

**Comments from U.S. MAB Chairman  
Frank H. Talbot**

The U.S. MAB National Committee decided at its July 19–20 meeting to call together the managers of the 47 biosphere reserves across the United States. The meeting for the managers will be held at the Estes Park YMCA of the Rockies in Colorado in December 1993. The meeting task will be to develop a U.S. Biosphere Reserve Action Plan to aid communication and coordination among biosphere reserves; and to recommend regional activities in research, education, and community involvement. Biosphere reserve managers have many innovative ideas to share and can learn from each other. I am sure that this meeting is going to be a great success, and I look forward to being there.

The National Park Service, which operates many of the biosphere reserves, is helping to facilitate the meeting.

U.S. MAB supports research linking natural and social scientists in achieving a common goal—that of protecting biodiversity by both understanding how a natural system functions and exploring the social, economic, and legal patterns of the communities that impact that system. This blending of the sciences to an applied end is poorly funded by traditional peer-reviewed funding sources but is essential to solving what has become the primary human agenda—how to live sustainably with the rest of nature. There is now much talk of the need for multidisciplinary approaches, but the funding agencies still put only small amounts of funding into this difficult area of research, and at present, disciplinary peer review systems do not encourage it. U.S. MAB's modest support is, therefore, important and is resulting in some extremely important programs that are becoming valuable models of this form of environmental research.

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**U.S. MAB Human Dominated Systems  
Directorate Holds Workshop on Social  
Issues**

The Human Dominated Systems Directorate held a workshop on social issues related to its core project on Ecological Sustainability and Human Institutions from July 12 to 15 in Easton, Maryland. It represented a continuation of the workshop on ecological issues held in Miami last year. In both workshops, a conceptual model was applied specifically to the three biosphere reserves that comprise the case studies of the directorate's core project: the Florida Everglades, the Virginia Coastal Reserve, and the New Jersey Pinelands.

The Miami workshop was attended by the directorate members, a large number of biological scientists, and a smaller contingent of social scientists. The group addressed the issue of what constituted ecological "sustainability." For each subject area case study, sustainability was divided into specific "ecological endpoints" relating to individual

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## National Institutes of Health (NIH) Joins U.S. MAB

Responding to an invitation from Chairman Frank Talbot, the National Institutes of Health, citing its concern about the effects of environmental changes upon humankind, has decided to join the U.S. MAB Program.

Dr. Ralph M. Garruto has been designated as the NIH representative to the U.S. MAB National Committee. We look forward to NIH's involvement and participation in guiding and supporting U.S. MAB.



### U.S. MAB BULLETIN

The U.S. MAB Bulletin is published quarterly by the U.S. MAB Secretariat, OES/EGC/MAB, Room 608, SA-37, U.S. Department of State, Washington, D.C. 20522-3706. Tel. 703-235-2946, 2947. FAX # 703-235-3002.

*"The mission of the United States Man and the Biosphere Program (U.S. MAB) is to foster harmonious relationships between humans and the biosphere through an international program of policy-relevant research which integrates the social, physical, and biological sciences to address actual problems. These activities—broadly interpreted—include catalytic conferences and meetings, education and training, and the establishment and use of biosphere reserves as research and monitoring sites."* Adopted by the U.S. National Committee for the Man and the Biosphere Program, January 6, 1989.

U.S. MAB is supported by the Department of Agriculture—Forest Service, the Department of Energy, the Department of the Interior—National Park Service, the Department of State, the Agency for International Development, the Environmental Protection Agency, the National Aeronautics and Space Administration, the National Institutes of Health, the National Oceanic and Atmospheric Administration, the National Science Foundation, the Peace Corps, and the Smithsonian Institution.

The program is organized into five directorates: High Latitude Ecosystems; Human Dominated Systems; Marine and Coastal Ecosystems; Temperate Ecosystems; and Tropical Ecosystems.

## Comments From the Executive Director

Readers will note the lack of our annual Request for Proposals (RFP) in this issue. We fully recognize that the annual RFP is one of the prime reasons many of our friends in academia subscribe to this Bulletin. For the first time in 7 years, the U.S. MAB National Committee voted not to issue a general RFP from individuals and small teams of scientists for project proposals.

The limited-in-scope-and-funds-available RFP in this issue is part of the process built into the core program activities of the MAB Tropical Directorate. Such funds were accordingly budgeted within that project.

However, for the general program, the Committee noted that as MAB has attempted to stretch its limited resources over time, we have committed resources over several fiscal years to continue funding at least a part of newly approved projects. Events on the horizon may make Federal Fiscal Years 1994, and even more likely 1995, very slim years, unless U.S. MAB is able to obtain a line item in some agency's budget. At this stage, no agency is stepping forth to volunteer to secure U.S. MAB's future even at the modest scale at which the program currently operates.

The Committee decided that maintaining adequate funding base for the interdisciplinary core projects of the directorates had to take priority. They also noted that U.S. MAB's attempts to promote a U.S. Action Plan for Biosphere Reserves may also increase demands on MAB's future resources. Consequently, the National Committee decided not to raise expectations by issuing a general RFP that MAB may well not be able to meet next year. As Chairman Talbot notes in his column, we sincerely hope that this will be only a 1-year hiatus from MAB's traditional encouragement of involving the wider scientific community in U.S. MAB processes and projects.

Roger E. Soles

### Workshop—continued from page 1

species and habitats, and broader "sustainability goals" that represented ecosystem levels of requirements for sustainability.

At the Easton workshop, social scientists represented a larger portion of the audience. This workshop extended the analysis begun in Miami in specifying what were the human-ecological interaction mechanisms that affected the sustainability goals in each case study area. The specific mechanisms included land use in and near the biosphere

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## UNESCO Appoints New Director of Ecological Sciences/MAB

Director General Mayor of UNESCO has appointed Dr. Pierre R.J. Lassere of France as Director of Ecological Sciences, UNESCO, to replace Dr. Bernd von Droste.

Dr. Lassere holds a Ph.D. in science from the University of Bordeaux I. In 1969, he was an Associate Researcher at the Marine Biological Laboratory, Woods Hole, Massachusetts. In 1972, he was appointed Assistant Lecturer at Duke University, Durham, North Carolina, and then became a Professor at the University of Bordeaux I. Since 1982, Dr. Lassere has been a Professor at the University of Paris VI, Director of the Biological Station of Roscoff, and Chief of Mission at the Ministry of Research.

On several occasions, Dr. Lassere has carried out consulting missions and organized regional programs for UNESCO and has participated in many international conferences in the field of ecology. He was elected a member of the "Academia Europea" in 1989 and has been President of the Committee of Sciences of the French National Commission for UNESCO since 1991. Dr. Lassere is the author of many publications on ecology.

U.S. MAB congratulates Dr. Lassere upon his appointment and looks forward to even closer collaboration with the UNESCO MAB program. Members of the U.S. MAB National Committee noted that Dr. Lassere has provided particularly strong scientific leadership in the area of marine biological diversity, a major U.S. MAB directorate program area. Members of the U.S. MAB program who have worked with Dr. Lassere in the past expressed full confidence that Dr. Lassere will further strengthen UNESCO international scientific leadership.

At the same time, U.S. MAB notes its appreciation to Dr. Bernd von Droste, who maintained a strong MAB program in the face of considerable budgetary adversity in UNESCO. In spite of UNESCO's overall budget problems, Bernd was able to attract additional resources to support UNESCO MAB's scientific projects and programs. Bernd's personal leadership and drive will be missed in the MAB program. We are glad to learn that he is only "moving down the hall," as Director General Mayor has called upon Bernd's skills to strengthen an allied UNESCO program, the World Heritage Program. We are, therefore, pleased to learn that he will continue to be available to provide capable guidance and advice to MAB.

## United States Man and the Biosphere Program: Request for Proposals for the Tropical Ecosystems Directorate

The Tropical Ecosystems Directorate (TED) of the U.S. Man and the Biosphere Program (U.S. MAB) announces a call for research and activity proposals addressing the theme of sustainable use of tropical forest resources. A small number of research and activity grants, in the range of \$5,000 to \$12,000, will be awarded in the spring of 1994. Preference will be given to proposals focusing on the Maya Tri-National Region of Belize, Guatemala, and/or Mexico and should complement the core project activities of the TED. Persons interested in applying for these grants are encouraged to first obtain a copy of the TED core project description from the U.S. MAB Secretariat.

### Funding Objectives

U.S. MAB/TED funding should assist research teams and/or activity projects to: add a national researcher to their effort; better integrate conservation and sustainable development; add a particular discipline to an ongoing research project; explore the application of ongoing site-specific research to an additional site in the Maya Tri-National region; or carry out activities complementary to the TED project in the region. U.S. MAB/TED funding will not be provided for planning purposes.

### Focal Issues

Within the broad thematic focus of sustainable use of tropical forest resources in the Maya Tri-National Region, U.S. MAB/TED encourages research projects and activities addressing focal issues such as community-based production systems, tropical forest management for timber and/or non-timber forest products, economic valuation and accounting of tropical forest products and services, benefits and costs of low impact uses such as ecotourism, or integration of biodiversity conservation with production forestry.

### Proposal Content

Each proposal should have a title page, a one-page synopsis of the existing research project, up to five pages detailing the proposed use of U.S. MAB/TED funds that would be complementary to the TED core program, and a one-page budget, with justification. No funds are available for institutional overhead; only direct costs can be supported.

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## **U.S. Biosphere Reserve Managers Meeting to be Held in December**

The U.S. MAB National Committee has decided to hold a Workshop for U.S. Biosphere Reserve Managers to be held at the YMCA of the Rockies in Estes, Colorado, December 6-10, 1993. The purpose of the Workshop is to establish program goals, draft an action plan for the U.S. Biosphere Reserve program, and to provide the managers with their first opportunity to meet together.

The Biosphere Reserve Action Plan Drafting Committee, composed of 2 U.S. MAB National Committee members, 2 biosphere reserve managers, and 2 academicians, contacted all 47 U.S. biosphere reserve managers by letter and questionnaire to determine the amount of interest in holding such a meeting and in creating a program focus and, hopefully, an effective network. So far, 44 of the 47 managers have expressed interest in attending and working on this meaningful project.

The National Park Service and the USDA Forest Service have agreed to support the costs of their biosphere managers to attend this meeting. The U.S. National Committee for MAB is providing some limited funding to facilitate representation of those biosphere reserves that are properties of state governments and private entities.

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## **Report on Biosphere Reserves**

### **Mexican-Nominated Biosphere Reserves Abut United States Conservation Areas**

On Cerro Prieto Mountain, located just north of Puerto Peñasco (Rocky Point) in Mexico, Mexican President Carlos Salinas de Gortari signed a Presidential Decree naming three areas as biosphere reserves to protect over 4 million acres in northern Sonora, Mexico that are adjacent to and southwest of Organ Pipe Cactus Biosphere Reserve and Cabeza Prieta National Wildlife Refuge in the United States. This area of land and sea southwest of Arizona was named an ecological preserve that ends certain kinds of fishing, protects flora and fauna, and limits development. U.S. Secretary of the Interior Bruce Babbitt, Arizona Governor Fife Symington, governors of three Mexican States, and four Mexican departmental secretaries were among the dignitaries present for the ceremony and festivities. President Salinas stated that this was part of a \$1 billion effort to preserve the environment of Mexico.

The three Mexican biosphere reserves, El Pinacate y Bahía Adair, Sierra del Rosario, and Ciénaga de Santa Clara, include a range of volcanic craters and mountains, parts of the Gulf of California, and parts of Baja California

Norte. Though the protected area covering 3,400 square miles is largely unpopulated, the core zone of the reserve comprises 350,000 acres in which commercial fishing, hunting, mining, and fuel exploration are to be banned, and development will only be allowed in accordance with a master plan. Development in a 1.7 million acre buffer zone will be permitted, but restricted.

The preserve designation means that volcanic rock excavation will cease and that the pronghorn and bighorn sheep will receive added legal protection. The outlawing of fishing in the northern part of the gulf is designed to preserve two members of the endangered species list: the totoaba, a fish that grows up to 6 feet long and is found only in the gulf at water's bottom; and the vaquita, a small porpoise that is the most endangered of the world's 120 marine mammals.

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### **Organ Pipe Cactus National Monument Biosphere Reserve Manager Hails Designation of Mexican Preserves**

Harold J. Smith, Superintendent of the Organ Pipe Cactus National Monument, said that the designation of three new areas in Mexico near the Arizona border as biosphere reserves could benefit the entire region. Like many other national park areas, the greatest threats to the resources in the Organ Pipe Cactus Biosphere Reserve result from the effects of development on lands adjacent to the park. The primary resource management concern has been the continued urbanization and agricultural development occurring near the southern boundary of the park in the neighboring state of Sonora, Mexico. Of concern to the Monument management were the effects on native plants and animals of herbicide and pesticide drift, invasion of non-native flora and fauna, and most significantly, groundwater depletion in the Sonoyta Valley.

Over the last few years, the National Park Service, along with Mexican resource personnel, has researched past, present, and planned land usage in the Sonoyta Valley, developing a database of wells for water adjacent to the Monument, gathering electrical data for the wells, calculating extraction by point, and attempting to define boundaries of the aquifer.

Through a program entitled the Sensitive Ecosystems Program, an extensive inventory and monitoring effort was initiated in 1986. Through this program, long-term monitoring protocols have been established, and baseline inventory data has been acquired on park reptiles, amphibians, small mammal populations, avifauna, terrestrial invertebrates, special status plants, non-native vegetation, land use trends on adjacent property and vegetation structure, and diversity in natural communities.



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## Germany and Denmark MAB Programs Initiate Survey of Permanent Plots on Biosphere Reserves

The MAB Programs of Germany and Denmark have implemented their contribution to the EuroMAB Biosphere Reserve Integrated Monitoring (BRIM) program by surveying all of the 175 biosphere reserves in the 32 EuroMAB countries concerning permanent vegetation plots.

As permanent plots are a valid instrument for long-term monitoring of global change, it is anticipated that in the longer run a standard protocol for reporting permanent plots information from biosphere reserves will be developed.

The survey instrument targets the gathering of quantitative and qualitative information on flora, fauna, hydrology, environmental impacts, and climate. Those biosphere reserve managers and scientists in Europe who may have not received the survey instrument are urged to contact either the Germany or Denmark MAB programs. Managers and scientists at U.S. biosphere reserve sites who have not received the survey should contact the U.S. MAB secretariat for assistance in obtaining the survey instrument.

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## U.S. MAB Mission to Central and Eastern Europe

On a recent trip to Central and Eastern Europe, U.S. MAB representatives from the Department of State (Granville Sewell), the National Park Service (William Gregg), and the University of California—Davis (James Quinn) visited 7 biosphere reserves in the Carpathian Mountains and the Danube Valley, met with the managers and research staffs of 10 biosphere reserves, and explored the possible opportunities for participation of an additional 5 biosphere reserves. The team also met with 40 U.S. Peace Corps volunteers who were attending a region environmental program workshop. Several volunteers are currently working on public education, resource management, and GIS projects on biosphere reserves in Eastern Europe.

The team noted considerable interest in cooperatively developing a standardized reporting format for biological information and inventories on biosphere reserves. Working with managers and scientists from the Czech Republic, Poland, Slovak Republic, Austria, and Hungary, the team demonstrated a draft reporting protocol. In a number of cases at the biosphere reserves, the team was able to adopt existing biological inventory information to the draft protocol.

Based on their field experiences, the team has revised a protocol, and the new draft is now being circulated among 10 EuroMAB countries for further testing and reporting. The test case biosphere reserves participating in this exercise have agreed to return the new format by mid-August, so that the information can be further developed and reported on at the EuroMAB IV Congress in Poland for possible adoption throughout the EuroMAB biosphere reserves.

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### Request for Proposals—*continued from page 3*

#### Evaluation and Review Process

Because of limited available funding, U.S. MAB/TED will give the greatest preference to those proposals that directly complement the objectives of the directorate's core program. Proposals will be evaluated for the intrinsic merit of the research or activity, its policy relevance, applicability to promoting sustainable use of tropical forest resources in the Maya Tri-National Region, and the quality and demonstrated productivity of the principals. All potential proposers are encouraged to contact the Secretariat of the U.S. Man and the Biosphere Program, OES/EGC/MAB, U.S. Department of State, Washington, D.C. 20522-3706, tel. (703) 235-2946 to request a description of the TED core program.

Persons interested should first submit a one- to two-page project prospectus by November 1, 1993. The U.S. MAB/TED will review the prospectuses and invite full proposals by December 31, 1993. Invitees will have until March 1, 1994 to submit a full proposal. The U.S. MAB/TED will evaluate all proposals and make final decisions by April 6, 1994. Funds will be committed to the managing institutions identified in the proposals during May 1994. Principals will receive from the U.S. MAB Secretariat copies of all U.S. MAB/TED review evaluations of their proposal and a written notification of the directorate's decision on their project.

#### Submission of Proposals

Mail prospectuses and proposals to U.S. MAB Secretariat, OES/EGC/MAB, Room 608, SA-37, U.S. Department of State, Washington, D.C. 20522-3706.

Individuals choosing to submit their proposals by Express Mail, Federal Express, UPS, etc., must use the following address: U.S. MAB Secretariat, Room 608, 1555 Wilson Boulevard, Rosslyn, Virginia 22209.

The deadline for pre-proposals is November 1, 1993. The deadline for invited proposals is March 1, 1994.



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## Job Opportunity Available

The John D. and Catherine T. MacArthur Foundation is seeking a vigorous and thoughtful person who can take responsibility for leading their program in sustainable development and environmental economics and ethics policy. This program will include the national (in the United States and in other countries) and international policy arenas.

The Foundation is looking for a person with experience in developing countries, strong writing skills, and knowledge of the political processes in the United States, the United Nations, and/or multilateral institutions such as the World Bank.

Applicants should have an M.A. in an appropriate field or equivalent plus 5 years experience in the international policy field, preferably with a science and economics emphasis.

For further information, applications, and nominations, contact:

Search Coordinator  
World Environment and Resources Program  
John D. and Catherine T. MacArthur Foundation  
140 South Dearborn Street, Suite 1100  
Chicago, IL 60603

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### Chairman's Comments—*continued from page 1*

However, the limits of projected funding in Fiscal Years 1994 and 1995 have constrained us from issuing a request for proposals (RFP) for individual investigators for the coming fiscal year. We hope that with renewed examination of funding levels and funding sources, this suspension can be held to only 1 year.

The Southern Appalachian Man and the Biosphere Cooperative has added two more pieces to this very successful mountainous cooperative biosphere reserve complex, and I was pleased to be able to participate on behalf of MAB in the dedication ceremonies. One is the Mount Mitchell Biosphere Reserve operated by the State of North Carolina. It lies in the Black Mountains close to the Appalachian chain and is the highest mountain in the U.S. east of the Mississippi. The second is Grandfather Mountain Biosphere Reserve, the first privately owned biosphere reserve in North America. Grandfather Mountain is a distinctive mountain in the Appalachian chain. It is owned by Hugh and Julia Morton, who are dedicating the core area and managing the biosphere reserve according to MAB guidelines.

Both of these reserves carry a rich fauna and flora, considered to be relicts of an earlier, more widely spread distribution, and which include many rare and endangered species. I am very pleased to be able to welcome these new reserves to the MAB family.

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### Workshop—*continued from page 2*

reserves, the effects of human activities on water quality and quantity, the degree of pollution resulting from a variety of human activities in and near the biosphere reserve, and the effects of harvesting, fishing, and recreational uses on the biosphere reserve.

Moreover, the participants elaborated a model of human-ecological interaction that addressed the context in which social institutions influenced human contacts with the biosphere reserves. Workshop groups looked into demographic pressures, institutions, the value structure of stakeholders and decision makers, and the effects of changing technology.

Finally, the question of feedback from the establishment of sustainable biosphere reserves on human society was addressed. These feedback mechanisms included the provision of basic human needs, improvements in quality of life, increased recreational amenities, and the satisfaction of having preserved an important part of the earth's ecology.

This final question brought us to a broader concept of sustainability than the ecological sustainability addressed in the first workshop; specifically, it addressed the potential advantages to the social system of attaining sustainability. Did these advantages outweigh the costs to society of changes required in human behavior to sustain the ecology? What type of balance can be struck to achieve sustainability given the human dominance of these biosphere reserves?

Because of the very broad scope, much of the conference effort was devoted to enumerating questions to be answered by further research on these issues. In addition, specific data needs were identified and elaborated for the form of Geographic Information System currently being developed in the core project.

The results of the workshop will form the principal framework for research in the second phase of the U.S. MAB/Human Dominated Systems Directorate core project. U.S. MAB will publish the findings of both workshops in a publication early next year.

**Editor's Note:** Funding of Phase II of the Human Dominated Systems Directorate's Core Project was approved by the National Committee at their July meeting. Further information in next U.S. MAB Bulletin.



## New Publications

### Available From U.S. MAB

#### **ACCESS: A Directory of Contacts, Environmental Data Bases, and Scientific Infrastructure on 175 Biosphere Reserves in 32 Countries**

This directory, the product of intense international collaboration of the MAB Programs of Europe and North America (EuroMAB) for the past 1½ years is now available. Because of the size of the directory (250 pages), scientists and policy makers may wish to order it in the more convenient form of a computer diskette, which contains the directory's information in Lotus 1-2-3, Microsoft Excel, and D-base file format. Be sure to specify either MS DOS or Macintosh compatible diskette.

The diskettes are available at the nominal cost of reproduction from either the

UNESCO MAB Secretariat  
7 place de Fontenoy  
75700 Paris, France  
Tel: [33] (1) 4568-4068  
FAX [33] (1) 4065-9535

or the

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FAX: [1] (517) 797-2622  
E-Mail: ciesin.info@ciesin.org

The National Contact for Biosphere Reserves in each EuroMAB country has a limited number of copies of the directory for national distribution purposes. The UNESCO MAB Secretariat also has some copies available. Interested parties are strongly encouraged to first seek copies from their own national MAB programs.

The best news about this directory is that it will soon be well complemented by the same information, in the same format, for the biosphere reserves of Africa, Asia, and Latin America. At the January International Coordinating Council (ICC) meeting, the UNESCO MAB Secretariat announced that it would undertake the task of compiling this additional information. They hope to complete the expanded version by the time of the UNESCO General Conference this fall.

We will try to keep you posted on this effort to make the biosphere reserves a functional international network accessible to the worldwide scientific community.

### **THE MAYA FOREST: Key Issues and Recommendations for Action: A Workshop Report**

From the foreword:

"This report is based on information drawn from the Third Tri-National Meeting on the Maya Forest held in Flores, Guatemala, on February 8th and 9th, 1993. It is not intended to be the minutes of the meeting but rather seeks to provide a synopsis of the meeting's main conclusions and recommendations. The meeting was co-sponsored by the U.S. Man and the Biosphere Program's Tropical Ecosystems Directorate (TED) and the Central American Commission on Environment and Development (CCAD)."

### Available From MAB Mexico

#### ***La Diversidad Biológica de Iberoamérica***

Gonzalo Halffter, Compilador. 390 páginas, 3 mapas  
N\$75.00, US\$35.00

Este volumen es el primero de una serie dedicada a la diversidad biológica de Iberoamérica . . . En cada una de las partes nacionales, un grupo de investigadores presenta una relación de la biodiversidad de su país, y de su distribución geográfica y ecosistémica, así como algunos comentarios sobre la situación en que se encuentra . . .

Dirigirse:  
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Depto. de Publicaciones  
Apartado Postal 63  
91000 Xalapa, Veracruz  
México  
Tel: [52] (281) 869-10

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and Scientific Affairs

*Released August 1993*



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**... And, Some Kudos for a Previous U.S. MAB Publication**

Following are excerpts from a letter received from a staff member of the Office of International Activities of the U.S. Environmental Protection Agency (EPA) concerning a U.S. MAB Publication, "Land Based Sources of Marine Pollution in the Wider Caribbean Region."

"...The U.S. Man and the Biosphere Program (U.S. MAB) was farsighted and proactive when they helped to shape policy direction to address LBS (Land-based Sources of Marine Pollution) through coordinated action and a regional LBS protocol for the Wider Caribbean. In 1989, MAB sponsored a meeting of regional experts on this problem, and this (a U.S. MAB publication) is their report. They helped shape the process by which technical elements could be identified which lend themselves to being ingredients of a protocol, and identified those most requiring

regional coordination. They recommended immediate initiation of a process to mitigate the adverse effects of marine pollution from LBS, and framed a timeline with important steps: 1. a protocol; 2. a baseline pollution inventory to determine the extent of pollution and to determine control priorities; 3. adequate and timely impact analyses; 4. water quality standards and effluent standards pertinent to the Caribbean (given highest priority); and 5. a pollution control strategy based on marine water quality standards, environmental planning, and best management practices."

"U.S. MAB guided the U.S. to share experiences, present options, and in concert with other countries, set priorities for the Caribbean Region, emphasizing early-on those concerns for which there already exists some political will to implement controls, especially where public health is concerned."

U.S. Man and the Biosphere Program, OES/EGC/MAB

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