



BULLETIN

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REPORT FROM U.S. MAB CHAIRMAN ON THE MAB INTERNATIONAL COORDINATING COUNCIL (ICC)
MEETING (PARIS, OCTOBER 20-24, 1986):

Issues confronting the MAB Program are perceived much the same by both the United States and other MAB committees. Discussion by both Directorate Chairmen and the U.S. MAB Committee (see page 2) and MAB's International Coordinating Council revealed a desire to maintain a strong science base within MAB as well as a perception that participation of social scientists was inadequate and should be strengthened.

MAB should be ready to address global problems and to cooperate with programs such as the International Geosphere and Biosphere Program (IGBP). The four research themes proposed by the Scientific Advisory Committee (see July 1986 BULLETIN) and approved by members of the ICC were judged to help MAB direct itself to these areas. While supporting the four research themes, several national delegations said they were unsure of the implications of Theme 3 concerning human investments and resource use. In addition, Theme 4, the human response to environmental stress, was expected to encourage participation by social scientists. Several delegations from Europe and South America desired more emphasis on studies of urban problems. Two U.S. scientists (M.I. Dyer and Marjorie Holland) are seconded to the UNESCO/MAB Secretariat. They are providing scientific leadership by organizing workshops in: biosphere reserves as biological observatories, and ecotones in landscape management.

During the Council meeting, MAB committees in Europe and North America decided to promote regional cooperation. U.S. MAB will meet with the Canadian committee to discuss: development of MAB projects in North America that are related to the four scientific themes adopted by the MAB Council; development of bilateral plans for implementing the biosphere reserve action plan; and, encouraging cooperation within the Northern Science Network. The Federal Republic of Germany offered to host a meeting of MAB committees from Western Europe and North America, and Czechoslovakia offered to host a meeting of all European MAB committees.

Sam McKee, Chairman
U.S. Man and the Biosphere Program

REPORT FROM THE EXECUTIVE DIRECTOR:

Fiscal Year 1986 was a very productive year for the United States Man and the Biosphere Program, and FY-87 has the potential to be even better. In FY-86:

- federal agencies contributed over \$500,000--the third largest amount in the history of the U.S. MAB Program. Though miniscule by federal government standards, these funds permit U.S. MAB to play its key catalytic role in providing initial support for small-scale environmental research, education, and training programs;
- a U.S. scientist, Dr. M.I. Dyer, University of Georgia, selected by the U.S. National Committee, was placed on the staff of the UNESCO/MAB Secretariat to help strengthen the international program;
- U.S. MAB provided leadership and support for several significant international workshops and seminars, e.g., the management of marine protected areas, the application of remote sensing to urban problems in Mexico, and the convening of experts to identify key research needs for the environmental management and development of small islands;
- U.S. MAB has published two important works (and is editing two more) which stem from past MAB research grants;
- U.S. MAB-related scientists played key roles in implementing the international action plan for biosphere reserves. Other U.S. scientists helped establish the scientific and operational guidelines for MAB's international program;

- the U.S. MAB Program is being reviewed by an informal advisory group which will make recommendations on the focus, content, and structure of our own program. (See next item.)

Fiscal Year 1987 will continue the positive trend in the U.S. MAB Program:

- Congress has passed the administration's financial request for International Conventions and Scientific Organizations Contributions (ICSOC), which should increase significantly the resources to support MAB's international activities;
- U.S. MAB has provided technical assistance, in tropical forestry, to the Peace Corps;
- there are real prospects for several more agencies joining, and supporting, U.S. MAB this coming year;
- efforts are now underway to better define and relate our own research foci and networks to other international science programs.

In summary, we continue to build a credible and useful United States MAB Program, and will be starting new areas of scientific emphasis with a secure funding base which promises to equal FY 1986 contributions. Reports of some of the major FY-86 efforts which have built the foundations, and the optimism, for FY-87 appear on the following pages.

Roger E. Soles
Executive Director, U.S. MAB

U.S. MAB NATIONAL COMMITTEE MEETS SEPTEMBER 8-9, 1986:

In addition to the members of the U.S. MAB National Committee, nine of eleven U.S. MAB Directorate Chairmen, and representatives from agencies which fund MAB convened at the Department of State in September to consider current Program activities and direction, funding, and reports from the UNESCO/MAB advisory panels, one dealing with the Biosphere Reserve Program and the other with the overall international science program.

It was encouraging to note from the presentations made by the Directorate Chairmen that there are an increasing number of projects which involve cross-Directorate and integrative activities.

United States members of the above-mentioned UNESCO/MAB panels, Drs. William P. Gregg, Jr., Orie Loucks, Ariel Lugo, and Otto Solbrig reviewed the processes by which their reports evolved, and summarized the findings of each panel. Dr. Gregg noted that the implementation of the Biosphere Reserve Action Plan does not "lock up" an area for exclusive conservation purposes. His panel's report stressed the multiple uses of biosphere reserves, their research potential and international cooperative mechanism for scientists, and their use for the development of models for the sustainable use of local resources as the practical application of science for local peoples.

Drs. Loucks, Lugo and Solbrig reported on the work of the UNESCO/MAB General Scientific Advisory Panel and described in detail the suggested reorganization of MAB's program into four research themes (described in the July 1986 MAB BULLETIN). They recommended that the MAB National Committee urge the U.S. observer Delegation to the IX International Coordinating Council Meeting in Paris (October, 1986) to press for the adoption of the Panel's recommendations. Copies of both reports may be obtained from the U.S. MAB Secretariat.

Several eminent U.S. scientists are in the process of offering advice to the National Committee in response to the National Committee's decision to have an independent assessment made of ways to strengthen the U.S. MAB Program. They include Peter Thacher of the World Resources Institute, Gilbert White of the University of Colorado, Christian Herter, Jr. of the School of Advanced International Studies of Johns Hopkins University, David Thorud of the University of Washington, Robert McCormick Adams of the Smithsonian Institution, and Thomas Lovejoy of the World Wildlife Fund. They attended both days of the meeting and discussed all phases of the MAB Program, as well as ways to improve and strengthen the focus, content and structure of the United States MAB Program and its relationship to other international science programs. Their report and recommendations will be available shortly.

Other business included the recommendation that the U.S. MAB Chairman, Dr. Sam McKee, appoint a small publications committee to give guidance and recommend a publications policy for the Secretariat to consider in its selection, preparation and printing of manuscripts submitted for publication. Also, appreciation was expressed to representatives of the Forest Service, National Park Service, NASA, and NOAA who established the recommended priority allocations of funds to the projects submitted by the U.S. MAB Directorates for FY-86 funding.

EXPERTS RECOMMEND BROAD PROGRAM FOR SUSTAINED GROWTH OF SMALL ISLANDS:

Concerned about the ability of small islands to survive under the pressure of development and swelling populations, thirty of the world's leading experts on the problems of small islands recently joined forces to make a number of far-reaching recommendations to international organizations, governments and research bodies. They converged from nineteen countries and five ocean basins in November to work together for a week at Palmas del Mar, Humacao, Puerto Rico.

This workshop, planned and organized by the U.S. MAB Directorate on Caribbean Islands under the chairmanship of William S. Beller, was sponsored by U.S. MAB, MAB/Canada, the United Nations Conference on Trade and Development, the United Nations Environment Programme, the United Nations Educational, Scientific and Cultural Organization, and the Commonwealth of Puerto Rico which hosted the meeting through its Department of Natural Resources.

In this first global meeting of island experts, they addressed their interests from the vantage points of many disciplines including economics, ecology, geography, anthropology, and sociology. Common concerns and full consensus developed in the two-score recommendations made by the participants who came from cultures as diverse as those of Malta, China, Fiji, New Caledonia, Japan, Barbados and Australia.

One of their major recommendations calls for creating a global body to advise United Nations agencies, island governments and others of ways to ensure the sustainable and sound development of small islands. Called the "International Association for the Development of Small Islands," the organization, among its goals, would "aim to promote the interchange of information and experience on (island) issues."

Definitions of "Small Islands" and "Sustainable Development":

Because a "small" island may range in size from a few square kilometers—an inhabited patch of ground off the coast of the People's Republic of China, which has more than 5,000 islands—to insular areas a little larger than Puerto Rico (8,897 square kilometers), the size and scale factor played a big role in the participants' fashioning of their recommendations.

The problems of the very small islands of the eastern Caribbean, the Pacific and Atlantic "are an order of magnitude" different from those of Puerto Rico, Jamaica, Fiji, or even Mauritius, according to H.C. Brookfield, Professor of Human Geography, Australian National University. Islands with areas 1,000 square kilometers or less and with fewer than 100,000 people, "are too small to provide the basis for any large-scale activities, agricultural or industrial...(therefore) small-scale openness and dependency are inevitable characteristics of their developed economies," said Brookfield.

The Workshop agreed on the definition of a "small" island which was used in the 1979 Caribbean "Conference on Environmental Management and Economic Growth in the Smaller Caribbean Islands": an insular area comprising approximately 10,000 square kilometers or less, and populations of approximately 500,000 people or less.

The experts agreed that development of an island, or any area, entails an "intensification of change in the pattern of energy or resource use." They stated that development always requires energy or resources both from the area being developed and from outside it. In this light, the experts viewed development from three perspectives (1) emphasizing environmental conservation, (2) using resources for direct economic gains, and (3) combining the preceding two with the goal of balancing the quality of life of islanders with strict economic gain. This last notion, they said, leads to "the concept of sustainable development." To achieve such

development, the experts recommended that islanders "pool their talents and efforts so as to become a significant global force to help themselves solve their unique problems." The islanders should "develop an international mechanism for periodic exchanges of people, information, and resources..."

With respect to managing their coastal areas, islanders were advised to look landward as well as seaward in order to see the full scope of their problems. And to sustain themselves despite changes in world trade or tourism fads, islanders should "redirect agricultural research and development efforts to emphasize the development of small-scale, economically efficient technologies for food crop as well as cash crop production." To do this, the experts suggested possibly integrating agriculture with forestry and/or animal production and fisheries. In developing their tourism, islanders should require "social and environmental impact studies," according to a recommendation.

More information, including recommendations, will be available in the Spring when copies of the proceedings are produced. Later, a book containing approximately twenty-five resource papers, which were prepared by the experts for this workshop, will be printed by UNESCO/MAB. Announcements of both items will appear in a future MAB BULLETIN.

MONITORING GROWTH OF MEXICO CITY BY SATELLITE:

U.S. MAB-11, the Urban Ecosystems Directorate, is engaged in a project with Mexican government agencies to monitor the growth of Mexico City with computerized satellite data. Dr. Rowan A. Rowntree, Chairman of the Directorate, reports a high level of Mexican government interest, as urban growth in the Valley of Mexico outstrips efforts to map growth and perform planning by conventional means.

The project is under the direction of Dr. Merrill K. Ridd, a geographer and remote sensing specialist at the University of Utah Research Institute. In October, ten Mexican officials went to Salt Lake City, Utah, for a workshop on satellite and computer technology being utilized in the program. The workshop was completed in November in Mexico City with some forty participants. Both the workshop and the preliminary LANDSAT analysis were funded through the United States National Committee for Man and the Biosphere.

Mexican specialists have contributed substantially to program development. Enthusiastic responses by agency officials have lead to increased efforts for program support from Mexico. Agencies involved in the program (with lead persons indicated in parentheses) are: Secretaria de Desarrollo Urbano y Ecologia (Arq. Julio Garcia Coll); Comision de Conurbacion del Centro del Pais (Ing. Carlos Zamarrita Martinez); Estado de Mexico (Arq. Octavio Falcon Vega and Lic. Jorge Enrique Vasquez G.) and Departamento Distrito Federal (Dr. Hugo Garcia Perez and Arq. Graciela Espinosa G.). Dr. Edgardo Hicks Gomez, U.S. Embassy in Mexico City, served as science liaison advisor in the program.

The project will lead not only to growth mapping, but to ecological analysis, human environment analysis, agricultural loss analysis, and environmental impact as well. The techniques developed in the Mexico City program will be applicable worldwide, the better to understand urban growth everywhere.

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HIGHLIGHTS - FY-1986 U.S. MAB PROGRAM GRANTS:

Thirty-six project and eleven administrative expense grants were awarded to the eleven active U.S. MAB Directorates, and four projects not tied to specific Directorates were supported during Fiscal Year 1986.

Some of the principal Directorate projects funded were:

MAB-1:
Tropical
Forests

- a synthesis paper on the reconstruction and/or restoration of degraded tropical forest ecosystems; this is based on research findings that point out causes of tropical forests loss and attempt to seek innovative ways of restoring and reconstructing tropical forest ecosystems;
- support for the Third Meeting of the Caribbean Foresters Association on Management Control of Caribbean Forests for Wildlife Values, to be held in Dominica in the West Indies;
- initial publication expenses for People and the Tropical Forest—summaries of tropical forest research findings resulting from U.S. MAB/Agency Consortium grants which were funded in the early 80's;

MAB-2:
Temperate
Forests

- publication of a MAB study, Coupling of Ecological Studies with Remote Sensing, which utilized three forest ecosystem data bases;
- preparation for publication of a synopsis of temperate forest research findings which resulted from U.S. MAB/Agency Consortium grants;
- planning support for a workshop on the better utilization of U.S. Forest Service inventory data sets by non-governmental organizations;
- support for a symposium/public program on the California Chaparral;
- Temperate Forests Symposium/Peoples Republic of China

MAB-3:
Grazing
Lands

- support for a planning workshop for a symposium on the conversion of tropical forest to pasture land in tropical America;
- support for the publication of the proceedings of the MAB Symposium at the International Rangeland Congress (Adelaide, Australia);

MAB-4:
Arid
Lands

- support for the development of research procedures and data availability identification for MAB-4's project on the Alternative Strategies for Coping with Severe/Sustained Drought in the Arid West;

MAB-5:
Water

- support for a workshop on Land Use Impacts on Aquatic Ecosystems;

MAB-6:
Arctic
Eco-
systems

- support toward the Alaskan Vegetation Classification project;
- support for musk-ox information and research exchange with the Peoples Republic of China;
- a study on the Roles and Relationships of Indigenous Peoples in Management of National Parks and Reserves;

MAB-7:
Island
Eco-
systems

- Interoceanic Workshop on Sustainable Development and Environmental Management of Small Islands/Puerto Rico

HIGHLIGHTS - FY-1986 U.S. MAB PROGRAM GRANTS (Continued):

- MAB-8:
Biosphere Reserves
- support toward the biogeographical classification of coastal/marine areas;
 - support toward a boundary effects pilot study;
 - support toward a Sonoran Desert Biosphere Reserve program in cooperation with Mexico;
 - support for a short-term, cooperative program (PULSE) for establishment of ecological baseline monitoring programs for the Biosphere Reserve cluster located in the central Rocky Mountains Region;
 - the convening of Biosphere Reserve selection panels in three biogeographic areas (Californian, Eastern Forest (Western part), and Tamaulipan) and the exploring of opportunities for cooperative development of Biosphere Reserve functions;
 - a symposium and training program on Biosphere Reserves at the Fourth World Wilderness Congress;
 - continuation of the macro-reserves study;
 - development of a prototype Biosphere Reserve community study;
 - participation in a Biosphere Reserve Conference in Czechoslovakia;
 - planning for public education in Biosphere Reserves;
 - preparation of audio-visual materials for public education in Biosphere Reserves;
 - adaptation of media for public education use in Biosphere Reserves;
 - assistance in digitization of maps for selection panels' use in seven biogeographical provinces and coastal regions;
- MAB-11:
Urban Eco-systems
- United States participation in a conference on urban vegetation;
 - Application of Remote Sensing to Urban Problems/Mexico;
- MAB-13:
Perception of Env. Quality
- Conference on Siting of Hazardous Technologies (the Role of Environmental Perceptions);
 - International Survey of Culturally Relevant Approaches to Planning and Management of Protected Areas;
 - U.S./Mexico Workshop on Border Environmental Problems;
- MAB-14:
Pollution
- continued research on the U.S. global pollution pilot background monitoring site;
 - continued pilot study on Noatak Biosphere Reserve of pollutant levels/variability/testing;
- Non-Directorate:
- Publication of abstracts of three IUFRO/MAB symposia;
 - Funding of International MAB Advisory Panels for U.S. participants;
 - International Marine Protected Area Seminar; and
 - Peace Corps technical support contracts.

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- Coupling of Ecological Studies with Remote Sensing: Potentials at Four Biosphere Reserves in the United States. M.I. Dyer and D.A. Crossley
- Plantation Forests for Wood Production in the Neotropics: Abstracts of Three IUFRO/MAB Symposia. J.L. Whitmore, N.F. de Barros, and R. Salazar
- Tropical Forestry Action Plan. Committee on Forest Development in the Tropics, Food and Agricultural Organization of the United Nations
- General Scientific Advisory Panel (Established in co-operation with the International Council of Scientific Unions): Final Report, UNESCO/MAB Report Series No. 59
- Community-Level Forestry Development: Options and Guidelines for Collaboration in PL 480 Programs. Steven Joyce and Bruce Burwell
- Marine and Coastal Protected Areas: A Guide for Planners and Managers. Rodney V. Salm and John R. Clark
- Task Force on Methods and Concepts for Studying Man-Environment Interactions: Final Report, UNESCO/MAB Report Series No. 55
- Watershed Management in the Caribbean: Proceedings of the Second Workshop of Caribbean Foresters held in Kingstown, Saint Vincent and the Grenadines. Ariel E. Lugo and Sandra Brown
- Proceedings of the Workshop on Biosphere Reserves and Other Protected Areas for Sustainable Development of Small Caribbean Islands, St. John, U.S. Virgin Islands. Jim Wood and Bobbie Estes
- Proceedings of the Conference on the Management of Biosphere Reserves, Gatlinburg, Tennessee. John Peine
- Action Plan for Biosphere Reserves (Reprint from Nature & Resources, Vol XX, No 4)
- Orion Nature Quarterly (Issue contains two articles on Biosphere Reserves)
- Park Science: A Resource Management Bulletin. (Check issues you desire.)
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| _____ Winter 1986 | _____ Fall 1985 |
| _____ Fall 1986 | _____ Summer 1985 |
| _____ Summer 1986 | _____ Spring 1985 |
| _____ Spring 1986 | |
- Considerations for Preserve Design Based on the Distribution of Rare Plants in Great Smoky Mountains National Park, USA. Ronald I. Miller and Peter S. White. (Reprint from Environmental Management, Vol 10, No 1)
- Connect: UNESCO-UNEP Environmental Education Newsletter. (*Featured article.)
- | | |
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| _____ Sep/1986 | *Education on Environmental Values |
| _____ Mar/1986 | *The International Environmental Education Programme 1986-1987 |
| _____ Dec/1985 | *Social Sciences and the Environment |
| _____ Sep/1985 | *Education and the Arts |
| _____ Jun/1985 | *Simulation and Gaming for Environmental Education |
- INFOMAB No. 6 - UNESCO/MAB news bulletin

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If you want any of the following items, please write to the addresses listed below. The MAB Secretariat cannot supply them. Although there is no charge for these items, it would be helpful for you to include a self-addressed mailing label with your request.

A list of Endangered and Threatened Wildlife and Plants, January 1987

Publications Unit
Department of Interior
U.S. Fish & Wildlife Service
Washington, D.C. 20240

A catalog of World Resources Institute Publications, 1987

Myrene O'Connor/Marketing Dept.
World Resources Institute
1750 New York Avenue, N.W.
Washington, D.C. 20006

A list and order form of New Island Resources Foundation (IRF) Reports and Publications

Island Resources Foundation
Red Hook Center - Box 33
St. Thomas, U.S. Virgin Islands
ZIP: 00802

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BOOKS RESULTING FROM ACTIVITIES SPONSORED OR CO-SPONSORED BY U.S. MAB OR FROM MAB-FAMILY SCIENTISTS:

Natural Resources and People: Conceptual Issues in Interdisciplinary Research, edited by Kenneth A. Dahlberg and John W. Bennett. \$28.50.

Water Scarcity: Impacts on Western Agriculture, edited by Ernest A Engelbert with Ann Foley Scheuring. \$34.00 (hardback); \$10.36 (paperback).

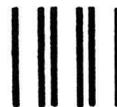
Nutrient Cycling in Tropical Forest Ecosystems, Carl F. Jordan. \$22.00.

Write to the U.S. MAB Secretariat for book descriptions and ordering information if you are interested in any of the three titles listed above.

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