COMMENTS BY U.S. MAB CHAIRMAN:

The U.S. MAB National Committee met in Washington at the end of June, at a time when heightened concerns about the greenhouse effect underscored the importance of MAB's basic purpose. Professor Eneas Salati of Brazil presented his fascinating research on the hydrological cycle of the Amazon basin, reminding us that regional processes need attention in addition to global cycles.

I am convinced that the remaining years of this century will be the ones in which efforts to stabilize climate change and global cycles, and to safeguard biological diversity will be won or lost. So the job of MAB will never be more important nor will the need for our activities to be of the highest possible quality and effectiveness. Business as usual is insufficient to the task.

We certainly have made important strides in restructuring U.S. MAB and in attracting and supporting quality projects. But there still is room for improvements on both fronts. With respect to the former, a joint task force representing the National Committee and the Directorates will meet at the time of the AIBS meetings to discuss structure and roles. By casting our net wider for good proposals, and following procedures to ensure high quality proposals, we will continue to improve our overall product. I am grateful to all active in MAB for their help with this.

Thomas E. Lovejoy

MAB EXECUTIVE DIRECTOR'S REPORT:

The principal business of the U.S. National Committee's June 28-30 meeting was to select those proposals which will receive FY 1988 U.S. MAB funding. Summaries of the "winning" projects begin on Page 2.

I am especially pleased with the rigor and professional process by which the winning grants were selected. Many people and organizations were involved in helping to provide assessments of the quality of the research proposals for the National Committee. The Directorates were most supportive and did a great job working with non-Directorate scientists and providing the initial screening of all prospectuses for relevancy to the U.S. MAB Program.

It was most beneficial to the National Committee's discussions in the selection process to have the evaluations of the scientific merits of the proposals from such a wide range of peer reviewers. MAB requested reviews from over 180 scientists, many of whom were not MAB-involved in any way, and received better than a 75% response rate! I'd like to think that these reviewers responded, not only because of their immediate scientific interests in the proposals, but also because they wanted to help U.S. MAB-supporting federal agencies find the best, most relevant, research projects to support. To all who participated in this process, I want to acknowledge U.S. MAB's gratitude. I believe the studies to be developed from these projects will indeed help "make a difference."

U.S. MAB's Request for Proposals (RFP) for fiscal year 1989 also appears in this issue. As stated in the RFP, the MAB Secretariat will distribute proposal prospectuses to the appropriate Directorates for endorsement. Prospectuses which are endorsed by a Directorate, and by the National Committee in January, will be considered for full proposals and their authors will be requested to submit the full proposals by May 1, 1989 for the competitive review described in the RFP. Funding decisions will be announced next July.

Roger E. Soles
FY-1988 U.S. MAB GRANTS AWARDED

In the April 1988 U.S. MAB BULLETIN, we explained the process involved in selecting research proposals to receive U.S. MAB funds. The National Committee completed the final step in this process at its June 28-30 annual meeting; we are happy to announce here the "winning" proposals and names of their principal investigators, along with brief summaries of the projects.

Ecological Restoration of Degraded Caribbean Dry Forest - $50,000 - Dr. Becky J. Brown, Assistant Professor, Institute for Environmental Studies and Department of Botany, 40 Science Hall, University of Wisconsin, Madison, WI 53706

This project will explore possibilities for restoring the diversity and productivity of severely disturbed Caribbean dry forests. The goals of the research are to provide an improved understanding of methods for accelerating the recovery of native dry forest on disturbed sites. The research will generate information on the factors that control regeneration of tropical dry forest species; patterns of development of secondary dry forests; requirements for germination and growth of native dry forest species; and management strategies for degraded sites. By providing improved techniques for managing dry forest habitat, this effort will contribute to the conservation of biological diversity.

Study Site: Virgin Islands National Park and Biosphere Reserve, St. John, U.S. Virgin Islands

Research Methods: Proposed research will test the ability of degraded dry forests to regenerate spontaneously and will explore ways to accelerate the recovery process. Two major components of the research are: (1) evaluation of forest regeneration as it is occurring naturally on a degraded dry forest site via establishment and study of 10mx50m permanent plots at the selected site; and (2) field restoration experiments to test whether or not dry forest recovery can be accelerated by the introduction of propagules, excluding large grazers, and manipulating soil conditions.

Diversity of Tropical Forest Canopy Species and an Integrated Conservation Strategy - $76,375 - Dr. Illar Muul, Research Associate, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560

This project will bracket the north-south gradient of geographic variation in biological diversity in rain forests in Southeast Asia. Parallel studies will be carried out at two sites comparing the fauna and flora of the forest canopy with those on the ground, with access to the forest canopy by use of a unique method of canopy walkways developed by the Principal Investigator. Coinciding the basic scientific research efforts will be development of economically viable alternatives to unsustainable and destructive forest exploitation by human populations. These alternatives will focus on agroforestry, domestication of new species, development of traditional medicines from empiricism to scientific validation, and promotion of internationally and locally based natural history oriented tourism. Education and training of local professionals and the public are integral parts of the program. The overall objective of this aspect is to demonstrate convincingly that the forests are a sustainable resource and more valuable left standing than clearcut and replaced by crops of lesser economic value.

Study Sites: Two areas have been selected—Kinabalu National Park (vicinity of Poring) in Sabah, Malaysia, and the area of Xishuangbanna County in the southern part of Yunnan Province, China

1/ Copies available from the MAB Secretariat
FY-1988 MAB GRANTS (Continued):

Research Methods: A unique method will be used in this project to study the forest canopy where most of the biological diversity occurs (e.g., about 3/4 of the mammalian species are arboreal). This method consists of creating suspended walkways connecting the crowns of the tallest canopy trees, which provide access for surveys of animal life, epiphytic plants, and studies of evapotranspiration, photosynthesis, plant growth, phenology, overall productivity, population dynamics, microclimatology, vertical and horizontal use of space by animals, and their dispersion, dispersal, reproductive strategies, growth rates, longevity, and survival. Samples will be obtained of ecto- and endoparasites, including helminths, hematozoa, bacteria, rickettsia, and viruses. Potential human pathogens, as well as microbes, used in interspecific competitive exclusion will be studied as part of the dynamics of these forests.

Ecology, Use and Management of Minor Forest Products in West Kalimantan, Indonesia - $50,000 - Dr. Christine Padoch and Dr. Charles Peters, Institute of Economic Botany, The New York Botanical Garden, Bronx, New York 10458

This project will examine forest management practices of villagers in the Ketapang District of West Kalimantan, Indonesia, and will assess the ecological impact of these practices on forest structure and the regeneration and productivity of selected, economically important forest resources. Main objectives are: (1) to identify and describe important forest use and management practices currently employed by human populations in different forest types of the Ketapang District, to assess the value of forest products collected and produced using these methods, and to evaluate changes in forest use as prices and economic investments fluctuate; (2) to quantify the ecological impact of varying kinds and degrees of human intervention on forest structure, productivity, and the population dynamics of important forest resources; and (3) to develop forest management guidelines appropriate for communities differing in market participation, forest access, and current pattern of resource use.

Study Site: Ketapang District of West Kalimantan, Indonesia

Research Methods: The first phase includes the identification and study in detail of forest-use practices and the selection of specific research sites. Interviews with villagers and merchants, surveys of markets for forest products, observation of ports and transport centers, interactions with local government officials, university and Gunung Palung Nature Reserve scientists, and the study of relevant documents are planned. A variety of human groups and forest types will be involved in an intensive study of methods of collecting, managing or propagating forest resources. These studies will provide detailed information about the pattern and intensity of forest resource use needed in the second phase of the project to evaluate the ecological impact of these use patterns. The final phase will integrate the ethnological, economic and ecological data collected about the people and the forests of the Ketapang District to develop appropriate management alternatives for selected forest resources. Specific objectives are to determine the maximum sustainable harvest from natural populations of the species studied; to compare the ecological and economic advantages of in situ management vs. propagation in agricultural plots or agroforestry systems; and to develop specific management alternatives for communities that differ in market participation, forest availability and pattern of forest use.

Site-specific Research and Training in Beni Biosphere Reserve Tropical Forest in Bolivia - $49,916 - Dr. Francisco Gomez-Dallmeier, Smithsonian Institution, DC-3123, 1100 Jefferson Drive, S.W., Washington, D.C. 20560

This project of the Smithsonian Institution/MAB Biological Diversity Program is addressing needs arising from loss of biological diversity in developing tropical countries. It has three main objectives: (1) to support Bolivian scientists con-
FY-1988 MAB GRANTS (Continued):

- Conducting research with Smithsonian scientists in the permanent monitoring site of the Beni Biosphere Reserve, Bolivia; (2) to support Bolivian scientists as trainers supervised by the Smithsonian Institution/MAB training coordinator; and (3) to train 28 Bolivian scientists in the standardized inventory protocol (developed under the Smithsonian's Biological Diversity Program), and in the ecology and natural history of tropical environments, and Biosphere Reserve management.

Study Site: Beni Biosphere Reserve, Bolivia

Research/Training Plans: The research aspect of the program will document the habitats of the Beni Biosphere Reserve through the establishment of permanent plots for study and long-term monitoring of the vegetation and growth rate of the tropical forest. Long-term monitoring of vegetation and fauna in permanent plots will provide useful information on growth and change of several habitats of the tropical forest. This study will provide useful information of the forest dynamics and what components are necessary for successful management. The 10-15 permanent plots within the Reserve include examples of the major tropical rain forest habitats of the area and will form a network of representative plant and animal communities for comparative ecological research. The research aspects of the program will be co-sponsored by the Smithsonian Institution. The field training component is an essential part of the program because it provides the research methodology for the Bolivian scientists counterpart. This methodology can fill in important information to create the management model of the reserve. By focusing on training Bolivian biologists, conservationists and park managers, and providing them with at least a minimum of resources, it shall be possible to develop an in-country infrastructure of human resources that can address the problem of loss of biological diversity locally. At the same time a long-term partnership with in-country scientific counterparts will be established.

Principal Study Site: Beni Biosphere Reserve, Bolivia

A Regional Comparison of the Functional Characteristics of Wetland Ecosystems - $50,000 - Dr. Charles R. Goldman, Professor and Chairman, Division of Environmental Studies, University of California, Davis, California 95616; Dr. Robert J. Livingston, Professor and Director, Center for Aquatic Research and Resource Management, Florida State University, Tallahassee, Florida 32306; and Dr. Robert J. Naiman, Director, Center for Water and the Environment, Natural Resources Research Institute, University of Minnesota, Duluth, Minnesota 55811

This project will compare ecological properties of wetland ecosystems on a regional basis (i.e., southeastern, western and upper midwestern United States) during a one-year multi-disciplinary program, using accumulated data bases of the three investigators. It is only beginning to be recognized that wetlands have a high ecological, economic and social value and are not simply wastelands. Among their many functional roles in the landscape, wetlands 1) are highly productive and supply food and shelter for a variety of aquatic organisms; 2) provide habitat for a unique group of "endemic" wildlife and waterfowl; 3) have a special capacity to assimilate treated municipal and industrial wastes and to filter chemicals in the runoff from urban and agricultural areas; 4) provide flood control; and 5) represent aesthetically desirable environments. With increasing demand on these systems as a result of human perturbation, it is becoming clear that we must increase efforts to understand how these systems will respond to both short-term and long-term disturbance. The major objective of this collaborative effort is to determine if this diverse group of wetlands share similar functional attributes and, if so, what are the factors which regulate these systems. It is hoped that some basic unifying principles in wetland ecology will be uncovered through this approach.

Principal Study Sites: Apalachicola River/estuary (Florida); Lake Tahoe Basin (California and Nevada); and 15 watersheds in the Minneapolis-St. Paul area (Minnesota)
Research Methods: In order to 1) identify the factors which regulate nutrient and carbon cycling in wetlands and quantify these relationships, and 2) evaluate the role of wetlands as transition zones which modify the exchange of nutrient resources between the terrestrial and aquatic environments, two levels of analysis will be adopted. First, the joint team which is conducting research on a wide diversity of wetland types hopes to identify common properties of wetlands and how these common properties may be influenced by regional meteorology and climatology. Comparison of different wetland systems can be one of the most efficient ways to study ecosystem processes. Without the benefit of a multi-system approach, it is impossible to separate system-specific characteristics from ecosystem-type characteristics.

Second, their studies will combine an experimental component with an analysis of existing long-term data. In combination, these data will allow the evaluation of ecosystem variability on a variety of important time scales including diel, seasonal, interannual and long term (>5 years).

Project to Examine Capacities and Strategies for Coping with Effects of Severe Sustained Drought (SSD) in Portions of the Southwestern United States - $54,500 - A MAB-4 (Arid and Semi-arid Lands) Directorate Project, managed by Principal Investigator Prof. Frank Gregg, School of Renewable Natural Resources, University of Arizona, Tucson, Arizona 85721; and Co-Principal Investigator, Prof. David H. Getches, University of Colorado, School of Law, Fleming Law Building, Campus Box 401, Boulder, Colorado 80309-0401, and supported by a project team organized by the Arid Lands Directorate with cooperation of the U.S. MAB-11 Directorate on Human Issues and Environmental Change.2/

This project, an initiating phase of a larger project will examine the history and probability of severe, sustained drought and will assess the capacity of water resource management systems and institutions to cope with effects of a severe sustained drought in the southwestern United States. The project will assess issues and coping strategies with respect to northwestern Mexico. This project is intended to enhance society's capability to understand and address the implications of severe sustained drought in a process which involves interaction among scholars and those who carry out and are affected by water policy and programs. The methodology developed in this project and the project results will have important transfer potential in other arid/semi-arid settings.

Study Site: The geographic focus for analysis of water service deficiencies and impacts will be on those portions of Arizona served by the Central Arizona Project and Salt/Gila river systems and the Southern California-Central Valley interconnected systems. Hydrologic data will necessarily cover the entire Colorado system, and the Central Valley-North Coast hydrologic connections. Terrestrial and aquatic ecosystem effects, instream values generally, and various categories of social effects will require differing regions for analysis.

Project Design: The project design is based on expert contributions in the form of (a) a series of commissioned papers by scholars organized and coordinated under MAB-4; (b) invited commentary on the papers by a wide array of water policy-makers, managers, users and scholars; (c) a symposium to elicit further interaction among scholars, policy-makers, managers and user interests; and (d) a proceedings or scholarly press book with ancillary summaries for media, in addition to other scholarly and popular publications generated by participants. Through the above steps, the project will illuminate probability and severity of SSD in the Southwest; reconstruct a drought for project purposes, with annual data on climatology, precipitation and hydrology and monthly runoff data at key points; calculate and display the effects of the reconstructed SSD on water availability at selected points in the

2/ Leadership for sets of related tasks and for overall project integration will be provided by major authors acting also as team leaders. They include C. Stockton, J. Dracup, William Martin, D. Getches, H. Ingram, R. Young, and H. Caulfield.
FY-1988 MAB GRANTS (Continued):

study area, and the effects of existing "plumbing systems" on water availability; analyze the capacities of water management and drought response systems to cope with SSD under existing and modified legal and institutional arrangements; explore SSD impacts and responses for representative sectors (environmental, economic, social, political) given a reconstructed drought and coping capabilities; develop and analyze alternatives for strengthening coping capacities; suggest additional actions as appropriate; and publish and assist in dissemination of project results.

Modeling Urban Ecosystem Research and Application: A Mexico City Case Study - $56,831 - Merrill K. Ridd, Director, Center for Remote Sensing and Cartography, and Professor of Geography, University of Utah, 391 Chipeta Way, Suite D, Salt Lake City, Utah 84108

This project will pursue one of the chief objectives of the U.S. MAE-11 (Urban Ecosystems) Directorate—to understand and measure the environmental impact of urbanization. It will consist of a three year applied research effort in Mexico City's metropolitan complex during which three hypotheses are being tested: (1) that satellite data can provide an objective mechanism for defining and calibrating urban composition and ecological character, called "ecounits," across the city and environs; (2) that some socio-economic conditions may be shown to correlate with eco-unit patterns; and (3) that sequential satellite imagery can be used to monitor growth and change in urban environments. Semiannual and annual reports will be produced.

Study Site: Mexico City

Research Methods: Research methods will be based on: a systems modeling approach—integrating natural and human ecosystems; a remote sensing/geographic information system (GIS) foundation—to better gather, update, and utilize basic data; a decision-maker/user participation in the research—to better utilize and make operational the resultant technology; a training program—to maximize understanding and extend application; an ongoing evolution of the research—to better understand all interrelated dimensions of urban ecosystems. And, ultimately, the research will lead to a global model of urban environmental calibration and change analysis, and serve as a foundation for many ecological investigations within and beyond the city. The research involves data from both the Landsat and SPOT satellite systems.

Impacts of High-Intensity Prescribed Fires on Forest Ecosystems in the Southern Appalachian Mountains of Western North Carolina - $49,985 - Dr. Jack B. Waide, Research Ecologist, USDA Forest Service, Coweeta Hydrologic Laboratory, 999 Coweeta Lab Road, Otto, North Carolina 28763

This project will document the impacts of high-intensity site preparation burns on forest ecosystems in the Southern Appalachians. Answers will be sought to the following interrelated research questions: (1) what are the impacts of high-intensity prescribed fires on patterns of vegetation regeneration and on rates of net above-ground productivity and nutrient uptake?; (2) what are the impacts of high-intensity prescribed fires on the export of sediments and nutrients from the site, and hence on the quality of surface drainage waters?; and (3) what are the impacts of high-intensity prescribed fires on litter-soil biogeochemical processes regulating the cycling of carbon, calcium, phosphorus and nitrogen, and thus on the future productivity of the site. The MAB portion of the total 3-1/2 year study will focus specifically on soil thermal pulse and on-site nutrient and organic matter dynamics.

Study Site: Five stands will be included in this study. All are located in the Southern Blue Ridge Province of southwestern North Carolina, within the Wayah Ranger District of the Nantahala National Forest

(Continued on Page 9)
INTRODUCTION:

The U.S. National Committee for the Man and the Biosphere Program (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 1989, 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 MAB objectives, may be spread over several years.

Proposed ideas must first be submitted as a two- to three-page prospectus to be reviewed for its responsiveness to this Request by one or more U.S. MAB Directorates. U.S. MAB Directorate endorsed prospectuses will be reviewed by the U.S. National Committee. The National Committee will then identify which projects should be submitted as full proposals for U.S. MAB's peer review process.

Priority will be given to projects requesting $50,000 or less when endorsed by a single Directorate, or a maximum of $100,000 for a project endorsed by two or more Directorates. U.S. MAB will not pay overhead fees on grants of $50,000 or less.

CRITERIA FOR RESEARCH THEMES, TARGET AREAS AND POLICY RELEVANCE:

The U.S. National Committee seeks proposals for research and projects on one or more of the following MAB orientations:

1. Ecosystems functioning under different intensities of human impact
2. Management and restoration of human-impacted resources
3. Human investment and resource use
4. Human response to environmental stress

It is recommended that all scientists who intend to participate review the Final Report of the General Scientific Advisory Panel, MAB Report Series No. 59, before commencing work on proposals. This report is available from the U.S. MAB Secretariat.

Preference will be given to proposals which concentrate on one or more of the following target areas:

- Biosphere reserves
- Biological diversity
- Global climate and ecological change
- The biomes or ecotones of the arctic, arid lands or tropics
- Sustainable/integrated development

Preferably, projects would examine at least one of the four themes in at least one of the above target areas, and deal with policy issues relevant to U.S. MAB supporting agencies.
FORMAT, APPLICATION AND PROCESSING PROCEDURES:

Prospectuses may not exceed three pages and must be accompanied by a summary two-page biographic sketch of the potential principal(s) that includes exceptional qualifications and a list of relevant publications. Early submission during August, September, or October is encouraged. Mail prospectuses to the U.S. MAB Secretariat, OES/ENR/MAB, U.S. Department of State, Washington, D.C. 20520. No prospectuses will be accepted after November 1, 1988. 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 Directorates (see list on page 9). Directorates will review prospectuses for endorsement based on the prospectuses' responsiveness to this call, relevancy to the U.S. MAB Program and the performance competence of the proposed principal(s) as evidenced by the summary biographic sketch. Directorates will review all prospectuses by December 1, 1988.

Prospectuses endorsed by a Directorate, or Directorates, will be forwarded to the U.S. National Committee for MAB for review. At its January 6, 1989 meeting, the National Committee will further review all prospectuses for their relevance to the U.S. MAB Program priorities and to the policies of U.S. MAB's supporting agencies. The National Committee will then determine which potential principal(s) may submit a full proposal.

Full project and research proposals must be received in the U.S. MAB Secretariat by close of business, May 1, 1989. Proposal texts must not exceed 30 double-spaced pages, excluding a concise two-page executive summary describing the objective of the proposed effort and the method of approach, accompanying bibliographies and curriculum vitae of the principals. An executive summary must clearly establish that the proposed activities are relevant to at least one of the four MAB orientations, one of the target areas, and the policy concerns of the relevant U.S. MAB supporting agency(ies). Each proposal must contain a letter of endorsement from a U.S. MAB supporting agency (see list on page 8). 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 activities. Full proposals will be subject to an administrative review for adherence to listed requirements and if deficiencies are found, will be returned without further consideration.

PROJECT PEER REVIEW, RANKING AND FUNDING PROCESS:

Appropriate U.S. MAB Directorates 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. Directorates and reviewers will also assess a proposal's potential to increase scientific understanding and provide the basis for policy development by U.S. MAB's supporting agencies. Directorates and peer reviewers will consider, in their overall assessments of the proposals, the performance competence of the principals and the adequacy of the proposed resources to accomplish the objectives.

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

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

The National Committee will notify all principals of its final decisions in July 1989. Funds will be committed to the managing institutions identified in the selected proposals by September 30, 1989.
FY-1988 MAB GRANTS (Continued):

Research Methods: Two of the five stands will be instrumented for weekly measurements of water and nutrient input and export and export of suspended and bedload sediments. All five stands will be instrumented for climatic measurements and soil erosion. Other sampling/measuring will allow estimates of lost organic matter and nutrients to be made. Detailed measurements of the heat pulse to the soil and smoke emissions to the atmosphere due to burning will be made. Other measurements, following burning, will be taken. A combination of field and lab assays (to quantify the processes of nutrient mineralization and immobilization, nitrification and nitrogen fixation) will be used. To quantify aboveground biomass, net productivity, and net nutrient uptake, researchers will sample vegetation regeneration. Sampling will focus on aboveground components of woody vegetation (hardwood regeneration and pine seedlings) as well as herbaceous species, particularly legumes. MAB funds will: (1) permit detailed investigation of impacts of site preparation burns on the on-site dynamics of nutrients (calcium, nitrogen and phosphorus) organic matter, and vegetation regrowth; (2) characterize the thermal pulse to the soil; and (3) determine the amount of organic matter and nutrients lost from the treated stands due to burning.

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U.S. MAB'S FY 1989 REQUEST FOR PROPOSALS (RFP):

The Request for Proposals for U.S. MAB's FY 1989 grant cycle appears on the blue insert (Pages 7 - 8) in this issue. The RFP text refers to "U.S. MAB Directorates" and to U.S. MAB's "agency sponsors." Both are listed below for your information in the event you wish to submit a prospectus for consideration for U.S. MAB funding in FY 1989.

Active U.S. MAB Directorates

- MAB-1 Tropical Forests
- MAB-2 Temperate Forests
- MAB-3 Grazing Lands
- MAB-4 Arid and Semi-arid Lands
- MAB-5 Fresh Water Resources
- MAB-6 Arctic Ecosystems
- MAB-7 Island Ecosystems (Caribbean)
- MAB-8 Biosphere Reserves
- MAB-11 Urban Ecosystems
- MAB-13 Human Issues and Environmental Change
- MAB-14 Pollution

U.S. MAB Sponsoring Agencies

- U.S. Department of State
- Smithsonian Institution
- U.S. Department of Agriculture
- U.S.D.A. Forest Service
- U.S.D.I. National Park Service
- Peace Corps
- National Aeronautics and Space Administration
- National Oceanic and Atmospheric Administration
- National Science Foundation
- U.S. Agency for Internat'l. Development

THE BULLETIN'S "FREE PUBLICATIONS" FEATURE WILL RETURN WITH THE NEXT ISSUE. WE ARE STILL MAILING OUT A LARGE BACKLOG OF ORDERS RECEIVED FROM THE PAST SEVERAL ISSUES. EDITOR
The International Tropical Timber Organization (ITTO) met for the fourth time in Rio de Janeiro, June 22-July 1. Operational since early 1987, ITTO's 42 member countries (which include the United States) represent 95% of world trade in tropical timber and more than 70% of the earth's remaining tropical rainforests.

What is noteworthy about ITTO is the fact that it is the first international commodity agreement to have a conservation mandate. The market and industry interests associated with commodity groups are complemented in ITTO by priorities to promote research and development on improved forest management and reforestation practices for sustained timber production. The organization has a specific objective to "encourage national policies aimed at sustainable use and conservation of tropical forests and their genetic resources and at maintaining ecological balance within affected regions and the biosphere."

ITTO's interest in improved forestry was evidenced in Rio when members approved $1.1 million to begin work on a project for integrated forest-based development in the western Amazon. The project area is Brazil's 247,000-acre Antimari National Forest within the State of Acre, just north of the severely deforested State of Rondonia. Although 95% of Acre's forest cover is still intact, there is escalating pressure for land clearing from subsistence farmers, cattle ranchers and mining interests. Apparently interested in avoiding a repeat of the Rondonia disaster, the Brazilian government will contribute $2.2 million to the ITTO study.

The Acre project will inventory the area's natural resource base, establish experimental silvicultural plots and produce a comprehensive economic plan for multiple forest use. Logging, rubber extraction and other forest-based commercial enterprises, as well as use by indigenous peoples, will be examined. If properly implemented and monitored, Acre could provide a model for sustainable economic use of tropical forests in the Amazon basin. With this as a goal, the ITTO also approved $150,000 for preliminary studies on integrated commercial forest management in Bolivia and Peru.

Although ITTO is primarily a trading group with a strong market focus, the Acre project suggests a growing recognition—among producer and consumer countries alike—that the future of the timber market depends on sustainable forest development. If ITTO can continue to get member governments to focus on forestry for sustained production, the organization could become one of the most important political fora for dealing with tropical forest issues.

EDITOR, U.S. MAB BULLETIN

PHYLIS N. RUBIN