

**Comments From the National Chairman,  
Frank Talbot**

Secretary Bruce Babbitt is creating change in Interior, putting under one administrative bureau most of their research biologists to create a National Biological Survey, and this is a move of great interest to U.S. MAB. Secretary Babbitt has written that, "... to find a balance between environmental protection and economic growth, we must rely on the best science available." He wishes "... to develop an anticipatory, proactive biological science program that will enable land and resource managers to develop comprehensive ecosystem management strategies."

Habitat loss and habitat fragmentation are the greatest killers of species—even more dangerous than pollution—and Mr. Babbitt's drive to identify and monitor the health of ecosystems as a whole is clearly the right way to protect the bulk of the species we live with. But ecosystem management remains a great problem. Our scientific theory and our pragmatic practice are still unsatisfactory, given the great variability of nature through time and the complexity of ecosystem interactions. This demands humility on our part, a light touch with the ecosystems themselves, and much work with our own species.

MAB has encouraged the protection of natural systems through designation of biosphere reserves containing a core protected area, a buffer zone, and a transition zone. Ninety-

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

The U.S. National Committee for MAB announces its request for applications from scientists and other qualified, interested persons to serve on U.S. MAB Directorates for a 3-year appointment. Openings exist on all the five directorates: High Latitude Ecosystems, Human Dominated Systems, Marine and Coastal Ecosystems, Temperate Ecosystems, and Tropical Ecosystems.

To implement its mandate of pursuing interdisciplinary research and collaboration, the U.S. MAB Program attempts to maintain a balance on all directorates between scientists from the biological/natural science disciplines and from the social sciences. As a program that specifically seeks involvement from both the federal and the private sectors, U.S. MAB also seeks on its directorates a balance between scientists from the supporting federal agencies and from the private sector/academia. Therefore, in 1993, U.S. MAB will give special consideration for membership on directorates to applicants who fulfill the following:

High Latitude Ecosystems Directorate: priority consideration given to social scientists from U.S. MAB supporting government agencies;

Human Dominated Systems Directorate: priority consideration given to biologists from U.S. MAB supporting government agencies and social scientists from the private sector;

Marine and Coastal Ecosystems Directorate: priority consideration given to biological/natural scientists from the private sector;

Temperate Ecosystems Directorate: priority consideration given to social and biological/natural scientists from supporting government agencies, and social scientists from the private sector; and

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## National Chairman's Message—continued from page 1

eight natural areas within the United States have sought and been granted biosphere reserve status, and they comprise almost 50 million acres. Many of these are administered by the Department of the Interior.

Five U.S. MAB directorates comprised of multi-disciplinary groups, including both natural and social scientists, undertake interdisciplinary research into examples and tests of ways in which human activities can make a nondestructive fit with the rest of nature, and most of this research is on biosphere reserves. There can be no more important work. While the U.S. MAB funding is small, the programs now underway are yielding good results, and have leveraged other funds. Interdisciplinary research, though much needed, is not easy and is still not popular. U.S. MAB's seed money, provided by many federal agencies, plays a seminal role.

U.S. MAB supports Secretary Babbitt in his ecosystem approach and establishing the National Biological Survey.



### U.S. MAB BULLETIN

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*"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 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

### TAKING STOCK

"Wow, how time flies when you're having fun!" I find it difficult to believe that this month marks the 10-year anniversary of when I was appointed to this position. Hired by the Department of State for the position of "Food and Agriculture Adviser," upon reporting for work I was asked to also "look after" the MAB Program that recently had been transferred to the Bureau of Oceans and International Environmental and Scientific Affairs. (That's the OES in our address.) "Not to worry," I was assured, there is only \$30,000 in the Program to look after, which was contributed by the USDA Forest Service. This would definitely only constitute part of a part-time obligation. My instructions were to "just keep it going—see if any other agencies are interested in the 'MAB approach.'"

Twelve federal agencies now pool resources that could amount to over \$2,000,000 this fiscal year to sponsor interdisciplinary environmental research combining both the social and biological/natural sciences to examine policy-relevant matters, "... to foster harmonious relationships between humans and the biosphere." Additional land management and scientific/technical agencies are also being invited to join and support U.S. MAB this year. MAB is even trying to attract the Defense Department agencies that also produce large land use impacts and responsibilities and, many believe, could benefit from and contribute to the interdisciplinary applied environmental scientific research approach.

Four directorates currently have core research and action projects underway which not only combine interdisciplinary teams to carry out research, but also have attracted non-MAB funding to complement their activities. A number of these efforts, we hope, will have had sufficient time to mature as research efforts so that results will be reported at various symposia and scientific meetings next year.

The biosphere reserve designation has been awarded to an increasing number of U.S. sites: now more than 98 U.S. units carry that international designation and recognition for excellence in programs of conservation, science, and education. An increasing number (see article in this issue) of U.S. units are also exploring mechanisms to implement the most recently added focus of biosphere reserves: providing an institutional framework for regional environmental activities for all "stakeholders." Chairman Talbot has launched an effort to bring to fruition a U.S. Action Plan for Biosphere Reserves. We take this exercise seriously because, even

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## New Private Sector Scientists Appointed to U.S. MAB National Committee

U.S. MAB Chairman Frank Talbot appointed the following illustrious scientists to serve on the National Committee of the U.S. Man and the Biosphere Program. In alphabetical order, they are:

**Robert G. Campbell**—New Bern Forestry Research Station Manager, Weyerhaeuser Company, New Bern, North Carolina. Dr. Campbell has been with the Weyerhaeuser Company since 1973. His current responsibilities include management of the New Bern Field Station, southern forest productivity, land application for forest soil, and water quality and wetlands management activities. He is an Adjunct Professor of North Carolina State University and has participated in cooperative research with the North Carolina Forest Fertilization Research Cooperative and the U.S. Forest Service research in the Research Triangle on organic matter and compaction, global warming, and phosphorus impacts.

**Robert S. Costanza**—Director of the Maryland International Institute for Ecological Economics, a joint venture of the Center for Environmental and Estuarine Studies and the School of Public Affairs of The University of Maryland System. He is cofounder (with Herman Daly) and chief editor of the journal *Ecological Economics*, and president and cofounder of the International Society for Ecological Economics (ISEE). Dr. Costanza's research has been focused on the interface between ecological and economic systems, particularly at larger temporal and spatial scales. This includes landscape-level spatial simulation modeling, analysis of energy flows through economic and ecological systems, valuation of ecosystem services and natural capital, and analyses of dysfunctional incentive systems and ways to correct them. He is the recipient of the Society for Conservation Biology's 1992 Distinguished Achievement Award.

**Sally K. Fairfax**—Professor of Resource Policy and Law, Department of Forestry and Resource Conservation; and of Environmental Planning, College of Environmental Design, of the University of California, Berkeley. Dr. Fairfax's current research focuses on state trust and sovereign lands management; federal, state, and local relations in public land management; regulation theory and pesticide regulation; and state/local police powers on federal lands. She is currently a member of the Editorial Board of the *Western Political Quarter*, and a member of the National Academy of Sciences Committee on Federal Acquisition for Conservation.

**Simon A. Levin**—The George M. Moffett Professor of Biology at Princeton University and an Adjunct Professor at Cornell University. Dr. Levin's current research interests are at an interface between population biology and ecosystems science, especially regarding the importance of scale in the analysis of community and ecosystem pattern. His other major interests are in the evolution of life history traits in complex environments, and in the dynamics of host-parasite interactions. Dr. Levin was President of the Society for Mathematical Biology, and President of the Ecological Society of America (1990–91). He is editor-in-chief of the ESA journal, *Ecological Applications*, managing editor of the *Journal of Mathematical Biology*, and of two book series: *Biomathematics* and *Lecture Notes in Biomathematics*.

Dr. Levin is currently a member of the National Research Council Study Committee on Environmental Research. He has served on the Commission on Life Sciences and the Board on Basic Biology of the National Research Council (NRC), and chaired the National Academy of Sciences' working group on Research Opportunities in Ecology.

**Milton Russell**—Director of the Joint Institute for Energy and Environment (JIEE), a collaborative partnership between the University of Tennessee, Knoxville, the Oak Ridge National Laboratory (ORNL), and the Tennessee Valley Authority (TVA); Professor of Economics at the University of Tennessee, Knoxville; and a collaborating scientist at ORNL. The JIEE brings together the facilities and personnel of its constituent organizations to perform research, training, and advisory services domestically and internationally. Before 1992, Dr. Russell served as an Assistant Administrator of the U.S. Environmental Protection Agency directing its policy, planning, regulatory development, and evaluation functions. At EPA he was particularly tasked with helping to develop systems and procedures for implementing the risk-based approach to environmental management. He is the author or coauthor of a number of books, reports, and articles. He has lectured extensively on energy and environment policy in the United States and abroad, especially in China where since 1986 he has been senior adviser to their National Environmental Protection Agency.

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### Biosphere Reserve Report—continued from page 7

biosphere reserve region. The CCCBR Education Council received a grant from the San Francisco Foundation to coordinate environmental education activities among the CCCBR's diverse ethnic and cultural groups. The Golden Gate National Parks Association has agreed to provide financial and administrative services to the CCCBR Association.



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## Grants Awarded for Research Proposals by Tropical Directorate

The core project of the U.S. MAB Tropical Ecosystems Directorate includes the competitive funding of smaller complementary projects. The Directorate has recently concluded its 1993 fiscal year competition. The awards granted were:

### **Ecological and Economic Analysis of Community Forest Management in the Maya Biosphere Reserve, Peten Guatemala**

Conservation International (CI) Guatemala Program's major goal is to improve natural forest management techniques in several communities in the Maya Biosphere Reserve and to work closely with the Guatemalan Government's National Protected Areas Council to refine and implement forest management guidelines for the large multiple use zone of the Reserve. This study will employ three graduate students who will investigate the economic feasibility and ecological impact of proposed forest management plans and to support establishment of permanent plots within both logged and unlogged areas to monitor the impacts on vegetative communities and avifauna and insect populations over the long term. This study is part of a large effort by CI to establish sustainable harvesting regimes through the ecologically and economically sustainable development of forest-based industries including: wood products, nontimber products (chicle, xate, essential oils), and low-impact tourism.

**Principal Investigator—Conrad Reining**  
**Conservation International**  
**Guatemala Program**  
**\$11,300.**

### **Conservation of Biodiversity and Wise Use of Natural Resources Throughout Belize**

The Programme for Belize is a Belizean nonprofit organization established in 1988 and dedicated to the promotion of conservation of biodiversity and the wise use of natural resources throughout the country based on its belief that conservation and economic development are compatible and interdependent. It is attempting to show that wise management of forest lands, in a way that retains their full array of environmental values, is a viable economic land use. Its long-term aim is to achieve financial self-sufficiency through sensitive design and proper management of revenue-earning activities on appropriate areas of the property.

The awarded grant is to provide funding to support the hiring of field biology trainees to work in the Rio Bravo conservation and management area, Belize.

**Principal Investigator—Joy Grant**  
**Programme for Belize**  
**\$11,616.**

### **Socioeconomic and Ecological Considerations of Tie-tie Sustained Yield Harvesting and Use in Rio Bravo and Gale's Point, Belize.**

This study will enable research on the use, ecology, management, and marketing potentials of tie-tie (*Desmoncus* sp.) in Gales Point and the Rio Bravo Resource Management area in Belize. Tie-tie is found throughout much of the Maya Tri-Region. It appears to be abundant in surrounding forests and is collected by local people in the area who use it to weave baskets, increasingly for sale to tourists. It may offer a potential means to generate income for local people in and around protected areas and be compatible with forest conservation objectives.

The two field sites provide an opportunity to assess how differing socioeconomic, cultural, and resource use practices, as well as incipient community-based ecotourist activities, affect forest conservation and economic development strategies. This will build upon current project activities, as well as on previous collaborative research, conducted in Southeast Asia on the economic importance, use, ecology, and sustained-yield management potential of rattan.

**Principal Co-Investigators**  
**Jill M. Belsky**  
**Stephen F. Siebert**  
**\$7,150.**

### **Itza, Lacandon, and Yucatec Maya Agro-Forestry: Site Visits by the Peten Itza to the Mexican Lacandon and the Maya Zone of Quintana Roo for the Purpose of Coordinating Native Forest-Sustaining Strategies in the Maya Tri-National Region**

The Maya Biosphere Reserve was established to promote the region's common Maya heritage and the sustainable management of its diverse resources. The adjacent Bio-Itza Reserve was designed to provide the Itza with long-term prospects for self-sustaining agroforestry. This involves knowledge of the balance between traditional Mayan subsistence techniques and the forest's ecology, but also requires adaptation of traditional knowledge to technological innovation because of the dramatic rise in immigrant population and consequent decline of the forest's renewable resources.

In the short-term, this project plans information exchanges that will focus on strategies to forestall the cultural demise of forest peoples by halting deforestation of their environment. Emphasis will be placed on native techniques for educating immigrant people on how to preserve the forest's practical advantages, and on ways to coordinate native tactics for maintaining the forest with tri-national plans for its sustainable development. The Itza, Lacandon, and "Maya Zone" Yucatec have all had direct experience

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## Grants Awarded—continued from page 4

with incoming communities and those working on Selva Maya planning.

The grant has been awarded to enable four Itza to visit Mexico, in Lacandon and the Maya Zone. Helping the Maya to organize themselves by exchanging and coordinating information will help free them from immediate concerns of survival and enable them to take on a more creative role in the Maya Tri-National Region.

**Principal Investigators—Reginaldo Chayax  
Scott Atran  
\$6,900.**

### **A Study of Seasonality of Activity and Detectability Patterns of Selected Bird Species Forming the Basis of an Ecological Monitoring Program in the Maya/Calakmul/Rio Bravo Reserve Complex**

This study will investigate how the time of year affects patterns of activity and detectability of the bird groups that form the core of the monitoring and research program involving raptors, doves, parrots, tinamous, cracids, motmots, nightjars, selected songbirds, and others. In addition, the study will determine what level and distribution of census effort is adequate to characterize the populations of these “indicator” species at a tropical forest locale in northern Central America. In order to obtain more precise knowledge on how activity patterns and detectability are affected by time of year, it is necessary to know how strictly comparable are census results at different times of the year.

The year-long study is being conducted on 10 census-plots within primary forests of Tikal National Park. Each plot will be censused 10 times during a 12-month period. The key questions to be researched are how many censuses, distributed in what manner, are adequate and optimal for achieving desired comparisons. This monitoring project will be carried on in addition to seeking answers to short-term questions of management interest, and training Guatemalan nationals in management-related research to encourage integrated conservation and sustainable development.

**Principal Investigator—David F. Whitacre  
The Peregrine Fund, Inc.  
\$11,900.**

### **Evaluation of Direct Planting and Post Harvesting Natural Regeneration in Quintana Roo, Mexico**

This is one of two studies initiated by the National Institute for Research in Forestry, Agriculture, and Animal Husbandry (INIFAP) with an organization of Ejidos. (Ejido is the name for a group of people established in a community that own land together.) They have worked together to identify the highest priority research needs to meet their goal of developing a management program where chicle,

wildlife, and timber are managed in an integrated way. One of the major activities promoted by technical advisers has been the enrichment of harvested areas by direct planting of mahogany seedlings to help ensure regeneration and future crops of high quality timber. But the success of direct planting as a way to ensure future timber production from these forests is as yet unknown.

Harvesting itself is an activity that produces changes in the forest and creates conditions for natural regeneration, but an evaluation of the natural regeneration that is established after harvesting is also unknown. In this study the growth rate of trees in the natural forest after harvesting will be evaluated, with those resulting from direct planting or other silvicultural techniques used to regenerate mahogany and other commercial, shade-intolerant species. It provides an opportunity to directly link research with management needs by providing managers with the ecological information needed for a more sustainable management of local forests’ resources.

**Principal Investigator—Patricia Negreros-Castillo  
\$8,200.**

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## **EuroMAB Update**

The Man and the Biosphere National Committees of North America and Europe (EuroMAB) are undertaking a joint project to create a Biosphere Reserve Integrated Monitoring (BRIM) network. An element of this project is a pilot program to collect, in a common standardized EuroMAB database, existing biological data collected on the biosphere reserves. A protocol for obtaining and sharing standardized basic data has been agreed to.

A U.S. MAB team representing the BRIM program is currently in Eastern Europe to visit a selected sample of biosphere reserves. They will meet with biosphere reserve managers and scientists to discuss and examine the current reporting formats that are in use for biological surveys and inventories in a number of biosphere reserves in the Czech Republic, Slovakia, and Poland so that the pilot project to standardize and share information within the EuroMAB program may be implemented and tested later this summer.

Each EuroMAB country is responsible for collecting and contributing the data in their national biosphere reserves to the network. However, EuroMAB representatives from 10 countries in Eastern Europe and the former Soviet Union—collectively representing 55 biosphere reserves—in assessing their capability requested financial assistance for computer hardware and software, and training in data entry and data management to complete inventory databases.

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## Membership Positions—*continued from page 1*

Tropical Ecosystems Directorate: priority consideration given to social and biological/natural scientists from U.S. MAB-supporting government agencies and from the private sector.

Qualified women and minorities are encouraged to apply.

Applicants should be aware of the responsibilities incurred by those appointed to U.S. MAB Directorates. These responsibilities include attending approximately three 1- to 2-day meetings per year, and time required to review prospectuses and proposals received in response to U.S. MAB's annual Request For Proposals (RFP). Directorate members should also participate in the development, administration, and research activities of the core programs of the directorate. Potential applicants can learn of other opportunities for program participation in the Guidelines for Operations of a U.S. MAB Directorate.

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. The travel and related costs of attending directorate meetings by scientists and others from institutions in the private sector will be supported by U.S. MAB.

Appointees to U.S. MAB Directorates are not eligible to receive individual grants from the U.S. MAB Program.

Persons who are interested in applying for appointment to a U.S. MAB Directorate should first contact the U.S. MAB Secretariat (see Masthead on page 2 of this *Bulletin*) and request a copy of the relevant directorate(s) mission statement; the directorate's approved core program project, if one has been approved; Guidelines for the Operations of a U.S. MAB Directorate; and an application form.

To apply for an appointment, applicants must submit to the U.S. MAB Secretariat by September 13, 1993, the following:

1. the application form;
2. a short statement of the applicant's interests and potential contribution to the directorate; and
3. a short, 3-page maximum, curriculum vitae.

The submissions will be reviewed and evaluated by the directorate chairs, the U.S. MAB Executive Committee, and other appropriate entities.

Appointments will be made in November.

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## Executive Director's Comments—*continued from page 2*

though we are not currently members of UNESCO, we expect that a U.S. plan will be closely scrutinized by many MAB Committees and may set a similar course for many other nations.

Also, in relation to our international and biosphere reserve interests, U.S. MAB participates with the MAB programs of other countries primarily, multilaterally through the EuroMAB program. Through EuroMAB, we have a leadership position in helping to link and make available to the scientific and governmental communities the data bases on the 176 biosphere reserves in North America and Europe. Better news yet is that UNESCO will adopt the same directory format and include in a fall publication the same sort of information for all the biosphere reserves in Africa, Asia, and Ibero-America. An actual functional "network" of biosphere reserves is, therefore, truly in the making.

As this *Bulletin* goes to press, a U.S. MAB team is in Eastern Europe meeting and working with scientists and administrators of biosphere reserves, and with the U.S. Peace Corps, to assess institutional needs and their potential to engage in a EuroMAB exercise to standardize the reporting formats for the flora and fauna data bases on biosphere reserves. Based on their assessment, later this summer we will launch a pilot project to actually test various measures to standardize, make available, and share this important information with the world's scientific and policymaking community.

All in all, while still a very modest effort on the "Federal scale of things," I believe that U.S. MAB is making a significant contribution to "... foster[ing] harmonious relationships between humans and the biosphere." It has been a good 10 years. It would take a whole *Bulletin* to name all the individuals who have played such decisive and contributory roles to applying and expanding the MAB approach. In some issue, when our editor, Cecile Ledsky, grants me the space, I'll try to acknowledge just, perhaps, the "top 100 contributors."

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## EuroMAB Update—*continued from page 5*

The U.S. Peace Corps has expressed an interest in using volunteers in these countries to assist in the implementation of the network. The U.S. MAB team is currently attending a Peace Corps planning workshop just outside Budapest, Hungary, to consult with Peace Corps and MAB officials. They will discuss how to implement the agreed upon protocol for obtaining and sharing standardized basic data through a pilot inventory database for birds in biosphere reserves in EuroMAB countries.



## Biosphere Reserve Report

Exciting new developments in biosphere reserves are contributing significantly to the MAB goals of conservation, scientific research, and ecological sustainability. Many regional programs utilizing the biosphere reserve as a "framework for cooperation" are planning to establish new activities.

Following are some good examples of regional cooperation:

### **Southern Appalachian Man and the Biosphere Cooperative**

The Southern Appalachian Man and the Biosphere (SAMAB) Program was designed to define and deal with environmental and economic development issues affecting Southern Appalachia. It began when seven federal agencies signed a cooperative agreement on August 10, 1988, forming a SAMAB Cooperative. The first 2 years were a period of development: an organizational structure was developed; an office was secured in the Great Smokey Mountains National Park; and an Executive Director was named. Program goals were defined and a few projects implemented with funds made available principally by member agencies.

During 1991 and 1992 numerous projects were successfully implemented. Organizationally SAMAB expanded significantly; three more federal and state agencies joined the Cooperative; a nonprofit Foundation was formed to develop private-sector funding sources; and ad hoc alliances were formed with universities, citizen environmental groups, industries, and businesses.

Today, more agencies are prepared to join, and work is underway to establish a formal working relationship with a regional network of universities, thereby expanding SAMAB's pool of technical expertise and its capacity for research.

Some examples of successful projects:

**Air Quality**—In March 1992, at Gatlinburg, Tennessee, SAMAB sponsored a Forum on Air Quality Management in Class One Areas of Southern Appalachia. Air quality is a major concern in the region and a topic of much controversy. At the Gatlinburg forum, a remarkable change was seen as "antagonists" met together for a reasoned exchange of information and views, and to plan for the future. There were about 125 attendees, including representatives of Federal and state agencies, state regulators, private industry, universities, and citizens' groups. The forum provided an extensive program focused on the latest research on ozone, visibility, and acid deposition. Regulatory strategies and

policies were explained. As a follow-up to help the public understand air pollution, its sources, and its impacts, SAMAB published and is circulating a full-color brochure based on information presented at the forum.

A follow-up air quality symposium was held in September 1992, in Asheville, North Carolina. There were more than 130 participants. As a result, the Land-of-Sky Regional Planning Council asked SAMAB to arrange similar symposia for local government leaders to promote local support for broad, cooperative strategies to control air pollution.

The National Park Service's Air Quality Division subsequently asked for SAMAB's assistance in developing a regional air quality management plan within which the Park Service and others may more effectively operate.

**Forest Health**—SAMAB became the coordinating entity for the Forest Health Monitoring Program in Southern Appalachia. This program is jointly administered by the U.S. Environmental Protection Agency and the USDA Forest Service to provide forest health information on a national scale. This is part of EPA's Environmental Monitoring and Assessment Program (EMAP).

Twenty-three test plots were established in the region, and annual measurements are now being made of variables that are especially sensitive to ecological change. A total of from 100 to 120 such test plots will be established in the SAMAB region over the next 3 years.

State forestry agencies, the USDA Forest Service, Soil Conservation Service (SCS), and TVA provided field personnel to establish the plots and collect routine data. EPA and the Forest Service provided personnel for training and quality control. The SCS provided soil scientists to help with sampling and characterization.

Dr. Betsy Smith of TVA is project manager for the program. She and SAMAB Executive Director Hubert Hinote met with EPA officials in Washington, D.C. and in Research Triangle Park, North Carolina. As a result, SAMAB may be asked to coordinate additional components of the EMAP program as it develops.

### **Central California Coast Biosphere Reserve**

The Science Council for the Central California Coast Biosphere Reserve (CCCBBR) has established a steering committee to plan a symposium on "The Central California Coast: Current Status and Future Prospects," to be held in the winter of 1993-1994 to build public understanding and support for ecosystem management and a decisionmaking framework for addressing biological diversity issues in the

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

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