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FINAL REPORT

Submitted to the
United States Man and Biosphere Program

Washington, D.C.
March 1995

CONSTABLE COMMISSION REPORT

TO THE
U. S. MAN AND THE BIOSPHERE PROGRAM

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I. EXECUTIVE SUMMARY

The challenge facing U.S. MAB is to explore and demonstrate options for sustainability in U.S. ecoregions. The U.S. MAB program has pioneered an interdisciplinary approach to resource management and societal goals.

The MAB goal for the first part of the 21st Century should be to establish innovative institutional arrangements that foster local partnerships to enhance conservation and sustainable use of natural resources. Essentially this means extending activities beyond existing biosphere reserve boundaries to implement the goals and management strategies put forward under the ecosystem management concept.

The Conclusions and Recommendations of the Commission cover these specific areas:

- A Revised U.S. MAB Mission Statement
- Sustainability
- Serious Support for U.S. MAB Programs
- A Recommended Task Force on Public-Private Partnership
- Strengthening Internal U.S. MAB Capacity
- Societal Needs
- Research
- Biosphere Reserves
- Cooperative Management Across Landscapes
- Information Links and Dissemination
- U.S. MAB Associates
- Supporting a Reform Agenda
- A Recommended Name Change

II. INTRODUCTION

The Commission reviewed the background on the U.S. Man and Biosphere Program, and current and recently completed field projects. The Commission was impressed by the sharp focus of the research projects on topics of great human interest, the efficiency at which so much has been accomplished with so little resource, the collaboration of many public and private groups and interests, and the dedication of the staff and researchers to the goals of the program.

On reviewing the current status of the U.S. MAB program, the Commission came away particularly impressed with the value and uniqueness of the program's Biosphere Reserve component, as noted in Box 1. These 47 sites in the United States (see Figure 1) link pre-existing National and State Parks, National Forests, Experimental Forests, Fish and Wildlife Service Refuges, and other public and private holdings, into a network of "research and experiment stations." The Commission proposes a next phase of U.S. MAB activity that joins public and private sector capability to tackle critical societal and scientific issues for the early 21st Century.

III. CONCLUSIONS AND RECOMMENDATIONS

The Commission determined the need to propose a revised mission statement for U.S. MAB. Building upon the well established research and monitoring role, the next phase of work will want to join and support the search for methods to use natural resources sustainably and simultaneously improve human livelihoods. Proposed revised language follows -

Proposed Mission Statement

Healthy natural systems must be maintained if future generations are to thrive. Therefore:

> The Mission of the Man and the Biosphere Program of the United States is to explore, demonstrate, promote, and encourage harmonious relationships between people and their environments building on the MAB network of Biosphere Reserves and interdisciplinary research.
>
> The long-term goal of the U. S. MAB Program is to contribute to achieving a sustainable society early in the 21st Century.
>
> The MAB mission and long term goal will be implemented, in the United States and internationally, through public-private partnerships and linkages that sponsor and promote cooperative, inter-disciplinary research, experimentation, education and information exchange on options by which societies can achieve sustainability.
>
> The breadth of this mission would be recognized more accurately by changing the English name of the entire program to "Humans and the Biosphere" while retaining the distinctive MAB symbol.

BOX 1

Unique Aspects of the MAB Network of Biosphere Reserves

Only those sites qualify to be components of the International Network of Biosphere Reserves that meet the **high MAB standards of quality**, e.g., they offer the best representative ecosystems of each region of the world. Typically, they must contain a wildland (little intervened) protected area, surrounded by areas that can be used for research, experimentation and demonstration purposes. Often several sites are linked across the landscape in order to cover significant transition zones, streams, and types of land use.

MAB and Biosphere Reserves constitute more than a program in any traditional sense. Rather, they have commendably created an **inter-disciplinary culture**, an atmosphere of mutual respect among disciplines and employers, and a deep commitment to cooperation to solve complex problems relevant to society.

Biosphere Reserves **attract top scientists and practitioners** from Universities, public and private institutions, to examine complex problems facing society in those regions. This attraction is enhanced by the provision of small grants in support of the best proposals, and back-up services, to the extent available, by the related public agencies.

Biosphere Reserves serve to **integrate research and experimentation, foster dialogue among public and private interests, and promote education and the dissemination of information.**

And, U.S. MAB and the Biosphere Reserve program provide a vehicle for federal and state agencies to pool their resources cooperatively to address resource management problems of mutual concern. The fact that they share in the direct costs of the program is a demonstration of their commitment to the MAB mission.

Page #4 = Map

Conclusions and Recommendations

In order to accomplish the revised mission and corollary goals, the Commission transmits the following conclusions and recommendations.

1. **Sustainability** - With appropriate political, intellectual and financial support, MAB could serve as a central vehicle for transformation in the United States from current practices that demonstrably deplete our land and natural resources to sustainability in our agriculture, forestry, coastal zones and fisheries in the 21st Century.

   To that end, U.S. MAB should seek to establish a broad-based level of awareness among policy makers, public agency officials, private interests and citizenry regarding the benefits and options for achieving a sustainable society in the diverse ecoregions of the country.

2. **Serious Support for U.S. MAB Programs** - In order to carry out these recommendations financial and institutional support for the U.S. MAB program must be increased substantially. The potential for important social and political impact should not be underestimated.

   a. **Finance.** Open new avenues of financial support for MAB activities, including trust funds, co-finance options, and public-private partnerships, that will support research, demonstration, educational, information, and other projects.

   b. **Supporting Constituency.** Build a constituency of public and private interests that will support these research, demonstration and outreach projects, by providing access to full information about resources and projects, options for sharing in planning and implementation, and involvement in the application of results to land use practices in the region. Strategies can include private sector organizations at the local level to apply MAB concepts and be charged with responsibilities for the implementation of specific programs. Each of the research and demonstration projects should have private and civic NGO partners directly involved in the management of the project.

   c. **Public Agency Commitment.** Develop and strengthen ties with sponsoring agencies by linking projects and Reserve activities directly to the interests and mandates of the institutions; give stronger credit to sponsoring agencies; strengthen outreach activities on the roles of the agencies with respect to the value of the MAB projects, support to local livelihoods, and resource conservation.

BOX 2

Several Recent Examples of U.S. MAB Projects and Programs

The Case of Southern Florida: The U.S. MAB Human-Dominated Systems Directorate has conducted a four-year project on ecosystem management for the sustainability of South Florida, involving more than 100 scientists representing both academic and government sectors. After identifying the stressors on the system, specifying the ecological and hydrological characteristics of a sustainable ecosystem and characterizing the human factors affecting the system, a series of scenarios was developed. One scenario suggests a solution to achieve ecological sustainability, despite continuing severe population growth pressures, for the regional ecosystem around the Florida-Everglades. This scenario is consistent with local economic, cultural, and other societal sustainability goals. Work is ongoing.

LUCAS: The Temperate Ecosystems Directorate core project pioneered interdisciplinary work involving social and natural scientists. It examines the effects on land cover of changes in land use and ownership on the Olympic peninsula and the southern Appalachian highlands. The Land Use Change Analysis System (LUCAS) is a useful new computer modeling environment derived from this research.

A Tri-National Approach: The current core project of the Tropical Ecosystem Directorate, "A Regional Approach for Sustainable Development and the Conservation of Natural Resources in the Maya Tri-National Region of Belize, Guatemala, and Mexico," supports interdisciplinary and international research. A workshop held in Tikal, Guatemala, in February 1994 assessed current progress.

Caribou Herds in Alaska and Canada: The core project of the High Latitude Ecosystems Directorate assesses human-environment interactions and institutional frameworks in terms of their effect on the success of alternative caribou management systems in the Arctic.

Cooperation Between the United States, Mexico and the Odham Indian Tribes: U.S. MAB is working with participants from many interests and backgrounds in a multicultural regional effort involving the Pinacate region of Mexico and the Sonoran desert of Arizona. This group is working towards the establishment of a broadened bi-national conservation area along the Arizona-Sonora border which will strengthen international collaborative ties and international commitment to the protection of shared natural and cultural resources, especially those involving Native American cultural heritage and aboriginal rights.

3. **Task Force for Public-Private Partnership** - In order to carry out expanded and more effective public and private participation, the Commission recommends the establishment of a task force to consider ways in which participation may be strengthened. These may include:

- A MAB Foundation, a new structure that is designed along organizational lines common to the private sector, and that will attract the involvement and commitment of highly motivated business and community leaders in the design and implementation of the program.

- A MAB Advisory Council. The task force may consider establishing a council of outstanding individuals from business and industry, science, local communities, technology, governments, universities, and non-governmental organizations (NGOs) who should be invited to serve for fixed terms on an advisory mechanism that has a real impact on the program and budget. This group would meet annually, receive well illustrated reports from project leaders, and comment on the forthcoming program and budget. U.S. MAB would look to the Council to help develop co-finance opportunities, revamp perverse policies, laws and administrative procedures, and foster cooperation.

- A greatly expanded MAB National Committee. The task force should examine the legal and technical aspects of funding as well as the decision making responsibilities of the bodies that are recommended to share in the governance of the program. U.S. MAB should consider establishing direct cooperative co-management and co-finance arrangements with NGOs, industry and other citizen interests, especially at the bioregional level in association with specific research projects, landscapes and biosphere reserves. Such mechanisms as land trust alliances should also be considered. Each research and demonstration project should have at least one corporate and one NGO co-sponsor who are directly involved in management and finance.

4. **Strengthening Internal U.S. MAB Capacity**

Strengthen the capacity of the Secretariat for U.S. MAB to:

a. convene and support the governing body, and advisory groups associated with the U.S. MAB program;
b. coordinate and backstop agreed upon research, demonstration and outreach projects;
c. strengthen links among directorates, biosphere reserves, and universities and research institutions;
d. promote public-private partnerships, including cooperative financial and managerial arrangements for projects and activities;
e. manage an aggressive outreach program that spreads the lessons gained from past and on-going MAB activities in the U. S. and abroad;

f. foster a continuing exploration of improved approaches and mechanisms for the management of MAB and the design, implementation and funding of its activities;

g. continue with activities dealing with ecosystem management and conservation of biological diversity and assure that MAB is represented in other major discussion bodies; and

h. continue and expand activities that contribute to and learn from the experience other nations. Programs such as BRIM (Biosphere Reserve Integrated Monitoring) with EUROMAB and EcoNet America in linking South and North America are examples.

5. **Societal Needs** - Reincorporate and reemphasize the notion that humans form an integral part of ecosystems as emphasized by the first objective of the 1971 MAB International Coordinating Council's Paris Report, "to identify and assess the changes in the biosphere resulting from man's activities and the effects of these changes on man." In order to address societal needs, the Commission emphasizes a need to go beyond ecosystem management and biodiversity conservation to incorporate new perspectives as a result of dramatic and rapid environmental change and population movement.

6. **Research Agenda** - The Research Directorates should continue with core research projects. They should also launch a limited set of research projects that address issues and options critical to the health of the economy and ecosystems and societal needs in selected ecoregions of the country. These activities should give particular attention, *inter alia* to problems of food and fiber production, national material product use, forest health, coastal management and fishery issues, and watershed management and quality. At least five new core projects should be launched. The focus of these projects should be human health and well-being and on solving people and land management problems in the various distinct ecoregions of the country. Research, monitoring, demonstration, and information exchange are tools to this end. These multidisciplinary projects will continue to make an important contribution to international understanding and the ability of people involved with projects to learn from each other.

7. **Biosphere Reserves** - The potential of biosphere reserves could be greatly enhanced by implementation of the following:

a. Secure and strengthen the existing portfolio of biosphere reserves, and expand the number of reserves particularly to include unrepresented landscapes. A strategy should be published for the further development of the biosphere reserve system in the U.S. and with our neighboring countries; at least five new reserves should be established in the next five years.

b. Biosphere reserves will need to cover the land and water territory required to maintain biodiversity. This upscaling of management implies working with neighboring land owners in areas not under federal or state jurisdiction. Thus,

reserve programs need to give major attention to development of effective partnerships with neighboring land owners.

c. At the same time, federal and state agencies, through reformed legal, policy and administrative and planning procedures, should work cooperatively with neighboring land owners in order to (i) help develop improved production practices, (ii) jointly establish conservation practices, and (iii) negotiate co-management and co-financing arrangements to provide equitable incentives for cooperation.

d. As an example of this shift, each biosphere reserve program needs to become a center of information about the bioregion's biota and the potential use of the bioregion's resources as well as a demonstration area of how local residents can enhance their livelihoods. This is not a task for the federal/state land management agencies alone if at all. It will require partnerships with local universities, county extension agents, local governments, botanic gardens, school children, chambers of commerce, environmental organizations, health agencies, civic service groups, and churches, among others. The parataxonomy example from Costa Rica is not to be overlooked as potentially applicable in the U. S.

e. Demonstration of Opportunities. Drawing from past, on-going and proposed research projects, establish pilot demonstrations of how shifts in policy and practice (in agriculture, forestry, fisheries, wildlife, watershed and coastal zone management) can contribute towards sustainable livelihoods within a framework of established landownership values. By the end of five years, at least five pilot demonstration activities that promote new sustainable approaches should be in place and open to the public.

8. **Cooperative Management Across Landscapes** - U.S. MAB should also establish a new approach to the administration and management of land resources that fosters partnerships between public and private interests, and among scientists, land owners, and resource managers. This approach could benefit regions not currently designated as biosphere reserves. MAB should identify and establish public information facilities/services in the areas where research and demonstration projects are under way or have been finalized.

Federal and state agencies must be ready and open to the sharing of authority and responsibility. Only if the agencies can achieve co-management and co-finance arrangements with the private sector and local interests will the community as a whole join forces with government and enable MAB to help the nation achieve sustainability.

9. **Information Links and Dissemination** - Develop partnerships with existing public and private institutions to link and manage data and information on past and on-going MAB projects, biosphere reserve facilities and characteristics, opportunities for international cooperation, and project proposals for peer review. Establish public information facilities/services in the areas where research and demonstration projects

are under way or have been finalized. A data/information management system should be established, with nodes in the MAB office, each Biosphere Reserve and at researcher offices; the design of the system should be based upon clear market research and identification of target user groups.

10. **U.S. MAB Associates** - To avoid the loss of considerable talent, history, and capacity for preparing successive generations of project managers, a group should be formed as an advisory body to the central directorate. As project managers and directorate officers reach the end of their periods of service, they should be named by the Chair of the Directorate as a Member of the "MAB Associates". Members will receive the newsletter, be called upon to review proposals and inspect projects in the field (reimbursable cost basis), and be asked to comment on MAB work plans and budgets.

11. **Supporting a Reform Agenda** - Identify, study, and propose the reforms that need to be made to existing legislation, policy and procedures to encourage and provide incentives needed for the public/private partnerships and other objectives called for in this program. U.S. MAB research as well as work in biosphere reserves should lay the foundation for necessary changes in policies and institutions both domestically and internationally. Within five years a study should be published and widely circulated and debated, laying out an agenda for reform needed to implement this MAB program. Measures for reform should be initiated.

12. **Humans and the Biosphere** - The Commission urges U.S. MAB to move away from the gender-based name "man" in English to one which more accurately portrays the program, reflects other more current United Nations references and reemphasizes the notion that humans are part of the biosphere. In changing the name to "Humans and the Biosphere," the MAB symbol which is well recognized should be maintained.

ANNEX A

COMMISSION MEMBERS

After 30 years of public service, **Ambassador Elinor Constable** currently serves as Assistant Secretary of State for Oceans, International Environmental and Scientific Affairs (OES). In 1986 Elinor Constable was appointed Ambassador to Kenya and also oversaw the U.S. interaction with the United Nations Environment Programme. A career economic officer, Ambassador Constable has also served as Deputy Assistant Secretary for the Bureau of Economic and Business Affairs and has taught at Georgetown University as Research Professor of Diplomacy.

D. Dean Bibles, a 37-year veteran of the Department of the Interior, was appointed as Chairperson of the U.S. National Committee for the Man and the Biosphere Program in July 1994. He also serves currently on Secretary Babbitt's personal staff as Director of Policy on Land Tenure for the U.S. Department of the Interior. Mr. Bibles has been a State Director for the U.S. Bureau of Land Management in both Washington/Oregon and Arizona. He has extensive experience in the protection of biological diversity and the promotion of ecosystem management.

Dr. Kenton R. Miller is currently Director of the Biological Resources and Institutions Program at the World Resources Institute. He served as the Director General of the International Union for the Conservation of Nature (IUCN) based in Gland, Switzerland. Dr. Miller's broad experience includes 10 years as a field officer for the FAO, 7 years as Chairman of IUCN's Commission on National Parks and Protected Areas, and 8 years as a professor at the University of Michigan. He has authored recognized work on wildland management and biodiversity conservation.

Dr. Peter H. Raven is Director of the Missouri Botanical Garden and Engelmann Professor of Botany at Washington University. Dr. Raven is currently Home Secretary of the National Academy of Sciences, Chairman of the Report Review Committee of the National Research Council and a member of the President's Committee of Advisors on Science and Technology. He is the author or editor of 18 books and more than 450 scientific papers.

A citizen of Mexico, **Andres Marcelo Sada** is the founder and former president of Pronatura, A.C. In a long and distinguished career in business, Mr. Sada was Chairman of the Board of CYSDA for more than 20 years. Mr. Sada is also a Director of Ducks Unlimited of Mexico, A.C.; Conservation International; the Mexican Section of ICBP; the Peregrine Fund, Inc.; and the Mexican Fund for the Conservation of Nature.

Peter A. Seligmann has worked professionally in conservation since 1976. After work at the California and international levels of The Nature Conservancy, Mr. Seligmann and his colleagues founded Conservation International (CI) in 1987. Under his leadership as Chairman and Chief Executive Officer, CI has pioneered the "debt-for-nature" swap, created the Rapid Assessment Program and developed ecosystem conservation programs in more than 20 countries.

Dr. Gilbert F. White is the Gustavson Distinguished Professor Emeritus of Geography at the University of Colorado in Boulder. Dr. White was President the Scientific Committee on Problems of the Environment of the International Council of Scientific Unions. He is widely known for his work on water resources, floodplain management, and other aspects natural hazards.

ANNEX B

THE MAN AND THE BIOSPHERE PROGRAM

The seminal meeting for what would develop as The Man and the Biosphere Program was held in September 1968 at UNESCO House in Paris. The "Biosphere Conference" was arranged by the United Nations Educational, Scientific and Cultural Organization (UNESCO) with the cooperation of The World Health Organization (WHO), the Food and Agriculture Organization (FAO), the World Conservation Union (IUCN), and The International Biological Programme (IBP). This early meeting of delegates from sixty countries established the importance of interdisciplinary approaches to address environmental problems and simultaneous utilization and conservation of the world's terrestrial and marine resources. One of the recommendations of this conference was that UNESCO institute an international interdisciplinary research program to study man and the biosphere. Thus the concept of "sustainable development" gained international recognition.

The Man and the Biosphere Program was established at the 1970 General Conference of UNESCO with the chartering of the International Coordinating Council (ICC) for MAB. In Paris on November 1971 the first meeting of the ICC for the Man and the Biosphere Programme which supervises MAB's programs was held. Thirty countries were represented including six observer states. This group decided, "conservation of natural areas and the genetic material they contain," was to be a primary focus. Biodiversity and biosphere reserves became officially of international interest.

Francois Bourliere, President of the Biosphere Conference spoke at the Silver Jubilee ceremony of the MAB Programme in October 1992 in Paris. "... in less than a half century, the purely defensive concept of the protection of nature has given way firstly to that of the conservation of renewable natural resources, then to the notion of the optimal husbandry and management of these resources, whose sustainable production is alone capable of assuring mankind of a lasting development without causing irreparable damage to the biosphere."

Today 125 nations participate in the MAB program. In each country a MAB national committee defines and organizes specific national activities. MAB provides a formal mechanism for bringing together and coordinating diffuse national and international research, conservation, and training activities through an international network of 324 biosphere reserves.

History of U.S. MAB

On October 3, 1974 the U.S. Department of State established a U.S. National Committee for the MAB Program composed of representatives from supporting federal agencies and state and private institutions. Following UNESCO MAB guidelines 14 directorates, a national committee and an executive committee were created. From the beginning MAB has focused on interdisciplinary research of issues related to sustainable development while maintaining biodiversity and resource conservation.

The first U.S. Biosphere Reserves were recognized at a State Department ceremony on November 11, 1976. Certificates of recognition were presented to three national parks and three national forest areas by Donald R. King, chairman of the U.S. Man and the Biosphere Committee and accepted by William J. Briggle, National Park Service deputy director and John R. McGuire, chief of the U.S. Department of Agriculture-Forest Services. In all, 28 U.S. biosphere reserves report 1976 as their designation year.

In 1979 a memo went to various agencies from the Office of the President asking for increased support for U.S. MAB.

The State Department's Bureau of International Organizational Affairs was the host to the Secretariat of U.S. MAB until 1983 when it was transferred to the Bureau of Oceans and International Environmental and Scientific Affairs. In March 1984 the United States withdrew from UNESCO but gave assurances of its continued collaboration with the international MAB program.

UNESCO's International Coordinating Council for MAB advised restructuring to four research themes and published a Biosphere Reserve Action Plan in 1986.

After almost six months of study, the Report of the Ad Hoc Advisory Committee on The United States Man and the Biosphere Program, "The Thacher Commission" was presented in March 1987. This report made recommendations to the National Committee regarding the structure of the National Committee, money appropriation, and areas of focus for the program. In July 1987 the National Committee began addressing these recommendations. Over the next several years changes were made as to the responsibilities and membership of the National Committee, and number and focus of the directorates (see Annex C).

In 1989-90 five directorates-- High Latitude Ecosystems, Human-Dominated Systems, Marine and Costal Ecosystems, Temperate Ecosystems, and Tropical Ecosystems-- were formed around core research projects which were to have a specific lifespan. Term of membership on the directorates was now limited. Communication with land managers and local stakeholders is a theme more recently added to research planning.

The Biosphere Reserve Directorate was approved by the National Committee in July 1994. The Directorate's initial activities will promote the regional integrator function of biosphere reserves and encourage communication among the 47 U.S. biosphere reserves, facilitate inclusion of local stakeholders in decisionmaking on ecosystem management issues, and educate the public about the important role of biosphere reserves. A Strategic Plan for U.S. Biosphere Reserves was prepared in 1994 and adopted by the National Committee.

Recent U.S. MAB International Activities

As an international program, U.S. MAB cooperates both bilaterally with the MAB Programs of other nations and multilaterally through UNESCO and other international organizations and regional programs.

In cooperation with the MAB Programs of Europe and North America (EuroMAB), U.S. MAB has developed the Biosphere Reserve Integrated Monitoring (BRIM) program established to link the scientific community of the world to the numerous data bases created in the 175 biosphere reserves within the EuroMAB countries. To this end, U.S. MAB sponsored technicians and scientist have visited Russia, Poland, Belarus, Czech Republic, and Slovak Republic to assess communication needs of several biosphere reserves and assist the staff to connect to the Internet. U.S. MAB published ACCESS, a directory of the biosphere reserves with information on research and monitoring activities and common data bases.

With the MAB Programs of Czech Republic and Sweden, U.S MAB is assisting in development of standardized formats for reporting the results of flora and fauna surveys, MABFlora and MABFauna.

In collaboration with the MAB Programs of other Western Hemisphere countries, U.S. MAB has begun association with "Ciencias y Technologia para el Desarrollo" (CYTED) to develop communication linkages and standardized reporting formats for the scientific data existing on the 100 biosphere reserves in 17 countries in the Western Hemisphere.

The Tropical Ecosystems Directorate core study, "A Regional Approach for Sustainable Development and the Conservation of Natural Resources in the Maya Tri-National Region of Belize, Guatemala and Mexico," funds small grants which specifically request participation by local scientists of the study region.

The High Latitude Ecosystems Directorate involves both Canadian researchers and indigenous peoples in its core project, "Human-Environment Interactions and Institutional Frameworks: Alternative Caribou Management Systems in the Arctic. "

Polar sciences is further supported by U.S. MAB with a yearly contribution to the Northern Sciences Network.

U.S. MAB continues to support participation in international conferences by committee and directorate members.

ANNEX C

SUMMARY OF U.S. MAB ACTIVITIES IN RESPONSE TO THE THACHER COMMISSION REPORT:

The "Report of the Ad Hoc Advisory Committee on The United States Man and the Biosphere Program ("Thacher Commission," March 1987) made very specific recommendations about the role of the National Committee and the funding of research projects.

The Thacher Commission noted that U.S. MAB expended limited resources over an unduly broad range of projects, and recommended fewer, more focused projects. In response U.S. MAB has cut the number of directorates from fourteen to five, now six with the reinstitution of a Biosphere Reserve Directorate in July 1994. Five core research proposals have been approved and are the major focus of funding.

The Thacher Commission recommended a stronger National Committee to include non-agency, non-directorate members. It was suggested that directorate chairs not sit on the National Committee. The result has been that the National Committee is stronger, not only reviewing proposals suggested by the directorates but issuing guidance to the directorates on policy issues. In 1991 the new directorate chairs were given seats on the National Committee. Five positions have been added from academia and industry.

The Thacher Commission recommended that in addition to basic directorate operations the National Committee and Secretariat support initiatives that may be of benefit to general MAB themes, the directorates or potential supporters, and further have some funds available to the National Committee and Secretariat for quick response with small amounts for "targets of opportunity." Thus, U.S. MAB has supported a meeting of the Sonoran Desert Alliance, international symposia on "Society and Resource Management," attendance for U.S. participation in the Seville Conference on Biosphere Reserves, a symposium on "Biological Diversity of the Central California Coast," etc.

The Thacher report suggested the need for increased staffing at the Secretariat. Instead, as of January 1, 1995 the program assistant position was eliminated leaving a staff of two, Executive Director and Program Officer.

In following the recommendation on paper linkages with complementary programs, U.S. MAB has played a leading role in EuroMAB, and is establishing relationships with MAB committees in Iberoamerica.

As recommended by the Commission U.S. MAB has allowed for flexibility of activity and established a termination date for the core work of its directorates and directorate membership.