biosphere reserve network is all about."