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TROPICAL MOIST FORESTS CONSERVATION  
BULLETIN

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INTERNATIONAL PROJECT  
NATURAL RESOURCES DEFENSE COUNCIL  
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U.S.A.

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I.

INTRODUCTION

The world's tropical moist forests are currently disappearing at alarming rates. If present rates of deforestation continue, the majority of the remaining primary tropical forests will be gone within a few decades. Tropical forests are important sources of fuelwood, food, and building materials. They help to stabilize water supplies and prevent soil erosion. The loss of these forests would undermine efforts to improve the well-being of millions of persons, many of whom are the "poorest of the poor."

The destruction of tropical forests would result in the extinction of perhaps 20 percent of the world's species of plants and animals. Many of these species offer the potential for new medications and industrial products, genetic material to maintain high agricultural productivity, and much valuable knowledge concerning medicine, forestry, and the other fields of applied biology. There is disturbing scientific evidence to indicate that large-scale tropical forest loss risks major and irreversible changes in the global climate.

Increased efforts in tropical forests conservation, sustainable management, and research are encouraging, but inadequate in light of the magnitude of the problem. Moreover, these activities often suffer from a lack of information on the specifics of tropical forest problems and what is (or is not) being done to solve them. As one effort to address this deficiency, the Bulletin seeks to foster the exchange of information and coordination of activities between the wide range of organizations presently involved in tropical forest issues. It describes efforts to protect primary tropical forests and to reduce the pressures on natural forests through more efficient production forest management, reforestation, agroforestry, and community forestry.

We hope to begin publication of the Bulletin on a more frequent basis. Thus, the Bulletin has a new format, consisting of two main sections. The first, "Current Developments," describes recent tropical moist forest policy determinations, projects, publications, and upcoming events. The second, "Directory of Institutions, Programs, and Periodicals," is divided into two parts. The first of these, "New Listings," describes organizations that were not mentioned in Bulletin Issue Number 1. The second, "Updates of Earlier Bulletin Listings," provides new information on the activities of organizations that are described in Issue No. 1 (which is available upon request).

It is clear that this Bulletin is still far from comprehensive. Many organizations doing valuable work, especially those outside of the United States, have not been described in either Issue No. 1 or 2. It is anticipated that further issues of this Bulletin will fill many of the information gaps that remain. For this to happen, however, it will be necessary for Bulletin readers to provide NRDC with information concerning tropical forest programs and institutions not yet described. Such an exchange of information will help to develop and strengthen the network of individuals and groups concerned about tropical moist forests. Please address your information, comments, and inquiries to:

International Project  
Natural Resources Defense Council  
1725 I Street, N.W., Suite 600  
Washington, D. C. 20006  
U.S.A.  
Phone: (202) 223-8210

## II.

CURRENT DEVELOPMENTS1. International Meeting in Gabon to Address Tropical Deforestation:

Recognizing the growing worldwide concern about the degradation and rapid disappearance of the earth's forest cover, the Governing Council of the United Nations Environmental Programme (UNEP), at its Seventh Session in April, 1979, requested the Executive Director to convene an international meeting of experts to develop proposals for combating tropical deforestation. This meeting is intended to decide on an international division of labor and responsibilities for "an integrated programme of activities for conservation and the wise utilization of tropical forests." The meeting has been scheduled to take place February 25 - March 2, 1980, in Libreville, Gabon. It is being sponsored by UNEP, in cooperation with FAO and UNESCO.

The purpose of the meeting is to adopt a Plan of Action to control the problem of deforestation in the humid tropics. This meeting will be specifically limited to humid tropical forests and woodlands, since ecosystems in the arid tropics have already received major attention during the 1977 Desertification Conference held in Nairobi, Kenya. The meeting is intended to identify gaps in the level of knowledge and actions necessary to manage tropical forests properly, and to help mobilize the flow of resources needed to accomplish this task. Among the subjects expected to be covered during the meeting are tropical forest research, monitoring, and assessment; land use classification and planning; training, education, and public awareness; national policies, laws, and institutions; and such management topics as agroforestry and reforestation techniques.

Participants will include programme and resource managers representing countries with humid tropical forests, as well as major donor countries with an interest in tropical forest management. Also expected to be invited are other United Nations organization and major international nongovernmental organizations (NGO's) with an active interest in tropical forests.

A draft outline of the Plan of Action for the conservation and wise utilization of humid tropical forests will be prepared by UNEP's technical staff prior to the Gabon meeting. At the meeting, the Plan will be developed in greater detail. The Plan is intended to encompass a comprehensive international programme that will allocate responsibilities and tasks among national governments, regional organizations, and international agencies. The results of the meeting will be reported to the Eighth Session of the UNEP Governing Council. For information contact:

United Nations Environment Programme  
P.O. Box 30552  
Nairobi  
KENYA

The Gabon meeting presents a unique opportunity for nongovernmental organizations and individuals to help shape national and international activities to protect tropical forests. The International Union for the Conservation of Nature (IUCN) has asked NRDC to play a coordinating role in preparations for the Gabon meeting. On behalf of IUCN, NRDC is gathering information about tropical moist forests worldwide, including specific areas in need of protection, and proposals for measures to conserve tropical moist forests. Please contact the NRDC International Project.

## 2. New Project to Rehabilitate Panama's Watersheds:

Panama's Directorate of Renewable Natural Resources (RENARE) is undertaking a major forest conservation and reforestation project to protect and rehabilitate three important watersheds. The project is receiving financial support from the U.S. Agency for International Development (AID), along with technical assistance from the Tropical Agriculture Center for Research and Training (CATIE) and the U.S. Agriculture and Interior Departments.

Because of overintensive shifting agriculture and the grazing of cattle on steep slopes, many areas of Panama are suffering serious soil erosion problems. In particular, deforestation of much of the Panama Canal watershed is causing siltation and water shortages in the dry season. These factors threaten to destroy the Canal's usefulness for commercial shipping. In addition, the loss of forest cover threatens the supply of municipal and industrial water for Panama City.

The watershed management project is designed to prevent additional damage and to reforest degraded lands. It will be implemented in the Canal, Rio La Villa, and Rio Caldera Watersheds. Major features of the project include:

(1) Protection of remaining forest areas to prevent further watershed degradation and to preserve unique biological resources.

(2) Reforestation, primarily with native species that have commercial value on the Panamanian market. Three main types of reforestation will be used:

(a) Forest plantation (particularly on steep slopes that require permanent tree cover).

(b) A type of agro-forestry, known as the taungya system, in which seedlings of fast growing, commercially valuable trees are planted at widely-spaced intervals on plots of corn or rice. By the time the trees are harvested, they will have helped to rehabilitate the soil. This system is designed to break the present tendency for abandoned cropland to become cattle pasture, which does not provide an opportunity for the soil to regain its fertility.

(c) Permanent tree or bush crops, to be planted under shade trees.

(3) Additional soil conservation measures, including land stabilization, planted or grassed waterways to prevent siltation and erosion, and gully control structures.

(4) Pasture improvement measures on lands which can sustain cattle grazing.

The project will provide employment to a large number of rural inhabitants, who might otherwise need to clear additional forest land to practice shifting cultivation or cattle raising. In addition, it will greatly strengthen the technical, managerial, and administrative capability of RENARE to manage Panama's natural resources wisely. (RENARE is located at the Ministerio de Desarrollo Agrícola, Panama City, Panama).

In conjunction with the initiation of the watershed management project, President Royo of Panama took the highly commendable action of declaring a 24,000-hectare national park in the former U.S. Canal Zone watershed. This area of lowland rainforest is famous for its biological richness

and proximity to a major urban center. Several additional areas in Panama are currently under consideration for protected status. These include the proposed Darien National Park along the Colombia border and a joint "Friendship Park" with Costa Rica.

3. Survey Completed of Tropical Moist Forest Conversion Rates:

Dr. Norman Myers, of Nairobi, Kenya, has recently completed a study of tropical moist forest conversion rates around the world for the U.S. National Academy of Sciences. The project quantitatively documents the nature and extent of the different forms of conversion of primary tropical forests, ranging from relatively minor modification to complete deforestation, and evaluates the prospects and opportunities for changing present patterns of forest destruction. Dr. Myers' report is scheduled to be published by early 1980. The results of the study will be made available at the time of publication. For further information, contact:

Dr. James Talbot  
National Research Council  
2101 Constitution Avenue, N.W.  
Washington, D. C. 20418  
U.S.A.  
Phone: (202) 389-6201

4. U.S. President Carter's Environmental Message Stresses Tropical Forest Conservation:

In his August 2, 1979 Environmental Message to the U.S. Congress, President Carter pointed out that "the world's forests and woodlands are disappearing at alarming rates." The President directed all relevant U.S. Federal agencies to place greater emphasis on tropical forest issues in their budget and program planning. The issues selected for increased U.S. attention are:

- Improved monitoring of tropical forest stands, including the use of satellite imagery.
- Research on the preservation of natural tropical forest ecosystems and their rich complex of plant and animal life.
- Research on multiple uses of highly diverse tropical forests, including management of natural stands, development of ecologically sound forest plantations, and combined agriculture and forestry.
- Studies on increasing yields in small-scale tropical agriculture, to relieve pressures

on forest lands that are not suitable for cultivation.

- Demonstration of integrated projects for reforestation, more efficient fuelwood use, and alternative energy sources.
- Examination of how U.S. citizens and U.S.-based corporations may be encouraged to support sound tropical forest management practices.

President Carter also announced that, after receiving the more detailed recommendations of the Interagency Task Force (see page 10), he "will direct Federal agencies to carry out an integrated set of actions to help toward protection and wise management of world forests."

5. AID Receives New Congressional Mandate for Forestry:

On August 14, 1979, President Carter signed into law the International Development Cooperation Act of 1979 (Public Law 96-53). The Act, amending the Foreign Assistance Act of 1961, adds a new paragraph on forestry to Section 103 - "Agriculture, Nutrition, and Rural Development." Section 103(b)3 states:

"The Congress recognizes that the accelerating loss of forests and tree cover in developing countries undermines and offsets efforts to improve agricultural production and nutrition and otherwise to meet the basic human needs of the poor. Deforestation results in increased flooding, reduction in water supply for agricultural capacity, loss of firewood and needed wood products, and loss of valuable plants and animals. In order to maintain and increase forest resources [AID] is authorized to provide assistance under this section for forestry projects which are essential to fulfill the fundamental purposes of this section. Emphasis shall be given to community woodlots, agroforestry, reforestation, protection of watershed forests, and more effective forest management."

In June 1979, the Appropriations Committee of the U.S. House of Representatives also urged increased attention by AID to forestry. In its Report (No. 96-273) on the Foreign

Assistance and Related Programs Appropriation Bill - 1980, the Committee asked AID "to increase its staff capabilities in forestry, to plan for and include reforestation activities in all future rural development programs, to address forest management considerations within the framework of their environmental assessment policies, procedures and reviews and to examine all of its current rural development projects to insure that whenever appropriate, they incorporate a forestry/fuelwood component." The Committee also cautioned AID that many well-intentioned programs, including beef export promotion, population resettlement, and the extension and upgrading of rural roads had accelerated deforestation in a number of developing countries.

#### 6. Global Year 2000 Study to be Completed Soon:

At the request of President Carter in April 1977, the United States Council on Environmental Quality and Department of State are preparing a detailed report which will assess the state of the global environment in the year 2000. The Global Year 2000 Study should be made public by the end of 1979. The Study will underscore the urgency of the tropical deforestation problem, pointing out that by the turn of the century, the great majority of the world's original tropical forests will be gone, with disastrous consequences for both human needs and the survival of many thousands of species of plants and animals.

Further information on the Study may be obtained from:

Dr. Gerald Barney  
 Council on Environmental Quality  
 722 Jackson Place, N.W.  
 Washington, D. C. 20006  
 U.S.A.  
 Phone: (202) 395-5773

#### 7. Film on Tropical Deforestation Being Prepared:

Plant Resources Institute and Public Television Station KUED are developing a film entitled "You Can't See the Forest ... or the Trees." It will be a one-hour Public Television special concerned with the loss of global vegetation resources (particularly tropical forests) and will examine its causes, effects on the world's population, and possible solutions. Designed to increase public awareness of the problem, the film will focus upon these areas of concern: the cutting of forests for fuel, the impact of marginal agricultural developments, the disappearance of species and even entire ecosystems, and potential impacts on the global climate. Completion of the film is scheduled

for the fall of 1980.

For further information, contact:

Dr. Hugh Bollinger  
 Plant Resources Institute  
 400 Wakara Way  
 Salt Lake City, Utah 84108  
 U.S.A.  
 Phone: (801) 466-4741

## 8. New Publications:

### a. The Sinking Ark:

The Sinking Ark is a 240-page book by Dr. Norman Myers on the global problem of disappearing species. Published in September 1979 by Pergamon Press, the book details the present serious threat to the earth's biological resources. Dr. Myers points out that currently at least one species of plant or animal is lost each day. One million species of plants and animals may become extinct by the turn of the century. This unprecedented biological impoverishment would have profound consequences for humankind. The Sinking Ark provides a detailed account of pragmatic reasons for preserving species diversity. For example, Dr. Myers has estimate that genetic resources, as raw material for pharmaceuticals, agriculture, and industry, are worth approximately \$10 billion to the U.S. economy alone.

The Sinking Ark focuses largely on tropical forests, in which over one-half of all the world's species are found. Under intense human pressures, almost all tropical forests may disappear within three to four decades. Dr. Myers proposes the elements of a global strategy to minimize the pressures on tropical forests, and on genetic resources in general. His discussion includes the roles of developed and developing nations, international aid agencies, and multinational corporations. The book also explains in considerable detail the economic forces which stimulate tropical deforestation.

Readers of this Bulletin may obtain a hardback copy of The Sinking Ark from the NRDC International Project for a special discount price of U.S. \$8.00, including postage and handling. Readers outside the U.S.A. may also order the book (ISN-0245013) from their bookstores.

### b. Proceedings of Deforestation Conference:

In June 1978, the U.S. Department of State and Agency for International Development convened a strategy conference

on tropical deforestation. The purpose of the conference was to increase awareness within the U.S. about tropical forest problems and to help define more responsive U.S. policies to address them. The meeting was attended by a broad range of policy makers, scientists, conservationists, and timber industry representatives.

The Proceedings of the U.S. Strategy Conference on Tropical Deforestation is a booklet that presents the major conclusions, recommendations, and statements which emerged from the conference. The Proceedings is a useful overview of the tropical deforestation problem, with specific sections on such topics as forest monitoring and assessment, agroforestry, biological research, reforestation, energy alternatives, commercial forestry, the global carbon cycle, and the roles of various institutions.

A copy of the Proceedings may be obtained, free of charge, by writing:

Bill Long  
Office of Food and Natural Resources  
Room 7819  
Department of State  
Washington, D. C. 20520  
U.S.A.

c. U.S. Tropical Forest Interagency Task Force Report:

As a result of the recommendations made at the U.S. Strategy Conference on Tropical Deforestation, a Task Force composed of representatives from key U.S. Government agencies has developed a tropical forest policy for the U.S. to follow. This policy has been formulated over an 18-month period, and is outlined in considerable detail in a forthcoming report entitled, "The World's Tropical Forests: A Policy, Strategy, and Program for the United States."

This report conveys the Task Force's deep concern about the rapid disappearance of the world's tropical forests. It calls for higher priority by both the public and private sectors to improve the stewardship of the United States' tropical forest areas (primarily in Hawaii and Puerto Rico), as well as to assist other nations in sustainable tropical forest management and conservation. In addition to setting forth a U.S. perspective and course of action, the report identifies opportunities for collaboration with other governments and international organizations. It also proposes a program framework to guide the activities of U.S. agencies. The report's recommendations include providing financial and technical assistance to tropical forest countries which request it, supporting needed research, and controlling U.S. actions which might contribute to the

deforestation problem.

In formulating its report, the Task Force has maintained close liason with scientists, environmental organizations, private industry, and concerned individuals, including members of the Tropical Forest Nongovernmental Working Group (see page 21). Implementation of the Task Force's recommendations now depends upon initiatives taken by the President and by the responsible Federal agencies. The Task Force is expected to continue having a coordinating function.

Copies of the Task Force's report will be available for public distribution before the end of 1979. They may be obtained, free of charge, by writing:

Bill Long  
Office of Food and Natural Resources  
Room 7819  
Department of State  
Washington, D. C. 20520  
U.S.A.

d. Booklet on Deforestation Problems and Reforestation Successes:

An informative booklet on the economic and social costs of deforestation and on some possible solutions, is Worldwatch Paper No. 26, entitled "Planting for the Future: Forestry for Human Needs" by Erik Eckholm. The report describes how rapid deforestation in many tropical countries is resulting in fuelwood shortages, increased destructive flooding, and accelerated siltation of reservoirs. It also includes one of the best published accounts of village-level forestry successes in South Korea and the State of Gujarat in India. Other Worldwatch Papers which discuss the deforestation problem in some detail are: No. 1, "The Other Energy Crisis -- Firewood;" No. 22, "Disappearing Species -- The Social Challenge;" and No. 30, "The Dispossessed of the Earth: Land Reform and Sustainable Development." All of these publications are available for \$2.00 each from:

Worldwatch Institute  
1776 Massachusetts Avenue, N.W.  
Washington, D. C. 20036  
U.S.A.  
Phone: (202) 452-1999

e. "Issues in Tropical Deforestation" Handbook:

A handbook entitled Issues in Tropical Deforestation was prepared in 1978 by the International Environmental Referral Center of the U.S. Environmental Protection Agency.

Using data from the Information Referral Service files of UNEP, the handbook provides a partial list of international and national organizations working on tropical forest issues. This list is rather brief, but includes the addresses of a few institutions not yet included in this Bulletin. In addition, the handbook provides a partial bibliography of literature published on a wide range of tropical forest issues, including reforestation, land use planning, tropical soils, biological conservation, forest-related impacts of development projects, fuelwood technologies, and potential climate changes resulting from deforestation.

Copies of this handbook may be requested by writing to:

Carol Alexander, Director  
International Environmental Referral  
Center  
Environmental Protection Agency  
PM/213, Room 2902  
Washington, D. C. 20460  
U.S.A.

f. Status Reports on Amazon Conservation:

Two new publications provide detailed updates on the scientific and technical aspects of rainforest conservation in the Amazon Basin. They are:

1. Wetterberg, G.B. and M.T. Jorge Padua, Preservacao da Naturaya na Amazonia Brasileira: Situacao em 1978. Seria Tecnica No. 13. 1978.

This 44-page document (in Portugese only) describes the progress that had been made up to September 1978, towards the designation of sites recommended for national parks and biological reserves. It is based upon a series of recommendations which have been made for the protection of specific areas in the Brazilian Amazon which have especially high biological and other values. This publication is available from:

FAO Forestry Project  
UNDP C.P. 07-0285  
70,000 Brasilia, D.F.  
BRAZIL

2. Wetterberg, G.B., "Wildland Management and Planning in Brazil." FAO/UNDP/FRA/76/027 Technical Report No. 14. 1979.

This 35-page document (written in English) reviews work carried out by the Wildland Management Component of the FAO Forestry Project between May 1976 and July 1978, in collaboration with the Department of National Parks and Equivalent Reserves of IBDF (the Brazilian Institute of Forestry Development). Specific topics include Brazil's National System Plan for conservation units, legislation, national forestry policy related to conservation, institutional structures, management planning, game farm technology, and bird banding. Details are given of field expeditions and other progress towards the evaluation of biologically important Amazon areas that have been broadly identified as appropriate sites for protected areas. Currently, the document is in the process of formal transmission by FAO to the Brazilian Government, which must authorize its public release. Further information can be obtained from:

Gil Child  
Head of FAO Forestry Department  
Via Delle Terme di Caracalla  
00100 Rome  
ITALY

## III.

DIRECTORY OF INSTITUTIONS, PROGRAMS, AND PERIODICALSA. New Listings

\* \* \*

African Wildlife Leadership Foundation  
(AWLF)  
Box 48177  
Nairobi  
KENYA

U.S. Address

1717 Massachusetts Avenue, N.W.  
Washington, D. C. 20036  
U.S.A.  
Phone: (202) 265-8394

The Foundation supports technical assistance, training, and institution-building to help Africans manage their wildlife resources. AWLF projects which involve tropical forest conservation include the following:

(1) Education and Training:

Tropical forests are an important part of education and training in the wildlife clubs, information centers, publications, mobile vans, and the two colleges of wildlife management (one anglophone and one francophone) supported by AWFL.

(2) Empakaai Crater Project, Tanzania

In cooperation with the Tanzanian Government, AWLF has financed a two-year development programme, which includes translocation of the resident Masai tribe and their cattle to protect the remaining montane forest.

(3) Kibale Forest, Uganda

AWLF has financed a vehicle and building for a forest ranger training center.

(4) Virunga Mountains, Rwanda

AWLF has begun a two-year technical assistance project to train a ranger

force to protect the Park Des Volcans, the site of a major tropical montane forest that is both an important watershed and one of the last remaining habitats of the mountain gorilla.

\*            \*            \*

AID/MAB Project:  
IO-UCS  
Department of State  
Washington, D. C. 20240  
U.S.A.  
Contact: Jim Corson  
Phone: (202) 632-7573

In conjunction with the U.S. office for UNESCO's Man and the Biosphere (MAB) Programme, AID is funding a project to provide scientific, technical, and informational support for the agency's programs of assistance for environmental and natural resource protection and management in developing nations. As part of this project, several upcoming or proposed training seminars for nationals of tropical countries will involve forestry issues to a considerable extent.

One of these training programs is a 3-week course to train field-level instructors from tropical forest countries in Asia, including India, Sri Lanka, Burma, and Indonesia. The Seminar will specifically focus on watershed management issues, and will include methods of resource inventory and analysis and evaluation of watershed management options. The first of these training sessions is scheduled to begin by the end of 1979 in the Philippines.

The AID/MAB project is also providing support for the first year of Dr. Thomas Lovejoy's research into the minimum critical size of tropical forest preserves in the Amazon Basin (see Bulletin No. 1, page 36). This research will provide the AID/MAB project with environmental guidelines and a wide range of training materials for tropical forest conservation. Such training materials include descriptions of inventory and monitoring techniques, characterizations of different forest types, and sample species lists and identification keys.

\* \* \*

Canadian Nature Federation  
75 Albert Street  
Ottawa K1P 6G1,  
CANADA

The Federation's principal involvement in tropical forest conservation to date has been assistance to the island of Dominica in the West Indies for the establishment of the Morne Trois Pitons National Park. This area is now a 7,000-hectare preserve of virgin rainforest in a major watershed area. With financial backing from the Canadian International Development Agency (CIDA), the Federation provided the necessary technical assistance and development funds to establish recreational and interpretative facilities in the Park.

\* \* \*

Commonwealth Forestry Institute (CFI)  
Unit of Tropical Silviculture  
South Parks Road  
Oxford OX1 3RD  
UNITED KINGDOM  
Contact: Dr. T.C. Whitmore

The Institute, which is also the Oxford University Forestry Department, has one of the world's largest forestry libraries and is the main center in the United Kingdom for the study of tropical forestry. Tropical forest research is conducted by scientists in the Unit of Tropical Silviculture, a component part of CFI. Current research is directed mainly at efforts to establish plantations of fast-growing tree species in the tropics. Particular attention is given to species capable of growing on sites of low fertility, often resulting from previous deforestation. It is hoped that increased productivity on these sites will reduce the demands on remaining areas of natural primary forest.

\* \* \*

Commonwealth Scientific and Industrial  
Research Organization (CSIRO)  
Division of Forest Research  
P.O. Box 4008  
Canberra, A.C.T.  
AUSTRALIA  
Chief of the Division: M.F. Day

CSIRO is a government-sponsored research institution that is active in many scientific and technical fields. The Division of Forest Research operates the Queensland Research

Station at Atherton, in the rainforest belt of northern Australia. A major portion of the Station's work has been the collection, classification, and identification of forest flora and fauna. Other projects include definition of forest types, establishment of permanent reference plots, experiments to determine forest growth following different types of disturbance, and soil moisture and nutrient cycling studies.

\* \* \*

East African Wild Life Society  
(EAWLS)

P.O. Box 20110

Nairobi

KENYA

Forest Working Group Chairman: Dr. F. Owino

Conservation of the remnant moist forests in Kenya is one of the Society's major concerns. With financial assistance from the New York Zoological Society, EAWLS has supported a Forest Working Group, composed of concerned scientists and other individuals, which has initiated a project that seeks to:

- (1) Review the conservation status of the different types of forest ecosystems in Kenya.
- (2) Monitor changes in these ecosystems, using aerial and satellite photography and ground surveys.
- (3) Conduct intensive ecological surveys of the most threatened forest types.
- (4) Based upon this information, recommend the creation of new protected areas, or changes in the management of existing ones.

\* \* \*

Flora Malesiana Bulletin

Schelpenkade 6

Leiden

THE NETHERLANDS

Editor: Dr. Marius Jacobs

The Flora Malesiana Bulletin, issued annually, describes the status of tropical forest conservation in Southeast Asia, where Dr. Jacobs has had extensive field experience. The Bulletin provides detailed accounts of deforestation rates, present and potential parks and nature reserves, government policies, and the status of endangered plants, particularly in Malaysia, Indonesia, and the Philippines.

\* \* \*

Forest Ecology and Management  
 Dr. Laurence Roche, Editor  
 University College of North Wales  
 Bangor  
 Gwynedd LL57 2UW  
 UNITED KINGDOM

Dr. Roche is the Editor-in-chief of Forest Ecology and Management, an international Journal concerned with the application of ecological knowledge to the management of natural and man-made forests, including those in the humid tropics. The journal contains research papers covering a wide range of management-oriented research. It is an effort to bridge the gap between ecological researchers and forest managers.

\* \* \*

Forest Research Institute (FORI)  
 Department of Natural Resources  
 College, Laguna  
 PHILIPPINES  
 Director: Filiberto S. Pollisco

FORI is a government agency which sponsors a wide spectrum of forestry research, including studies of forest ecology, economics, and silviculture. The Institute operates a network of five research divisions at its headquarters, along with eight commodity research centers and 18 research stations geographically distributed throughout the Philippines.

\* \* \*

Green Indonesia Foundation  
 (Yayasan Indonesia Hijau)  
 Sekretariat: Tromolpos 2572/Jkt  
 Jakarta  
 INDONESIA  
 Contact: Regina Frey

The Foundation is dedicated to nature conservation education. It has developed a number of programs designed to increase the concern for forest protection among Indonesians. One of these is a mobile audio-visual unit which operates in the villages of northern Sumatra. Another involves a planned visitor center for the Cibodas Nature Reserve in West Java. The Foundation is also involved in the publication of Suara Alam, a wildlife journal for youth, and in the distribution of posters and pamphlets which publicize the need for forest conservation.

\* \* \*

Hawaii Department of Land and  
Natural Resources  
Division of Forestry  
1151 Punchbowl Street  
Honolulu, Hawaii 96813  
U.S.A.  
State Forester: Libert K. Landgraf

The division is involved in the management of Hawaii's State Forest lands, which cover roughly one-fifth of the land area of the Hawaiian Islands. Most of this land is managed according to a "multiple use" concept which seeks to accommodate such diverse and sometimes conflicting land uses as watershed protection, timber production, recreation, grazing, and the preservation of genetic diversity. With respect to the latter, the Division is taking some steps to protect Hawaii's threatened endemic forest-dwelling flora and fauna, including the establishment of Natural Area Reserves, propagation of endangered plant species, and maintaining fences around some native plant communities to protect them from grazing animals.

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Inter-American Development Bank (IDB)  
808 17th Street, N.W.  
Washington, D. C. 20577  
U.S.A.  
Contact: Stephen E. McGaughey

The IDB provides loans for development projects in Latin America. While its activities in the forestry sector have emphasized commercial forest extraction, there are indications that the IDB will support more conservation forestry projects. The Bank has recently approved an Environmental Management Policy which seeks to minimize the adverse environmental impacts of development projects, as well as to promote those projects which will protect or enhance environmental quality. Although the recently-issued policy statement does not specifically mention forests, it strongly suggests that the IDB will revise its policies in the forestry sector. Moreover, an April 1978 publication entitled "Participation of the Bank in the Development of Agriculture in Latin America," indicates that the Bank is interested in "systems aimed at natural reforestation, reclamation of eroding land, protection of dams and canals against damage from sedimentation," and "provisions for the preservation of national parks, to conserve wild flora and fauna, and make it attractive for tourists." An interesting new IDB project is a \$25 million loan to the Government of Costa Rica

for the reforestation of degraded land.

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Organization for Tropical Studies (OTS)

Central American Office:

Universidad de Costa Rica  
Ciudad Universitaria  
San Jose  
COSTA RICA  
Phone: 24-22-18

North American Office:

P.O. Box DM  
Duke Station  
Durham, North Carolina 22706  
U.S.A.  
Phone: (919) 684-5774  
Executive Director: Dr. Donald E. Stone

OTS is a consortium of universities which facilitates tropical research in Latin America, with particular emphasis on Costa Rica, where OTS operates three field stations, each situated in a different tropical forest ecosystem. Each station provides visiting scientists and students with natural ecosystems and related plant communities in various stages of succession, laboratories, equipment, living accommodations, and transportation. Through the Central American office, further facilities and assistance are available to researchers working either at the field stations or at other sites. OTS also has prepared several publications which can be useful to scientists planning research studies in Costa Rica.

OTS publishes a Newsletter which provides updates on the status of tropical forest conservation and research, particularly in Costa Rica. To receive copies of the OTS Newsletter, write to the "Associates of OTS" at the North American Office.

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Remote Sensing Center  
Texas A&M University  
College Station, Texas 77843  
U.S.A.  
Research Scientist: Dr. Lee D. Miller

Dr. Miller has studied the use of LANDSAT satellite imagery, together with maps and conventional aerial photos, to construct a dynamic computer model of shifting cultivation in the tropical forests of northern Thailand. These modeling techniques can be used to make more accurate predictions of tropical forest cutting and regrowth patterns on a regional level. Although additional refinement of the technique would be highly desirable, this type of forest modeling can be a useful tool for scientists and forestry professionals, as well as for policymakers and development planners.

The scientific techniques for landscape modeling of forest cover are described in the proceedings of the Twelfth International Symposium on Remote Sensing of the Environment, held during 1978 in Manila. A summary of these proceedings can be obtained from Dr. Miller.

Although Dr. Miller has not yet published the details of the Thailand study, a preprint is available on loan by writing directly to Dr. Miller. Dr. Miller can also provide details of somewhat similar studies of forests in Nigeria and along the Dominican Republic/Haiti border.

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Tigerpaper

FAO Regional Office for Asia and the  
Far East  
Maliwan Mansion, Phra Atit Road  
Bangkok 2  
THAILAND

Tigerpaper is a quarterly conservation news magazine published by the Food and Agriculture Organization (FAO) Regional Office for Asia and the Far East. The publication is designed to promote the growing interest in wildlife and national parks management throughout the region, and to provide conservationists with recent information in this field. Tigerpaper features numerous articles relating to tropical forests, including accounts of land assessment and planning, native wildlife and plants, results of research, and the status of present or proposed parks and protected areas.

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Tropical Forest Nongovernmental Working  
Group  
Robert O. Blake, Chairman  
c/o NRDC  
1725 I Street, N.W., Suite 600  
Washington, D. C. 20006  
U.S.A.  
Phone: (202) 223-8210

The Tropical Forest Nongovernmental Working Group consists of some 80 individuals, including approximately 20 representatives of U.S. conservation organizations and 20 scientists. It is chaired by former Ambassador Robert O. Blake. The primary purpose of the Working Group is to provide a coordinating mechanism through which its members can supply expert input to the U.S. Government on its policies which affect tropical forests. The Working Group has sought to stimulate and assist the efforts of the U.S. Government's Interagency Task Force on tropical forests to develop a comprehensive U.S. policy, strategy, and programme for combating tropical deforestation (see page 10). The Working Group has produced detailed recommendations concerning the U.S. tropical forests policy. These recommendations are described in an overview paper entitled "Report of the Non-governmental Tropical Forest Working Group -- June, 1979." This report is available free of charge from the International Project of the Natural Resources Defense Council (NRDC) at the above address. NRDC serves as the secretariat for the Working Group.

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Volunteers in Technical Assistance  
(VITA)  
3706 Rhode Island Avenue  
Mt. Ranier, Maryland 20822  
U.S.A.  
Contact: Chris Hollis  
Phone: (301) 277-7000

A private, non-profit organization, VITA has a membership of technical specialists who answer inquiries from representatives of developing countries. They include a number of tropical forest specialists with expertise in forest utilization, agro-forestry, and wildlands management.

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Wau Ecology Institute  
P.O. Box 77  
Wau  
PAPUA NEW GUINEA

Director: Dr. J. Linsley Gressitt

The Institute, located amid the montane forests of eastern New Guinea, is involved with research and education concerning New Guinea and the Southwest Pacific. Its projects include reforestation on mountain slopes and research into a promising form of agroforestry known as "contour-mound composted agro-silviculture." An article by Dr. Wayne C. Gagne of the Institute offers a detailed description of the entomological investigations of agro-silviculture using this new contour-mound

method. This article may be found in Science In New Guinea 5(2) 1977, Pages 85-101.

Dr. Gressitt, the Institute's director, is attempting to obtain protected status for Mt. Kaindi and several other local areas of natural tropical forest. The Institute has also produced a wide range of publications, in English and Melanesian pidgin, concerning conservation and the flora and fauna of Papua New Guinea.

The Institute, while dependent in part on grants and donations, is largely self-supporting. It receives most of its income from selling coffee and other agricultural products, teaching classes, guiding tours, and providing facilities for visiting scientists.

#### B. Updates of Earlier Bulletin Listings

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##### West African Tropical Forest Cover Monitoring Project

(See Bulletin No. 1, page 5).

A pilot project, co-sponsored by FAO and UNEP, is presently using satellite remote sensing to monitor the status of forest cover in Cameroon, Benin, and Togo. Details of the project can be obtained by writing to:

Mr. Robert Baltaxe  
Forest Resources Surveys Office  
Forestry Department  
U.N. Food and Agriculture Organization  
Via Delle Terme di Caracalla  
00100 Rome  
ITALY

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##### MAB Project 8: Conservation of Natural Areas and the Genetic Material they Contain:

United Nations Education, Scientific,  
and Cultural Organization  
(UNESCO)  
International Council for the Man and  
the Biosphere (MAB) Programme  
7 Place de Fontenoy  
75700 Paris  
FRANCE  
(See Bulletin, No. 1, pages 5-8).

This UNESCO-sponsored Project is seeking to develop a global network of "Biosphere Reserves" to protect representative samples of the full range of the earth's ecosystems. A number of Biosphere Reserves have been established in tropical forest areas. There are under varying degrees of protection, and most are in urgent need of additional funds and personnel. The following are additional Biosphere Reserves in tropical forest regions which were not reported in the last Bulletin. Some have only recently been established:

BOLIVIA

Parque Nacional Pilon-Lajas  
Reserva Biologica de Ulla Ulla

CAMEROON

Waza National Park

CENTRAL AFRICAN EMPIRE

Reserve de la Biosphere Centrafricaine de Basse Lobaye  
Bamingui Bangoran

HONDURAS

Rio Platano

IVORY COAST

Parc National de Tai

KENYA

Mount Kulal Biosphere Reserve  
Mount Kenya Biosphere Reserve

MAURITIUS

Macchabee/Bel Ombre Nature Reserve

PERU

Reserva Huascarán  
Reserva del Manu  
Reserva del Noreste

SRI LANKA

Sinharaja Forest Reserve

ZAIRE

Forest Reserve of Luki

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International Union for the Conservation of  
Nature and Natural Resources (IUCN)

Director General: David Munro  
Head, Membership and External Affairs:  
Robert Allen

(See Bulletin, No 1, page 9).

World Wildlife Fund (WWF)

Contact: Dr. Lee Talbot  
(See Bulletin No. 1, pages 10-11).

The international headquarters of both IUCN and WWF are at the following new address:

Avenue du Mont Blanc  
 CH-1196 Gland  
 SWITZERLAND  
 Phone: (022) 64-32-54

IUCN and WWF work together closely on a wide range of international conservation issues, including the protection of tropical moist forests. IUCN's and WWF's activities in tropical moist forest areas focus primarily on the establishment and protection of parks and protected areas, establishment of wildland and wildlife management plans, and studies of the habitats and populations of threatened animal species.

#### Africa:

Projects are underway to establish new tropical forest parks and preserves, or to increase the protection of existing ones, in Liberia, Sierra Leone, Ghana, Benin, Rwanda, Tanzania, Uganda, Ivory Coast, Cameroon, and Zaire. There are also projects to protect specific forest-dwelling animal species, including chimpanzees, elephants, and various birds, in Zaire, Cameroon, Benin, Ivory Coast, Sierra Leone, Uganda, Mauritius, and Madagascar.

#### Asia:

Current and projected activities in Asia include country-wide and regional surveys leading to the development of management plans and protection for substantial areas of moist forests in Indonesia, Thailand, and India. Wildlife habitat surveys in Nepal, Bangladesh, Indonesia, India, and Thailand currently focus on protection of the proboscis monkey, tiger, Asiatic elephant, and Sumatran rhinoceros.

#### Latin America:

IUCN/WWF's involvement in Latin America focuses on support for national parks and wildlands management programs, surveys of endangered primates and birds, and education. Many of the projects are implemented through the Tropical Agriculture Center for Research and Training (CATIE) located in Turrialba, Costa Rica. These projects are presently located in Surinam, Peru, Ecuador, Colombia, Brazil, Panama, Honduras, Guatemala, and the Caribbean region, including Dominica.

International Council for Research in Agroforestry (ICRAF):

P.O. Box 30677

Nairobi

KENYA

Director-General: Kenneth F.S. King

The International Council for Research in Agroforestry is an autonomous, non-profit, international institute established in June 1977. Its objective is to improve the nutrition and the economic and social well-being of people in developing countries through research and training in improved agroforestry practices.

ICRAF defines agroforestry as "a sustainable management system for land which increases overall production, combines agricultural crops, tree crops and forest plants and/or animals simultaneously or sequentially, and applies management practices which are compatible with the cultural patterns of the local population." It is hoped that agroforestry research might develop sustainable and productive methods of food and fiber production on fragile tropical soils.

ICRAF has two main functions. One is to provide information services in the agroforestry field. This function includes collecting and disseminating agroforestry data, publishing research results, conducting seminars in research techniques, and training researchers, university instructors, and extension officers in the technical and institutional aspects of agroforestry.

ICRAF's other function is to help prepare and implement field research projects in agroforestry. On a global scale ICRAF helps plan, monitors, and coordinates research being carried out within tropical forest countries. Field research projects to date have studied fuelwood production, fodder trees, multi-purpose trees, and soils. ICRAF has not limited itself to the humid tropics; it is also involved with agroforestry in semi-arid tropical forest, savanna, and grassland ecosystems.

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Eastern Caribbean Natural Area  
Management Programme (ECNAMP)

c/o West Indies Laboratory  
Post Office Box 4010  
Christiansted, St. Croix  
U.S. Virgin Islands 00820  
U.S.A.

Program Coordinator: Allen D. Putney

This programme focuses on the conservation of natural areas, including tropical forests, on islands in the eastern Caribbean. The programme is a part of the parks and protected areas monitoring network of IUCN and WWF.

The following is a sample of the activities of the Programme to date:

- (1) A survey of conservation priorities in the Lesser Antilles, including tropical forest areas.
- (2) Assistance to the British Virgin Islands and St. Lucia in planning protected areas.
- (3) A number of environmental education publications and projects, including a workshop for policymakers in Antigua.
- (4) Training in the planning of parks and protected areas.
- (5) Development of an economic plan and a search for financing of village forest industries in Dominica.

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East African Agriculture and Forestry  
Research Organization (EAAFR)

This organization (described on page 15 of Bulletin No. 1) has been disbanded, largely as a result of political problems between Uganda, Kenya, and Tanzania. However, some of the research activities sponsored by EAAFR may continue to be supported by the appropriate government departments, or private institutions, within these countries.

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National Park Service  
Division of International Park Affairs  
Department of the Interior  
Washington, D. C. 20240  
U.S.A.  
Chief: Robert C. Milne  
Phone: (202) 523-5260

The U.S. National Park Service provides technical assistance to requesting countries for the identification and management of nationally protected areas, including tropical forests. Consultants from the Park Service have assisted in management plans, environmental impact assessments, land classification, interpretive plans, conservation education, and programme development in various aspects of protected area management. Although many of these activities have taken place in Latin America (see Bulletin No. 1, page 24), the Park Service has assisted other tropical forest countries, including Indonesia, Australia, and several African nations.

The National Park Service is also active in training managers of national parks and equivalent reserves. It provides training for 350-400 managers of foreign protected areas each year. In cooperation with the University of Michigan and Parks Canada, the Park Service has sponsored an international seminar that has helped train managers of protected areas in roughly 90 countries, including many with tropical forests, during the past 14 years. In response to requests from several Latin American countries, the Park Service has initiated a feasibility study of the proposed Inter-American Training Center for Wildland and Wildlife Management.

In addition to these international activities, the Service has active research, environmental education, and interpretive programs in the U.S. tropical forest areas of Hawaii, Puerto Rico, and the U.S. Virgin Islands.

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Fish and Wildlife Service  
Office of International Activities  
 Department of the Interior  
 Washington, D. C. 20240  
 U.S.A.  
 Chief of International Affairs:  
 Dr. Gerald A. Bertrand

The Fish and Wildlife Service provides technical assistance to tropical forest countries for the establishment and management of biological preserves and the protection of endangered species. It also assists in the training of nationals in tropical forest countries. Many of these programs are in Latin America; others are in India through the U.S. excess foreign currency programme (Public Law 480).

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Peace Corps  
 Room 701  
 806 Connecticut Avenue, N.W.  
 Washington, D. C. 20525  
 U.S.A.  
 Contact: Office of Information  
 Phone: (202) 254-7523

The Peace Corps uses trained volunteers to assist in overseas development activities at the village level. Although the Smithsonian-Peace Corps Environmental Program (see Bulletin No. 1, page 26) has officially been terminated, Peace Corps is continuing activities related to the protection and wise use of tropical forests. The Peace Corps is presently providing assistance in reforestation, fuelwood plantation, more efficient energy technologies (to reduce fuelwood con-

sumption), agroforestry, soil conservation, land use planning, forest wildlife research, and the planning and management of parks and protected areas. Among the tropical moist forest countries in which the Peace Corps is most active are Costa Rica, Honduras, Guatemala, El Salvador, Colombia, Ecuador, Paraguay, the Philippines, Malaysia, Thailand, Nepal, Ivory Coast, and the Central African Republic.

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Mangrove Study Update:

Dr. Lawrence Hamilton's study of mangrove ecology and conservation in Venezuela, Trinidad and Tobago, and Puerto Rico will be launched in early 1980. For details, see Bulletin, No. 1, pages 32-33.

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Venezuelan Amazon Research Project Update:

The Ecology Center of the Venezuelan Institute for Scientific Research (IVIC) launched a major research project in 1974, as part of UNESCO's Man and Biosphere (MAB) Project No. 1. The study site is in the Venezuelan Amazon near the village of San Carlos de Rio Negro. The study has received financial support from the Venezuelan National Science Foundation, Organization of American States, U.S. National Science Foundation, and German Science Foundation. The Project has entailed baseline studies of the nutrient cycling, biological productivity, and soil characteristics of undisturbed rainforests, along with a comparison of these characteristics following various types of forest modification or removal. This information is necessary to determine the effects of a wide range of agricultural activities (including rubber plantations and various traditional crops) on the nutrient levels and long-term productivity of fragile soils in the Amazon Basin. The field work for this project has been completed, and Dr. Carl Jordan is presently analyzing the data, which should be in publishable form within one year. Dr. Jordan may be contacted at:

Institute of Ecology  
University of Georgia  
Athens, Georgia 30602  
U.S.A  
Phone: (404) 542-3968

Because of the interest of IVIC and others in the valuable research resource which the San Carlos field station presents, it is anticipated that tropical forest research will continue there for the foreseeable future. Among these studies will be the continued monitoring of experimental plots where the forest has been cleared and replanted with a variety of crops.