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Viewpoint

Saving tropical rain forests

IUCN and WWF are starting a vigorous new campaign to save adequate and representative parts of the tropical rain forest. In our view, this has become the most important nature conservation programme of the decade. Why is this so? What is the importance of this forest and what is the urgency?

During the course of a few millenia mankind has completely transformed most of the world into a man-made landscape in which natural vegetation and the animals that inhabit it are left as isolated islands in a cultivated sea. There are two exceptions: (1) those regions that are too inhospitable for continued human occupation – and (2) those regions covered by tropical rain forest. Rain forest has been left relatively untouched, although the climate is favourable to man (once disease is brought under control), because the forest itself has posed formidable barriers to settlement and the land, when cleared, has usually proved difficult to maintain in a fertile condition. So the tropical rain forest has remained the last great vegetation formation which can be seen, practically unaltered over huge areas with all its teeming richness of plant and animal life.

But not for long. Modern technology and advances in agriculture are tempting the countries which contain large areas of this forest to clear it; in Southeast Asia in particular the timber is of high quality and there is a great demand from the industrialized nations for it. And it is, of course, natural that these nations should wish to benefit from the produce of their forests and to cultivate their soils. So the forest is going down very fast. If sufficient areas of this magnificent resource and its wildlife are to remain, careful planning is needed, urgently, to decide what parts should be preserved and how.

What is it that we want to conserve? First it is very misleading to talk about 'the' tropical rain forest, as we have been doing so far in this article, for there is not one, but many different kinds of rain forest in tropical areas. In regions where the climate is wet and warm all the year round, the whole surface of the land is covered with forest up to an altitude of about 4000 metres. The total area covered is somewhere between 7 and 9 million square kilometres, divided between South America, Africa and Southeast Asia. Although outwardly similar, the forests in the three continents are all composed of completely different species one from another – not only the trees but the animals. For example the very important timber family of the dipterocarps (about 500 species) is almost confined to Southeast Asia; there are a handful of species in Africa and none in America.

Also within each region there are as many different kinds of forest as in the whole of the temperate regions of the world – on rich and poor soils, in very wet or drier climates and at different altitudes on the mountains;

mangrove forests in tidal waters; swamp forests; forests on deep peat. So it is clear that if we were to make one enormous National Park of tropical rain forest in one part of the world and abandon the rest, we would lose almost the entire range of variation and a large proportion of the plant and animal species which occur in these various forests. The answer must be quite a different one: to select carefully and protect areas of all the different kinds of forest – in Africa, Southeast Asia and America at high altitudes and low, in swamps and on dry ground. Only by doing this will the richness and variety be preserved and the species saved from extinction.

Tropical rain forest, in all its variants, is something very special. It is the richest expression of life that has evolved on this planet. In some areas there has been a continuous history, on much the same site, for about 50 million years – since the flowering plants began to evolve. Fossil deposits of a forest of the late Pliocene off the coast of Borneo have been found to contain much the same genera of trees as the present swamp forest in Johore in the Malay peninsula. This great burgeoning of life is due to the continuous kind climate with no periods of stress, no extremes of drought or cold. Tropical rain forest contains a large proportion of the total flora of the globe. For example it is estimated that there are more than 25,000 species of flowering plants in the area of rain forest in Southeast Asia, 49% of the genera found there are found nowhere else in the world, and the total number of species represents about 10% of all the species in the world. Although there are not, here, the enormous and spectacular herds of mammals that make the African national parks so impressive, the richness of insects, birds and other animals probably matches that of plants; small numbers of very many species, rather than large numbers of a few.

What is the value of preserving samples of this forest and what benefit will mankind derive from it? Most important, perhaps, is that it is only in this way that the genetic resources contained in the forest can be preserved in perpetuity. Evolution continues all the time and the process can only go on within the natural community. If species are taken out and planted in gardens they may be preserved, but the evolutionary process will be checked or diverted. This may seem a rather esoteric argument, but it is really one of great practical importance. New and valuable uses for organisms are constantly being discovered in medicine, pest control and in the breeding of economic plants and animals, and it would be blind and irresponsible to destroy the source of so much potentially valuable material.

Just as much genetic material can only be effectively conserved in the natural forest, so the preservation of areas in their undisturbed state may be necessary for other scientific purposes. The understanding of the causes of the recent outbreaks of haemorrhagic dengue

Continued on next page

Two more nations ratify Convention on trade in endangered species

Nigeria and Switzerland are the second and third nations to ratify the Convention on International Trade in Endangered Species of Wild Fauna and Flora. The Nigerian action was taken on 9 May while the Swiss ratification followed on 9 July.

The USA was the first to ratify the Convention, which was adopted at a plenipotentiary Conference in Washington in March 1973. Ratification, acceptance, approval or accession by 10 States is required for the Convention to enter into force.

Forty-seven nations have now signed the Convention. The latest signatures were by Canada (2 July), Egypt (7 June), Kuwait (9 April), Lesotho (17 July) and the USSR (29 March).

fever in Malaysia depends upon an understanding of the natural cycle of the disease in the forest canopy. Areas of natural forest are also valuable in order to assess the kind of changes that are being brought about by man when he develops similar areas — a value which will increase as more and more of the forest is converted to other uses. Moreover it is only when they become scarce that the value of natural areas for recreation and education will be fully recognized. There are possibilities also for developing tourism round their edges, relying on the intact resource within the protected area, and introducing a new world of fascination to the discerning visitor. There are many very interesting and beautiful things in the forest; and, with imagination in interpreting these to the visitor, they can be made a great source of pleasure and interest to those who look upon the forest as something dull if not actually alien and hostile.

The tropical forest is very fragile. Once disturbed it may take hundreds and more probably thousands of years to re-establish its balance. But outside these strictly undisturbed areas, where the forests have been subjected to use, it is still possible to maintain much of its interest, and even to increase the numbers of some useful or attractive species of plant or animal by management — to combine, for example, the production of timber and other forest produce of economic value, such as rattan and bamboo, with the management of wild animals, recreation, or the beauty of the landscapes. The forest also plays a very important role in the upper part of river catchments and on steep slopes in protecting the soil from erosion and delivering pure water for use further down the river systems.

If the qualities of the forest are to be used to best advantage these uses and values must be recognized at the highest level in government and in national land-use planning so that land under forest is allocated with great care for these different purposes, laying particular stress on the need for protective management in some areas and the fullest use of the various valuable roles that the forest can play in national life. Once it is destroyed, it cannot be fully recreated.

The nations that are fortunate enough to contain still large areas of tropical forest should be proud to be trustees of a resource which is of the highest significance in the modern world and which only they possess.

Duncan Poore

New Soil Map of the World

Attention is called to the publication by FAO-Unesco of the new Soil Map of the World on a scale of 1:5,000,000. Eventually the complete soil map will be issued in 10 volumes consisting of maps and explanatory text. At the present time Volume IV, South America, is available in complete form, whereas the map sheets, with legends, are available from Volume II, North America, and Volume VI, Africa. These may be ordered from Unesco in Paris. The map units are associations of soil units divided into texture and slope classes. The terminology and classification will be unfamiliar to those who have not kept up with soil classification but represents a system that will be used increasingly in all countries, and one with which conservationists should become familiar. It is to be expected that the world soil map will become a valuable tool to all who are working with conservation problems.

19th Limnology Congress

The 19th Congress of the International Association of Limnology (SIL) will be held 22–29 August at the University of Manitoba, in Winnipeg, Canada. Up to 1500 limnologists are expected at the triennial congress. Official languages are English, French, German, Italian and Russian. Congress Secretary is Roscoe W. Dalke, Freshwater Institute, Department of the Environment, 501 University Crescent, Winnipeg, Manitoba, Canada R3T 2N6.

IUCN's 12th General Assembly: Zaire, 1975

"Conservation for Decision Makers"

The theme of "Conservation for Decision Makers" has been selected as the basis for IUCN's 12th General Assembly and associated 13th Technical Meeting to be held at Kinshasa, Zaire, from 7 to 19 September 1975.

A national committee has been established by the Government of Zaire to be responsible for all arrangements for these meetings and the associated excursions, under the chairmanship of Citizen Gahuranyi Tanganika with Citizen Dr. Kabala Matuka as Secretary-Coordinator. Planning is well advanced and the programme is now in outline, as described later in this Bulletin.

The meetings will take place at the Congress Centre of N'Sele where excellent conference facilities are available. It is about 60 km from Kinshasa by autoroute. Some participants will be accommodated in Kinshasa.

As on previous occasions, sessions of the General Assembly will be held both before and after the Technical Meeting. Provision has also been made for meetings of the IUCN Commissions. It has been decided that the Technical Meeting will be organized so as to avoid simultaneous sessions.

Registration will be on Sunday, 7 September 1975, with all of Monday, 8 September, the afternoon of Wednesday, 17 September, and all of Thursday, 18 September, being devoted to General Assembly business.

Special tours are being planned for the periods immediately before the General Assembly, mid-way through the meeting, and after its close. It is hoped that these will permit visits to a number of the splendid national parks of Zaire: Virunga, Upemba, Kundelungu, Salonga and Garamba. In addition, cultural displays will be arranged during the conference.

The Technical Meetings of IUCN provide an opportunity to examine and reflect upon those factors likely to have important effects on the future of nature conservation. They provide also an opportunity for examining the reasons for past failures in accomplishing the goals of conservation and for seeking new directions and strategies for achieving those goals. They are not intended, necessarily, to encompass the past or present programmes of IUCN, but rather to examine the technological, social, economic and political forces most likely to influence the success of future programmes.

The 13th Technical Meeting will lay particular stress on making those responsible for political, economic and technological decisions aware of the principles and practice of conservation and on the way they can use ecological principles in reaching these decisions. In particular it will emphasize the need for a full evaluation of proposed development projects in the light of ecological principles at an early stage in the planning process.

The Technical Meeting is arranged in seven half-day sessions spread over six days. Extra time has been allowed for meetings of the IUCN Commissions. This will permit members to attend meetings of other Commissions as well as their own and will enable participants in the conference to attend as observers. It is also thought that various task forces and working groups may meet during these sessions.

An outline of the programme for the Technical Meeting is printed in this Bulletin.

During the conference period special attention will be given to opportunities for discussion of conservation matters of topical interest as well as IUCN affairs, including its structure and functions. Open forums and informal discussion groups will be featured. Members will be asked for suggestions of subjects for these groups. Arrangements are being made for Conservation Resolutions to be drafted early in the conference period so that comments may be obtained and revised drafts prepared before submission to the General Assembly.

12th General Assembly and 13th Technical Meeting

Kinshasa, Zaire, September 1975

Preliminary Notice

IUCN General Assembly meets every three years in ordinary session. The Banff Assembly accepted enthusiastically an invitation from the President of Zaire to hold the 12th General Assembly in Kinshasa.

The General Assembly is the highest policy forming body of IUCN and consists of the delegates of members of the Union. Its functions as specified in the Statutes (Article IV, 2) include determination of the Union's programme of work and its budget for the next three-year period, ratification of new members, and election of officers of the Union and members of the Executive Board.

Draft timetable

3-6 September

Pre-Assembly Tours

Sunday, 7 September

Registration

Meeting of IUCN Executive Board

Monday, 8 September

0930-1230 General Assembly

1400-1730 General Assembly

Tuesday, 9 September

0900-1230 Technical Meeting, Session A

1400-1730 Commission Meetings

Evening Open Forum

Wednesday, 10 September

0900-1230 Technical Meeting, Session B

1400-1730 Commission Meetings

Thursday, 11 September

0900-1230 Technical Meeting, Session C

1400-1730 Commission Meetings

12-14 September

Excursions

Monday, 15 September

0900-1230 Technical Meeting, Session D

1400-1730 Technical Meeting, Session E

Tuesday, 16 September

0900-1230 Technical Meeting, Session F

1400-1730 Commission Meetings

Wednesday, 17 September

0900-1230 Technical Meeting, Session G

1400-1730 General Assembly

Evening Open Forum

Thursday, 18 September

0900-1230 General Assembly

1400-1730 General Assembly

Friday, 19 September

0900-1230 Meeting of IUCN Executive Board

1400-1730 Commission Meetings

Saturday, 20 September

Departure from Kinshasa

20-24 September

Post-Assembly Tours

Session A

Tropical rain forests

(Tuesday, 9 September 1975, 0900-1230)

Paper 1. Status of tropical rain forests and their probable future in view of conflicting land use and population pressures.

Paper 2. Strategies for conservation of tropical rain forest biota including national parks, reserves, and other management systems.

Paper 3. The application of ecology to economic development decisions in the humid tropics.

Session B

Marginal lands - arid, semi-arid and mountainous

(Wednesday, 10 September 1975, 0900-1230)

Paper 4. Drought, pastoralism and wildlife in arid and semi-arid areas.

Paper 5. New approaches to conservation of biota in dry and mountainous regions.

Paper 6. Use of ecological guidelines by decision-makers in the development of marginal lands.

Session C

Marine environments

(Thursday, 11 September 1975, 0900-1230)

Paper 7. Conservation and development of marine resources with regard to national and international jurisdictions and controls.

Paper 8. Conservation of marine biota with particular reference to the role of marine parks and reserves.

Paper 9. Influencing decisions on marine environments - the use of ecological guidelines and other strategies.

Session D

Protected areas and threatened species

(Monday, 15 September 1975, 0900-1230)

Paper 10. New strategies for conservation of threatened species.

Paper 11. Problems and approaches in the conservation of threatened plants and plant genetic resources.

Paper 12. Recent initiatives toward nature conservation - an evaluation (Biosphere reserves, World Heritage areas, Conventions).

Paper 13. The future of national parks and other protected areas in relation to land use and population pressures.

Session E

Energy and conservation

(Monday, 15 September 1975, 1400-1730)

Paper 14. Implications of energy use and development, in particular fossil fuels and nuclear power, on environmental conservation and future ways of life.

Paper 15. Conservation of energy, alternative energy sources and their implications for environmental conservation and future ways of life.

Paper 16. The energy crisis and new strategies for agricultural development.

Session F

Resources and conservation

(Tuesday, 16 September 1975, 0900-1230)

Paper 17. Water resources, distribution and supply in relation to potential conflicts between nature conservation and economic development.

Paper 18. Raw materials for industrial growth, distribution and supply in relation to potential conflicts with nature conservation.

Paper 19. The conservation implications of continued growth of economies, technologies, and population.

Session G

Development decisions

(Wednesday, 17 September, 0900-1230)

Paper 20. The role of large-scale engineering works as contrasted with soft technologies in providing improved economic well-being and quality of living.

Paper 21. Influencing development decisions for conservation goals in view of political and economic realities.

Paper 22. Toward a dynamic balance of man and nature - the need for new life styles.

New Guinea Wildlife Stamps

Papua New Guinea has added to its series of wildlife stamps with three new issues featuring striking birds: the wreathed hornbill (*Aceros plicatus*), the great cassowary (*Casuarius casuarius*) and the rare kapul eagle (*Harpyopsis novaeguineae*).

Conservation Notes

Rare wallaby, believed extinct, rediscovered in Australia

The bridled nail-tailed wallaby (*Onychogalea fraenata*), which was last reported in 1937 and since then believed to be extinct, has been rediscovered in central Queensland, Australia. One of the most attractive and least-known of the kangaroos, the wallaby was found by Dr. G. Gordon during a fauna survey in the Emerald district. The find was announced in April.

According to reports from Australia, the area where the rare animal was found was being cleared on a broad scale. Under the Fauna Conservation Bill, recently passed by the State Parliament, special provision is made for strict reservation of land for conservation purposes. It is hoped that action will be taken by the Queensland Government to set aside a reserve for the animal.

Survey of *Gavialis gangeticus*

Like the rest of the world's crocodylians the Indian gharial has declined catastrophically during the last few decades. Hide hunting, human disturbance and habitat alteration have been responsible for the virtual disappearance of this once wide-ranging reptile from the rivers of north India, Pakistan, Nepal, Burma and Bangladesh. A survey of the gharial recently completed by the Madras Snake Park and Conservation Centre, supported by WWF-India, found that *Gavialis* survives in small scattered population groups only in the most remote areas in the river systems of the north. The most important population remaining is in the Narayani river in Nepal, which forms the western boundary of the Chitawan National Park.

The gharial, a specialized riverine reptile, depends on undisturbed embankments for basking and egg-laying and free movement over large areas. Where it has not been actively sought and killed for its skin, it has been subjected to constant disturbance by boats, cultivation, human pressure and especially by increased fishing activities. According to a report, the large nylon nets now in use are a new danger as gharial get caught in them and are killed by fishermen.

The Madras Snake Park Trust proposes to carry out a more detailed survey and biological study of the gharial which could lead to establishment of reserves and, possibly, to a captive breeding programme. It has not yet been established that this animal will breed in captivity.

US sixth nation to ratify Ocean Dumping Convention

The United States has become the sixth nation to complete formal ratification of the convention on the prevention of marine pollution by dumping of wastes and other matter. The instruments of ratification were deposited 29 April.

The convention, known as the "Ocean Dumping Convention", was negotiated at an international conference in London in the fall of 1972, carrying out a resolution approved at the Stockholm UN Conference on the Human Environment. Opened for signature 29 December 1972, it has been signed by 45 countries. Fifteen must ratify before it comes into force.

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Authors interested in submitting material for publication are invited to write to the Editor.

IYF Symposia on Landscape Planning

The Working Group on Landscape Planning of the International Youth Federation is planning a symposium, "Planning Methodologies for Future Growth Alternatives", to be held in mid-July, 1975, in Lund, Sweden. The symposium on "non-growth" planning, believed the first of its kind in Europe, will be organized in cooperation with local action groups engaged in conservation and community projects. Groups interested in taking part are asked to contact the IYF Working Group Chairman, Xaver Monbailliu, 42 St. Pietersnoordstraat, App. 134, 8000 BRUGGE, Belgium.

Earlier this year, 23-29 June, the Working Group held a symposium on environmental planning and European integration at Ljubljana, Yugoslavia. Thirty participants from eight European countries took part in discussions which concentrated on public participation in the planning process, and the ecological approach to landscape planning.

New Refuge in Samoan Islands

One of the world's smallest atolls, 18-acre Rose Atoll in American Samoa, has been set aside as a National Wildlife Refuge to preserve an area little disturbed by man as a sanctuary for sea turtles, more than a dozen sea bird species, and for scientific study, the US Fish and Wildlife Service has announced. Use is by permit only.

No poaching at Ujung Kulon

A recent report to WWF covering scientific work in the Ujung Kulon reserve in Western Java stated that there had been no poaching of the rare single-horned Javan rhinoceros in 1973. The number of animals in the reserve is now thought to be between 40 and 50 compared with 20 to 30 in 1967 when WWF launched a conservation programme in cooperation with Indonesian authorities.

US Fish and Wildlife Service

On 1 July, the Bureau of Sport Fisheries and Wildlife of the US Department of the Interior changed its name to the US Fish and Wildlife Service. This is the principal agency through which the US Government carries out its responsibilities for conserving fish and wildlife. The agency is not concerned with commercial fisheries, its work in that field having been transferred to the Department of Commerce in 1970 with the Bureau of Commercial Fisheries, which has been renamed the National Marine Fisheries Service.

Trend notes on extinct species of mammals

IUCN recently published as Occasional Paper No. 8 a list of mammals which have become extinct or are believed to be extinct since 1600. Compiled from many sources by H. A. and J. M. Goodwin, the list contains 112 mammals whose disappearance can be dated, and 5 animals thought to be extinct but about which some doubt exists.

An analysis of the 112 dates of disappearance, set out as a table, clearly shows the rise of man's impact on the natural world:

Extinction of Mammal Taxa

17th Century	7
18th Century	11
19th Century	27
20th Century	67

However, the rise of man's concern for nature is also shown by a breakdown of the 20th Century losses, by 20-year periods:

1900-1919	23
1920-1939	27
1940-1959	14
1960-	3
	67