



# BULLETIN

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## MISSION STATEMENT OF THE UNITED STATES MAN AND THE BIOSPHERE PROGRAM

*"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 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 and National Park Service to Support Special Everglades Project

The National Park Service (NPS) has made a special pledge to augment the funding of the U.S. MAB Program to join in multiagency support of an effort to inventory and develop a computerized coordinate system to link the multiple data bases concerning the hydrology of the Kissimmee River, Lake Ochochobee, Everglades and Florida Bay (KOES) ecosystems. The U.S. MAB National Committee is encouraging additional funding from other agencies such as EPA and NOAA to enable the completion of the project. The project proposal was initiated by Professors Robert Livingston and Edward Fernald of Florida State University as part of the U.S. MAB Directorate on Fresh Water Systems. It was reviewed by a special subcommittee of the U.S. MAB Executive Committee which was headed by the U.S. Forest Service.

Initial U.S. MAB/NPS support will allow for the surveying of the various data bases of the many agencies which deal with these hydrologically, and consequently ecologically, linked systems. These data bases currently are not integrated. The initial steps will

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### Comments by the U.S. MAB Chairman

Society is now at an historic moment in its relation to this planet of life. The Economic Summit in Paris recognized this by according environment a major place on the agenda for the very first time. Yet, the gulf between the social and other sciences remains as great as ever. Only the MAB Program specifically integrates these sciences, so the challenge to us is enormous. We will need everyone's effort through our newly revamped structure. I do not hope, but rather anticipate, that MAB will be equal to the occasion.

Thomas E. Lovejoy

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also create an interagency committee to which representatives of the various land management and conservation agencies which deal with this threatened ecosystem will be invited to further identify future research initiatives that will allow us to understand and to manage this huge integrated ecosystem. The products of this support will also include a final report that will identify all that is known about the KOES system.

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## U.S. NATIONAL COMMITTEE FOR MAN AND THE BIOSPHERE

### REQUEST FOR PROPOSALS FY 1990

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 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.

The U.S. National Committee for U.S. MAB hereby announces its priorities and criteria for the selection of original research proposals and projects to receive U.S. MAB support in fiscal year 1990, contingent upon the availability of funds.

Scientists are encouraged to collaborate in developing new interdisciplinary proposals and to seek complementary funds from other sources. Proposed research and projects, such as symposia, workshops or other activities which further the U.S. MAB objectives, may be spread over several years. Proposed workshop activities must be especially innovative to merit consideration.

Interested scientists should write to the U.S. MAB Secretariat to receive copies of the U.S. MAB Directorate Mission Statements on:

- High Latitude Ecosystems;
- Human Dominated Systems;
- Marine and Coastal Ecosystems;
- Temperate Ecosystems; and
- Tropical Ecosystems.

Abstracts of these Mission Statements will be published in the August 1989 issue of the *U.S. MAB Bulletin* and in the *Federal Register*.

Proposals must first be submitted as a prospectus with a maximum length of two pages.

U.S. MAB will not pay overhead fees on grants.

Consideration will only be given to proposals which are inter or transdisciplinary and concentrate on at least one of the following:

- biological diversity,
- global climate and ecological change,
- sustainable/integrated development.

Preference will be given to proposals which:

- request \$50,000 or less;
- when international, involve scientists from the host country; and
- deal with environmental policy issues, especially those relevant to agencies which support U.S. MAB.

Prospectuses may not exceed two pages and must be accompanied by a summary biographic sketch of the potential principal(s) which include exceptional qualifications and lists any relevant publications. The bibliographic sketch of each principal may not exceed two (2) pages. The prospectuses must also be accompanied by a cover sheet clearly indicating how the potential proposal meets the above stated requisite criteria.

Mail prospectuses to:

U.S. MAB Secretariat  
OES/ENR/MAB  
U.S. Department of State  
Washington, D.C. 20520

No prospectus will be accepted after November 6, 1989. Prospectuses will be subject to an administrative review for adherence to the requirements listed and will be returned without review if deficiencies are found.

The U.S. MAB Secretariat will distribute prospectuses to the appropriate U.S. MAB Directorate. Individual Directorates will review the prospectuses based on responsiveness to this call, relevancy of the proposed activity to their mission statements, and the performance competence of the proposed principal(s) as evidenced by the summary biographic sketch. Directorates will review all prospectuses by December 15, 1989.

Prospectuses favorably reviewed by a Directorate will be forwarded to the U.S. National Committee for MAB for further review at the January 1990 National Committee meeting. The National Committee will review the prospectuses for their relevance to the U.S. MAB program priorities. The National Committee will then determine which principals will be invited to submit a full proposal. The U.S. National Committee at its own initiative may request that additional proposals on specific subjects be submitted for review and consideration.

Complete project and research proposals must be received by the U.S. MAB Secretariat by close of business May 1, 1990. Proposal texts may not exceed 25 pages, double-spaced, including a two page executive summary describing the objective of the proposed effort and the method of approach.

If proposed project activities are international in scope, the proposal must provide written evidence that host country permissions have already been obtained to carry out the project.

All proposals must contain: (1) Clearly defined objectives; (2) a feasible work plan to achieve those objectives within the time frame and resources of the grant; and (3) specified products which will result from the grant.

Proposals must identify one individual for contract purposes and specify one institution to receive and sub-allocate funds for the proposed activities.

Proposals will be subject to an administrative review for adherence to listed requirements and if deficiencies are found, will be returned without further consideration.

Appropriate U.S. MAB Directorate and peer reviewers, including discipline specialists in the areas of the proposals, will be selected by U.S. MAB to evaluate and rate the proposals on the basis of their intrinsic scientific merit and intellectual focus, and on their potential to increase scientific understanding and provide the basis for policy development by U.S. MAB's supporting agencies. Directorates and peer reviewers will also consider, in their overall assessments of the proposals, the performance competence of the principals and the adequacy of the requested resources to accomplish the stated objectives.

A final ranking of the proposals received will be made by the U.S. National Committee for the Man in the Biosphere Program based on all of the above factors and their assessment of each proposal's relevancy to the goals of U.S. MAB. Proposals will then be funded in the order of their assigned rank and based on available funds.

Principals will receive copies of all peer review evaluations made of their proposal and a written notification of the Committee's decision on their project. Winning proposals become part of the public domain. Proposals not selected for funding by the National Committee will be returned to the authors.

The National Committee will notify all principals of its final decisions in August 1990. Funds will be committed to the managing institutions identified in the selected proposals by September 30, 1990.

Agencies involved with the U.S. MAB Program: Department of State, Agency for International Development, USDA Forest Service, National Park Service, National Aeronautics and Space Administration, the Peace Corps, National Oceanic and Atmospheric Administration, the Environmental Protection Agency and the Smithsonian Institution.

## ABSTRACTS OF DIRECTORATES MISSION STATEMENTS

### HIGH-LATITUDE ECOSYSTEMS

#### BACKGROUND

High-latitude regions of the earth include the zones of continuous and discontinuous permafrost in North America and Eurasia, and the cold-dominated ecosystems at lower latitudes such as the Aleutian Peninsula. Circumpolar high-latitude regions include some of the most undeveloped land areas of the northern hemisphere. These regions support indigenous human populations which until very recently have been practicing a relatively stable subsistence lifestyle. Now, however, these regions are undergoing rapidly accelerating social change, including increasing pressure for resource extraction, growing resident populations as a result of population migration from lower latitudes, and, concurrently, increased scrutiny of resource use and decisions concerning their management.

The circumpolar high-latitude regions encompass a multiplicity of ecosystems including arctic tundra, alpine tundra, cold deserts, subarctic taiga forests, urbanized settings, freshwater systems and estuaries and coastal and marine systems.

#### MISSION STATEMENT

The mission of the High-Latitude Ecosystems Directorate of the United States Man and the Biosphere program is to foster mutually supportive relationships between humans and the biosphere in high-latitude ecosystems through a program of research and projects which integrate social, physical and biological sciences in addressing actual problems on which to base recommendations to policymakers.

Among the areas for concentrated project activities and proposed research are:

- Sustainable resource management and cultural development;
- Monitoring of global climatic change, implications for biological productivity, engineering works and transportation systems, and resident human populations;
- Maintaining aquatic areas and wetlands;
- Maintaining and protecting biological diversity;
- Cooperation in research and policy development to recover any of the above that are lost or are in the process of being damaged.

*N.B. A decision was made by the U.S. National Committee to establish a Directorate for Human Dominated Systems rather than for Human Settlements in order for U.S. MAB to be able to support projects and activities over a broader range of problems.*

## **HUMAN DOMINATED SYSTEMS**

### **BACKGROUND**

There are many circumstances in which human activity has so profoundly altered the underlying ecosystems that a very different environment is created. Present day population growth levels have caused such ecosystem alteration more rapidly and over wider areas than ever before, resulting in urbanization and intensification of agriculture that present tremendous problems for human health and continued food production. Other processes, such as mining and resource extraction, and tourist developments also create altered and distinct ecologies dominated by humans. Many of these areas suffer from severe problems arising from the collapse of ecological life support systems, such as severe air pollution in cities, soil degradation and tropical deforestation in relation to agriculture, and the loss of beaches and coastal areas due to the expansion of various kinds of development. As a result, the capacity of natural systems, and the viability of various types of human interventions need to be better understood.

### **MISSION STATEMENT**

The mission of the Human-Dominated Systems Directorate of the U.S. Man and the Biosphere Program is to foster interdisciplinary research on the problems arising from human activity that profoundly modify or dominate underlying ecosystems and related life support systems. This program will integrate social, physical and biological sciences in providing information and research results in addressing actual problems on which to base recommendations to policymakers.

The research needed to address the issues arising in connection with human activities that overwhelm or threaten to overwhelm natural ecosystems and their life support functions will focus not on defined geographical areas, but on areas in which dense aggregations of people occur or where natural systems have been profoundly altered by purposeful human manipulation. Such research would include:

- Identifying levels or intensity of activity that can be supported without causing the collapse of life support systems essential to the activity, e.g. agriculture, or urban development;

- Identifying key factors that can be manipulated and those that cannot without detrimental effect, e.g. major controllable variables causing the greenhouse effect, its origins and the effects of various control methods;

- Addressing the major pollution issues facing urban settlements, identifying both immediate health effects or indirect effects such as groundwater pollution, chemical run-off or atmospheric pollution/climate change;

- Identifying and analyzing methods for reintegrating natural functions into modified ecosystems so as to restore or support important life-support systems;

- Analyzing human decision-making processes as they relate to resource and ecosystem management, and methods for improving integration of ecosystem considerations in such decisionmaking; and

- Analyzing how the stress resulting from deteriorating environment impacts upon human beings.

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## **MARINE AND COASTAL ECOSYSTEMS**

### **BACKGROUND**

The coastal zones of the world, the region of terrestrial-marine convergence, constitute an area equal to the African continent and contain most of the marine resources used by humans. Growing problems of marine pollution, habitat degradation and biological impoverishment are found in a number of the world's poorly mixed coastal waters, especially those associated with population centers, industrial activity and river inputs.

### **MISSION STATEMENT**

The mission of the Marine and Coastal Ecosystems Directorate of the United States Man and the Biosphere Program is to foster mutually supportive relationships between humans and the biosphere in coastal and marine ecosystems through a program of research and projects which integrate social, physical and biological sciences in addressing actual problems on which to base recommendations to policymakers.

The Directorate will encourage research and project activities on the biogeography of marine and coastal

ecosystems, including their influences on and interdependencies with human activities and well-being.

The areas of concentrated project activities and proposed research are:

- Monitoring of sources and quantity of pollution;
- Rising sea level;
- Planned marine disposal;
- Preservation of traditional uses of ocean space;
- Eutrophication in coastal areas
- Sedimentation;
- Red tides and harmful blooms.

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## TROPICAL ECOSYSTEMS

### BACKGROUND

Dramatic changes in land-use have had enormous consequences to the maintenance and quality of life of people in the tropical latitudes. The magnitude of the change is affecting the biological diversity of the planet, causing losses of precious genetic material, changing the chemistry and composition of the oceans and the atmosphere, seriously depleting the fertility of soils and nature's ability to replenish that fertility, changing the climate of the world and greatly influencing the biogeochemical cycles of the planet. Therefore, the overriding issues facing governments, researchers, resource managers, local communities, and resource users in the tropics are: how can we stem the tide of negative global change and protect the world's biological diversity; while also providing conditions supportive of the growth and development of social systems needed to maintain a healthy human population.

### MISSION STATEMENT

The mission of the Tropical Ecosystems Directorate of the United States Man and the Biosphere Program is to foster mutually supportive relationships between humans and the biosphere in tropical ecosystems through a program of research and projects which integrate social, physical and biological sciences in addressing actual problems on which to base recommendations to policy makers.

Among the research and project activities that will form the focus of the tropical directorate are:

- Tropical forest restoration;
- Producing management plans that outline the steps for restoring tropical landscapes, fresh water systems or grazing lands;

- Improving communication between social and natural scientists or managers who are working on the conservation of tropical ecosystems; and
- Generating data bases which contain available solutions to the problems of natural resource management in the tropics

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## TEMPERATE ECOSYSTEM

### BACKGROUND

The Temperate Zone is occupied by the most industrialized nations and contains about two-thirds of the earth's population. Consequently, human activities have had substantial impacts on natural ecosystems as well as on global ecological processes. The per capita rate of resource consumption and pollution are far higher in the temperate zone than in other zones, and modification to natural ecosystems is extensive.

### MISSION STATEMENT

The mission of the Temperate Ecosystem Directorate of the United States Man and the Biosphere Program is to foster mutually supportive relationships between humans and the biosphere in temperate ecosystems through a program of research and projects which integrate social, physical and biological sciences in addressing actual problems on which to base recommendations to policymakers.

Among the problem areas that will provide the focus of the directorate program are:

- Human modification of ecosystem structure and function, especially the impacts upon ecosystem productivity, sustainability and resilience;
- Development and application of environmental management practices that provide for both commodity production and preservation of biological diversity;
- Adaptation of humans to an increasing extent, frequency and severity of environmental hazards;
- Adoption of soil conservation practices in arid and semi-arid temperate ecosystems with declining productivity;
- Adaptation of human populations to increasingly economically marginal environments.

## WOULD YOU LIKE TO PARTICIPATE IN A U.S. MAB DIRECTORATE?

In our bulletin of March 1989 you were informed of our reorganization of the U.S. MAB Program into five new Directorates. An Abstract of the Mission Statement of each of these new Directorates appears above.

Our National Committee wants to ensure that these new Directorates are composed of a balance of both social and biological/natural scientists as well as of governmental agency and private sector scientists and representatives. Therefore, if you are interested in being appointed to a Directorate, please write to the U.S. MAB Secretariat to

receive copies of the full Directorate mission statements and an application form.

Applicants should submit the form and a short (4 page maximum) CV to the U.S. MAB Secretariat by October 1, 1989. By the end of October 1989, Directorate members and their Chairs will be appointed.

An organizational meeting for each of the new Directorates will be held sometime between Thanksgiving and Christmas 1989 in Washington, D.C.

## PUBLICATIONS

### NEW PUBLICATIONS FREE FROM U.S. MAB

Remember: enclose your self-addressed mailing label(s).

- MANAGING MARINE PROTECTED AREAS, An Action Plan.** Prepared during the International Marine Protected Area Management Seminar, Florida - California. June 1-12, 1986. Edited by Nancy Foster and Michele H. Lemay.
- Proceedings of the symposium on **BIOSPHERE RESERVES**, September 14-17, 1987, YMCA of the Rockies, Estes Park, Colorado. Edited by William P. Gregg, Jr., Stanley L. Krugman, and James D. Wood, Jr.
- MAN BELONGS TO THE EARTH, International Co-operation in Environmental Research**, UNESCO's Man and the Biosphere Programme (MAB), Unesco 1989.
- THE MARINE CONNECTION**, Vol. 3, No. 1, October 1988. A Newsletter of the International Marine Protected Area Network. News of cooperative reef management in Australia, marine reserves in Belize, Thailand, Colombia and elsewhere; plus updates on related programs, projects, meetings and "re:sources."

### PUBLICATIONS AVAILABLE FROM OTHERS

**GLOBAL NEIGHBOR GROWING TOGETHER**, A Tropical Forestry Program. Available from the office of: International Forestry, USDA Forest Service, P.O. Box 96090, Washington, D.C. 20090-6090.

**BLUEPRINT FOR THE ENVIRONMENT**, A Plan for Government Action, Prepared by America's Environmental Community. Available from: Howe Brothers, P.O. Box 6394, Salt Lake City, Utah 84106. \$13.95 plus \$1.50 shipping charge.

**INDIGENOUS PEOPLES AND TROPICAL FORESTS**, Models of Land Use and Management from Latin America by Jason W. Clay. Available from Cultural Survival, Inc., 11 Divinity Avenue, Cambridge, MA 02138. ISBN 0-939521-32-6 (pbk.): \$8.00.

Proceedings of the symposium **THE FORESTED WETLANDS OF THE SOUTHERN UNITED STATES**; July 12-14, 1988, Orlando, Florida. Available from the USDA Forest Service, P.O. Box 96090, Washington, D.C. 20090-6090.

