

UNEP's Governing Council meets, boosts conservation programmes

The Governing Council of the United Nations Environment Programme (UNEP) held its third session at UNEP's Nairobi headquarters, from 17 April to 2 May. The Council adopted some 25 major decisions, including ones to strengthen and extend UNEP's global programme; concentrate its efforts further on specific problem areas; intensify its co-ordinating and catalytic role; and ensure the inclusion of ecological factors and the integration of environmental components in development projects and strategies.

Many of these decisions greatly strengthened UNEP's contribution to conservation, particularly in the priority subject area of terrestrial ecosystems, their management and control. The main emphasis of this part of the programme is on arid, semi-arid and grazing lands, and on tropical forests and woodlands.

In the case of arid and semi-arid lands, UNEP's objectives are to improve water quality and animal production; to arrest and control the processes of desertification, erosion and salinization; and to restore the productivity of formerly productive areas. To achieve these objectives, UNEP will (amongst other measures)

- contribute to the dissemination of existing knowledge and exchange of new information on arid lands;
- plan long-term development programmes, to provide administrators with alternatives to current practices;
- promote the use of appropriate new technologies in food, energy, use of wastes, monitoring, and so on;
- co-operate with appropriate UN organizations in the formulation of the state of knowledge on grazing land ecosystems, desertification processes, and so on.

UNEP is also helping to prepare the UN Conference on Desertification to be convened in 1977, in support of which the Governing Council agreed to provide \$0.5 million.

In the case of tropical forests and woodlands, UNEP's objectives are to identify the extent of world forest cover, and to initiate assessment of forestation and deforestation trends; to control the loss of productive soil through misuse of the forest cover; to evaluate the importance of tropical forest plants as a source of genetic material for breeding; to support and encourage concerted research programmes on (a) the relationship between tropical forests and air, water and soil systems, (b) what is the minimum self-maintaining area, and (c) suitable agricultural systems; to develop guidelines for the management of tropical forest ecosystems and ensure their wisest use; and to improve the local processing of all forest products.

12th General Assembly and 13th Technical Meeting

Kinshasa, Zaire, 7-19 September 1975

3-5	September	— Pre-Assembly tours
4-6	September	— Pre-Assembly tours
7	September	— Registration Executive Board meeting
8	September	— General Assembly
9-11	September	— Technical Meetings A, B, C Commission Meetings
12-14	September	— Mid-Assembly tours
15	September	— Technical Meetings D, E
16	September	— Technical Meeting F Commission Meetings
17	September	— Technical Meeting G General Assembly
18	September	— General Assembly
19	September	— Executive Board meeting Commission Meetings
20-23	September	— Post-Assembly tours
22-25	September	— Post-Assembly tours



NEW SERIES Vol. 6, No. 6

JUNE 1975

Published with the financial assistance of UNESCO; issued monthly

To achieve these objectives, UNEP will

- identify the main gaps in knowledge, see that they are plugged, and help ensure that new knowledge is made available to those who are actually dealing with tropical forests;
- monitor adverse changes in local climate, water cycles, and soils;
- formulate guidelines for the development, planning and management of tropical forests;
- advise governments on possible changes resulting from transformation of tropical forest areas;
- co-operate in the design of a methodology for identifying the minimum area of forest cover that must be conserved to preserve the stability of the biosphere, climate, genetic reservoir, and so on.

Other major programmes in the terrestrial ecosystems priority subject area are sites and samples (national parks and reserves), endangered species and wildlife, and genetic resources. The aims of the sites and samples programme are to create the basis of a world-wide network of protected areas, and to identify, restore and conserve terrestrial and aquatic ecosystems of great biological significance. A significant part of UNEP's strategy to meet these aims is to co-operate with international non-governmental organizations such as IUCN and with governments and UN organizations in identifying new natural and cultural areas that offer representative samples of ecosystems.

Closely related to this programme are those on endangered species and wildlife and on genetic resources, under which UNEP intends to (for example)

- research the environmental role of each species of wild plant and animal as a functional part of ecosystems, biomes and habitats;
- advise, encourage and support governmental initiatives to legislate for the conservation and management of endangered species and their habitats;
- encourage governments to consider the long-term advantages of wildlife as productive forms of land and resource use;
- update the list of threatened plant and animal species, with particular emphasis on species of high scientific importance or potential economic value;
- develop criteria and new methodologies for identifying rare endangered and non-endangered species, and ascertaining the main causes of extinction;
- further the Convention on International Trade in Endangered Species of Wild Fauna and Flora;
- help conserve the habitats of as many species as possible in as many geographical areas as possible;
- place special emphasis on research programmes on fodder plants of the arid and semi-arid zones, to increase man's ability to exist in these ecosystems;
- assist in the development of new and unorthodox uses for genetic resources, thus contributing to wiser resource use in general.

Another priority subject area of great interest to conservationists is that of oceans. UNEP is very active in

regional programmes to protect specific bodies of water from pollution. It intends to develop, in close co-operation with the countries concerned and with the appropriate agencies, model plans of action adapted to the special conditions of each region. One has already been started for the Mediterranean, and plans for the Persian Gulf and other seas are expected to follow.

Important decisions were also made strengthening UNEP's work in its other priority subject areas—human settlements and habitat, health of people and the environment, environment and development, energy, and natural disasters—as well as in its 'functional tasks' such as Earthwatch (Global Environment Monitoring System and International Referral System) and supporting measures such as public awareness.

IUCN already co-operates with UNEP in a number of these activities. Given that many of the objectives are shared by IUCN, and that IUCN is specialized in a number of the strategies for achieving them, it is logical that IUCN's co-operation should increase. The programme outlined on page 23 is thus a rational step in the direction of making more effective both UNEP's and IUCN's contributions to wise resource use throughout the world.

Executive Board decisions

The Executive Board of IUCN met in Morges from 1 to 3 May 1975. Important decisions were taken on a number of issues:

1. The draft Programme and Budget for 1976-1978 to be submitted to the General Assembly will continue the work of IUCN with the main focuses on the conservation by wise management of plant and animal species and of areas (embracing both natural areas and cultural landscapes, and including marine areas). There will be a continued involvement in the promotion of environmental policies, legislation and administrative structures, land-use planning, education and public awareness, as well as in the application of ecological knowledge to achieve the main objectives.

2. After each General Assembly IUCN will appoint as honorary official Consultants persons who have a special contribution to make to the work of IUCN and who have indicated that they are willing to give time to the work. These will include members of Commissions, committees, specialist groups, etc.

3. Consultants will be grouped in six Services corresponding (with some changes in title) to the present Commissions. Some rearrangement in the structure of Commissions will be involved.

4. A standing Committee on Strategic Planning is to be set up by the Executive Board to be concerned with future strategies of IUCN, the formulation of policies, and suggested priorities.

5. Action taken for the formation of national groupings of IUCN members and for the development of regional co-operation between IUCN members was endorsed, and it was agreed that further action should be encouraged. This will include promotion and co-sponsoring of regional meetings and, where appropriate, the appointment of regional liaison officers. Local organizations will be used as consultants and action delegated to them when possible.

6. A statement of Principles and Recommendations concerning the commercial utilization of marine turtles was endorsed (text to be published in the July Bulletin).

7. A statement on whaling to be submitted to the next meeting of the International Whaling Commission was approved.

8. Nominations were agreed for submission to the General Assembly for the election of members of the Executive Board and of the officers of the Union, provision being made for multiple choice in selecting Board members.

9. Decisions were made on increased membership fees to be brought before the General Assembly.

Programme Activities

Conservation month: September in Zaire

September, 1975, will be a special month both for Zaire and for world conservation. For in September, Zaire celebrates a proud moment in its history: the 50th anniversary of the Virunga National Park.

Virunga (formerly Albert Park) is one of the most beautiful national parks in the world. Its 800,000 hectares embrace an incredible variety of landscapes, from lowland tropical rain forest at 800 m to the glaciers of the Ruwenzori at 5000 m and above.

There are hot springs and volcanoes—two of them, Nyamulagira (3058 m) and Nyragongo (3471 m), still active. The bamboo and *Hagenia* forests, high on the slopes of the extinct volcanoes, are the homes of the famous mountain gorillas.

There are savannas, open and wooded, with vast numbers of mammals: 4000 elephants, 5000 wart-hogs, 500-600 lions, 15,000 buffaloes, 15,000 antelopes—kob, topi, defassa waterbuck, and others.

There are rivers and lakes: Lake Amin (formerly Edward), better stocked with wildlife than any other lake in the world, fills most of the middle of the park. It is the home of the world's largest collection of hippopotamuses—22,000 out of Virunga's total of 25,000. There are no crocodiles, but there are huge numbers of fish and waterfowl.

Tropical rain forest covers the northern end of the park, where there are okapi, giant forest hogs, chimpanzees, and the elusive bongo. Finally, there are the celebrated Ruwenzori Mountains, with Ruwenzori itself soaring to 5119 m, the third highest mountain in Africa.

Naturally, with diversity like this, Virunga is blessed with an enormous variety of plant, bird and insect life—something for everyone, in fact. The conservation for 50 years of this remarkable sanctuary is truly a cause for celebration.

From 7 to 19 September, of course, Zaire is also host to IUCN's 12th General Assembly and 13th Technical Meeting, so that participants, observers and other guests will have the opportunity and privilege of joining the Zairois in their celebrations.

The General Assembly will take place in the splendid Presidential Domain of N'Sele, some 60 km outside Kinshasa, with which it is connected by a four-lane highway. N'Sele possesses a large conference centre, with meeting rooms, restaurants, and accommodation for participants. This centre is situated on the Zaire River, and a fine promenade looks over its wide expanse towards the hills on the distant shore. It has become an attraction for the people of Kinshasa (pop. 2.5 million), who want to visit the model farm and breeding centres or relax with swimming, boating, and the opportunity to escape from the bustle of the city.

Tours are being planned for the periods immediately before the General Assembly, at the halfway stage, and immediately afterwards. Naturally, a visit to Virunga is a must. So is a trip to Kahuzi-Biega, a jewel of a park close to Virunga, where face-to-face encounters with gorillas are practically guaranteed.

This year's concentration of attention on tropical rain forests (the subject of the 1975 IUCN/WWF campaign) means that many people will also want to go to Salonga National Park. Salonga's 3,600,000 hectares make it the fourth largest national park in the world, and (more significantly) by far the largest protected area of tropical rain forest.

In Salonga, the visitor can appreciate the romance, the drama, the carnival of vitality, that are the hallmarks of tropical woodlands, yet cannot be conveyed by phrases like 'tropical rain forest'.

One of the sessions of IUCN's Technical Meeting is devoted to tropical rain forests, their status, their likely future, and strategies for their conservation. They will also be the subject of a MAB regional meeting for Africa south of the Sahara, to be held in Kinshasa shortly before the General Assembly. So a visit to Salonga will bring home the importance of all tropical rain forest countries safeguarding large areas of this priceless yet imperilled plant formation.

September in Zaire, then, promises to be 'Earth Month': the 50th anniversary of Virunga National Park; IUCN's 12th General Assembly and 13th Technical Meeting; and the chance of ensuring that by providing guidance for decision-makers we may continue to enjoy the greatest celebration of life on earth—the tropical rain forest.

UNEP-IUCN link in ecosystem conservation

IUCN capability to carry out its activities on the conservation of natural ecosystems is being strengthened through an agreement with UNEP. This will enable the programme approved by the 11th General Assembly (Banff, 1972) to be carried out more effectively within the major focus of IUCN's endeavours.

Funds are being made available to strengthen the capabilities of the IUCN Secretariat and for the engagement of consultants for special missions.

IUCN is formulating a world conservation strategy with the assistance of its Commissions and working groups, guiding a rolling programme for conservation action with specified priorities.

Particular emphasis is being given to helping countries identify and specify technical assistance requests directed to the UN system, bilateral sources and private foundations.

The regional surveys to develop co-ordinated systems of national parks and other protected areas will be extended with follow-up action planned to bring additional areas under protection.

IUCN welcomes this further development of working links with UNEP. Within the close relationship that has existed from the beginning of the preparatory work for the Stockholm Conference, IUCN has already been able to make important inputs to the planning of the conservation segment of UNEP's activities.

UNEP assistance has enabled IUCN to carry out definitive studies on protected areas in eastern Africa and Central America. Further studies are in progress in western and central Africa and in the South Pacific, with others planned for other regions.

Activities in this field are being closely co-ordinated with FAO and UNESCO.

New Mongolian National Park

Mongolia is to establish a vast new national park in the western Gobi covering some four million hectares, making it among the largest in the world.

The park will be in two sections, relatively close together, and plans call for the setting up of a research station between the sections.

The area chosen after surveys embraces the remaining range of a number of endangered species including Przewalski's horse, the wild ass (*Equus hemionus*), the wild Bactrian camel (*Camelus bactrianus*) and the Gobi bear.

IUCN has been asked to help in finding technical assistance and generally to assist the Government of the Mongolian People's Republic in this important venture.

The Government is re-examining existing national parks and reserves and aims to extend their coverage to all important ecosystems of the region. The system will eventually cover 7-10% of Mongolian territory.

Conservation Notes

Status of introduced walking catfish in Florida

The following article on *Clarias batrachus* is based on information gathered in a study supported by the Florida Game and Fresh Water Fish Commission Dingell-Johnson Project F-28. The author is Professor of Zoology at Florida Atlantic University, Boca Raton, Florida, U.S.A.

Walking catfish (*Clarias batrachus*) were first imported from Bangkok, Thailand, to Florida in the early 1960s as an aquarium fish. Only albinos were imported. Small specimens were sold to aquarists and adults were stocked in outdoor ponds by aquarium fish farmers as brood fish. The ponds on one of these farms in northern Broward County, north of Fort Lauderdale, are dug into land which floods periodically during heavy rains. Some of the brood fish escaped from these ponds, probably during the rainy season (May through mid-October), in 1965 or 1966 and entered adjacent drainage canals. From what we believe to be this single point of escape, walking catfish became established as reproducing populations and dispersed rapidly through the interconnected network of canals along the southeastern coastal region of Florida.

As of this writing (April 1975), this exotic fish is now established in ten counties with a total range covering 18 percent of the state, a remarkable achievement in the nine or ten years since it first escaped. It occurs from just north of the Everglades National Park northward through the three Water Conservation Areas (the managed portions of the former "Everglades") and Lake Okechobee. This fish has also spread into rivers and canals that enter or drain the Lake: through the St. Lucie Canal northeastward into the St. Lucie River and a canal system leading to Fort Pierce; from the northern end of the Lake through Taylor Creek into Nubbin Slough, and also into the Kissimmee River and Canal; northwestward through the Indian Prairie Canal; and westward into Fisheating Creek. Although no specimens have yet been collected, the walking catfish is doubtless in the Caloosahatchee River leading from the southwestern end of the Lake to Fort Myers and the Gulf of Mexico.

One or more fish farmers in the Tampa Bay area released walking catfish in 1968 when the state Game and Fresh Water Fish Commission banned possession of this exotic. There is an isolated, established population of this species near Ruskin, south of Tampa.

Flood control gates, salinity barrier spillways and even strips of land between drainages do not deter dispersal of this air-breathing catfish which is capable of overland migrations. Specimens have been collected in the Intra-coastal Waterway, indicating that the walking catfish is tolerant of saline water. The mean lethal temperature is between 9 to 11°C, although infrequent periods of cold weather can be expected to favor selection of cold-resistant segments of the populations. The past three winters, however, have been mild in south Florida, favoring additional range expansion by this exotic during winter months.

In 1968, when this exotic was first discovered in the open waters of Florida in northern Broward and southern Palm Beach counties, all specimens collected were

12th ratification of endangered species convention

Mauritius became the twelfth State to ratify the Convention on International Trade in Endangered Species of Wild Fauna and Flora when its instrument of ratification was deposited with the Government of the Swiss Confederation on 28 April 1975. The Convention will come into force on 1 July 1975. Signatory governments are urged to ratify the Convention as soon as possible.

albinos. At present, albinos are rare as the progeny of the introduced stock have reverted to the dominant, dark color phase (brown to dark gray). In all likelihood, predation by native fishes and piscivorous birds has been reduced by this reversion to a far more camouflaged coloration.

During the rainy season, walking catfish feed on a variety of organisms, but principally on insects and small crustaceans. In dry months, however, larger bodies of water are reduced by evaporation and drainage into much smaller refuges. Under such conditions, the food supply for fishes is exhausted rapidly and walking catfish begin feeding on native fishes. Reduced oxygen supplies in these refuges, caused by decaying vegetation and the high concentrations of aquatic animals, is experienced every year in south Florida, typically resulting in massive, natural fishkills. Air-breathing fishes such as the bowfin (*Amia*), gars (*Lepisosteus*), tarpon (*Megalops*) and, especially, walking catfish are largely unaffected by these seasonal droughts. It is my belief that the walking catfish will become a dominant part of south Florida's ichthyofauna within the next decade or two. There is need for careful monitoring of the populations and population biology of this exotic. If my expectations are confirmed, fishery management techniques in subtropical Florida will require modification.

Ironically, walking catfish have become an economic pest to segments of the very industry that imported this fish—the aquarium fish industry. In Florida, this industry produces approximately 80 percent of the nearly one billion aquarium fishes sold in North America (at a wholesale value of between \$35 and 50 million) annually. Walking catfish have invaded several aquarium fish farms from nearby canals, entered culture ponds and destroyed valuable stocks of aquarium fishes. As the range of walking catfish expands, the adverse effects to aquarium fish farmers will increase.

This introduction is but one example from a total of 25 species of exotic fishes presently established in the fresh and brackish waters of Florida. The potential for extensive damage to native aquatic organisms from these introductions is great. The source of most of these introductions has been carelessness on the part of aquarium fish farmers. Nevertheless, future introductions of this type can be reduced sharply and probably eliminated through enforcement of existing laws. Suggestions to outlaw the aquarium fish industry, an important segment of our economy, are groundless. For a more extensive review of this subject, see Courtenay *et al.* (*Biological Conservation*, Vol. 6, No. 4, pp. 292-302, 1974). A detailed review of the present case is given by Courtenay & Milay, Range Expansion and Environmental Impact of the Introduced Walking Catfish in the United States, *Environmental Conservation*, in press.

As man continues to move animals around this planet for whatever purposes, escapes are inevitable and well-intentioned, but poorly-researched, purposeful introductions will be made. Such introductions will cause changes in population structures of native organisms. This is an environmental problem that deserves international attention.

Walter R. Courtenay, Jr.

Field Studies Council working meeting

The Second International Working Meeting on Teacher Training in Environmental Education and Conservation will be held from 30 July to 6 August 1975 at The Drapers' Field Centre in Betws-y-coed, North Wales, United Kingdom. The course is planned as an international gathering of people involved in the training of teachers to work with staff of the Centre, the Nature Conservancy Council and IUCN on responsibilities, problems and methods of environmental education and conservation. Guidelines for teacher training derived from the discussions are expected to be published with case studies annexed.

The course will cost £33.50 including an excursion to Snowdonia National Park. For further details, contact Mr. Peter Herlihy, Field Studies Council, Rhyd-y-Creuwau, The Drapers' Field Centre, Betws-y-coed, Gwynedd, LL24 OBH, North Wales, United Kingdom.

Big land gift in Dominica will support national park

A large and ecologically important tract of tropical rain forest on the Caribbean island of Dominica has been given to the Nature Conservancy, a leading U.S. land conservation organization, by John D. Archbold. Known as the Middleham Estate, the land is valued at more than \$1 million for the 950 acres which lie in the southern central mountains about 10 miles from the island's capital, Roseau. The proposed Dominica National Park covers much of the region. Dominated by trees rising over 100 feet, the area is considered by many experts to be as fine a rain forest as any in the American tropics.

Dominica has the only large expanse of undisturbed flora remaining in the Lesser Antilles. With mountains which often receive more than 7500 mm of rain per year, five beaches, more than 350 rivers, sparkling streams and waterfalls, tall trees and lush vegetation (including approximately 5000 species of vascular plants) Dominica's reputation as 'the nature island of the Caribbean' is well justified.

This superb natural heritage has long been recognized by Dominica's people, and the Government is now working on plans to establish the national park on approximately 16,000 acres adjacent to Middleham. This area contains not only rain forest, but also elfin woodland (cloud forests constantly bathed in mist), lakes, waterfalls, gorges, a volcanic area with one of the world's largest boiling lakes, all spectacularly set amid precipitous peaks.

The park idea has gained international attention. The Caribbean Conservation Association has worked actively on the proposal from its inception. The Canadian Nature Federation with assistance from the Canadian International Development Agency has been assisting with planning over the last year. Earlier, the Conservation Foundation (USA) helped initiate the concept. FAO, the Smithsonian Institution and WWF have all studied specific aspects.

The proposed park covering over 9% of the island represents an extraordinarily farsighted commitment by a government to preserve primary natural resources which directly affect the well-being of its people.

World Wildlife Fund News

Additional airlines opt for nature conservation

Seven airlines, from Austria, Britain, Canada, Pakistan and Spain, have now given their support to World Wildlife Fund resolutions on nature conservation, bringing the total number of adherents to 70. The new supporters are Austrian Airlines, Britannia Airways, CP Air, Eastern Provincial Airways, Quebecair, Pakistan International Airlines and Spantax.

The resolutions called on airlines to commit themselves to nature conservation; not to sponsor expeditions to hunt species threatened with extinction; and not to carry them as freight in contravention of national bans or the Convention on International Trade in Endangered Species of Wild Fauna and Flora which will come into force 1 July 1975.

IUCN BULLETIN

Published monthly by the International Union for Conservation of Nature and Natural Resources with the financial assistance of Unesco. Unesco Subvention 1975 DG/2.1/414/41.

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