

**Comments by Thomas E. Lovejoy,
U.S. MAB Chairman**

Last week, I journeyed to Tennessee and Kentucky to attend the monthly meeting of the Tennessee Valley Authority (TVA) and dedication of a piece of land of real size (150,000 acres) as the most recent biosphere reserve: Land Between the Lakes. This will be part of the larger regional Southern Appalachian Biosphere Reserve (SAMAB). The meeting and the dedication constitute recognition by TVA of their environmental and recreational mandate.

More exciting is the already existing research program underway at Land Between the Lakes, developed by Thomas Forsythe, with the help and encouragement of Charles (Buzz) Buffington. Already, 40 research projects have begun, and, of course, that all fits into the larger integrated research program of SAMAB. At a time when we continue to lament the existence of Biosphere Reserves in name only, it is most heartening to see one "up and running" at the very outset.

In July, the National Committee will go on retreat to consider how U.S.-MAB can be yet stronger and more effective. Land Between the Lakes will provide a stimulating departure point.

**Positions Available on U.S.
MAB Directorates**

The U.S. National Committee for the Man and the Biosphere program is seeking applicants for a limited number of 3-year appointments to the U.S. MAB Directorates. While scientists in general are encouraged to apply, U.S. MAB is particularly seeking persons to fill the following directorate slots:

High Latitude Ecosystems

- 1 social scientist
- 2 biological/natural scientists

Human Dominated Systems

- 1 social scientist
- 2 biological/natural scientists

Marine & Coastal Ecosystems

- 3 social scientists
- 1 biological/natural scientist

Temperate Ecosystems

- 3 social scientists
- 3 biological/natural scientists

Tropical Ecosystems

- 2 social scientists
- 1 biological/natural scientist

Persons who are interested in applying must first contact the U.S. MAB Secretariat (telephone and FAX numbers are in the Masthead on p. 2) for an application form, the guidelines and functions of a U.S. MAB directorate, and for a copy of the appropriate directorate's current

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Conference/Workshop on GIS and Environmental Modeling

First International Conference/Workshop on **Integrating Geographic Information Systems and Environmental Modeling** sponsored by many institutions, including federal agencies, and the National Center for Geographic Information and Analysis (NCGIA) of the University of California, Santa Barbara to be held in Boulder, Colorado, September 15–18, 1991.

It will focus on GIS-assisted modeling of natural, physical processes, and impacts thereon, at all scales. The key objective is to exchange useful information about the spatial data analysis and modeling requirements of environmental problems. For further information please contact: GIS/Modeling Conference Secretariat, NCGIA, University of California, Santa Barbara, CA 93106. Tel.: 805–893–8224, FAX: 805–893–8617.



U.S. MAB BULLETIN

The U.S. MAB Bulletin is published quarterly by the U.S. MAB Secretariat, OES/EGC/MAB, Department of State, Washington, DC 20520-7818. 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 United States Department of State, the United States Department of Agriculture-Forest Service, the United States Department of the Interior-National Park Service, the Agency for International Development, the Environmental Protection Agency, the National Oceanic and Atmospheric Administration, the National Aeronautics and Space Administration, the Peace Corps, the Smithsonian Institution and the National Science Foundation.

The program is organized into five directorates: High Latitude Ecosystems; Human Dominated Systems; Marine and Coastal Ecosystems; Temperate Ecosystems; Tropical Ecosystems; and a U.S. MAB Coordinating Committee for Biosphere Reserves.

Notes From the Executive Director

U.S. MAB is heading into its annual rite of receiving and organizing the peer reviews for the proposals which the U.S. National Committee for MAB has invited from the nearly 200 prospectuses which were reviewed last year. In addition, we are also applying similar rigorous reviews to proposals to form the core activities of the U.S. MAB program directorates.

The National Committee noted that it was concerned that so many of the received prospectuses demonstrated little intent to carry out interdisciplinary work. The Committee believes that interdisciplinarity is the key to identifying good MAB science. We were all concerned that, perhaps, the amount of funds being offered in the request for proposals (RFP) is simply too small for teams to be able to be structured to meet our criteria. Yet, it was also noted that many other science programs, which do not require or request interdisciplinary proposals, do offer much less support than the \$50,000 cap on U.S. MAB proposals.

As we continue to refine the concept of "interdisciplinarity," we ask our reviewers to consider the following:

- Is the combination of scientific disciplines proposed in the project sufficient to adequately measure and test the hypothesis?
- Are the proposed scientific methodologies sufficient to adequately measure the variables being proposed for measurement or observation?
- Do the research records of the principals reflect their capabilities to carry out interdisciplinary work or collaborate with scientists from other disciplines?

The U.S. MAB Secretariat would welcome any comments on these concepts as we continually attempt to improve our evaluative processes.

We are all hopeful that sufficient agency support will be forthcoming so that major core programs can be initiated in several more of our directorates this fiscal year. As with the proposals from the general scientific community, these major grants are still intended to provide only seed funds to initiate activities. We all recognize that delving into the complexities of major interdisciplinary research projects will require significant additional funding. We hope that a portion of these additional funds will come from private sector foundations as well as from individual agencies which see particular mission and policy relevance in the initiated work.

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Perhaps these will be the best legacy of U.S. MAB: That interdisciplinarity was actually implemented—and that governmental agencies actually did see the information generated as relevant to their management policies.

Roger E. Soles

UNESCO MAB Northern Sciences Network Fellow Chosen

The U.S. MAB Program recently funded the creation of a Fellowship at the headquarters of the UNESCO MAB Northern Sciences Network (NSN) at the Arctic Center at the University of Lapland, Rovaniemi, Finland. U.S. MAB offered a challenge grant to the Northern Sciences Network to partially fund a Fellow to stimulate international cooperation and coordination among arctic science programs. The member countries of the NSN responded and a competitive recruitment process was launched which resulted in applications being received from scientists in six countries.

Dr. Nicholas Flanders of the Institute of Arctic Studies of Dartmouth University was selected from among 17 other candidates for the position. Dr. Flanders is an anthropologist experienced at working with other scientists. While at the NSN, he proposes to use his knowledge of online databases, communications software, and international computer networks to help the Arctic Center staff further develop its capabilities. He hopes to be able to move the NSN into an active role in the rapid distribution of Arctic environmental information from global monitoring. This would attempt to overcome what is perceived by researchers as excessively long periods of time required to publish what they consider important findings in academic journals by developing an electronic, refereed journal that would use the international systems of electronic mail to facilitate editing, refereeing, and disseminating articles and information on contemporary northern environmental issues. This problem is considered more acute in the social sciences where findings are frequently out of date by the time they appear in print. Such information would be provided on the physical sciences as well as on economic, political, and cultural issues. Dr. Flanders believes that the creation of such a journal would eliminate the copyright problem currently preventing the delivery of published text through electronic mail.

Finland/MAB has agreed to match U.S. MAB's \$20,000 grant.

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mission statement. The mission statement outlines the core research and program activities of each directorate.

The travel and related costs of attending directorate meetings by scientists and others from institutions in the private sector will be supported by the U.S. MAB Program. The travel and related costs of attending directorate meetings by scientists and others employed by government agencies must be supported by the attendee's agency.

Applications for membership must include the application form; a paragraph (with a maximum length of 1 page) defining how the applicant would like to contribute to the U.S. MAB Program; and a CV of a maximum of 3 pages in length.

Applications will be accepted by the Secretariat through September 15, 1991; appointments will be made to the directorates in November 1991.

U.S. MAB Supported Symposia

Date Set for Symposium on Society and Resource Management

The Fourth North American Symposium on **Society and Resource Management** is scheduled to meet in Madison, Wisconsin, on May 17–20, 1992. The Symposium will focus on the integration of social and biological sciences as they together address natural resource and environmental issues. For further information contact: Donald R. Field, Program Chair, School of Natural Resources, 1450 Linden Drive, Madison, Wisconsin 53706. Tel. 608–262–6968, FAX # 608–262–8852.

1992 International Symposium on Environmental Contamination in Central and Eastern Europe

The symposium on **Environmental Contamination in Central and Eastern Europe, A Forum for Technology Transfer** has been scheduled from October 12–16, 1992 in Budapest, Hungary. It will provide a forum for the transfer of technologies, instrumentation, and equipment applicable to environmental contamination problems, and the solution of problems related to hazardous waste and toxic substances in the context of contaminated air, water, and land.

The symposium is being planned and cosponsored by the Center for Biomedical & Toxicological Research and Hazardous Waste Management at Florida State University, directed by Dr. Roy C. Herndon and the Department of Atomic Physics at the Technical University of Budapest under the direction of Dr. Peter I. Richter.

Job Available, Social Science Research Council

The Social Sciences Research Council anticipates adding a position of program officer for the **Committee for Research on Global Environmental Change**. This committee focuses on the human dimensions of long-term environmental changes that occur at the continent level, or larger. Training and research on the environment are desirable but not mandatory in the applicant's record. More importantly, this person should be a social scientist trained at the doctorate level for research in economics, geography, political science, sociology, or related fields; international in orientation and experience; capable of learning this interdisciplinary subject matter; and able to work with both social and natural scientists. We would also expect this person to assist the Council in collateral program development, e.g., in health and epidemiology, peace and security, development of resource economics, quantitative modeling and methodology, or other areas.

This full-time position involves preparing and negotiating grant proposals for expansion of this program; assisting in the design of research programs and research consortia; planning seminars, workshops, and conferences; administering possible fellowship and grant competitions; supervising support staff; contributing to the Council's overall program; and maintaining relationships with researchers and academic research institutions throughout the world.

Applicants must hold the Ph.D. in a relevant field. Writing skills are essential. Administrative experience and demonstrated fundraising ability are desirable. The Council seeks applicants with several years of teaching, research, and/or administrative experience, although it may also consider recent recipients of the Ph.D. Salaries are competitive with those at U.S. universities. The person appointed should be able to take up the position on or before September 1, 1991.

To apply, as soon as possible, send (a) a letter of application, (b) a curriculum vitae, and (c) three letters of reference to: **Global Change Search, Social Science Research Council, 605 Third Avenue, New York, NY 10158**. An Equal Opportunity Employer.

Book Review

The following book review is reprinted with the approval of the American Institute of Biological Sciences from their publication:

BioScience, December 1990, Vol. 40 No. 11, American Institute of Biological Sciences

Problem Solving in Eutrophication

The Control of Eutrophication of Lakes and Reservoirs. S. O. Ryding and W. Rast, eds. UNESCO and Parthenon Publishing Group, Park Ridge, NJ 1989. 314 p., illus.

This book is **volume 1** in the series "Man and the Biosphere," an extension of the Man and the Biosphere Program launched by UNESCO in the early 1970's. The purpose of the series is to disseminate information gathered by interdisciplinary teams on the interactions between ecological and social systems to a wider audience than is addressed by the existing UNESCO technical notes and reports series. This book covers the scientific, technical, management, and social aspects of eutrophication (proliferation and accumulation of algae and higher aquatic plants, usually attributed to increased phosphorus and nitrogen loads in bodies of water). With one exception, each of the 11 chapters is the product of two to five contributors.

Chapters 4–6 give a scientific understanding of the causes and the symptoms of eutrophication—the proliferation and accumulation of algae and higher aquatic plants, usually attributed to increased phosphorus and nitrogen loads to bodies of water. Much attention is given to the limiting nutrient concept. The information provided in these three chapters is basic and provides a relatively sound background for the novice on the concept of eutrophication, its causes, and its consequences. The chapters are well referenced.

From a technical and management point of view, this book is very much like a cookbook. For someone just getting into the field of lake and reservoir management, the book provides fundamental insights on sampling design and frequency, techniques for managing eutrophication, and potential applications for reuse of nutrients.

From a social point of view, the discussion in chapter 3 (a management framework for the policymaker) is interesting. The authors go to great lengths to provide management guidelines based on eventual water use. Although they describe water bodies from ultraoligotrophic (very low nutrient concentrations and levels of primary productivity) to hypereutrophic (very high nutrient loads and productivity), they present their discussion in terms of

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the intended use of the water. Thus eutrophic waters are good for fish farming and oligotrophic waters are realistic goals for drinking water. The chapter makes clear that there is no absolute good or bad water body.

A chapter is devoted to a detailed discussion of who the book should benefit, and from the description it is apparent that the authors meant everyone from science graduate students to politicians. I found the scientific descriptions useful for upper-level undergraduates or beginning graduate students who have an interest in lake classification. However, the text's cookbook nature lends itself to use by those involved with management decisions, and, indeed, by politicians. The scientific descriptions of eutrophication and processes occurring in lakes are written in such a fashion that one does not need an extensive background to find the book useful.

The simplicity of the book, at times, is lost in organization. I would recommend that the management framework chapter be left to the end. References are made to

terms that are described later in the book, and, if one is not familiar with the terms, extensive cross referencing is needed. If future books in this series are to be written for broad audiences, as this one was intended, then the addition of a glossary would be useful.

The book suffers a bit from trying to tie everything together too tightly by use of phrases such as "as noted earlier, as mentioned before, earlier or later." However, the book contains valuable information written in a readable manner and should be of interest to managers and policy makers as well as those in technical positions who wish to expand their knowledge of eutrophication.

Linda Goad
Center for Great Lakes
and Aquatic Sciences
University of Michigan
Ann Arbor, MI 48109

PUBLICATIONS

REMEMBER, ENCLOSE YOUR SELF-ADDRESSED MAILING LABEL (OR LABELS, IF YOU ARE REQUESTING SEVERAL ITEMS).

New Publications Available Free from U.S. MAB:

May 1991 issue of *BioScience*, the magazine of the American Institute of Biological Sciences, in collaboration with the U.S. Man and the Biosphere Program. **Articles on Coastal Barrier Ecosystems prepared for a U.S. MAB supported symposium on coastal barriers held at the AIBS meeting at the University of Toronto in August 1989.**

Proceedings of a **Workshop on Forest Hydrological Resources in China, An Analytical Assessment.** The workshop was held in Harbin, China, August 18–23, 1987. The Proceedings were edited by Peter F. Ffolliott and D. Phillip Guertin.

Bibliography on the International Network of Biosphere Reserves. Published by the United States Man and the Biosphere Program in July 1990.

Still Available from U.S. MAB:

Pamphlet on **The United States Man and the Biosphere Program.** Department of State Publication 9798. Released July 1990.

THE FORESTED WETLANDS OF THE SOUTHERN UNITED STATES, Proceedings of the symposium, July 12–14, 1988, Orlando, FL.

Report on the Puerto Rico Workshop on LAND-BASED SOURCES OF MARINE POLLUTION IN THE WIDER CARIBBEAN REGION, August 7–9, 1989, San Juan, Puerto Rico.

PROCEEDINGS OF THE SYMPOSIUM ON BIOSPHERE RESERVES, September 14–17, 1987, Estes Park, CO. 4th World Wilderness Congress. A limited number of single copies are available from the U.S. MAB office to meet requests. Additional or multiple copies are available at a cost of \$15 each under Stock #044-000-022-71-1 through the Superintendent of Documents, Government Printing Office, 710 North Capitol Street, NW., Washington, DC 20401. Tel. No. (202)783–3238.

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Available from others:

Geographic Information Systems and their Application in MAB Projects, Ecosystem Research, and Environmental Monitoring, edited by Michael Ashdown and Dr. Jorg Shaller. Available from: MinR Wilfried Goerke, Dipl.-Biologe. Federal Ministry for Environment, Nature Protection and Nuclear Safety, P.O. Box 120629, D-5300 Bonn 2, Germany. Please include your self-addressed mailing label.

BIOSPHERE RESERVE Brochure/Map. Listing and location of all (international and U.S.) biosphere reserves as of July 1989. Containing a new code to the location of all biosphere reserves. Available from: GPO Bookstore, 710 North Capitol Street, Washington, DC 20401. Tel. (202) 783-3238. Stock # 044-000-02277-0 @ \$3 each, or \$225 for 100.

COASTAL RESOURCES MANAGEMENT, a Guide to Public Education Programs and Materials. Lemay, Michele H. and Lynne Z. Hale. Available from: Kumarian Press, Inc., 630 Oakwood Ave., Suite 119, W. Hartford, CT 06110

UNESCO Publication, **MAB Digest 1 on Eutrophication Management Framework for the Policy-Maker** by Marjorie Holland, Walter Rast, and Sven-Olof Ryding. Eutrophication of lakes and reservoirs is one of the most pervasive water quality problems worldwide. This digest aims to provide: quantitative tools for assessing the state of eutrophication of lakes and reservoirs; a framework for developing cost-effective management strategies; specific technical guidance, and case studies for effective management of eutrophication. Available from: MAB-UNESCO, 7, place de Fontenoy, 75700 Paris.

UNESCO Publication, **MAB Digest 3 on Contributing to Sustained Resource Use in the Humid and Sub-Humid Tropics, Some Research Approaches and Insights**, by Malcolm Hadley and Kathrin Schreckenber. An overview of recent, ongoing, and planned activities within the MAB framework pertaining to the ecology of humid and sub-humid tropical ecosystems, principally forests and savannas. Available from: MAB-UNESCO, 7, place de Fontenoy, 75700 Paris.

UNESCO Publication, **MAB Digest 4, The Role of Land/Inland Water Ecotones in Landscape Management and Restoration, Proposals for Collaborative Research**, edited by Robert J. Naiman, Henry Decamps, and Frederic Fournier. To determine the management options for the conservation and restoration of land/inland water ecotones through increased understanding of ecological processes. Available from :MAB-UNESCO, 7, place de Fontenoy, 75700 Paris

UNESCO Publication, **MAB Digest 6, Debt for Nature Exchanges and Biosphere Reserves, Experiences, and Potential**, by Peter Dogse and Bernd von Droste. Available from MAB-UNESCO, 7, place de Fontenoy, 75700 Paris.

UNESCO MAB Book Series

The UNESCO MAB Book Series, edited by Professor John N.R. Jeffers of the United Kingdom, focuses on environmental issues of immediate international concern and demonstrates the way in which many environmental factors are intermeshed with social and economic processes. The individual volumes represent a synthesis of some of the most significant work in the environmental field undertaken in the past 15 years, and should be of interest to environmental policymakers and research scientists alike.

Currently, Volumes 1 through 7 are available through UNIPUB, a distributor for UNESCO publications in the United States and Canada.

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