



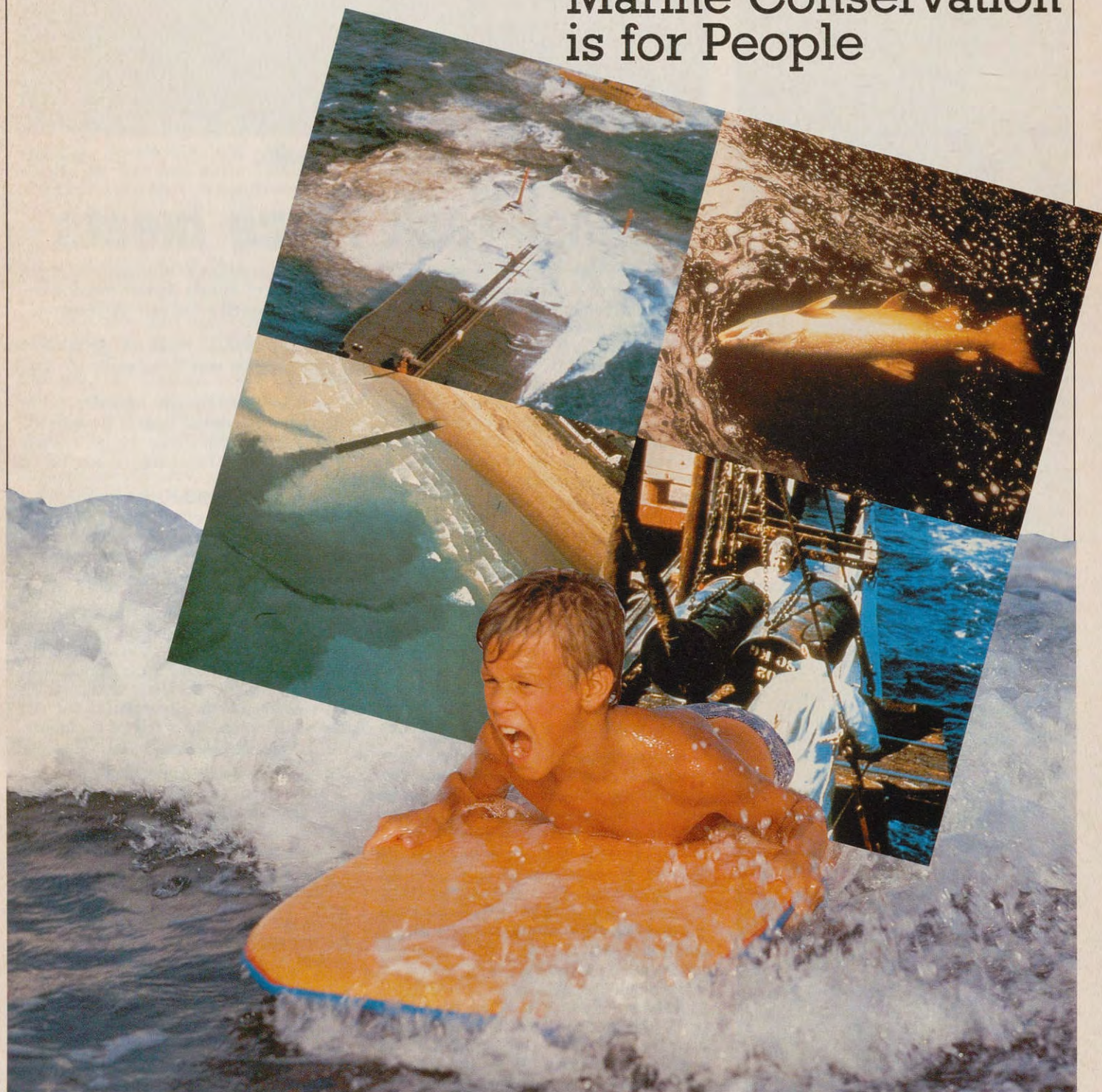
bulletin

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Marine Conservation is for People



Special report - see page 77



IUCN bulletin

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for Conservation of Nature
and Natural Resources

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IUCN bulletin

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Nomads and their cattle flee the relentless drought in Mali.

Photo: AFP

Sahel Task Force meets

IUCN's proposals for international coordination of environmental rehabilitation in the Sahel region of Africa, and the establishment of a fund to finance agricultural and environmental projects there, have received broad support from the international community in the past few months.

Although details are not yet available, consultant Francis Parakatil of IUCN's Conservation for Development Centre (CDC) said progress was being made towards making about \$US 7.5 million available to NGOs for work in environmental rehabilitation in Africa. The money will be channelled into projects in a systematic manner through the United Nations Office for Emergency Operations in Africa. That Office was set up early this year to coordinate emergency food aid to the 30 million African people now facing starvation.

Concerning coordinated efforts to carry out environmental rehabilitation in the Sahel and other regions of Africa, Parakatil said international action is still at its earliest stages. IUCN representatives have attended several aid agency meetings recently, he said, but most organisations are still going ahead with their individual efforts, and aside from the IUCN initiative for the Sahel begun earlier this year, there has not been much progress on this front.

The IUCN Council Task Force on the Sahel created at the May meeting with a mandate to develop recommendations leading to an overall strategy for environmental rehabilitation of the region, has been busy laying the groundwork for IUCN action. Under the Chairmanship of the Union's Regional Councillor for Africa, Dr Walter Lusigi, Parakatil and fellow CDC Consultant Keith Rennie, have drawn together a 20-member task force with expert representation from IUCN's Council, bilateral and multilateral agencies, and key specialists in arid lands, desertification, African species, and other related disciplines.

At a workshop held in Naivasha, Kenya from 25-31 August the Task Force produced recommendations for a Sahelian environmental strategy, action plans, and specific proposals for IUCN action.

Parakatil said the Task Force aimed to produce a framework for internationally coordinated action for the Sahel, as well as projects which could be incorporated into the national conservation strategies in each country. It will also press for community development programmes to encourage environmental rehabilitation at the grass roots level. He added that since women are such a powerful force in the region's agriculture, he hoped that special attention would be devoted to enhancing the role they can play in rehabilitation projects.

The results of the Naivasha workshop will be presented to the next IUCN Council meeting in November for revision, and then will be considered for adoption as official Union policy. □



Secretariat news

IUCN's new Education Officer Dr Salvano Briceño took up his duties in Gland on 1 August with responsibility for pressing forward the Union's educational activities. Briceño is a Venezuelan who comes to IUCN after a post at the Energy and Environmental Policy Centre of Harvard University. There he coordinated research into institutional aspects of environmental management and policies in developing nations. Briceño played a prominent role in Venezuela's Ministry of Environment and Renewable Resources in the late 1970s, while he was a professor at Caracas University. □

South Pacific door opens to conservation

A historic breakthrough for conservation in the South Pacific came about at Apia, Western Samoa in June, with the signing of a Memorandum of Understanding between IUCN and the South Pacific Commission (SPC) — the administrative body which handles common interests of all 22 countries in the region. IUCN also participated in on-the-spot drafting of an Action Strategy for protected areas in the region, which was subsequently approved in principle by government ministers.

Harold Eidsvik, the Chairman of IUCN's Commission on National Parks and Protected Areas (CNPPA), and Executive Officer Jim Thorsell went to Apia to carry out these activities as part of the Technical Conference and Ministerial Meeting of the Third South Pacific National Parks and Reserves Conference (held from 24 June to 3 July). The conference was jointly funded by IUCN, SPC, IUCN members in New Zealand and Australia, and the World Wildlife Fund.

The South Pacific region is one of the world's greatest conservation challenges. Its area is 29 million square kilometres — seven times the size of the Caribbean, and includes 22 countries, among them Australia, New Zealand and many small island groups long romanticised by travellers and explorers; Fiji, Samoa, Guam, and the Marshall and Solomon Islands. The region contains literally thousands of different kinds of ecosystems and a wide variety of species, many of them endemic.

But the South Pacific is also a region facing some of the toughest habitat pressures on the globe. Human populations on the islands have boomed, causing steady destruction of limited land resources. Competition and predation from introduced species has threatened natural environments and native species. Soil and coastal erosion have accelerated on many islands.

Environmental damage

Coastal reclamation, mining activities, excessive harvesting of native forest and fish resources, and pollution of both inland and coastal waters have also taken their toll on these delicate habitats. For example, there are about 100 times more endangered bird species as a proportion of the total fauna in the South Pacific than in North America or Africa. Although some island countries have recognised this critical situation and have made great efforts to protect the region's resources, by 1985 there were only 95 protected areas. They accounted for just 0.15% of the total land area (approximately 800 square kilometres).

IUCN has often been involved in individual conservation projects in the South Pacific, but has long wanted to encourage the development of a plan of action which would address the whole region's problems. In early 1984 Francis Bogotu, the Secretary General of the South Pacific Commission visited IUCN's Secretariat. He

agreed with Director General Kenton Miller that IUCN and SPC should explore ways of working more closely to promote regional conservation.

"Since the whole theme of the last IUCN General Assembly was partnership for conservation, getting involved to this extent is a move to formalise a relationship with a key partner in the South Pacific," said Eidsvik. Referring to the benefits of the Memorandum of Understanding, he added that: "...it's mutually reinforcing to SPC and IUCN, and will be of great benefit to the islands in tying them in much more to the international conservation movement."

CNPPA played the major role in developing IUCN's links with SPC working



through its agency for environmental protection, the South Pacific Regional Environment Programme (SPREP). The Memorandum of Understanding states that IUCN and SPC have agreed to formalise working relations between organisations. The two will seek to strengthen and expand activities of mutual concern through cooperating in annual programme planning, meetings, workshops and field projects. They will also consult one another on policy matters of mutual concern and will try to cooperate in the area of conservation information and publications.

The co-sponsoring of the Apia Conference is evidence that cooperation has already begun, said Thorsell. In addition the two organisations pledged to promote international conservation instruments for the region, to design joint field projects in the area of environmental impact assessment, education, training, and watershed and coastal zone management.

"The interesting thing is that this is one part of the world that has been ignored in terms of conservation, and particularly in development of protected areas," he said. "It's only now that there's a realisation that both those activities are very important to the islands. An organisation like IUCN has an extremely good background to assist the islands through their own environmental programme, SPREP to develop a protected area system for the South Pacific."

"Now we're at a point where they want to develop 50 new protected areas in the next four years, and there are indications from all governments that they're very eager to move forward in developing conservation programmes. The timing of this particular agreement is very fortuitous for everybody because, of course, it relates to our interests in developing our Islands programme," he concluded.

Mission results

The major result of the June mission was the drafting by field managers from some 20 countries attending the Apia Conference of the Action Strategy for Protected Areas in the South Pacific Region, and its subsequent approval by senior ministers from those countries. It's the first time that such an agreement has been entered into by a regional organisation such as SPC with IUCN, and could have far-reaching implications for future regional cooperation. Details of the Strategy will appear in the next *Bulletin*.

"The interesting thing about the Action Strategy is that it has elements in it for all of the Union. For instance, nine small island countries have requested assistance in developing national conservation strategies," he said. "So a big portion of this Strategy will involve the Commission on Environmental Planning, as well as the Conservation for Development Centre. There are also a number of things in the Strategy that relate to the work of IUCN's Conservation Monitoring and Environmental Law centres. In other words, it's not just for protected areas, but includes a slate of activities that need to be acted upon by all parts of the Union."

"I am extremely pleased with all the outputs achieved during the mission," said Thorsell. "Now we can look forward to the actual delivery of all the commitments made. IUCN is very serious about its part in the Action Strategy, and will do its utmost to carry out its mandate. I can foresee a lot of energy going into our South Pacific work in the next four years," he concluded. □



A field trip undertaken by participants during the Third South Pacific National Parks and Reserves Conference.

Photo: J. Thorsell

World Forestry Congress



1985 was designated as the 'International Year of the Forest' by the UN Food and Agriculture Organisation (FAO). But two key events aimed at moving the issue of global forestry conservation and management forward, received mixed reviews.

Reports from the World Forestry Congress in Mexico City show a basic shift of the world's forestry industry towards being more concerned about conservation aspects of their work. However, the first Council session in Geneva of the International Tropical Timber Agreement did not achieve the results expected of it.

IUCN sent a strong delegation to this year's World Forestry Congress from 1-10 July. President M.S. Swaminathan, Vice President Marc Dourojeanni, Director General Kenton Miller, Senior Programme Officer for Tropical Forest Conservation Jeffrey Sayer, and Plants Officer Ole Hamann attended the main sessions and several sub-meetings, explained the Union's programme to the delegates, and presented several papers outlining the state of the world's forests urging that the conservation component be taken fully into account in all phases of the forestry industry. The delegation also held several meetings with key Mexican officials to further develop ties between IUCN and Mexico, and Hamann and Sayer undertook several field trips.

Forests ecosystems are one of the earth's most crucial resources. Forest vegetation and its accompanying soil organisms probably make up as much as 90% of the total biomass on land, thus representing a potentially immense foundation for ecological stability. But today the picture of the earth's forest resources is a bleak one indeed; in industrialised countries very few natural forests remain and many of those that do are threatened with destruction by acid rain pollution.

However, it is the wholesale destruction of the world's tropical forest which many conservationists and scientists believe is one of the greatest problems facing mankind. In 1980 there were 1.9 billion hectares of tropical forests in the Americas, Africa and Asia. By FAO estimates almost 11 million hectares of these forests are being cleared each year, mostly for agricultural use. The tragedy is that much of this cleared land is not suitable for permanent agriculture and is likely to be degraded or eroded.

IUCN has made tropical forest conservation one of its highest priorities and with the cooperation of other agencies including World Wildlife Fund, is in the process of designing and implementing about 100 field projects worldwide. These projects will tackle on the ground the problems involved in conserving the biological diversity and ecological processes in these forests.

Congress an opportunity

The Union is also actively working to convince governments and other agencies of the crucial need to preserve tropical forests. One of the largest international meetings for such lobbying activity is the World Forestry Congress, a gathering of everyone involved in the forestry field from timber company owners, scientists, university researchers, forest rangers and other workers, government planners, and representatives from international environment organisations, such as UNDP, UNEP and Unesco, and aid agencies involved in forestry projects such as the World Bank — some 2500 delegates in all.

The Congress is held every six years and its goal is to hear various views on the state of forestry, and to draft and produce a broad policy statement for the industry, setting out developmental and environmental concerns as guidelines for future use and management.

In a paper which detailed the relationship between forestry and agriculture and food security, Dr Swaminathan outlined the impact of deforestation on irrigation and food production. He told the delegates that without proper forest management, there could be no food security in many countries of the world.

Dr Miller's address focused on how forestry priorities have changed from the time when foresters were some of the world's first conservationists, to the recent past where the industry's emphasis has been on developing the forest as a material commodity converting it into wealth through employment, housing, producing paper products and construction-related activities, many to the detriment of environmental concerns. Dr Miller urged the delegates to come to grips with the environmental and social implications of uncontrolled forest development. He said later that for the first time in many years he felt there was a shift in the scope of the Forestry Congress in the direction of these concerns.

"In the past the World Forestry Congress has been a technical meeting which discussed practises, methods and procedures in forestry, with only a little philosophical discussion," he said. "Clearly, what happened at this meeting was a profession coming to grips with its social responsibilities. The discussions in the hallways among delegates focussed on the impact on people locally and abroad of decisions taken on using forest resources, the conclusions being that without an adequate approach to sharing the benefits and carrying out stewardship of the resource, vast ecosystems will degenerate."

"Now with the awareness of population pressures, land destruction and the limits to the forest resource in its wild form, the profession, governments, and others are beginning to rethink the process. I also see this shift in the attitudes of development agencies such as banks and bilateral agencies. Their objectives are being altered to promote small-scale forestry activities at the village level in developing countries. The goal is to develop the forests but to sustain them at the same time. So I feel the Congress set the tone that it was time to look at the social implications and responsibilities of forestry practice," Miller concluded.

Training

Other IUCN presentations to the Congress included a paper by Vice President Marc Dourojeanni on the need for expanding the conservation component of forestry training and education, and another by Harold Eidsvik, the Chairman of IUCN's Commission on National Parks and Protected Areas (CNPPA), examined the state of the world's forest cover and the need to include representative samples of forest in the world network of protected areas. Ole Hamann participated in a half-day session devoted to the subject of *in situ* conservation of forest genetic resources, and presented a paper prepared by himself and Prof. Lawrence Roche on the importance of ensuring the genetic resource base of timber trees.

While in Mexico the delegation also took part in a number of other activities including the presentation of Mexico's highest conservation award and meetings with Mexican government officials in the departments of Urban Development and Ecology, Agriculture, and Forestry, all with a view to strengthening IUCN ties with Mexican institutions. The delegation also met with many IUCN members in Mexico and encouraged other NGOs to consider IUCN membership in the future.

For IUCN's Senior Advisor for Tropical Forest Conservation, Jeffrey Sayer, one of the key activities at the Congress was the unveiling of action plans developed jointly by FAO and the World Resources Institute. The basic thrust of the plans is that aid to the world's forestry sector must immediately be doubled to about US \$800 million per year which would represent about 3% of the total OECD aid to the Third World. The plans also propose that 10% of this amount, or about US \$80 million per year should be spent on ecosystem conservation. Much would go to protected areas, as well as stabilising land around protected areas, which is a major theme of the IUCN Tropical Forest programme.

Sayer felt the plans were a good beginning, but that they still do not go far enough. He said that spending 3% of total aid money on tropical forestry is not sufficient to counteract the impact of the remaining 97% of aid money which goes into developments projects such as road construction, petroleum exploration, major dam projects, and expanding agriculture.

Both Sayer and Hamann made a joint field trip to Chiapas state southeast of Mexico City to visit the *Instituto de Historia Natural* to discuss how IUCN could assist in conservation work the Institute is doing in the Lacondona forest along the border with Guatemala, as well as in two other nearby reserves.

Miracle maize

Hamann also visited a site near Guadalajara in the state of Jalisco northwest of Mexico City where the world's only source of a newly discovered perennial maize exists. Described as the botanical discovery of the century, the maize can be crossed with cultivated maize and is resistant to at least four known diseases which plague domestic varieties.

The maize occurs in the Sierra de Manantlán near Guadalajara in a core area of 1200 hectares owned by Guadalajara University. However, it is under pressure from timber companies. The university is interested in having the area protected, possibly as a Biosphere Reserve under Unesco, and Hamann explored ways of providing expert assistance to a team of researchers already working in the area.

"For IUCN it's a crucial genetic resource concern," said Hamann. "One objective of the Biosphere Reserves programme is to conserve genetic resources, and this is one of the few examples where we actually know what the genetic resource of the area is. It's vital that it be protected." □

Taking root in Mexico



At the invitation of the Congress organisers all participating nations and international organisations were each invited to plant a symbolic pine tree at an arboratum just outside Mexico City. Director General Kenton Miller, Plants Officer Ole Hamann and Senior Advisor for Tropical Forest Conservation Jeff Sayer, did the honours for IUCN.

Photo: IUCN/Hamann

Tropical Timber Agreement interests fail to agree

The International Tropical Timber Organisation (ITTO), held its first council session in Geneva from 17 to 27 June to decide basic questions such as the location of the headquarters of the Organisation, its executive director, its financial rules and its budget (reports **Ronald van der Giessen**).

The Organisation was created to administer the International Tropical Timber Agreement (ITTA) which entered into force on 1 April after nine years of careful and painstaking negotiations between tropical timber consumers and producer nations.

Monitored by UNCTAD, the trade arm of the United Nations, it is primarily a trade agreement, but with very special aspects. It aims to create greater transparency in the world's tropical timber market; at present it does not impose any price or stock regulatory measures. These measures were stumbling blocks in reaching other international commodity agreements on tin and cocoa.

The most remarkable aspect of ITTA is that it unites provisions for the conservation and management of the tropical forests with trade and marketing factors. If the Agreement lives up to its text, it could

be the first global means to boost sustainable development of the tropical forest resource.

But despite apparent enthusiasm shown by member countries when they ratified the Agreement earlier this year, the Geneva meeting ended in stalemate. The only thing delegates agreed on was a set of conditions of accession for new members, which brought Korea and Bolivia in as full voting members during the council. Nothing else was settled. The participants couldn't agree on either a headquarters site or the choice of an executive director. Regional priorities seemed to take precedence over international concerns. The end result: an agreement to disagree.

The ITTA is an opportunity for the world's timber trade to respond to the need for better market conditions, better information on alternative wood uses, and broad support for improved forest management and reforestation. However, since no member seems prepared to give ground, its steering organisation may get lost in endless negotiations without ever coming to a decision. Hopes for breaking the stalemate now rest on the next meeting to be held (also in Geneva) in mid-November. □

Brazil: legal first for environment



The Natural Resources Defense Council, a US-based IUCN member, has won a major legal victory in its continuing efforts to boost attention to conservation and environmental matters in the programmes and projects of multilateral development banks.

NRDC intervened to criticise the Brazilian government's failure to ensure adequate protection of natural areas and Indian lands in a development project on its northwest frontier. The criticism prompted the World Bank to halt disbursement of six remaining bank loans worth several hundred million dollars.

The project is in an environmentally-sensitive region called the Polonoreste in the Amazon basin in Western Brazil. It calls for construction of a 1600 kilometre road into the jungle, and a variety of agribusiness services to be designed along the road. The Polonoreste project has drawn much criticism from environmentalists and Indian rights groups both in Brazil and the United States. They have charged that the development is poorly planned, that the intended land use is not sustainable and would lead to deforestation, invasion of Indian lands, and potentially violent land conflicts.

The decision to stop the loans and reassess the project "represents the first time the bank has ever halted disbursements on loans for environmental reasons," said Bruce Rich, the staff attorney for NRDC. James H. Scheuer, the Chairman of a US Congressional subcommittee concerned with natural resources, called the bank decision "a welcome step which will help us to avoid an environmental disaster in the Amazon. The World Bank has shown that it understands that development which is not environmentally sound cannot be sustained."

The World Bank, which is the world's major provider of financial assistance for projects in developing nations, was to provide more than \$US 430 million towards the 1.6 billion dollar project. Bank officials and Brazilian government representatives are now holding discussions to try to settle the environmental objections.

For the past several years, the NRDC and the US Wildlife Federation, (also an IUCN member) among others have been working to try to convince the World Bank and other financial institutions to be more conscious of the environmental impact of development projects in the Third World. The groups brought their environmental concerns to the attention of various US Congressional Committees and the Treasury Department, all of which can have an affect on the creation of World Bank policy. After a campaign of several years on these issues, the groups report that the World Bank is now far more receptive to incorporating environmental concerns into its activities. □

East Europeans protect 'cultural landscape'

The term 'cultural landscape' is one which has great popular use and significance in Eastern Europe as an area of concern within the conservation field. It was coined more than a dozen years ago to describe that part of the environment used by humans for agriculture, industry, and settlement, and where features of the landscape are closely bound to man.

For the past 14 years a sub-committee of IUCN's Commission for Environmental Planning (CEP), called the Committee for Ecodevelopment of the Cultural Landscape (CECL) has been doing important conservation work in the area of cultural landscapes, in developing sub-national and regional conservation strategies in East European countries including Bulgaria, Czechoslovakia, the German Democratic Republic, Hungary, Poland, Rumania, the USSR, Yugoslavia, and Finland.

A milestone event in this work was an IUCN co-sponsored Conference on the Ecodevelopment of the Rural Landscape held in Zdráské Hills Protected Area in Czechoslovakia from 10-14 June, organised by Committee Chairman Vanicek and colleagues including Vice Chairperson Hana Lostakova Ayala, and attended by Taghi Farvar, IUCN's Senior Advisor for Sustainable Development.

Among other things Farvar delivered an address for IUCN Director General Kenton Miller to the meeting. The message noted the cultural landscape model pioneered by CECL was now serving as a model elsewhere in the world. The conference coincided with the 15th anniversary of the founding of the protected area, considered an excellent example of cooperation to improve an ecosystem.

Delegates from a number of East European countries, and senior policy makers from Czechoslovakia heard papers presented by Czech scientists and others outlining case studies of the Zdráské Hills area as an example of how to create and implement a sub-national conservation strategy.

"The area's most arresting feature is that it has been in multiple use by about 16 cooperatives and one major state farm," said Farvar. "The declaration of this protected area has meant that guidelines have been developed for use by the cooperatives

and the state farm, and they've been complying with them to improve their agricultural techniques. They've also introduced more ecologically sound ways of utilising of the landscape, including removing certain parts of it from production, creating special new biological reserves to protect certain species of plants and animals to preserve the integrity of the environment."

Ayala said the meeting had two main accomplishments. It served to encourage and inform people attending from other Czech protected areas who want to launch similar strategies. It also inspired delegates from other East European countries such as Poland and the GDR to develop comparable models. Progress reports on these will be presented at the Conference on the *World Conservation Strategy* to be held in Ottawa in June 1986.

"From IUCN's point of view, I think the major outcome was what we could learn from some of the Eastern European work, particularly the Czech example," said Farvar. "It shows how one can extend the concept of conservation beyond strictly preserved regions into the larger environmental landscape where people live and work. It's really a very good example of how the two can co-exist, and based on the success of this committee, we are organising similar regional committees within the CEP in other regions of the world."

Following the conference Lostakova Ayala visited the IUCN Secretariat for follow-up action on the Committee's work. □

Swiss ban phosphates in domestic detergents

For the past several years the Swiss Federal government has become increasingly alarmed about the amount of phosphates being disposed of in the country's rivers, lakes and streams. Phosphorous compounds are used by detergent manufacturers as water softening agents. However, studies have shown that they cause excessive algae growth which cuts off the supply of oxygen in lakes and eventually kills all life.

Although some 85% of Swiss sewage is treated, the Swiss Interior Ministry says that some 4000 tonnes of phosphates from detergents are finding their way into water systems through various sources. Thus starting in July 1986 it has banned the use of phosphates in laundry detergents, and has reduced the amount allowed in dishwashing liquids and sewage disposal wastes, becoming the first European country to take such action. □



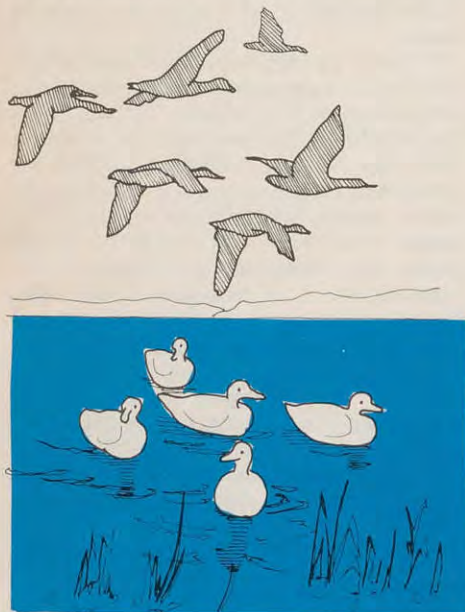
Ramsar progress

Canada to host third Ramsar conference

The Government of Canada has officially offered to host the Third Conference of the Parties to the Ramsar Convention. It will be held from 27 May to 5 June 1987 in the prairie city of Regina, Saskatchewan, an area near the major North American migratory bird flyway. The meeting will coincide with the celebration of the 100th anniversary of the declaration of the first migratory bird sanctuary to be created in North America, at Last Mountain Lake, north of Regina.

In her invitation to host the Conference, Canada's Environment Minister, Suzanne Blais-Grenier noted that she hoped: "...that by holding the meeting in the Western Hemisphere, we can encourage other nations with whom we share common interests in the conservation of wetlands and of migratory birds, to sign the Convention and to enlarge the international programmes we are now jointly engaged in."

At the Conference the Parties are expected to adopt the recommendations of the task force, to review how the Convention has been implemented, to focus on wetland conservation issues as identified in IUCN's Wetlands Programme, and to examine wetland conservation requirements in the Western Hemisphere.



Task Force meets

A May meeting in Paris of the Ramsar (Wetlands) Convention task force produced several results which will strengthen the Convention's provisions and administration. The task force discussed future secretariat requirements, amendments to the Convention, new rules of procedure for meetings of the Conference of the Parties, and the need for a standing committee.



IUCN President Dr M.S. Swaminathan, Director General Kenton Miller and Director of Finance and Administration Conrad von Ulm discuss IUCN - West German ties with the President of the Federal German Republic Dr Richard von Weizsäcker.

Photo: FRG government

West German visit

IUCN's links with the government of the Federal Republic of Germany were strengthened with a June 20 meeting in Bonn between President M.S. Swaminathan, Director General Kenton Miller, Finance Director Conrad von Ulm and Dr Richard von Weizsäcker, the President of the FRG.

The IUCN delegation told the President of the Union's work on the World Conservation Strategy, IUCN's plans for ecological rehabilitation of the Sahel, discussed possible formation of an IUCN Committee in West Germany, and potential funding for German issues of the *Bulletin* and other IUCN publications. The delegation also met with top officials from the Department of Agriculture.

Among other things, it recommended that IUCN should continue to provide official administrative services with the scientific assistance of the International Waterfowl Research Bureau (IWRB), and that the Parties must pay for these services through mandatory contributions to an agreed Convention budget.

The task force agreed the Convention needed to be amended to provide these financial and administrative requirements. It also called for new rules of procedure to improve the functioning of meetings of Conferences of the Parties, and it called for a standing committee to be established under the Convention to act for the Parties between meetings of the Conference.

UK and Norway declare new Ramsar sites

The British and Norwegian governments have added a total of 19 new sites to the List of Wetlands of International Importance under the Ramsar Convention.

On 17 July the British Government designated 6 habitats, the first of more than 60 it has committed itself to add over the next several years. During the same month the Government of Norway added 13 new sites, and also expanded the size of the Akersvika Wetland which was the first it designated when it signed the Convention in 1974.

Ramsar information

With the financial assistance of Unesco, IUCN has produced an information brochure on the Ramsar convention. It will be available in English, French and Spanish by mid-September. IUCN members will each receive free copies. Additional copies may be ordered from the Secretariat in Gland at a charge of US \$1.00 to cover handling and mailing. □



Lion cub caught in a trap in Okavango, Botswana.

Photo: WWF/Kay

Hungary joins CITES

Hungary has become the newest country to accede to the Convention on International Trade in Endangered Species (CITES). The accession will take effect on 27 August, 1985 and will bring to eighty-nine the Convention's number of Parties.

MEMORANDUM



Polar bear mother with her two four month old cubs, Denmark.

Photo: WWF

Polar Bears: things look better

The Polar Bear Specialist Group of IUCN's Species Survival Commission (SSC) reports that much progress has been made in protecting the bears over the past 17 years of the Group's existence. Jack Lentfer wrote in a recent *SSC Newsletter* that the Group's success in protecting the species has resulted from working meetings held every two to three years and the drafting and ratification of the International Polar Bear Agreement. The agreement, approved in 1975 by the five countries with polar bear populations (Canada, Denmark, Norway, the Soviet Union and the United States) was extended indefinitely in 1981.

The agreement stipulates that these nations must manage polar bear populations occurring on and adjacent to their coasts. It also prohibits polar bear hunting from aircraft or large motor vessels or in areas other than where they have formerly been taken by traditional means. It does however, allow some hunting under the jurisdiction of national governments. The parties to the agreement also undertake to protect ecosystems where polar bears are found, to conduct research, exchange results and data, and coordinate management and research for populations that live under more than one national jurisdiction.

The Group feels that through these means it has been able to raise awareness of the effects of habitat degradation primarily due to oil and gas exploration. Lentfer adds that many of the adverse effects on habitats have been offset to some degree by the establishment of preserves or other protected areas in some critical polar bear habitats. Although concern over hunting is slightly less now, the Group feels the number of bears being taken is at the upper allowable limit, especially considering the sex and age composition of animals being taken. □

Antarctica: strategy developments

A meeting of the members of IUCN Director General's Advisory Committee of Antarctic experts in London on 23 July resulted in further development of the

Union's strategy for the region. The Committee members received IUCN's draft programme document for Antarctica prepared by Marine Officer Dr D Elder. They suggested some changes to the document and proposed the revised version be ready for presentation to IUCN's Programme Advisory Committee Meeting in November.

The Committee also discussed how to go about pursuing the possibility of IUCN being granted observer status at meetings of the Consultative Parties to the Antarctic Treaty, it made proposals for establishing a joint task force with the Scientific Committee on Antarctic Research (SCAR) for the development of an Antarctic Conservation Strategy. It also reviewed IUCN's work in preparation for the 1985 meetings of the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR). □

Botanic Gardens Conference — final steps

The list of speakers is almost complete and final preparations are underway for the 26-30 November conference on *Botanic Gardens and the World Conservation Strategy*, co-sponsored by IUCN, WWF, the Canary Islands government and the Gran Canaria Island Council.

The conference will bring together botanic garden managers and international experts to examine how gardens can function more effectively as conservation, information and research centres, as well as how they can better maintain collections of endangered plant species.

Speakers include Peter Raven and Vernon Heywood from IUCN's Plant Advisory Group, Gren Lucas (Chairman of IUCN's Species Survival Commission), well-known Indian botanist T.N. Khoshoo, as well as other botanic experts from Asia, Africa and Latin America.

More information can be obtained from Dr D Bramwell, Jardín Botánico 'Viero de Clavijo', Tafira Alta, Las Palmas de Gran Canaria, Islas Canarias, Spain.

LETTERS

Letters marked * have been edited or translated. The Letters Page is an open forum for unofficial views of general concern to the IUCN network, and a medium of response to articles appearing in the *Bulletin*. Contributions (which should be brief and to the point) should be addressed to the Science Editor at the address on the *Bulletin* cover.

Wanted: definition of ecology

Dear Sir,

The latest issue of the *Bulletin* (April-June 1985) was an especially interesting one for me, particularly because of the special feature "Does Ecology Count?". I was somewhat surprised that terms (e.g. conservation, ecology) had become as confused as they apparently have.

While the articles together seemed to cover all the ground, there would still appear to be confusion. With the exception of the article by François Ramade, it was only implicitly stated that conservation was usually an activity generated as a consequence of people making a value judgment. Ecology is the principal scientific discipline that provides understanding and assistance in making decisions that will achieve the goals of conservation. The laws of physics are important considerations when building bridges, but the physicist does not determine that a bridge is required, nor does he build the bridge.

Conservation and management are similarly confused terms. From my own point of view, conservation and management are practically synonymous terms. Both are activities dedicated to solving problems that follow value judgments made by society.

The term 'development,' and particularly the phrase 'sustainable development,' also continue to be troublesome. To many people both imply that these actions, whatever they may be, can continue to evolve indefinitely. To me sustainable development means dealing with the environment in a broad sense with man's aspirations and needs fully recognized as a dynamic, integral aspect of the ecosystem at that point in time and space, to the end that an acceptable status quo can be maintained.

For example, if we look at the Sahel situation as presented in the section, "Diagnosis" in the June issue of the *World Conservation Strategy in Action* supplement to the *Bulletin*, we see it is not feasible to deal normatively with the optional forms of civilization that might be established.

Broadening the solution to include a different life style would make any solution that comes from outside almost impossible. One hopes life styles will change for the better, but they only can do so in concert with the environment (barring the importation of energy). And thus we have our ultimate dilemma, matching existing aspirations and population size with 'ecological' reality. I wonder how many of my colleagues would agree with that?

Robert L. Edwards, National Oceanic and Atmospheric Administration, US Department of Commerce.

MARINE CONSERVATION IS FOR PEOPLE

An IUCN *Bulletin* special feature compiled and introduced by **DANNY ELDER** with contributions from:

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SPECIAL SUPPLEMENT

The widely-praised booklet *Marine Mammals*, recently published by UNEP's Programme Activity Centre for Oceans and Coastal Areas, is issued as an extra supplement to this *Bulletin*.

VIEWS PRESENTED IN THESE PAGES DO NOT NECESSARILY MATCH THE OFFICIAL POLICY OF IUCN OR ITS MEMBER AND PARTNER ORGANISATIONS

Acknowledgement

The compiler gratefully acknowledges the help of Pamela Fernqvist in assembling this feature.



Marine conservation efforts are increasingly aimed at trying to bring man and the sea into harmony.
Photo: WWF/Vollmar

Seascape with figures

The Union's efforts in marine and coastal conservation can be summed up under various headings — conservation of marine mammals, the Law of the Sea, coastal ecosystems and so on. But what does the word conservation mean in all these very different contexts?

Does it mean we expect poor countries to install expensive sewage systems to sanitise coastal areas for vacationers from industrialised nations who want to enjoy 'unspoiled' nature?

Does our quest for conservation, based on lessons we think we have learned, demand that an African country curb the development of irrigated agriculture up-country in order to prevent increased sediment carried by rivers from killing the coral reefs in a marine park?

Do we ask coastal villagers to stop harvesting dugongs and manatees or other creatures threatened with extinction — even though the villagers may have been harvesting them for centuries and though their small-scale operations scarcely contribute to the threat? Why, after all, do we want to conserve marine and coastal systems or species?

Take the plight of some marine mammals, for example the killing of Harp Seal pups. Is the outcry against such killing founded on economic, scientific, moral or sentimental motives? Do we invoke the same arguments when considering mink husbandry, trout farming or (to choose a marine example) mariculture of shrimp? While the lowly shrimp may not stir the conscience of Western society, in the East it is a subject of art and poetry.

In the past decade or so, notions of conservation for its own sake have tended to go out of fashion in the face of increasing recognition that economic development must take place, particularly (but not only) in the geopolitical South. It is now axiomatic that conservation should be compatible with development and vice versa. The *World Conservation Strategy* is based

Danny Elder

upon this principle. But to what extent do we risk supporting development at the expense of conservation?

No easy answers

Is it acceptable to mine phosphate-rich guano on a South Pacific island until that island can no longer support a human population and the newly enriched inhabitants have to be evacuated?

Do we accept the introduction of large-scale rice culture in West African coastal areas to the exclusion of the mangrove ecosystems that have been the fabric of these areas for millennia?

Development need not always mean giving in to commercial interests, or looking at everything in balance-sheet terms. We have seen that this blinkered approach has risked — some argue it may have already ensured — the extinction of the Blue Whale. Relentlessly hunted over the last 150 years, we don't know if this species remains populous enough to survive. To many, whales are beautiful, thinking animals. More and more they are becoming symbolic of the natural entities whose intrinsic value far exceeds their commercial profitability.

The questions posed here may seem naïve but they paraphrase a very real, universal and awkward debate. It would be surprising if the answers fitted neatly together because it should be obvious by now that conservation and development dilemmas in today's world will usually be resolved by 'trade-offs' or compromises rather than by absolute, uncompromising methods.

Continued, over

The common factor

If we accept that such dilemmas are an inevitable, perhaps even a healthy condition, then where can we find a coherent theme, a unanimous basis for conservation? One unifying element, whatever one's point of view, is people. People turned up relatively late in the evolutionary process. If the world had evolved without them, any problems of environmental degradation or population pressure would be settled very decisively by environmental factors and natural selection rather than by politics. It is the nature of the way we live and conduct our affairs that creates dilemmas between conservation and development.

It follows that our behaviour — modelled anew on our own initiative — must be a primary resource for therapeutic solutions. No matter where our driving motives lie, we are the key to the causes and cures of today's most urgent crises in the global environment.

If we don't apply our best practical, theoretical and communications skills to solving these crises while still finding ways to renew and intensify the use of resources required for our own runaway populations to survive, then natural forces will intervene and we may be the all-time losers; the Blue Whale's fate may be enviable compared to ours. Marine and coastal conservation problems provide an important — perhaps the most important — arena for these skills.

Nobody's problem but ours

It is tempting to recycle oft-used platitudes (the planet is 70% water, 95% of the world's nations have a coast, and so on) in favour of marine conservation but the best reason is more obvious. Every marine resource conservation problem derives from and affects you and me. In the open ocean this is true for the demise of whales and fisheries and the input of wind and ship-borne pollution, to mention only two of the many and varied examples available. The human factor is more obvious in coastal areas where most of the human race resides and goes about its business — business which includes altering the coastline, exploiting coastal resources, dumping domestic and industrial wastes or simply being tourists.

The articles in this issue of the *Bulletin* are meant to give an idea of the range of topics and points of view involved in the marine and coastal conservation work of IUCN and its members. But the abiding message we hope to convey is that marine and coastal conservation is ultimately the responsibility of people. And people, regardless of their different motives or justifications, stand to gain most from it. □



John Pennkamp Coral Reef State Park in Florida — on IUCN's List of the Most Threatened Protected Areas of the World.

Photo: IUCN

Defining an IUCN Marine Programme

IN this and in previous issues of the *Bulletin*, and at various recent meetings among individuals who form part of the IUCN network, there has been mention of plans to prepare a 'new' IUCN Marine Programme.

In fact there has been an IUCN Marine Programme for some time and one does not have to look too deeply into the present activities of IUCN and its Members to realise that in effect it still operates. While they may not be gathered and presented under a collective title, a great many existing projects or work plans under the aegis of IUCN and its partner organisations deal almost exclusively with marine issues.

The box (right) summarises the marine-minded resolutions of the last IUCN General Assembly, a token of the IUCN constituency's commitment to marine conservation. Similarly, IUCN's Programme for 1985-1987 calls for a large number of marine related activities. In addition to the mandate these resolutions and programmes define, opportunities have multiplied for co-operation between the Union and a number of global programmes sponsored by international bodies, most notably the Regional Seas Programme of UNEP (see page 82) and the Man and the Biosphere Programme of Unesco. This extra volume of work has raised a need for a more accessible focal point in the IUCN Secretariat to cope with the day-to-day demands of dealing with marine related activities — the Marine Programme Office.

During the coming months, the Office will be formulating IUCN's Marine Programme. But it is not expected to propose activities that are radically different from those already underway within the Union network. Rather the Marine Programme will be a framework created on the basis of the Programme and resolutions of IUCN — and not only in the forms passed at the Madrid Assembly. It will also cater to previous directives reflected in the ongoing work of the IUCN Commissions, to impending thematic initiatives such as the wetlands campaign and programme, the current policy needs of IUCN as a whole, and the programmes of other organisations with which we co-operate, whether as members or partners.

Resolutions:

Many of the resolutions and programme items adopted or approved by IUCN's 1984 General Assembly in Madrid deal with marine related issues. This box summarises only those which emphasise a marine subject. For a more complete picture, see the full texts of the Madrid resolution which were reproduced as a supplement to the *Bulletin* issue of March 1985.

A summary version of the IUCN Programme for 1985-87 will be issued later this year.

Regionally based conservation

- 16/8 Antarctica (1)
- 16/9 Antarctica (2)
- 16/10 Regional Conventions

Coastal and marine matters

- 16/11 Deep Sea Mining and the Establishment of Protected areas of the Deep Ocean
- 16/12 Environmental Law of the Sea
- 16/13 Land-based Sources of Marine Pollution
- 16/14 Ocean Disposal of Radioactive Waste
- 16/15 Liability and Compensation for Oil Spills from Vessels
- 16/19 NGO Partnership with IUCN on Marine Policy Initiatives
- 16/30 Whaling

Developing and mobilising the IUCN network

- 16/19 NGO Partnership with IUCN on Marine Policy Initiatives

Promoting conservation of species and populations

- 16/26 Conservation of the Australian Population of the Saltwater Crocodile (*Crocodylus porosus*)

Objective 4.1.4 of IUCN's current programme, concerning marine mammals and other marine animals (see box) provides a good example of how the marine programme will take shape. The Species Survival Commission of IUCN was instrumental in making technical recommendations to UNEP and FAO during the formulation of the Global Plan of Action for the Conservation, Management and Utilisation of Marine Mammals. Subsequently, IUCN was asked to cooperate in implementing the Plan.

While SSC has the expertise needed for conserving marine mammals, the extra work required to help implement the Action Plan is not part of the Secretariat's ongoing programme of work. This is a case where the Marine Programme Office can step in to coordinate a number of UNEP funded projects on marine mammals, using the services of members of SSC Specialist Groups.

As IUCN's Marine Programme develops, work on marine mammals will become one element among many. Very similar collaborations between the Office and other Commissions or theme programme administrators are in view. The

- 16/27 Christmas Island (Indian Ocean)
16/30 Whaling

Islands/Wetlands/Forests

- 16/16 Conservation of Wetlands
16/37 Galapagos Archipelago, Ecuador

Programme items

Programme Area IV: Promoting conservation of species and their populations

Goal 4.1: To promote improved management of species and populations of conservation concern

Objective 4.1.4: To expand IUCN's work on conservation of marine species, especially mammals.

Programme Area V: Promoting the Conservation of Habitats and Ecosystems

Goal 5.1: To promote the establishment of a worldwide network of protected areas which covers all terrestrial and aquatic ecological divisions and protects species of conservation concern.

Objective 5.1.1: Increasing efforts to promote coastal and marine protected areas (GA Resolution II)

Goal 5.6: To focus attention on conserving habitats and ecosystems in major biotic units, both within and outside protected areas.

Objective 5.6.3: To promote the conservation of island ecosystems.

Objective 5.6.4: To promote the conservation of coastal and marine ecosystems.

Programme Area VII: Theme-Based Conservation Action

Theme 5: Promoting the conservation of coastal and marine living resources.

Commission on National Parks and Protected Areas will work with the Office on marine parks and protected areas, the Commission on Ecology on coral reefs and mangroves, and the Environmental Law Centre on Law of the Sea and the Regional Seas Conventions. Mangroves (under the Wetlands theme programme) will also come within the Office's orbit.

Thus the Marine Programme Office will draw together all the strands of marine activities involving IUCN and its network. In time, the Office will design a programme framework incorporating all the marine and coastal concerns of the Union: if any obvious gaps appear in this framework, the Office will steer new activities to plug them.

Dr Elder heads IUCN's Marine Programme Office: a marine chemist, he formerly worked on the design of Action Plans under the UNEP Regional Seas Programme. Prior to his UN experience he worked on marine pollution at the International Laboratory for Marine Radioactivity of the International Atomic Energy Authority in Monaco.

Coastal area conservation in tropical islands

Graham Baines

CONSERVATION needs in all coastal zones are acute. But nowhere are they more strongly felt than on tropical islands, the setting of most nations in the South Pacific and Caribbean, and a large number of those of the Indian Ocean.

No place in these island nations is physically or ecologically remote from the sea's influence. The perspective of the human societies which have evolved in these islands is coastal — of land and sea.

So much are South Pacific island societies part of their coastal environment that they do not differentiate between land above water and that which is submerged. In Fiji, for instance, the word *vanua* embraces terrestrial land and submerged land to the outer limit of adjacent coral reefs — together with the individual and the land owning community of which the individual is a member. Traditional coastal area management systems have evolved and these systems persist today to varying extents.

Coastal problems

So long as population and commercial pressures have remained slight, community management of the coastal zone of tropical islands has generally been ecologically sound, whereas governments, pressed by economic expediency, have often imposed alien and inadequate coastal zone management systems. Such misalliances, coupled with inappropriate forms of coastal area manipulation on the part of individual developers and agencies lacking the local peoples' understanding of the zone, has resulted in a complex of conservation problems. This syndrome is now spreading throughout the tropical island groups of the South Pacific, Caribbean and Indian Oceans.

In many Caribbean islands the use of coastal sand as a building material and the manipulation of sensitive foreshore areas for tourism poses extra problems. The narrow economic development criteria which govern such developments are compounded by the inability of coastal project engineers to understand the physical and ecological dynamics of the zone. Increasing population densities in coastal areas have led to increased nutrient levels, from sewage, in coastal ecosystems. This is often coupled with increased sediment loads in coastal waters, altering ecological relationships, inducing ecological instability, undermining the bases of coastal community fisheries and adding to the extinction stresses on depleted populations of animals such as turtles. In some areas chemical pollution has worsened the situation, too.

As the basis of their livelihood and lifestyle diminishes, the largely conservationist attitudes of subsistence and artisanal fishermen of tropical islands are being replaced by attitudes born of desperation. Overfishing is rife, immature fish are

harvested. Poisons and explosives are used as fishing techniques. They remove not just harvestable crop but the resource capital itself — leaving behind shattered and sedimented coral reefs with uncertain rehabilitation prospects.

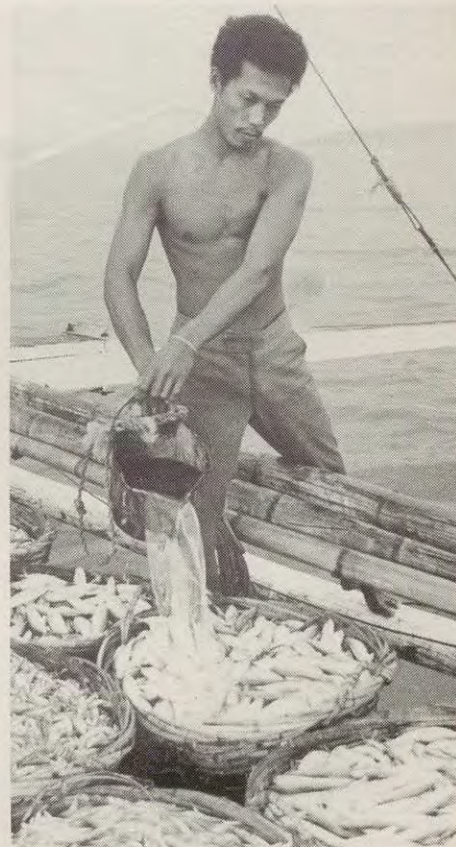
Meanwhile the loss of mangrove and seagrass areas to reclamation for coastal infrastructure development or for agriculture, further reduces the fisheries resource base and increases local community pressure on remaining areas.

Species protection

Many tropical island marine coastal conservation programmes have been species-focused. Turtles have received special attention, efforts having been made to boost depleted populations by protecting nesting beaches and hatchlings. Despite all the dedication, scientific expertise, time and money devoted to these projects, their effectiveness remains uncertain. The ecological and social arguments for turtle conservation programmes require careful re-examination.

Prospects for cetacean conservation in coastal waters have improved in recent years. However, small cetaceans are still killed in large numbers in some areas. In

Continued, over



Coastal zone fish processing is one of the many pressures on local island marine habitats. Photo: FAO

Malaita, Solomon Islands, for instance, porpoises are killed partly for food, but primarily to obtain their teeth, used in strings as a form of traditional currency. The Malaitan hunt is certainly a traditional activity. However, its cultural significance cannot compare with that of the bowhead whale hunt of the Inuit people of the Arctic. The hunt there has been shown to be a keystone of Inuit culture. In Malaita a curb on porpoise hunting would not be likely to have culturally damaging consequences.

The case of small cetaceans caught incidentally during fishing operations provides an instance where considerable improvements in species protection have been made, through fishing season modifications backed by appropriate legislation.

Ongoing conservation efforts in coral reefs and seagrass habitats among tropical islands off Papua New Guinea and Australia have achieved mixed results, for want of an approach which squarely places conservation in the prevailing socioeconomic context. Some mollusc species

(notably the large clams, *Tridarna*) are now under threat in the Pacific and Indian oceans and in need of urgent conservation attention. The conservation status of some of the rarer mollusc species may also be threatened by the demands of shell collectors. As in the case of certain coral species, CITES listing can help conserve rare molluscs.

Coastal area conservation

The widespread establishment of coconut plantations in coastal areas of tropical islands, once the industrial value of coconut flesh — as copra — was recognised, has dramatically altered the appearance of coastal landscapes, making it difficult to demarcate relatively undisturbed areas for protection as examples of terrestrial coastal ecosystems.

Increasing numbers of coastal areas are being given some form of official protection. The conservation status and prospects of such areas vary greatly. Marine parks and reserves are vulnerable to nearby land-based activities over which conservation

authorities often have little control. Efforts sometimes are focused too intensely on rigorous exclusion of all uses and impacts from a chosen area. Too close a fixation on this ideal of protection may mean that management of the area becomes nothing less than a continuing battle to preserve the area's integrity — against usually overwhelming odds.

Among the various approaches to tropical coastal area conservation so far tried, the management model developed and applied by Australia's Great Barrier Reef Marine Park Authority looks particularly promising. It can be readily adopted to the conservation circumstances of tropical islands.

Recent developments

Recent years have seen significant progress in conservation-minded management of coastal areas. Active consultation with the public most closely affected by management regimes *before* they are finalised has proved an important advantage; so, too, have well-planned conservation education initiatives in support of new approaches. Research into coral reef and mangrove systems has thrived and action to implement researchers' recommendations has followed suit.

Basic research findings are being applied more often and more directly to management needs. Sound ecological guidelines for selecting and establishing coral reef conservation areas have emerged from the pioneering work — under IUCN auspices — of Carleton Ray and (more recently) Rodney Salm. Even so, it will be hard to apply such guidelines to reefs surrounding tropical islands peopled by communities rich in strong traditions concerning use of the reef resource, unless due respect is paid to these traditions and a wholehearted effort made to blend them with improved management approaches.

The search for more and better knowledge and understanding of coastal ecosystems has been greatly aided by advances in remote sensing technology, particularly where they help us to identify and map coastal ecosystems and to monitor oceanographic conditions such as eddy structures, sedimental water or discrete water masses, all relevant factors in marine conservation area management.

Finally, the enthusiastic acceptance of the Law of the Sea Convention by over 150 nations has given renewed stimulus to marine conservation efforts in coastal areas. Several articles of the Convention provide for pollution control and for careful management of resources in the coastal zone. □

Dr Baines is a member of IUCN's Commission on Ecology and Chairman of its Working Group on traditional ecological knowledge. He has long lived and worked in the South Pacific island region. At present he works with the Solomon Islands government and also assists the Commonwealth Science Council with development of coastal zone management programmes in the South Pacific and Caribbean.

Conservation at work

South Pacific

An innovative programme of coastal zone management is being made ready for the South Pacific island region. The Commonwealth Science Council is working to design this programme as part of the long-established South Pacific Regional Environment Programme, in which 27 island nations and territories participate.

The management approach is broad, encompassing social, technical, administrative and ecological factors. Special emphasis is laid on preventative coastal zone management, rather than remedial efforts, and on the needs, perceptions and participation of coastal zone resources users. The use of traditional coastal resource management knowledge as a basis for modern management utilisation and the design of simple survey and monitoring techniques are other key features of the programme.

In the first phase, two community-based projects are to be developed; one in a 'high' (volcanic) island area, the second in a 'low' (atoll-type) island. Results of these and other projects are to be integrated for region-wide application under six headings:

- traditional coastal zone management
- coastal area assessment and monitoring
- coastal zone management policy, administration and legislation
- education and training
- protected coastal areas and species;
- ecological processes.

St Lucia breakthrough

In late July this year a group of experts met on the tiny Caribbean island of St Lucia to discuss the elements of a coastal zone management programme for the lesser Antilles subregion — a string of small islands stretching between Trinidad and Puerto Rico and encompassing fourteen island administrations, seven of which are independent island nations.

All the islands share a number of coastal management problems in common so the London-based Commonwealth Science Council suggested their administrations meet to formulate an integrated coastal zone management programme.

Five cardinal needs were agreed on:

- documentation and dissemination of information
- exchange of expertise
- formulation and testing of methodologies and approaches adapted to the needs and capabilities of the Lesser Antilles
- training activities, publications and field projects
- involvement of training institutions in the region

In support of the programme, working groups are to be established to deal with resource assessment methods; traditional resource management and the management of cultural and historical resources of the coastal zone; environmental standards and monitoring; coastal area management options; and economic valuation of coastal resources.

An established conservation and development project in the St Lucia coastal area of Vieux Fort is to be the base for a training programme in coastal zone management, available to participants from throughout the Caribbean.

A coastal zone management project in Oman

Few nations in the world can boast a capital with surroundings as ruggedly beautiful as those of Oman's first city, Muscat, or as rich in scarcely disturbed wildlife.

Sooty falcons and a variety of seabirds nest on islands within sight of the mainland. Turtles feed along the coast and nest on the island and mainland beaches only a few minutes by boat from Muscat. Within cannon shot of Fort Jalali, which guarded the eastern flank of old Muscat, are corals old enough to have witnessed the rout of the Portuguese more than three centuries ago.

Besides a mangrove nature reserve, archaeological sites hold the secrets of life and environment in Oman six thousand years ago. These ancient villages are hemmed in by the modern architecture of expanding residential areas.

Cliffs and craggy rock headlands, unblemished by artifacts, teeter over the seas east of Muscat. A continuous beach stretches west of the capital to Oman's northern border with the United Arab Emirates.

The Government of Oman is alert to the value of these virtually intact natural resources and is seeking to preserve them in tune with long-term economic, social and cultural aims.

Pressures

Oman is famous for its rapid yet carefully planned development over the past fifteen years. But this development has inevitably brought many pressures to bear on the nearshore lands and seas. The beauty of the coastal environment has attracted housing development and lured many to the seashore to swim, dive, waterski, sail, relax, picnic, camp and race four-wheel drive vehicles along the beaches and over the dunes. There is demand for recreational facilities, an increased interest in boating, and an accompanying need for marinas.

Rapid urban development has often buried archaeological sites under flower beds and concrete before they can yield up their story of bygone realities. Such urban sprawl, along with the recreation needs it raises, has run headlong into conflict with nature. Natural sanctuaries accessible only by sea are no longer so remote. Consequently, nesting seabirds and turtles are disturbed and their habitat sometimes damaged; reefs are being stripped of shells and corals; and beaches and the shallow seabed are strewn with plastics, tin cans and glass.

Oman's ruler, HM Sultan Qaboos, has been quick to respond to these problems: the threatened and only mangrove forest in the immediate capital area has been decreed a nature reserve; stretches of coastal lands

Rodney V. Salm

have been reserved for tourism by royal decree. And IUCN has been contracted to prepare a Coastal Zone Management Plan for the greater capital area.

As a further guard against overwhelming development pressure, the Government of Oman intends to provide managed recreational resources to cater to the quality of life of the people. The IUCN team in Oman is required to advise on the integration of conservation measures and ecological considerations into such development plans.

The 18-month project concerns about 200 kilometres of coast, including shorelands, nearshore waters and offshore islands. The goal is to produce a plan for the preservation of the natural richness and variety of the coastal environment for economic, social, scientific and cultural purposes.

Looking south



In 1983 IUCN completed a detailed study of the rocky shores of Oman's southern coast, where seasonal upwellings of colder water support unusual kelp beds. The biotic communities and oceanographic conditions in the south are quite different to those of the capital area. Here virtually nothing is known, or at least recorded, of the coastal shorelands and marine life. Hence this project has entailed extensive beach and underwater surveys. These surveys, which form the main thrust of the first nine months of the study, have yielded much basic information and some exciting new findings.

Fieldwork to follow up these results has identified a number of important sites. The Daymaniyat Islands are sites of major conservation interest. Specific management proposals will be prescribed following completion of monitoring studies. The vast semi-enclosed bay of Bandar Khayran has

archaeological sites, coral reefs and mangroves of great interest and a tern nesting island. It offers round-the-year calm for water sports. It is of value both for conservation and recreation. Both the spectacular bay of Bandar Jissah, just ten minutes by car from Muscat, and the beaches at Ras Suwadi combine their principal value of recreation with wildlife and coral reef conservation and fisheries.

An early result of this project has been the recognition of Bandar Jissah as a valuable natural heritage and scenic area. The area is designated for recreation. Development will be limited to essential utilities. These will be placed and designed to avoid detracting from the natural beauty of the site.

Roads, joy riders and housing are already damaging the low dune ridges backing beaches, and encroaching the wadi beds (dry river valleys) and saline creeks and mangroves.

These are sensitive environments which require special planning approaches. The dune ridges play a vital role in beach protection and consolidation of marine sands; the wadi beds are important because they can buffer episodic flash floods and consequent damage to structures. The mangroves and saline creeks are a key link in fisheries production; they harbour fish (mainly mullet) and crab (*Scylla*) nurseries. They are also bird feeding and nesting areas. The Coastal Zone Management Plan will single out these environments and propose a policy for development in, near, or affecting them.

The next phase

The second nine months of the project will entail work with various ministries and planning authorities to integrate development proposals with the Coastal Zone Management Plan. It is a period of meetings, lobbying, mapping, and deciding logistics. A smaller fieldwork programme will focus on the monitoring of changes in use of specific sites by people and wildlife.

The people of Oman have always cherished the sea and coast. This relationship began with the shell culture of the Stone Age and flourished through a triumphant era when Oman dominated sea routes from Arabia to the Orient and East Africa. It persists up to the present age of industrialised fisheries, modern shipping and leisure at the seashore. Oman's Coastal Zone Management Plan offers real hope that the valuable resources of the zone will long continue to benefit all her citizens. □

Dr Salm is a specialist in coastal zone management and marine protected areas and is co-author of the definitive Marine and Coastal Protected Areas: a guide for planners and managers (obtainable from IUCN). He helped establish a national programme for coastal areas in Indonesia and is presently steering the IUCN project in the capital area of Oman, described above.

High tide for Regional Seas

THE Programme Activity Centre for Oceans and Coastal Areas in the United Nations Environment Programme moved offices during August from Geneva — its long-time base — to UNEP headquarters in Nairobi. At the same time, it lost its dynamic Director, Dr Stjepan Keckes, who leaves after steering through Action Plans in nine regions and supervising studies in two more. Radical changes in staff structure associated with the move and the setting up of new offices in Nairobi may affect the management style of the Programme to some extent, so now seems a good moment to look back on its achievements so far.

Today, ten years after the Mediterranean Action Plan became the first major achievement of the Regional Seas Programme, about 130 states, 14 United Nations agencies and over 40 international and regional organisations take part in the programme for oceans and coastal areas.

The results have been impressive. Seven of the 11 Regional Seas designated by UNEP's Governing Council (on the basis of government requests) now have Conventions to protect the marine environment. The past four months have seen major meetings on the action plans for four of the regions.

Dr Keckes's explanation for the success? "In my view it is largely due to the fact that the programme responds to the needs of governments," he says. "We are doing what they ask us to do. We are not trying to impose our views on them."

Success also breeds its own momentum. Once governments saw that UNEP was able to get Israel, Libya and Egypt as well as Greece and Turkey sitting at the same table to work on the Mediterranean's environmental problems, there was an incentive to go to UNEP and ask for help in tackling the marine environment issues of other regions.

"It seemed to us that if we could succeed in the Mediterranean we could succeed practically anywhere," comments Keckes. "With the exception of Albania, the Mediterranean treaty has been ratified by every single Mediterranean country: the first agreement ever ratified by them all."

No barriers

The Mediterranean treaty and its detailed commitments to cooperation (in diplomatic jargon, the additional protocols) also showed developing countries there need be no North-South split over the environment. Poor states saw they were not being asked to give up development for the sake of the rich world's ideas of environmental protection.

"The initial request has to come from governments," Dr Keckes stresses. "We never initiate an Action Plan on our own. If governments feel that UNEP can help bring them together to negotiate a regional agreement to solve problems they cannot solve individually, UNEP always responds favourably."

Peter Hulm

"We are not trying to mastermind an official request that caters to a momentary political situation, or to one or two governments. But we insist the request has to come from governments and that it be unanimous. We are never involved in any region where all governments do not agree on regional cooperation."

Birth of an Action Plan

The process that gives rise to an Action Plan under the Programme is, according to Dr Keckes, one of careful, step-by-step consultation. "Usually, we negotiate with the governments to find out which problems they believe could be solved through regional cooperation, the whole effort being not to solve national but rather regional problems. We are trying to identify problems common to all countries in a certain region. When these problems are identified through a series of expert meetings and studies, then we call an intergovernmental meeting and put everything on paper in front of them."

"With the help of our experts we tell them what was identified as a regional set of concerns. At this point we ask for their agreement to a relatively concise text which constitutes the Action Plan. (It) is not a long-term document, but it is a programme document which may not have to change for 10 to 15 years because it was outlined in general terms."

"Between these countries there is usually a convention ... a binding agreement to

provide us with the legal framework for our plan and ensure some sort of continuity. The long process of turning the Action Plan into reality continues through undertaking activities advised by the governments, and then learning from them."

"The Action Plan is further strengthened not only by political commitment from the governments, expressed in their Convention, but by financial commitment, too. UNEP is there to help with funds. The preparatory phase is usually funded completely by UNEP. In the initial phase of implementing an Action Plan, UNEP gradually decreases its costs so that when a Plan is in full swing, for instance in the Mediterranean or Kuwait Region Action Plan, UNEP's financial role drops practically to zero."

"UNEP remains specifically responsible for the Action Plan and the Convention but the financial commitment comes from elsewhere. And it is very interesting that once the governments start contributing the full trust funds which finance the Action Plan, they are more responsible because they know it is their money, not somebody else's. The governments are very careful to attach proper price tags, and to identify proper priorities so there is no mess."

An active partner

Dr Keckes and his team have played a vital role in putting together the Action Plans at the rate of about one a year. Though the Programme Activity Centre does not impose its views on governments, "...it does not mean that we are not an active partner in development," explains Keckes. "We are trying to shape their programmes using our experience in one region so that they do not make the same mistakes in theirs."



Audouin's Gull — most of the few known colonies of this rare Mediterranean seabird are subject to disturbances by fishermen and tourists.

Photo: WWF/Witt

But there is an equally important reason for the high reputation of the Programme Activity Centre with governments: "We are not trying to promise things that cannot be done," says Dr Keckes. "Very frequently it happens that, even though we made certain promises to them, the governments involved think we are going slowly. But our policy is to take realistic steps forward, not jumps which can land you in a ditch, and I think this approach has paid off in the 10 years' existence of the Regional Seas Programmes."

"We have shown constant and steady progress in all fields where we have started to work. None of the things we have initiated have failed to show progress, sometimes slow, but always definite progress."

IUCN's role

IUCN is one of more than 40 non-governmental organisations (NGOs) which work in close cooperation with UNEP. Keckes points out that the Union has been "intimately linked with UNEP in the development of all Action Plans starting from the very beginning."

One of the earliest jobs involved in Action Plan development is to identify problems in conservation. "IUCN, through contracts with UNEP and money provided by it, focuses on the conservation problems of a region, coming up with suggestions and convening workshops on our behalf." Once Action Plans are adopted, governments take over control, with UNEP acting as the secretariat when invited.

"IUCN is also involved in the implementation of Action Plans", says Dr Keckes. "Since it takes part in the preparatory phases, the governments appreciate the role it can play. In addition, IUCN has its own good advocates in the regions. So it is quite clear that IUCN is an important factor in implementation."

NGO action

Participation by NGOs depends on their role and importance in individual regions. "After an Action Plan is adopted, the participants are determined by the governments," notes Keckes. "The governments are ready to consider any proposal that is given to them. So NGOs are always invited to submit their proposals either directly or, if they are associated with IUCN, through it. UNEP is a broker between the governments and the NGOs."

"We have had success with this in some regions, in others less so. The role of NGOs is different in different parts of the world," he reports. "But we regard IUCN as a 'mother' organisation for environment-oriented NGOs, because we are not as objective in these fields as IUCN. We leave IUCN to do the sub-contracting to them. And this happens because often IUCN acts as a secretariat to the NGOs in the field and the projects are implemented through them. We find it convenient to negotiate through IUCN acting on behalf of these various NGOs."

Dr Keckes has strongly encouraged NGOs to take part in UNEP's work to protect the marine environment. He took the

long-awaited step of inviting major campaigning NGOs such as Greenpeace for a meeting with representatives of governmental agencies last March to push forward with a Global Action Plan on marine mammals.

"It took years before this Action Plan finally evolved as a text that could be submitted to the UNEP Governing Council for approval. FAO (the Food and Agriculture Organisation of the United Nations) played a major role in the development of the Action Plan. The Governing Council has adopted it, and now we are in the implementation phase," Keckes says.

"As a first step we convened an inter-agency meeting in Geneva and we invited various UN and non-UN government agencies, as well as a number of larger NGOs



Southern Elephant seal bull in the Kerguelen Islands, Indian Ocean.

Photo: WWF/de la Rue

which we know are heavily involved in marine mammal questions. We asked them to show what sort of projects they have at present which could contribute to the Action Plan, and also what future plans they have which could fit into it. It would be tragic if we developed the Plan in a vacuum or forgot that there are many activities going on which could be part of it."

Wider scope

In line with its growing mandate, the Centre changed its name this year from the Regional Seas Programme Activity Centre to the Oceans and Coastal Areas Programme Activity Centre.

"When we started, the Centre dealt only with regional seas. Very soon after it was established, we undertook to handle the global ocean pollution programme too,"

Keckes recalls. "And last year we were put in charge of the marine living resources programme. So the Office was renamed. But the programme has not changed. We retain all three programmes under this new title. More recently, the Executive Director decided that the office which up to now has been located in Geneva should be moved to Nairobi and start operating there as of the first of September."

Dr Mostafa Tolba, UNEP's Executive Director, points out that the Regional Seas approach has its roots in UNEP. He sees exciting prospects for extending the techniques which have been applied so effectively to the world's seas in new directions.

"Now we are starting to apply the same approach to freshwater systems, again through groups of countries in a region, beginning with the Zambesi States," he reports.

He also sees an expanding role for IUCN in the Regional Seas exercise, based on its diverse State and NGO membership.

"There are many governments in the latest group of Regional Seas like the Caribbean, the Eastern African and the West and Central African regional seas, who are not just talking about the cleaning up of offshore waters," he says. "They are now concentrating on marine and coastal areas. Coastal area development is where IUCN can come into its own with conservation strategies offering a blueprint for sustainable development which sidesteps pollution or other destructive side-effects."

Flexibility

Eleven regions covered, seven generalised Conventions negotiated, nine scientific and technical Action Plans agreed, 12 protocols approved setting out detailed national commitments — the stupendous work UNEP has done through its programme for oceans and coastal areas over the past decade is plain to see.

But though all the Regional Seas Programmes fit within the same framework, their development and associated treaties have varied considerably according to the problems, needs and capacities of the countries concerned. The Mediterranean has been a garbage dump for its 120 major cities over thousands of years. The fast-industrialising Red Sea region still remains sparsely populated but politically stormy. Both seas seem uncomplicated compared to the bewildering ecological diversity of the South-East Pacific (off the west coast of Latin America). Its climatology ranges from tropical to sub-Antarctic.

The pioneering Mediterranean programme has worked mainly to combat damage from overdevelopment, affecting particularly its richer states, and to help the others see the dangers of uncontrolled exploitation of the sea and the coastal environment.

The South Pacific states, whose islands cover only one fortieth of the waters within 200 miles (320 kilometres) of their coast, have (in most cases) hardly begun to industrialise. They are more concerned about managing limited natural resources and holding development in balance with traditional culture.

Continued, over

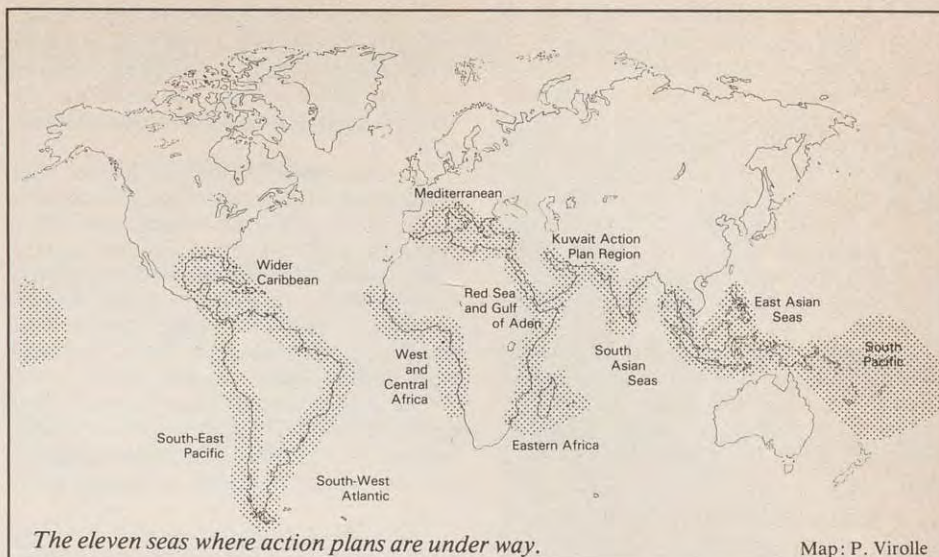
HIGH TIDE — continued

The Wider Caribbean, with its 1981 Action Plan and 1983 Convention, has adopted more of a global approach. The plan sets out 66 environmental projects. The Red Sea's remodelled action plan, approved in 1982, has a strong environmental management chapter. The newest region to approve an Action Plan, Eastern Africa, has a protocol on protected areas and wildlife as well as the standard text on cooperation in marine pollution emergencies.

Plain gain

At the 1972 Stockholm Conference on the Human Environment, where both UNEP and the Regional Seas Programme originated, pollution in the Mediterranean was classed among the most serious existing threats to the global marine environment and justification in itself for a new style of environmental protection on a regional scale, according to both UNEP and Unesco reports. A progress report commissioned by UNEP ten years later (UNEP Regional Seas Reports and Studies, No. 1, UNEP, 1982) signalled a definite change for the better in the Mediterranean's open waters thanks to work done under the Action Plan and a greatly improved understanding of where priorities lay in respect of land-based sources of pollution.

"The danger of the open ocean becoming severely polluted is now considered to be less acute," the report noted, "and it is



The eleven seas where action plans are under way.

Map: P. Virolle

evident that existing problems, and the first effects of new ones, are most likely to arise in waters close to land. Attention is therefore being concentrated on protecting the health of coastal waters, especially in enclosed and semi-enclosed seas."

Regardless of the clear need for such fine-tuning, UNEP's mandate for saving the seas remains truly global. The Regional Seas Programme covers practically the whole globe, except for regions such as the Baltic or the North Sea, where other mechanisms and other organisations are operating actively along similar lines.

"Our Programme is now nearly global," says Keckes, "and we are trying to ensure that this leads to a situation where we can assess the problems on a global scale through a unified methodological approach."

Peter Hulm is a journalist specialising in environment concerns. He has authored and edited many of the descriptive publications arising from the Regional Seas Programme.

Regional seas: the story so far

MEDITERRANEAN:

Action Plan: Barcelona, February 1975. Participants, all Mediterranean states except for Albania.

Convention: Barcelona, February 1976. Entered into force: February, 1978.

Protocol against dumping from ships and aircraft: adopted 1976. Entered into force 1978.

Protocol on cooperation in combating pollution by oil and other harmful substances in cases of emergency: adopted 1976. Entered into force 1978.

Protocol on land-based sources of pollution: adopted 1980. Entered into force 1983.

Protocol on specially protected areas: adopted 1982.

KUWAIT REGION:

Action Plan: Kuwait, 1978.

Convention: Kuwait, 1978. Entered into force: 1979.

Protocol on emergency cooperation: adopted 1978. Entered into force 1979.

WEST AND CENTRAL AFRICA:

Action Plan: adopted Abidjan, 1981.

Convention: adopted Abidjan, 1981. Entered into force: 1984.

Protocol on emergency cooperation: adopted 1981. Entered into force 1984.

WIDER CARIBBEAN:

Action Plan: adopted Montego Bay, 1981.

Convention: Cartagena, 1983.

Protocols on cooperation against oil spills: adopted 1983.

EAST ASIAN SEAS

Action Plan: Manila, 1981 (and Bangkok, 1981, for Thailand).

SOUTH-EAST PACIFIC

Action Plan: Lima, 1981.

Convention: Lima 1981.

Agreement on emergency cooperation against pollution by hydrocarbons and other harmful substances: adopted 1981.

Protocol against land-based sources of pollution: 1983.

Complementary protocol to the emergency agreement: 1983.

RED SEA AND GULF OF ADEN:

Action Plan: Jeddah, 1982.

Convention: Jeddah, 1982.

Protocol on cooperation against pollution by oil and other harmful substances: 1982.

SOUTH PACIFIC:

Action Plan: Rarotonga, 1982

Convention: now under negotiation

Protocol against dumping: under negotiation

Protocol on cooperation in oil emergencies: now being developed.

EASTERN AFRICA

Action Plan: Nairobi, June 1985

Protocol on emergency cooperation: Nairobi, June 1985.

Protocol on protected areas and wildlife: Nairobi, June 1985.

SOUTH-WEST ATLANTIC

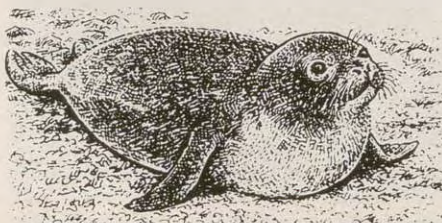
Covers the Atlantic coastal waters and the adjacent coast of Argentina, Brazil and Uruguay.

No firm proposals.

SOUTH ASIAN SEAS

Covers the marine and related coastal environment of Bangladesh, Maldives, Pakistan and Sri Lanka.

Action is still being studied.





Rumanian tanker on fire at the entrance of the Bosphorous Sea.

Photo: WWF/Gürpinar

The sea and the law

PROTECTION of the marine environment in international law began in the 1920s, when concern first began to mount over the pollution of the sea by an increasingly oil-burning merchant fleet.

For several decades, the effort of the international community was directed towards the control of ship-borne pollution, as ships were the most obvious source of pollution and represented in some respects an easily controllable target, as, at least until the late 1960s, the fleets of the major maritime nations contained a large proportion of the world's shipping.

Initially, pollution Conventions like the 1954 London Convention on the Prevention of the Pollution of the Sea by Oil, were essentially 'clean beaches' Conventions and only in the 1960s did they begin to attempt to protect the quality of the high seas themselves. Even then, the developments in the oil carriage industry rapidly outstripped the treaties' provisions and, in the early 1970s, the International Maritime Organisation (IMO) fathered a new Convention for the Prevention of the Pollution of the Sea from Ships (MARPOL), which set out to cover not only pollution by oil, but also noxious substances such as garbage and sewage.

Nevertheless, formidable problems of enforcement were still being raised by the changing pattern of vessel ownership and, in particular, the concentration of tonnage in open registry, 'flag of convenience' states, combined with the perennial difficulties of implementing control over ships in international commerce.

Malcolm Forster

These problems prompted the international maritime community to rely on forms of legal compulsion other than prosecution, such as the imposition on shipowners of the obligation to pay compensation for damage caused by oil pollution and to carry insurance against such liability, thus attempting to internalise the cost of contamination. IMO has recently promulgated a Protocol to the Convention on Civil Liability for Oil Pollution Damage which would provide for the recovery of the costs of restoring the marine environment, although the Protocol has yet to come into force.

Pollution by default

Contrary to popular belief, most pollution incidents are not caused by deliberate discharges, but by negligence, faulty equipment or human error. International agreements have therefore been developed to ensure that vessels have proper navigational equipment, are properly constructed for the cargoes they carry and that their watch-keeping officers are adequately trained. These apparently unglamorous conventions contribute very largely to pollution control, and some states (such as those in NW Europe) are beginning to examine foreign flag vessels in their ports to ensure they comply with these requirements.

Attempts to regulate land-based pollution are not so well developed, owing to the need to provide for so many differing sources of pollution. Nothing approaching the technical specificity of the ship-borne conventions has been possible, and even those instruments which exist strike the reader as being little more than broad statements of generally desirable ends.

Efforts to promote sustainable use of living resources in the seas have a very long history, as most fishing agreements over the last century have at least attempted to ensure the maintenance of a sustainable yield. Many of these agreements have management commissions undertaking research on the species concerned, its ecology, migratory patterns, and so on. Many also take into account the impact of fishing on dependent or associated species.

Recently, there has been a trend (largely but not exclusively associated with the UNEP Regional Seas Programme) to adopt a different approach by looking at the environmental problems of a whole sea area and attempting to provide the legal tools necessary to solve them. Thus, Regional Seas Agreements dealing with both ship-borne and land-based pollution, the protection of special areas, prohibition of dumping, and many other factors, exist for about a dozen areas throughout the world, from the Caribbean to the South-East Pacific (see the foregoing article).

The big one

Behind all these specific instruments loom 320 articles of the United Nations Convention on the Law of the Sea, no fewer than forty-odd of which concern environment and conservation questions. The Convention is not in force and some aspects of its provisions are the subject of acute disagreement, but for the most part, the environmental provisions are non-controversial and some of them might already be said to be simply descriptive of an existing consensus in international law. □

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A marine biologist examines the effects of marine pollution off the Yugoslav coast.

Photo: WHO/Henrioud

Coral reefs: a failing resource?



Bonaire Underwater Park — maintaining coral reefs at a sustainable level is a global priority recommended by the World Conservation Strategy.

Photo: WWF/Newton

The World Conservation Strategy names coral reefs as one of the life-support systems essential for our own survival and for prospects of sustainable development. Current research is providing more and more case studies which underline the importance of reefs. Even so, much disturbing evidence suggests that reef ecosystems are deteriorating worldwide.

The fifth International Coral Reef Congress held this June in Tahiti was a timely occasion for discussing many of the problems. A seminar held during the Congress endorsed the *Strategy's* recommendation that maintaining reefs at a sustainable level should be a global priority. Reefs are fished mainly by subsistence fishermen using artisanal methods. The fisheries' remoteness from major markets, the diversity of species they harbour (fish, molluscs, corals, crustaceans, sea cucumbers and so on) and the deterrent presence of ciguatera fish among their stock, means that their mass market potential is unlikely ever to be realised.

Sunken treasure

It is already recognised that many aspects of reef systems are of great extrinsic value. The potential yield of reef fisheries is nine million metric tonnes a year, 12% of the total present world catch. Reef-related activities are a major element in tourism in many countries, and soon it may be possible to assess precisely the economic value of reefs to leisure industries. Studies have already shown the positive economic benefits of marine parks in the Caribbean. For example, the US Virgin Islands Park receives around a million visitors a year.

Tourism has shown phenomenal growth in the Great Barrier Reef region of Australia; this development has been studied in some depth. A glance at the promotional literature in hotels and tourist offices of countries such as Vanuatu and Fiji,

where tourism is now the major industry, shows that reef recreation in forms such as glass bottom boat tours, scuba diving and snorkelling, are as popular now as any of the more traditional tourist attractions like folk dancing and local handicrafts.

The fundamental role reefs can play in protecting coastlines from erosion is harder to evaluate but is an undoubted matter of fact. They also contribute to the formation of sheltered harbours and of white sandy beaches — a tourist magnet.

The dangers

The complex dynamics of reef ecosystems have been fully appreciated only recently, yet they have a vital bearing on reef conservation and management. Reefs are very sensitive to environmental conditions. Over geological and historical time they have disintegrated and regenerated; the nature of this swing is only just beginning to become clear.

The corals which form the structural framework of the reef have highly specific requirements where light, temperature, water clarity, salinity and oxygen are concerned. The reefs grow slowly and the process may be slowed still further under adverse conditions. For example, in extreme conditions (such as heavy pollution) there tends to be a mass expulsion of the

symbiotic zooxanthellae which live in the coral tissues, resulting in the death of entire coral colonies.

El Niño

Hurricanes, cyclones and storms are also a major danger. They can reduce large areas of reef to rubble, as recent events of this kind in Belize, Jamaica and, very recently, in French Polynesia bore witness. Corals rarely survive in water temperatures below 20°C or above 30°C and the abnormal El Niño current of 1983 had a disastrous effect on corals in the Eastern Pacific when sea temperatures rose to over 31°C. Large areas of reef have died in Costa Rica and Panama, while in the Galapagos 95% of the corals were found to have died. More localised problems, such as the combined impact of high temperatures and abnormally low tides, left shallow reefs exposed to sunlight, heavy rainfall, and freshwater inundation on many Pacific Islands. The harm done by coral diseases and by growing numbers of coral predators is under close study in many places.

Damage inflicted by the Crown-of-Thorns Starfish (*Acanthaster planci*) is still a major worry. The starfish has attacked reefs repeatedly throughout the Indo-Pacific and has caused massive damage. But the triggering mechanism for these invasions is still a matter for debate. A growing body of evidence suggests that reefs can regenerate once invasions cease.

Human activities can cause great harm and seriously hinder reef regeneration, as several speakers at the Tahiti Congress pointed out. For instance, in most countries with reefs the coast is a densely populated site of large-scale urban and industrial development. Siltation from soil run-off is now considered to be the most serious long-term danger to reefs, although more research and monitoring programmes to show why this is so, are still needed. Siltation is also one of the most difficult problems to control on a reef. The initial cause of erosion — whether deforestation, poor agricultural practices, mangrove destruction or bad land planning — may originate far from the reef and different government authorities and legislative procedures may govern its course.

The creation of a marine park or reserve will not provide protection from this syndrome, as the damage it has done to the reefs in Cahuite National Park in Costa Rica and in Malindi-Watamu National Park in Kenya shows all too clearly. Siltation caused by activities very near a reef is more tangible and controllable. Dredging for coral sand is a big problem in many island nations. Methods are being devised which will limit its muddying effects but such improved practices still need to be promoted and supported. The effects of open cast mining could — in theory — be similarly controlled or limited; so, too, should the effects of more general coastal development such as road, port, hotel and housing construction.

Pollution in its many forms poses another serious threat to reefs. Organic pollution from sewage causes eutrophication and growth of algae which may subsequently smother the corals. When control measures are imposed, however, reefs may recover fairly swiftly. In the well-documented case of Kaneohe Bay in Hawaii, reefs were all but destroyed by sewage pollution a decade ago. Now they are showing vigorous regrowth following the introduction of pollution controls.

It should go without saying that such controls must be kept in mind when designing sewage systems and other potential sources of pollution. Few participants at the Tahiti Congress failed to see the irony in the fact that swimming was out of the question in the bay outside the congress' hotel location, owing to serious organic pollution in the water!

Direct damage

Direct physical damage to corals is becoming a problem in some areas, particularly in the Caribbean where reefs undergo a lot of recreational use. Anchor damage, trampling and boat groundings have all made local impacts, and strenuous efforts are being made to control these impacts.

Parks and reserves have a cardinal role to play in arranging such controls, though protection of an area, because it entails extra use, may pose as many problems as it was meant to solve. However, by providing mooring buoys, restricting the numbers of divers visiting reefs, controlling access to them, and stringently enforcing park regulations, managers can keep damage to a minimum.

Perhaps more difficult pressures to control are destructive fishing methods, in particular the use of dynamite or poisons such as bleach and local plant extracts. These methods are widely used throughout the Indo-Pacific despite prohibitive laws, because most countries lack the necessary enforcement facilities. A resolution passed at the Third South Pacific National Parks and Reserves Conference in Western Samoa this June, underlined the serious damage these fishing methods are causing and requested international aid to solve the problem in the Pacific region.

Another problem area is over-exploitation of reef resources. The seminar on reef fisheries at the Tahiti Congress emphasised that the conservation of the reef environment is a prerequisite of fisheries management. If degradation or pollution continues, yields will decline despite all other management methods. In many areas certain resources (including fish, giant clams, corals and lobsters) have shown a serious decline and programmes of controlled exploitation, mariculture and restocking are considered necessary.

Solutions

Damaged reefs can recover. The mechanisms involved in the recovery processes, the speed of recovery, and the extent to which the new reef can be expected to resemble the old one, are the main answers researchers are still seeking, before guidelines can emerge for providing suitable conditions for reef recovery.

Many speakers at the Tahiti Congress insisted that reef research must become more management oriented, that there must be improved communication between reef scientists and those directly involved with coastal development and planning, and that most countries with reefs urgently need international support and aid for their management programmes.

More protected areas

It appears, too, that marine ecosystems are still poorly represented among the world's protected areas; only about 100 of the 1162 national parks on the United Nations list include or adjoin reefs. Nevertheless, advances are being made. The draft IUCN Directory of Coral Reefs of International Importance has so far identified about 100 countries with conservation-worthy reefs or coral communities. Fifty-two of those countries have reefs which are protected in a range of ways, for instance as private scientific reserves, fishery conservation areas, traditional management areas, National Parks or large multiple use areas such as the Great Barrier Reef Marine Park.



Photo: WWF

Another 27 countries have projects or reef management programmes in preparation or under way. Information on many of these areas is very poor; some have never been surveyed and others barely exist except on paper. It is now widely accepted that the multiple use approach holds most promise for marine protected areas. The Great Barrier Reef Marine Park offers an advanced model, but few countries have the technical or financial means to develop reef protected areas to this extent. Even so, the principles of the Great Barrier model are being used by many countries to create smaller schemes.

The management of reefs in the Pacific will become increasingly important over the next decade, especially since they are a major resource of many land nations. Over a large part of Oceania, customary law often

dictates that nearshore areas, particularly coral reefs, are owned by clans or larger communal groups. In the past, these reefs were managed by a variety of small-scale methods, including limited entry systems, self-imposed closed seasons, closed areas or gear restrictions. Although traditional ownership has superficially disappeared in many countries, it still exerts a strong hold in many places and could be applied to current multiple resource management systems.

Those reef areas which qualify for World Heritage Site status or which could be developed as Biosphere reserves have extra prospects for official protection. Other international aspects of reef conservation (such as the feasibility of listing reefs under the Ramsar Convention) were discussed in detail in a previous *Bulletin*, so are not considered here. But it is hoped that when the IUCN Coral Reef Directory is completed, it will be possible to draw up a list of priority areas for consideration at the international level.

Important as official protection is, it cannot alone ensure the future survival of reefs; witness the listing of the John Pennekamp Coral Reef State Park, the oldest of the USA's marine parks, among the world's ten most threatened protected areas announced at last year's IUCN General Assembly. Integrated management, as it is defined in several articles in this issue, holds the key to more comprehensive solutions which take account of pressures on both sides of the protected areas fence.

Monitoring and education

Monitoring of reef ecosystems must be considered a high priority. Techniques have been developed which need involve little cost or sophisticated biological knowledge. Satellite imagery may play an increasingly important role, when funding for it can be obtained from international aid programmes. Although ground truthing is required to confirm it, remotely gathered information offers an effective base for a preliminary map of reef systems which can be used as a planning tool.

Equally important is the need for improved educational programmes bearing on marine and coastal management. This has been repeatedly recommended over the last decade but there is still remarkably little investment in this field by governments or conservation organisations.

Marine themes must be incorporated into environmental education programmes in schools and universities. More trained marine park rangers are needed, and (as the Tahiti meeting stressed) planners must become more aware of the complex relationships between reef health and alterations in the terrestrial environment. And finally, there is scope for introducing an educational element into reef-related tourism activities. □

Sue Wells is a senior research officer in IUCN's Conservation Monitoring Centre in Cambridge, UK, with special qualifications in marine species and habitat conservation. She is responsible for compiling the IUCN Coral Reef Directory, now nearing completion.

CONSERVATION ON SMALL ISLANDS

the human dimension

THE earth is a small island of life in the emptiness of space, and man is coming to learn that he must live within the limits of our planet. On a much smaller scale, the populations of small islands in the sea must live within the limits of their island.

An island system is not only the land and coastal waters, but also the natural communities of plants and animals that found their way there and evolved to suit its particular conditions.

Ever since Darwin immortalised the Galapagos, islands have often been celebrated for their unique flora and fauna. Such species richness often goes with small population sites and high endemism on all but the smallest islands. Typical island species and ecosystems have adapted to their isolation, so are fragile and easily upset by disturbances or the introduction of alien species. Many of the world's recent extinctions have happened on islands, and the proportion of rare and endangered species relative to their land area or human population may be a hundred times higher on islands than in most continental areas.

Man, too, has had to adapt to the small island environment, where at the same time he both faces and has his back to the sea. There is no escape on an island and no new frontier. The island cultures of the South Pacific, for example, are based on consensus, cooperation and sharing within extended families, with a complex social structure in which roles are clearly defined to diminish conflicts. When populations were small and resources abundant, there was no need to worry about the next day's food. Anyone could take what they needed, and the rest would still be there for tomorrow. Food storage was often not possible, so there was no incentive to hoard.

However, where resources were limited, or vulnerable to natural disasters such as cyclones, conservation measures were necessary for survival and could be quite elaborate. Human use was spread over a wide range of existing resources, resources were exploited in moderation, and some resources were reserved for times of unfavourable conditions or shortages.

An islander's attachment to his terrain is very strong, since land is so limited. In some Melanesian societies, the land is regarded as the origin of all; the individual is not seen as separate from his family, his ancestors and the land from which they sprang. The ties to the land and coastal waters are as much spiritual as material. 'Ownership' (if such a western word is appropriate) is generally collective, and individuals may have complex rights to the exclusive or partial use of different areas or resources. A local animal or fish may be the family totem, protected because of its sacred associations. People live close to their island and its resources and understand them intimately.

Traditional conservation was closely linked to customary beliefs and magic. A mountain, forest or islet might be sacred or



The proportion of rare and endangered species on small islands can be up to a hundred times higher than in most continental areas.

Photo: J. Thorsell

Arthur Lyon Dahl

taboo, with entry reserved to certain individuals or circumstances. Such protected areas functioned as strict nature reserves. Other taboos might be placed temporarily during a particular season, or upon the death of the owner, or to set aside resources for a ceremonial occasion. Such temporary protection allowed resources to build up.

Magic touch

Religion or magic may have been used to justify every conservation-related act, continuing as a rite long after the original sense was lost. In the Solomon Islands, for example, fishing for certain shells used to make shell money was controlled by the pagan priests, who placed taboos for three to five years on different parts of the lagoon — thus allowing the shells to grow to maturity. However, when the villagers converted to new religions, one priest kept up the taboo for more than 30 years, waiting to be given enough sacrificial pigs for the ceremony necessary to lift it.

The priests or elders were the experts or 'scientists' of their day, advising on the use and protection of resources on the basis of knowledge accumulated over generations. The processes of observation and deduction were much the same as in modern science; only the frame of reference for interpreting the results was different.

These cultural characteristics of island societies are strongest among indigenous island people, but even some later immigrant populations have taken on some of the traits of the island way of life.

Customary conservation measures were closely associated with and often enforced through the traditional religion. However, they have tended to be lost under the impact of missionaries, colonial administrators and European ways. Even the extensive traditional knowledge of island natural history is rapidly disappearing as children go to school rather than learning from their elders.

Transition

Today, island societies are in a state of transition as their isolation breaks down and outside influences, new values and western laws or administrative systems are introduced. They share many of the problems of the Third World; rapid population growth and increasing pressure on resources, both for subsistence and economic development. The islands' small size and isolation makes these problems worse by presenting difficult choices between a simple lifestyle with self-sufficiency or dependence with greater material benefits.

Outsiders may now come and take the resources formerly left for tomorrow, and self-interest and greed are starting to replace cooperation and sharing. New technologies make the accumulation of wealth possible, and increase the likelihood of destructive development through easy land clearance and more efficient hunting and fishing techniques. The traditional conservation ethic of taking just what is needed for today and leaving the rest for tomorrow has largely been lost.

In addition, the strong attachment to and collective ownership of the land makes modern conservation measures such as the creation of parks and reserves more dif-

ficult. Where land is so limited, no one wants to lose any possible resource, and land use controls or zoning are strongly resisted. Even taking land for essential public purposes like roads can be almost impossible. Exposure to the outside world has created desire for development and a high material standard of living. But this desire cannot be met with limited island resources. The result is heavy pressure the island system cannot resist.

Natural areas are rapidly diminishing, and on some islands they are already gone. There is confrontation between human needs and desires on the one hand, and conservation interests on the other. The confrontation seems more acute because the islands are so small and their natural values so unique and irreplaceable.

The conservation of fragile island ecosystems requires scientific understanding and trained managers. Yet, tiny microstates of a few thousand or a few tens of thousands of people cannot afford such specialisation. Many island countries have no scientists and perhaps only one or two officers responsible for all aspects of conservation and environmental protection, among other duties. It is hard for such a voice to be heard in the press of competing interests.

These human dimensions require different approaches to conservation on small islands. The protection of natural areas or species will only be possible with the understanding and support of the population. Enforcement is almost impossible when everyone is a friend or part of the family, but peer pressure can be even more effective if the majority and particularly the traditional leaders support protective measures.



Conservation on small islands has to start with education which teaches people to appreciate the island heritage and to understand its limits. Since conservation was part of many traditional island societies, educational programmes can build on that foundation, showing that conservation is not new, but an extension of traditional practices. Islanders will always be in a better position to manage their own resources than any number of outsiders. Conservation education can give them the understanding to do the job well.

More and more islands are approaching the limits of their carrying capacity for human populations. Without permanent outside subsidies to bolster their



economies, inhabitants face the choice of exhausting every island resource, or halting the destructive over-exploitation of their

island while it is still possible to conserve essential ecosystems and genetic resources for the future. They have before them the tragic example of Easter Island, where the total destruction of the forest and the deterioration of the soils apparently led to social disintegration and the collapse of the population during prehistory.

The challenge is great, but approaches sometimes work on small islands that would seem impractical anywhere else. If island societies can apply the principles of the *World Conservation Strategy* and learn to live within their resource limits, they will set an example for all humanity on our small planet. □

Arthur Lyon Dahl has lived and worked in the South Pacific region for many years. An expert on Pacific island ecosystems and cultures, he steered the creation and adoption of the South Pacific Action Plan under the UNEP Regional Seas Programme.

Dugong hunting in the Great Barrier Reef Marine Park

Richard Kenchington

THE Great Barrier Reef is the largest system of coral reefs in the world. It runs for about 2000 km from its landward start off the coast of Queensland in northeastern Australia, and supports a spectacular diversity of life forms, including 1500 species of fish and 400 species of hard and soft corals. Among the rarest and most intriguing creatures of the region is the dugong, *Dugong dugon*, the world's only strictly herbivorous marine mammal, listed in the IUCN Mammal Red Data Book as a species in danger of extinction.

Many dugongs are found in the Great Barrier Reef Marine Park, the largest marine protected area in the world, embracing almost the whole of the Great Barrier Reef Region. It is there that many of the problems involving conservation of the species and rational use by man have come to a head.

The Great Barrier Reef Marine Park Authority manages the park, the largest of its kind in the world. Its goal is to provide for protection, wise use, appreciation and enjoyment of the Reef in perpetuity. It tackles this task by minimising regulation of human activity, by maximising the involvement of the community in manage-

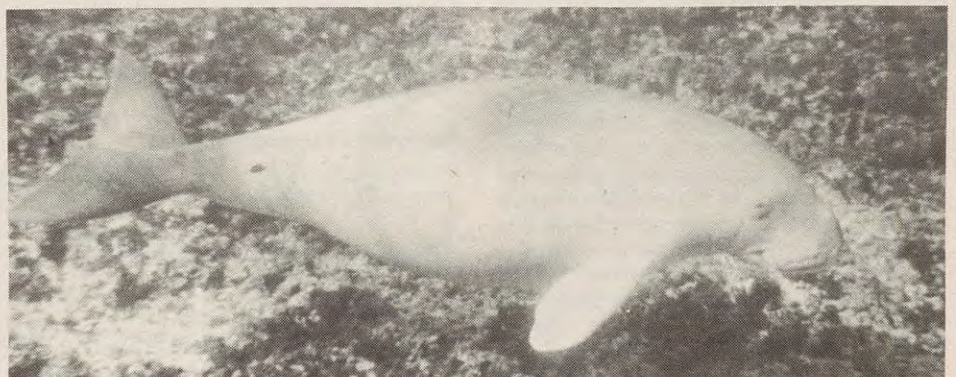
ment of the Marine Park and by nurturing community understanding and acceptance of necessary restraints.

Reasonable use

Day-to-day management of the Region is undertaken by the Queensland National Parks and Wildlife Service with plans and guidelines prepared by the Authority. The Authority's main management tool is the preparation and implementation of zoning plans intended to separate potentially conflicting uses, while still allowing all reasonable activities. The overall care of the Reef is always the prime consideration.

In November 1983 the Zoning Plan for the Cairns and Cormorant Pass Sections of the Great Barrier Reef Marine Park came into effect. Among other things, it provides that traditional hunting of dugong may only be continued in the Marine Park subject

Continued, over



Dugong dugon — the world's only strictly herbivorous marine mammal.

Photo: WWF/Anderson

to permits issued by the Authority. By long tradition, only aboriginals and islanders are allowed to hunt dugong, an activity recognised by the Authority as a reasonable use of the Marine Park. But regulation of hunting is needed to help conserve the dugong population.

The Hope Vale example

An example of how difficult it was to achieve the balance between hunting and conserving dugong is the case of Hope Vale, a small aboriginal community north of Cooktown on the coast abutting the Cairns Section of the Marine Park. The effects of the Zoning Plan, dugong hunting methods and catch limits were discussed with the Hope Vale community on several occasions during the zoning of the Cairns Section. However, neither the Authority nor the Hope Vale dugong hunters understood what effect the permit requirement would have on dugong hunting activities until both parties had gained practical experience of it during a hunting season.

At Hope Vale, dugong hunting takes place mainly during the Christmas holidays when the community's families generally move from their main inland settlement to camp for a few weeks at the beaches north and south of Cape Bedford. Authority representatives visiting Hope Vale in November 1983 discussed permit requirements and issued permits for the taking of one dugong to each of twenty hunters who requested one. That figure was reached by taking a combination of Hope Vale's estimate of its annual dugong catch, and an estimate of the likely sustainable yield of the dugong population around Hope Vale. A second estimate was provided by Dr Helene Marsh, a leading dugong researcher at the James Cook University of North Queensland. She based her estimate on her own work on dugong population biology.

Queensland National Parks and Wildlife Service Marine Park Rangers visited the hunting area during the Christmas holiday hunting season to observe how the permit system worked, and to provide assistance and advice to hunters who found any difficulty with it. Unfortunately, the system applied to the 1983 hunting season was not very popular, for three main reasons. First, some people in the community did not fully understand the reasons behind the permit system, or the way it was intended to function. Second, the presence of management staff in the hunting area inhibited hunting activity, and third the community was reluctant to accept restrictions being introduced on an activity traditionally ruled mainly by only community requirements.

Since the beginning of 1984, officers from the Authority and the Queensland National Parks and Wildlife Service have held discussions with Hope Vale representatives to improve arrangements for issuing permits to the community's dugong hunters. Hope Vale people said they needed information about the vulnerability of dugongs, and about the hunting permit system. However, these meetings did not seem to be an effective method of conveying the necessary information to all of the residents of the community.

Success through video

As part of a search for a better approach, the Authority and the Service jointly produced a videotape programme with assistance from the Hope Vale Community. The programme's script was substantially revised and expanded by Hope Vale representatives and is narrated by a member of the community, Pastor George Rosendale. The video programme proved more successful than meetings because the community was already predisposed to receiving information by video, and because of the medium's versatility. The video aimed to convey public concern for the survival of dugongs, with the implication that dugong hunters need to share that concern in order to preserve the mammals' population for future hunting. It also made it clear that both the Australian and Queensland Governments are regulating the taking of dugong.

The permit system being developed in relation to Hope Vale is a part of the overall approach which will apply to all aboriginal and islander communities hunting in the Marine Park. In addition, a poster featuring the dugong has been jointly prepared for public distribution by the Authority and the Service.

Discussions with the Hope Vale Community have done much clarify the effects of the Authority's permit system, and to aid the its understanding of the role of dugong hunting in an Aboriginal community. Since the number of dugong which may be taken in any particular area is limited by the sustainable yield of the local population, Dr Marsh is extending her research to provide a basis for monitoring the mammals in the areas where the Hope Vale Community has traditionally hunted, and in other areas of the Great Barrier Reef Marine Park. She is carrying out her

research with financial support from the Authority and the Australian Marine Sciences and Technologies Grants Scheme, as well as the cooperation of the Queensland National Parks and Wildlife Service.

Another research project designed to provide the Authority with a detailed inventory of traditional information on marine organisms and any traditional management practices used for the conservation of exploited animals, is being carried out by Andrew Smith of James Cook University. It is expected that the study will be expanded beyond the Hope Vale community to include another Aboriginal community on the east coast which uses the Great Barrier Reef Region.

Building on experience

The Authority hopes to build on experience in management of dugong hunting at Hope Vale to develop guidelines which may be applied throughout the Marine Park. It is keen to develop its ability to communicate effectively with aboriginal and islander communities so that management strategies appropriate to their needs may be developed at the same time as protection for the dugong.

Dugong hunting at Hope Vale is a classic example of a situation where a fine balance has had to be struck between the needs of Park users to employ its resources with due restraint, and the obligation to protect an endangered species. □

Richard Kenchington is Acting Executive Officer of the Great Barrier Reef Marine Park Authority, an IUCN member organisation.

INTERNATIONAL COASTAL AND MARINE PROTECTED AREAS SEMINARS

Two seminars designed for administrators, managers and professional personnel who have a need to develop specific skills in coastal and marine protected areas policy, planning, design, management and operations.

Registration fee for each seminar is US\$2000 which covers all seminar costs including in-country travel, lodging, meals and associated expenses.

Coastal Parks and Protected Areas

This seminar emphasises inshore, offshore coastal parks, and equivalent reserves and protected areas including mangrove, estuarine, beach and fringing reef habitats. Duration: 2 1/2 weeks in March 1986. For further information contact:

Hugh Bell Muller
National Park Service
School of Natural Resources,
University of Michigan
Ann Arbor, Michigan 48109-1115, USA

Marine Protected Areas

This seminar emphasises marine protected areas and sanctuaries, including barrier and patch reefs, hardbanks and special marine habitats. Duration: 8-10 days in April 1986.

For further information contact:

Dr Nancy Foster
Sanctuary Programmes Division
National Oceanic and Atmospheric Administration (NOAA)
3300 Whitehaven Street,
Washington, DC 20235, USA

MARINE AND COASTAL CONSERVATION

a big role for NGOs

IUCN's 350 national and international NGO members, based in over 68 countries throughout the world — serve as a very special and major link with the Union's public constituency. The Union's 1984 General Assembly heralded a new degree of involvement on the part of independent and governmental members alike, in collective conservation efforts undertaken in a spirit of partnership.

Exactly what this emphasis could signify to particular conservation NGOs depends very much on their circumstances. But it is in the field of marine and coastal conservation that active collaboration across a wide spectrum of official and independent interests is most urgently needed and promises especially fruitful results.

It is often said that the oceans know no political boundaries. Activities in or near one state's coastal waters can have major impacts on another's resources. The now familiar term, "a common heritage of all mankind" conveys the very special character of the deeper reaches of the ocean beyond national jurisdiction.

Vulnerable

Though their area is vast, monopolising over 70% of the earth's surface, oceans are vulnerable and complex environments. Many irreplaceable and important species live in or depend upon them. Our ocean and coastal resources are — too often — mismanaged. Narrow, short range special interests, lacking scientific understanding of the consequences of their actions, are often to blame. Policies affecting the future of ocean and coastal resources should be developed with environmental consequences as a primary consideration. They must start out from appropriate regard for ecosystem processes, as the *World Conservation Strategy* persuasively insists all environmental policy-making ought.

NGOs throughout the world are carrying this message to citizens and decision makers alike. The *Strategy's* implicit ethic of protection, conservation and sustainable use provides a framework for ensuring that the health and vitality of our oceans are not jeopardised. As specific initiatives are identified and carried out, those efforts will help shape the scope and content of IUCN's evolving plan for global implementation of the *Strategy*.



Gathering and monitoring oil and petroleum hydrocarbons off the coast of Malta.
Photo: UNEP/Farkas

Clifton Curtis

Getting together

As one step in this direction, IUCN's Madrid General Assembly adopted a resolution encouraging the Oceanic Society and other marine-minded NGOs to activate a broad-based partnership with IUCN on marine policy initiatives. Many NGOs have already expressed an interest in participating in this initiative; each will draw on and benefit from the diverse strengths and skills of fellow partners.

People who care

Whatever an NGO's field of action and whether it acts alone or in partnership, we all know the success of its efforts depends upon individuals who are willing to take the time to fight for what they believe in. It is people who care that make the difference. It is not only the spectacular demonstrations or big events that influence policies. Educational initiatives and dissemination of current information to the public is essential. Letters or petitions, when presented to the right people at the right time by citizens at the 'grass roots' can change policies.

At another level, people with a special skill in (for example) science, technology, economics, journalism or law, can make invaluable contribution to NGO success by reinforcing the credibility of the views being promoted. Given the extremely limited funds available to most NGOs, experts from private sector industry, trade unions,

academia and government who donate time and advice to NGOs are very important and necessary allies.

At an institutional level, too — for instance in the course of official planning processes — people working for and with NGOs can set up vital links enabling the public to participate in decision making. In many cases involving ocean and coastal issues, NGO workers have successfully convinced governments to be more open and responsive to conservation concerns. Examples include the establishment of effective public advisory committees or commissions; getting elected officials to convene public inquiries; bringing lawsuits; persuading government officials to include NGO representatives on state delegations for international meetings; and filing for and lobbying to gain observer status for NGOs at international meetings.

Several of the resolutions adopted at the Madrid General Assembly specifically address marine and coastal matters (see box, page 78). Where each of those issues is concerned, NGOs have been an important force in national forums, regional endeavours (such as the Paris and Oslo Commissions, or UNEP's Regional Seas initiatives), global treaties (such as the International Whaling Convention and the London Dumping Convention) and other international agency activities, such as FAO's fisheries work.

Opportunity knocks

The NGO record in marine and coastal conservation commands great respect. But an extra opportunity is now available for combining NGO energies with those of sympathetic official interests to reach shared targets; to agree to set confrontation aside in the interest of achieving a clearly-defined schedule of priority tasks. This is the partnership scenario outlined by IUCN in Madrid. It could mean a quantum leap in NGO and governmental effectiveness.

Much work lies ahead for everyone before this ideal can be fully realised. The partnership concept is alive and growing in relation to marine and coastal issues, but NGOs throughout the world still need to expand their activities, contacts and networks. By working together and with IUCN's Secretariat — particularly with its new Marine Programme Officer and its Membership Liaison Officer and (through them) with the Union's specialist advisors in the Commissions and its state and government agency members — NGOs can mould an even more significant role for themselves in the continuing effort to protect, conserve and sustain vital marine and coastal resources. □

Clifton Curtis is President of the Oceanic Society, based in Washington DC, USA. The Society collaborates actively in many IUCN marine conservation initiatives and has played a large part in national ocean policy reviews and recommendations in the US.

A SEA OF MUD



Digging for bait on the mud flats at the edge of the Waddensea.

Photo: WWF/Van de Kam

IT is one of Europe's favourite summer playgrounds; it's also the biggest wintering area in Europe for wading birds, gulls and wildfowl; a nursery for over half the fish in the North Sea; a military training ground; an oil exploration area; a potential farming growth area; and it's also the recipient of a large part of northwestern Europe's industrial effluent. It is the Wadden Sea, 10,000 square kilometres of shallow waters. Twice daily it becomes large mudflats protected by a fringe of low islands along the coast of the Netherlands, Germany and Denmark.

In Winter the Wadden Sea harbours more than five million ducks, geese, waders and gulls, for whom the mudflats and sandbars at low water provide a perpetual feast. Some of these birds are residents; others arrive from their breeding areas in the north to spend the winter, while yet more stop off on their migrations to warmer climates further south. In fact, the Wadden Sea contains about half the available feeding area for water birds in Europe and North Africa. During part of the year, more than 50 per cent of the northwest European populations of shelduck, barnacle goose, curlew, bartailed godwit, redshank, dunlin and avocet use the area.

The waters also bring in fish, including a high proportion of juveniles. For them, the Wadden Sea is a vital nursery. The German, Dutch and Belgian fisheries research institutes have jointly estimated that the Wadden Sea nourishes the growth of 58 per cent of the North Sea's brown shrimp, 53 per cent of its sole, 80 per cent of its plaice, and nearly 100 per cent of its herring.

The potential market value of these fish is around US \$150 million a year, and they represent an important contribution to the diet of Western Europe's people. Some go straight to the consumer, while others indirectly bring indirect benefits as animal feeds and fertilisers.

The Wadden Sea also hosts many marine mammals — the harbour seal feeds on the fish and rests on the mudflats. Porpoises and other whales visit the area.

Time's sculpture

The Wadden Sea came into being when sea levels rose with the melting of the Ice Age glaciers. Wind and water erosion pushed back the coast, but left low barrier islands. By about 5000 years ago it took on more or less its present form with tidal mudflats, sand dunes, salt marshes and grasslands.

Peter Jackson

The Zuiderzee and other inlets were closed off from the sea and converted into rich agricultural land, and today it is feasible to close off the whole of the Wadden Sea with dykes between the fringe islands.

Target for trouble

In summer, the birdwatchers are swamped by hordes of holiday makers. They swim, sail, windsurf, trek the mudflats and the dunes and generally enjoy the great outdoors as a respite from the daily grind in cities and towns. But this influx occurs when resident birds are nesting, and their numbers have been greatly reduced by the inevitable disturbance, which not only prevents successful breeding, but often interrupts feeding. To accommodate the visitors, the islands and the mainland shores have given way to hotels, holiday homes, beach huts, yachting marinas, roads and other necessary facilities.

There are other assaults on the Wadden Sea. NATO fighters and bombers blast the seaward sides of Vlieland and Terschelling for target practice, and troops play war games. Exploitation of oil and natural gas is going on in many places. At the same time the insidious menace of industrial pollution quietly mounts. Sewage and industrial waste flow directly from the Ems, Weser and Elbe rivers into the Wadden Sea.

The accumulated poisons have seriously harmed the animals of the Wadden Sea. The harbour seal has been an obvious victim, its numbers greatly reduced through direct poisoning and harm to its reproductive capacity. Birds too have died from poisons and plumage damaged by oil. The menace to human health is both direct from polluted water, and indirect because of ingestion of poisons through the food chain leading from the fish.

Strategy

In the face of these multiple threats to the Wadden Sea, IUCN and WWF joined with Danish, Dutch and German conservation organisations to implement a conservation strategy. An IUCN and WWF Advisory

Committee for the Wadden Sea was set up, and later an International Coordination Team (composed of the four WWF project leaders in three countries) was charged with implementing the projects and recommendations of the Committee.

In 1982 the Coordination Team addressed a Statement of Concern for the Wadden Sea to the governments of Denmark, Germany and the Netherlands. It urgently called on them to take quick and effective measures against further deterioration of the ecological, cultural and scenic values of the Wadden Sea area. The Statement was made on behalf of IUCN, WWF and 50 national and regional private nature conservation organisations in the three countries, with a total of eight million members. At a meeting in Copenhagen the three governments welcomed the Statement and a Joint Declaration was issued accepting responsibility for an effective protection policy and emphasizing the role of non-governmental organisations.

Positive results

Since then there have been positive results. The Netherlands Government has listed its part of the Wadden Sea as a Wetland of International Importance under the Ramsar Convention. "Silent zones" have been established; further gas and oil exploitation in the western Wadden Sea has been prohibited; and development of a management strategy has begun. A research and information centre has been established in the lighthouse of Westerhever; and there is generally more political and public awareness of the Sea's problems. In Germany there are plans for national parks in the Wadden area, though it must be stressed that their terms of reference do not conform to IUCN criteria, a handicap which bars them from international recognition and needs urgent correction.

Denmark has extended protection to the six metre line and to the mainland salt marshes; it has designated the Wadden Sea and parts of salt marshes and polders under the European Community's Bird Directive.

Nevertheless, the International Coordination Team has noted that in each of the countries human disturbance has increased, and has listed potentially harmful examples. The Committee has also drawn special attention to pollution by halogenated hydrocarbons, particularly polychlorinated biphenyls (PCBs), which threaten the survival of seals, birds and — ultimately — humans. In a recent second Statement of Concern, it has specified nine steps that need to be taken to solve these top-priority problems and fully implement the Joint Declaration of 1982. These steps involve rigorous application of Ramsar and Bonn Convention requirements, the setting up of a Wadden Sea Bureau to institutionalize consultation and exchange information at an international level, and use of European Community mechanisms to bring upstream concerns such as pollution in the Rhineland and the security of bird migration flyways, into the picture. □

Peter Jackson is an environmental journalist and a Specialist Group Chairman in IUCN's Species Survival Commission. He has visited the Wadden Sea on many occasions to observe its wildlife.

Greenpeace bombing rocks world

The 10 July bombing and sinking in a New Zealand harbour of the Rainbow Warrior — the protest ship of IUCN member Greenpeace — and the death of one crew member, prompted shock and outrage around the world, from both conservationists and the general public.

Portuguese-born Dutch photographer Fernando Pereira was killed in one of two explosions triggered by devices attached magnetically to the Warrior's hull. Two suspects were subsequently arrested and face trial in connection with the bombings.



Photo: WWF/Kemf

On receiving news of the incident, IUCN Director General Kenton Miller sent telegrams to both the New Zealand and United Kingdom offices of Greenpeace. "IUCN is very disturbed by the terrible news from Auckland," said the message from Miller. "Please convey the Union's grave concern to your members, and our heartfelt sympathy to the family and friends of Fernando Pereira."

The bombing happened while the Rainbow Warrior was docked in Auckland harbour as the crew made preparations for it to lead a flotilla of ships to protest nuclear weapons tests at Mururoa Atoll in Polynesia; tests which are opposed by most of the countries of the South Pacific. Greenpeace spokesmen vowed that the incident would not stop its protest action, and New Zealand's Prime Minister David Lange noted that if the bombers intended to set back the work of Greenpeace, the bombing probably had the opposite effect.

"People who would not have supported Greenpeace in the past will now find themselves on its side," said Lange. "It's one of those psychological effects that the perpetrators of this attack didn't count on."

IUCN concerned about Iceland whaling plans

IUCN has sent a letter to the Prime Minister of Iceland expressing concern about that country's plans to issue a permit for scientific purposes which will allow its ships to take some 200 whales from the North Atlantic during the three year period from 1986-89.

Iceland's move comes in the wake of a decision at the International Whaling Commission (IWC) in Bournemouth UK from 15-19 July, which called for a global moratorium on commercial whaling by the end of this year until 1993 when the world's whale stocks will be reassessed.

The meeting saw significant advances in convincing the whaling countries of the world to further limit their catches. During the meeting the Soviet Union, the world's second largest whaling nation, announced it would cease commercial whaling by 1987. Japan, faced with the threat of US sanctions on its commercial fishing for other catches in US waters, had already agreed prior to the meeting to withdraw its objections to the moratorium. And Norway appeared ready to obey a Commission decision which declared the Minke whales off its coast a protected species, in effect setting a zero quota for them. Norway's adherence to the decision would effectively end its commercial whaling.

WWF's Director of Conservation, Peter Kramer presented an IUCN statement to the Commission urging that all whaling nations support the implementation of the in-

ternational moratorium on commercial whaling and that those who have filed objections to it should withdraw them.

IUCN also called for continued research to develop better assessment and management techniques for the world's whale populations, for the strengthening of the IWC's Scientific Committee in its functions of analysis, review and recommendations, and for increased funding for the Commission. The IUCN statement said increased effort must now go into scientifically assessing the state of the whale population.

"Particular areas of research that require development are: delineation of breeding populations, methods for census and abundance estimation, estimation of productive rates and net production, collection and analysis of historical whaling data, habitat requirements, and integrated models to generate estimates of status and recommendations for management," said the IUCN statement. "Emphasis *per force* must be on methods not dependent on commercial take of whales, using such techniques as aerial and ship surveys, mark and resight, longitudinal observations of individuals and pods, and archival research. A good start has been made, and appropriate support and emphasis should lead to a blossoming of this new and needed whale science."

IUCN also called for more support for international agreements for the conservation and management of cetaceans, as op-

posed to what it views as less than constructive bilateral agreements.

As for the Government of Iceland's announcement at the end of the IWC meeting that it intended to issue a permit to take 200 whales per year for scientific purposes, including 80 Minke, 80 Fin and 40 Sei whales, the letter from IUCN Director General Dr Kenton Miller pointed out that the information likely to be obtained from the proposed permit would only minimally improve current knowledge and expertise of these whale stocks.

It also said that the objectives laid down by Iceland for catching Minke whales did not relate to management needs for this stock. Thus, IUCN urged the government of Iceland to refrain from issuing the scientific permit and to reconsider the need for its proposed scientific catches. The Union also offered to assist Iceland with any further scientific information it may require in reevaluating the permit proposal. □



IUCN has called on the government of Iceland to reconsider the need for its proposed scientific catches of Minke whales.

Photo: BAS/Lewis

Black Rhino poacher crackdown in Zimbabwe

The Government of Zimbabwe is making headway in its fight to stop a Black Rhino poaching ring which in recent months has threatened to destroy the rhino population in the Middle Zambezi Valley along the border with Zambia, reports Dick Pitman.

The poachers' target is a remote and rugged wilderness downstream of the Kariba dam (see map), an area which holds Africa's second largest and most densely concentrated population of Black rhino, which many wildlife specialists now regard as the most important single reservoir of the species in the world.

Early signs of trouble came in January this year when a group of poachers armed with high-powered hunting rifles crossed the Zambezi River and killed three female rhinos. By late spring the toll had risen to 22 and more carcasses were believed to lie undiscovered in the dense bush that covers much of the area. In each case the horns were removed and the rest of the carcass left to rot.

Poachers 'highly organised'

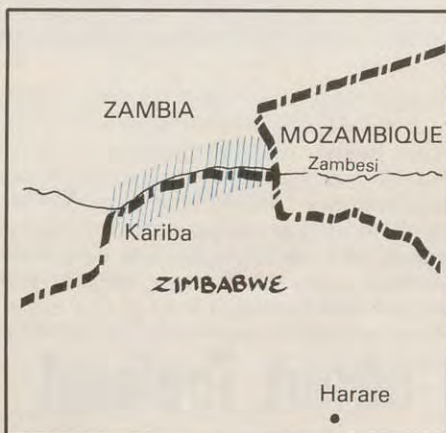
A source close to the Department of National Parks says that the poachers are "highly organised" and are apparently employed by international rhino-horn traders. Although the ultimate route of rhino horns out of Africa is still unknown, they may pass through long chains of intermediaries before reaching their final destination, often in the Far East. There they are still highly prized for their alleged medicinal properties, and may be worth up to \$10,000 US per kg. This puts rhino poaching into a big-money league that is extremely difficult to combat. Most conservationists now agree that the only way to effectively end such poaching is to strangle the trade in illegal horn; not an easy task.

Though short of money, men and equipment, the Zimbabwean Department of National Parks and Wildlife Management reacted swiftly to the poaching crisis by increasing its patrols in the Middle Zambezi Valley. As the situation worsened the patrols were reinforced by police units, and joint action resulted in the deaths of two black rhino poachers and the capture of eight others. Ammunition and firearms were seized and some of the rhino horn recovered. By mid-summer three men had been sentenced to two years each in jail and three others were waiting sentence for poaching activities.

Meanwhile, another six suspects, whose identities are known, escaped across the Zambezi and some of the captured weapons have been traced to Zambia. At the time of writing, high-level approaches to try and persuade the Zambian government to return the suspects for trial in Zimbabwe have been unsuccessful. Despite this Zimbabwe feels the situation is now in hand. The crackdown on Black rhino poachers has brought a serious situation "under control", says IUCN Regional

Councillor and Department Director Dr Graham Child. "But there is no room for complacency," he adds.

Most government conservation departments may have rudimentary undercover investigative branches which can detect poaching before it starts. But more often they are reduced to an unsatisfactory situation where poaching has to be fought 'on the ground'. The wildlife areas they control are often remote, cover thousands of km², and are difficult to police even with massive anti-poaching forces. Arrested suspects usually turn out to be minor links in the poaching chain. Some of the men captured in the Zambezi Valley were rural Zambians who believed they were being taken into Zimbabwe to collect meat.



Poaching toll heavy

In the past, international poaching gangs have tended to concentrate on countries such as Kenya, the Central African Republic, or Uganda. In 1980, according to the IUCN Species Survival Commission, Kenya had some 1,500 black rhino. By 1984 there were only 550. The Central African Republic has seen its rhino population slashed from 3,000 to 170 in the same period; and Uganda's last five animals have been wiped out.

Rhino in Zambia's Luangwa Valley have also come under heavy pressure, but in this case the effects of poaching have been reduced by the presence of patrols operated by the Save the Rhino Trust, funded by voluntary donations and overseas conservation agencies.

While attention was focused on these other areas, the Zambezi Valley escaped unnoticed. It is one of a handful of areas in Africa in which rhino numbers have actually increased over the past decade. Up until the poaching started the animals were densely concentrated, and relatively unworried by human presences as they had not been hunted for many years. However, fishermen and rhino poachers working hand-in-hand, used dugout canoes to cross the Zambezi and took advantage of the long international border in a remote region to carry out their illegal activities. At the same time, Zimbabwean wildlife officers were unable to carry out "hot pursuit" operations across the border.

Though the poaching is continuing, it is expected to decrease during the dry season allowing the Department of National Parks to reinforce its patrols before the rains begin again in October or November. Zimbabwean wildlife professionals are hoping that more funds will shortly be made available to increase ground coverage in the Middle Zambezi Valley — and maybe elsewhere as well, since there are now reports that the important rhino population in the Chete safari area, on the southern shore of Lake Kariba, may also be coming under attack.

IUCN assistance

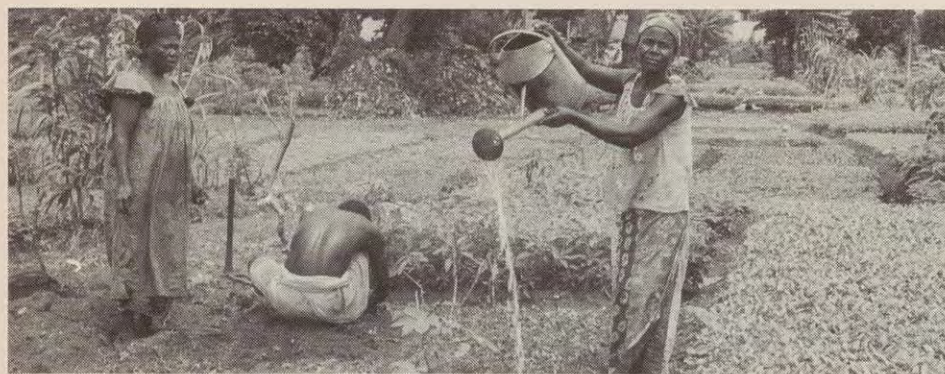
Finding extra money to stop poaching will not be easy for the Zimbabwean government, now recovering from the global recession, a three-year drought, and problems with dissidents. However it has been assisted by IUCN member, the Zimbabwe National Conservation Trust, which has set up a five-member rhino rescue sub-committee including representatives from the Zambezi Society and the Wildlife Society. The Committee is working to develop a major national and international fundraising campaign to help the government buy more equipment to fight poachers.

The IUCN members are also ready to provide volunteers to help man radio centres and operational headquarters so that parks and wildlife staff can concentrate on field operations. IUCN's new CDC Office in Harare under regent John Pyle is ready to seek aid and/or materials if the government requests it.

This and other assistance has allowed the Department's strength to be increased and at least one specialised anti-poaching unit is to be based in the Middle Zambezi Valley. While essentials such as four-wheel-drive vehicles, boats and radios are in short supply, several items including inflatable dingies and engines have already been provided by external donors and local conservation societies.

Another solution has been found by removing some Black rhino from the region to more easily-protected areas such as the Hwange National Park. Fifty animals were caught and translocated during 1984, and another fifty are due to be moved this year. But this is at best a palliative measure and still leaves a highly vulnerable rhino population at the mercy of cross-border poachers. As there seems to be little chance of ending the lucrative trade in illegal rhino horn in the foreseeable future, local wildlife managers believe they need strong action by the Zimbabwean and Zambian governments acting in concert "on the ground" and through their respective police forces.

However, close international cooperation of this kind is not imminent. Unless it comes, it is possible that the Zambezi Valley Black rhino — one of the few viable populations still left in Africa — could be wiped out in the next few years. □



Women learning modern techniques of growing and marketing cash crops near Kinshasa, Zaire.
Photo: FAO/Brodeur

Women debate environment issues in Nairobi

A series of conservation debates held to coincide with the United Nations Women's Decade Conference in Nairobi, made some positive steps towards encouraging women to become more actively involved in conservation on a global basis.

Called NGO Forum 85, the meetings promised many new beginnings. Theme presentations and discussions at several workshops and exhibitions showed that environment, development and women's issues were converging in many sectors of the NGO community. This consensus-in-the-making could be seen most clearly in the weeklong series of workshops hosted by the Environment Liaison Centre (ELC) in Nairobi, in workshops and panel discussions held by the Kenya Association of Energy NGOs (KENGO), and during several other related meetings, including a special evening session presented by UNEP on the main conference agenda.

Dame Nita Barrow opened the *Women, Environment and Development* session (sponsored by the ELC) with a warm welcome to environmentalists who were raising their voices as a group for the first time at a Women's Decade meeting.

Women as resource managers

The appropriateness of a prominent role for women in environmental and ecology movements was highlighted by Joan Nickolson of UNEP. She noted that women in all cultures have long served as resource managers, and compared the Nairobi forum to a global village where women were gathering to share information and coordinate environmental action in the interest of their communities, their families and themselves.

During the ELC sessions on forests, water, energy, and sustainable agriculture, it became clear that the major concerns of

rural women in the developing world were providing and managing food, water and energy supplies. Panelists spent little time and energy quibbling over language and ideology, preferring to speak about women's basic needs and environmental interests in down-to-earth terms.

Nandana Shiva of India's Research Foundation for Science, contrasted this year's meeting to the mood of the 1975 forum, which favoured greater involvement of women in development, without looking critically at what development meant. Now, she said, the focus is on women as the worst victims of environmentally destructive 'development' programmes which threaten access to water, food, fuel and fodder supplies. She pointed out that "the status of water resources is ultimately linked to the status of women and the health of society". She posed a question to the development community: "How much further must women walk for water before we redefine development goals to ensure survival?"

Sandhya Roy from Bangladesh called for appointment of women to local councils and planning boards making decisions about community water supplies. She also suggested women be trained and employed to maintain wells and pumps, and to protect water supplies from contamination.

In the *Women and Forests* workshop, panelists repeatedly commented on women's responsibility for fuelwood supplies and 'minor forest products' with their lack of legal access to and control over the forest resources in their surroundings.

Lively discussion on sustainable agriculture

But by far, the liveliest discussions focused on sustainable agriculture. Susan Minae of the University of Nairobi and the International Council for Research in Agroforestry (ICRAF) criticised the prevalent agricultural development strategy based on 'mining of rural resources' for the benefit of urban and foreign interests. Shimwaayi Muntamba of the World Commission on Environment and Development stressed the

importance of international and national market forces on the daily lives of rural farm women and their access to natural resources.

Maria Guazelli of Friends of the Earth, Brazil, linked women's health, nutrition, environment and unemployment issues in a strong statement advocating organic agriculture for small farmers. She gave herbicide use as an example of the connection. "Each litre of herbicide used unemploys a family of four in Brazil for one day." Sitemkesa Neyoni of Zimbabwe made an eloquent and personal plea to all environment and development agencies. She called on them to listen to rural women and respect their knowledge of traditional agricultural and resources, knowledge now being replaced by high technology agriculture poorly adapted to the local environment.

The summary message from the ELC workshops to the UN meeting made a strong plea for sustainable development strategies to be regarded as a rural women's issue irrevocably tied to equity and subsistence concerns.

Meanwhile, at the KENGO sessions panelists focussed on the use and preservation of indigenous vegetation as an environmental issue of special concern to women. Emphasizing the Kenyan experience, they discussed wild food plants, medicinal plants and under-exploited plants with economic industrial value. Participants considered preservation of natural vegetation in source areas, as well as domestication within agroforestry systems. Several speakers also highlighted the role of women's self-help groups in rural tree-planting programmes in Kenya.

More decision-making power

A common thread weaving through all the workshops was a call for women to assume greater power at all levels of environmental decision-making. Maria Guazelli summed up the feelings of many participants with respect to women's environmental interests: "Let us make here a strong statement addressed to the United Nations demanding greater women's representation in international forums where the fate of the earth and of the human race is decided," she said.

But international action must be based on local experience of grass roots organisations. Aliye P Celik of the UN's Habitat stated that "improving the environments of the urban poor implies giving women the legal rights and organisational capacity to address their immediate environmental concerns."

While environment was not a focal issue of NGO Forum 85, a stronger global alliance of women's and environment NGOs was a significant result of the meetings. In future women from all parts of the world will be a force the development and environmental protection establishment must learn to reckon with. In this way there can be true unity in humanity's effort to preserve and improve the quality and quantity of our lives in this century and the next. □

UNEP in the 1980s

The United Nations Environment Programme (UNEP) and its first decade of achievement did much to dispel growing scepticism among politicians about the value both of environmentalism and internationalism as forces for development.

IUCN's relationship with UNEP developed during that decade from a back-seat role at Stockholm, where UNEP was born of the 1972 UN Conference on the Human Environment, to more and more direct Union involvement in projects connected with the Environment Programme.

Those first ten years of UNEP and IUCN cooperation were summed up in a previous *Bulletin* (13, 4-6, 1982): this article looks at what has happened since then and towards a future which holds many hopes and challenges for both organisations.

The joint publication by IUCN, UNEP and WWF of the *World Conservation Strategy* in 1980 was a landmark in relations between the three organisations. But perhaps the *Strategy's* most significant general outcome, thanks to the axis it established between conservation and development, was the boost it gave to cooperation between the UN system and the worldwide conservation movement on such large-scale initiatives as global monitoring and management of natural resources, regional conservation planning and national strategy development.

More new trends have emerged since then, most of them favourable to productive links between IUCN, UNEP and the UN system as a whole. The 1982 UN *World Charter for Nature*, in which IUCN played a large supporting role, staked out still more common ground between the UN and the conservation movement. More specific examples of joint IUCN and UNEP efforts were the early development of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (better known as CITES) and the inclusion of the IUCN Conservation Monitoring Centre databases in the UNEP-steered Global Environment Monitoring System (GEMS), which this year celebrates its tenth anniversary. This work set a pattern of shoulder-by-shoulder joint efforts as distinct from a donor or client relationship.

UNEP has never been a funding body in the sense most people use the term: it administers an Environment Fund on behalf of the UN system and — since the early 1980s — purely in accordance with the System-Wide Medium-Term Environmental Plan (SWMTEP), a dynamic global work programme designed and enacted in collaboration with all the UN specialised agencies and ultimately overseen by the United Nations themselves. Within these terms of reference, action towards particular SWMTEP goals may be delegated to specialised organisations outside the UN system, such as IUCN.

UNEP and IUCN cooperation

There have been times when cooperation with UNEP has helped IUCN's own institution-building efforts — the early formation of CMC's facilities were a case in point. Even so, at this year's 13th Session of the UNEP Governing Council in Nairobi, Kenya, IUCN's Director General announced that joint work involving IUCN and UNEP need not serve any such dual purpose in future, thanks to improvements in the Union's own financial provisions signalled last year in the Funding Strategy approved by the Madrid General Assembly. More than that, all UNEP inputs into joint work will, he said, always involve substantial counterpart inputs from the Union.



Dr Mostafa Tolba, UNEP's Executive Director. Photo: UNEP

So it seems likely that partnership between UNEP and IUCN has entered a new, mature phase that will continue to bring benefits to both through the 1980s.

The current IUCN Programme, though it derives from a consensus (the *Strategy*) in which UNEP shares, differs from the SWMTEP agenda in many particulars. No great paradox lies behind these differences, which stem from quite different forms of governance and UNEP's broader mandate. The governing body of UNEP is composed entirely of governments in the UN system, serviced by the UNEP Secretariat and advised by specialised agencies in that system and bound in turn by decisions made in the UN General Assembly, which (for instance) elects the Programme's Executive Director every four years.

IUCN's General Assembly, which has the final say in the Union's planning, unites governmental and non-governmental interests on equal terms and takes advice from a narrower, but more varied range of special and specialist interests.

Geophysical or geopolitical trends and technology directed specifically at economic development targets are therefore bound to be greater deciding factors in UNEP's than in IUCN's policy-making. The Union often sets itself goals for conservation action at many different levels which may not directly cater to the UN model of development progress. It frequently becomes involved in politically

tricky situations where its apolitical profile is an advantage, as (for instance) in questions of resource use in Antarctica.

UNEP takes great care to reflect non-governmental concerns in its policies, but must always defer in debatable cases to the collective view of those governments which are represented on the Governing Council.

Though these provisions might be expected to place some limits on UNEP's freedom of action, decisions once passed by the biennial Governing Council gain considerable force from concerted governmental backing. Moreover, the same governments in many cases rule member states of IUCN — indeed, they are often represented on the UNEP Governing Council by the same individuals who attend IUCN General Assemblies on their behalf. So UNEP can often rely on IUCN as a widely acceptable channel for spreading influence and operating joint projects through the non-governmental community and its institutions.

This interaction subtracts nothing from the autonomy of either organisation and has brought many results beneficial to both and (above all) to global progress in environment and natural resource conservation to satisfy development aims.

At present, SWMTEP recognises IUCN as an active participant (either taking lead responsibility or in a support role) in more than twenty major activities called for in the current planning phase and requiring budgets totalling several millions of dollars, a significant fraction of which are to be IUCN counterpart contributions. There are many other IUCN areas of competence which are relevant to SWMTEP goals and the two organisations' programmes interlock.

More collaboration

UNEP's present Executive Director, recently re-elected to a further four-year term of office, is the distinguished Egyptian microbiologist, Dr Mostafa Tolba. The work of UNEP, IUCN and other organisations involved in environment and natural resource conservation should, in his view, be a continuum of complementary efforts, where issues are always more important than institutions.

One issue of the moment which amply bears out his point of view is that of drought and desertification in Africa. UNEP has championed the fight against Africa's spreading deserts for nearly a decade. It set its Plan of Action to Combat Desertification on course in 1977 and persevered with it in the face of a generally apathetic world response. Recent tragic famines in the Sahel and other dry regions of Africa have certainly vindicated UNEP's stand, but if the challenge had been faced up to ten years ago the worst need never have happened.

UNEP may be no longer a voice crying in the wilderness, but action to combat soil loss and desertification still falls far short of the words, says Tolba. The scale of the problem places its solution far beyond the scope of any single organisation or government: the Plan of Action requires extra investments of more than \$1.6 billion each

PROFILE

year to be channelled into fighting desertification. Not one in a million of these dollars would ever be expected to pass through the medium of the Environment Fund — the rest is up to governments, development assistance agencies and any other interested party to find and apply within the framework offered by the Plan.

Despite the proven need for action on the scale UNEP prescribes, the fact remains that even now *less than three percent* of the money invested in development programmes is spent on coping with desertification's causes. Says Tolba: "What we are working on now is a cooperative effort by UNEP, by IUCN, by all the international and more local NGOs to prod the aid agencies into channelling more than the very limited amount they now spend on countering desertification, into such operations. We must get together to urge the agencies to move their money to where it matters: if they then want our services to help them with implementation then that's fine, but it's not the priority."

Regional cooperation

A classic case of UNEP's efforts to promote environmental planning on a regional scale is provided by the Regional Seas Programme (described more fully in this *Bulletin's* feature section), one of UNEP's most successful efforts. Tolba attributes this success mainly to the down-to-earth (or down-to-water) appeal the Programme makes to the benign self-interest of the governments concerned.

"You are not talking in the abstract, or about destruction in faraway tropical forests, or about the carbon dioxide surplus up there which nobody can see", he says. "In the Mediterranean, for example, you are talking instead about fishermen not catching fish because the sea is dying, a fact they can see for themselves. They can see, too, that the beaches are getting filthy, endangering their own health and recreation and driving tourism away. They know they can't say: 'This is my bit of water and I'm going to clean it up'. If they want to improve matters, they know they must seek a common course of action with other countries to protect this shared resource."

Regional resource management is an obvious growth area for collaboration between UNEP and IUCN, in view of the Union's diverse state and NGO membership around the world and its long experience of comprehensive strategy planning. IUCN has already participated actively in most of the Regional Seas Programmes at different levels of involvement but the recent trend towards inclusion of coastal zone management plans in regional seas exercises offers abundant potential for tying these plans into conservation strategies under way in maritime states.

Planning not enough

Since the concept of national or regional conservation strategies was first defined in the *World Conservation Strategy*, IUCN has been committed to all-out efforts to cultivate strategies in as many interested countries as possible, on the principle that,

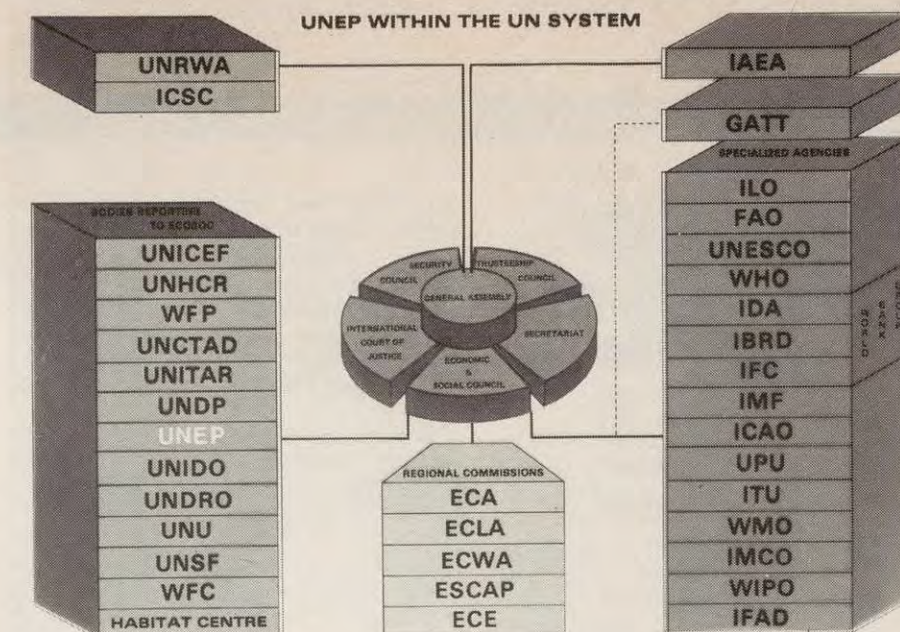


Photo: UNEP

since it takes time for a workable strategy to take root, the sooner the process begins in as many places as possible, the better.

Dr Tolba suggests a somewhat different perspective. "Any *Strategy* is bound to have educational value", he says, "but we shouldn't content ourselves with education as an end in itself. Our efforts should concentrate on building a limited number of conservation strategies to show that the process is useful. And then we should go to the bitter end, seeing to it that each is implemented and leads to sustainable development". In his view, the main role of the trio of organisations which established the *World Conservation Strategy* should be to help the countries where these test-case strategies are under way find the finances needed to implement them.

One factor which may operate in favour of new levels of collaboration between UNEP and IUCN is the financial squeeze UNEP is feeling while many of the countries who contribute to the Environment Fund are plagued by balance of payments deficits. UNEP's Secretariat has pared its own running costs to the bone and created a Clearing House for alternative means to fund essential projects. But it still labours under the worst ever shortfall in cash funds needed to fulfil UNEP's mission and programme.

Rather than limit opportunities for future collaboration with NGOs, Tolba feels confident that this problem will rather draw the two sectors together as joint achievers of mutual aims. In recent years, UNEP has made efforts to cultivate and encourage the NGO community, through its sponsorship of the Environment Liaison Centre and by other means. Tolba sees the current phenomenal growth in numbers of environment NGOs in developing countries as a healthy sign of the times, an indication that responsibility for environment and natural resource conservation will rest more and more in future in the hands of citizens' groups and independent bodies, working wherever possible in harness with 'establishment' interests.

Too many NGOs?

Can Tolba foresee a time when there might be *too many* environment NGOs — too many to communicate and collaborate

smoothly with one another? He says he feels such a risk is small, so long as lines of communication are carefully kept open from the start. "We badly need this growth of 'grass roots' environment organisations in the developing countries and it's up to established organisations like UNEP and IUCN to bring them into the larger circle, help them know what everyone else is doing, what are the success stories and what they can learn from one another", he says. "What UNEP is especially interested in at the moment is linking environment NGOs to others which don't regard environment as their main portfolio, but which tackle issues that have environmental significance. I'm thinking particularly of the churches and the youth organisations."

Credibility

What does Tolba see as UNEP's greatest achievements? He points to SWMTEP as a landmark in UN history. "Never before", he says, "had the specialised agencies agreed to participate in a system-wide programme. They were too worried about treading on one another's toes. But we made it clear that our job was setting the facts straight, not claiming that we knew more than anyone else. We never presumed to compete with WHO on questions of health, with FAO on agriculture and forestry, or with Unesco on education. We coordinate, but we don't go and say: 'Look at us, we're coming to coordinate you!'"

"So all the UN agencies now feel confident that we won't go behind their backs, that we know the limits of our responsibilities and they know theirs. That helps explain our large influence on events". But the most impressive general feature of UNEP's record is, he feels, the way it has restored the credibility of environmental protection as a part of self-determined national development. "It is the developing countries who are now carrying the banner in the fight for environmental protection", he says. "Ten years ago they were saying: 'this is a plot *against* our development'. I think that is where UNEP has really proved the world needs it." □

This article was based on interviews with Dr Tolba outside the 13th Session of the UNEP Governing Council in Nairobi earlier this year.

The Norwuz oil spill — two years later

by Peter Jackson

At the end of January 1983 an Iranian oil platform blew out at Nowruz in the Arabian Gulf. In April, two more platforms were damaged in the battle between Iran and Iraq. Thus began the worst oil spill the Gulf has experienced. Saudi Arabia's Meteorology and Environmental Protection Administration (MEPA) estimates that some 1.5 million barrels of oil (240 million litres) have poured from the leaking wells.

Although Iran has reported that the wells have been capped, MEPA believes that about 1000 barrels a day (160,000 litres) is still pouring into the Gulf waters, which are particularly vulnerable because they are shallow and have only a slow exchange with the Arabian sea through the Gulf of Hormuz.

The early discovery of large numbers of dead dugongs, porpoises, turtles and sea snakes, apparently with damage to their breathing organs, and of birds which had succumbed because of oiled plumage and swallowed oil, was widely attributed to the Nowruz spill, but MEPA scientists reserve their opinion and point out that there has been no repetition of the animal kill. Fears that the deaths of 36 dugong were a catastrophe for the Gulf population, then numbered at around 50, have been relieved to a large extent by the discovery of more dugongs in Bahrain waters. MEPA is now starting surveys to determine the status of both dugong and marine turtle populations in the Gulf.

Nowruz oil is believed to have been responsible for some coral mortality, and indirectly for a macroalgal bloom. The spill

also threatened desalination plants of critical importance for supplying drinking water to the growing cities, towns and industrial complexes along the coast, as well as power plants, oil refining and loading facilities, naval, commercial and industrial ports. However, the seasonal winds in June-August 1983 kept surface oil from the coast.

MEPA has been cooperating with the Marine Emergency Mutual Aid Centre (MEMAC) based in Bahrain, and with other organisations, such as Aramco, the Saudi oil company, in carrying out aerial surveys to trace and track the escaped oil, while ground teams have been despatched to sensitive and threatened areas. Laboratories have been examining specimens of weathered oil — Nowruz heavy crude is easily identifiable — and experiments have been carried out to evaluate methods of dispersing and destroying slicks, and of collecting sunken and beached oil.



MEPA's current assessment is that the bulk of the spilled oil remains at the bottom of the Gulf, where it can both continue to leach and be brought to the coastline during adverse weather conditions, thus creating a chronic, unresolved problem. While the Gulf marine system has proved to have sufficient capacity to withstand the stresses caused by the Nowruz spill, the impact of tarballs and mats from sunken oil could continue for some years. At the same time, the Gulf continues to suffer from numerous moderate spills, many of them the result of hostilities between Iraq and Iran.

First *in situ* conservation course at Birmingham University

In what plant genetic resources experts see as a big step forward in the field, the Plant Biology Department of Birmingham University, UK, will give a 6-week course this fall on *in situ* conservation of plant genetic resources. The course begins on 4 November, and is the first time an *in situ* course has been offered anywhere in the world.

The course will train participants in practical methods of exploring for, conserving, evaluating and utilising genetic plant resources in the locations where the plants are found in the wild. Previous courses have dealt only with *ex situ* conservation, and the new course is an outgrowth of IUCN's collaborative work in this field with the International Board for Plant Genetic Resources of the UN's Food and Agriculture Organisation (FAO).

Among other things the course will cover topics in crop plant diversity, exploration of genetic resources, genetic structure of populations, principles of *in situ* conservation, and design and management of reserves. It is normally available to candidates with some experience in genetic resource work who wish to specialise in certain aspects.

Further information can be obtained from Dr. M. T. Jackson, Short Course Tutor, Department of Plant Biology, University of Birmingham, P.O. Box 363, Birmingham B15 2TT, UK, or from Dr M. T. Jackson, Short Course Tutor, Department of Plant Biology, Resources, FAO, Via delle Terme di Caracalla, 00100, Rome, Italy.



In the gorge of the Tara River Canyon, Durmitor National Park, Yugoslavia.

Photo: IUCN/Eidsvik

GOOD NEWS FROM NATURE

End to Durmitor Park threat

Yugoslavia's Durmitor National Park has been removed from IUCN's list of Threatened Protected Areas of the World in the wake of a decision by the country's national and regional governments to halt plans to build a dam in the Tara River Canyon.

The 140 kilometre-long Tara River — poets have called it Europe's tear — is one of the last wild rivers on the continent. It flows through the continent's deepest canyon between the Durmitor and Ljubisnia mountains, and ultimately merges with the Drina River in Durmitor National Park. The Park was named a World Heritage Site by Unesco in 1980. The canyon is affected by Mediterranean and alpine microclimates

resulting in an exceptional range of species. The 1300 metre-deep gorge has diverse flora and fauna including one of the last virgin black pine forests in Europe, and it also contains 16 glacial lakes.

Now, three regional governments have proposed that Montenegro Republic which was to receive power from the proposed dam be supplied from an alternate source. They have also proposed that joint conservation measures be undertaken to ensure the Canyon is preserved for posterity. The governments changed their minds because of the huge negative public reaction the plan provoked, and after intervention from Unesco's World Heritage Secretariat experts and others.

NEW BOOKS



Butterflies and politics

Some people are fond of stating that conservation is 95 percent politics. But a politician, or anyone else whose job it is to persuade others to think as they do, will admit that there are few horrors worse than addressing an audience on a subject about which one knows very little. The political end of conservation must, as far as possible, be based on solid scientific facts, or at least on significant probabilities. True, conservation lobbying often has to start at an early stage. Also true, scientists can be reticent. Nevertheless, the balance of the partnership of science and politics should not be misjudged by planners and policy-makers.

What does this have to do with an atlas of butterflies? The 1984 publication *Atlas of Butterflies in Britain and Ireland* by J. Heath, E. Pollard and J.A. Thomas, by Viking Press, U.K., in association with the Natural Environment Research Council and the U.K. Conservancy Council, tries to answer that question.

For the 15 years from 1967-1981, over 2000 entomologists recorded the butterflies they found in 100 km² map squares all over the British Isles. The data were coordinated by the Biological Records Centre of the Institute of Terrestrial Ecology at Monk's Wood, Huntingdon. Maps were compiled, showing distributions before 1940, between 1940 and 1969, and between 1970 and 1982.

This book brings the implications of these maps fully into the public eye, if not the political eye. Each of 62 species is discussed in a double page spread headed by a delightful pen and ink drawing by Sarah Anne Hughes (who illustrated the IUCN Invertebrate Red Data Book) or Peter Creed. The text describes the feeding habits and breeding biology of the butterflies, and their distribution is clearly shown by symbols on a map of the British Isles.

The conclusions are clear. The overwhelming direction of change in Britain's butterflies has been decline due to loss of habitat. The agricultural revolution of post-war Britain has fed the nation, but has resulted in environmental changes of an order greater than anything since the first clearance of Britain's native woodlands. Hedges, pastures and heathlands have been lost, woodlands have been replaced by conifer plantations, wetlands have been drained. One butterfly, the Large Blue, has been lost in this period, bringing the total to four extinctions in the past 150 years.

A further 18 species have suffered a major contraction of range since the last war and three, the High Brown Fritillary, Heath Fritillary and large Tortoiseshell are in some danger of extinction in Britain. Two or three dozen species have maintained their ranges, but have seriously declined in overall abundance. The Common Blue and Large Copper are examples. Further losses are expected at local, regional and even national levels.

Two conclusions are evident from this succinct and authoritative book. First, long-term monitoring and research of the type that has culminated in this publication must continue to receive substantial support, particularly since its efficiency is multiplied by the involvement of armies of volunteers. Secondly, the scientific data on Britain's declining butterflies is now so weighty that politicians have rarely been given so clear a mandate to get on with their 95 percent of the work! □

N.M.C.

IUCN IN PRINT

All publications listed in this column can be obtained from IUCN Publications Services, Avenue du Mont-Blanc, CH-1196 Gland, Switzerland, unless otherwise indicated.

Conserving Asia's Natural Heritage: The Planning and Management of Protected Areas in the Indomalayan Realm

This volume, edited by CNPPA Executive Officer Jim Thorsell, includes Papers prepared for CNPPA's 25th Working Session held in Corbett National Park in India in February 1985. Leading specialists from 12 countries of the Realm contributed reports on the current status of protected areas in Indomalaya. A final section contains a plan for future action in conserving the natural resources of this important region. 250 pages. Photos, tables, maps. US\$15.00.

The Corbett Action Plan for Protected Areas of the Indomalayan Realm

Prepared by field managers from 16 countries during CNPPA's 25th Working Session, this Plan is designed by and for countries in the region and spells out both general guidelines for action as well as some specific requirements for each country. This publication is also included in *Conserving Asia's Natural Heritage*. 16 pages. Map. US\$5.00.

Polar Bears VIII

One of a series of reports on the work of the IUCN/SSC Polar Bear Specialist Group in support of the International Agreement on the Conservation of Polar Bears. This publication includes discussions and technical review papers by scientists representing the five Arctic nations signatory to the Agreement who met in Oslo in 1981. 151 pages. Maps and tables. US\$10.00.

WORK OPPORTUNITIES

**For more details of this post, please contact the
Director, Programme and Policy Division
IUCN, Avenue du Mont-Blanc, CH-1196 Gland, Switzerland.
IUCN is an equal opportunity employer**

IUCN has an opening for an *Ecology Programme Officer* to fill a permanent post at its headquarters in Gland, Switzerland.

The Officer must have a PhD or equivalent, be familiar with the broad field of ecology, and have worked for significant periods in the tropics and be familiar with the problems of developing nations. (S)he must be fluent in spoken and written English, and fluency in French, Spanish and other languages would be an asset. The Officer must be professionally competent to provide rapid advice to the IUCN Secretariat on a wide range of ecological matters, and be able to represent the Union at international meetings where credibility in the field of ecology is required.

DUTIES:

To serve as the Executive Officer of IUCN's Commission on Ecology, working to develop and maintain a network of the world's leading ecologists who are directly relevant to IUCN's identified conservation priorities.

To review project proposals and reports for their ecological content paying particular attention to the application of ecological science to the entire range of the IUCN Programme, and in doing so, to work closely with other IUCN staff.

To apply ecological science to the development process taking into account appropriate environmental considerations in development projects. Thus, project proposals will be prepared applying ecological science to conservation and resource management problems, and ecological components will be added to projects being prepared by other parts of IUCN.

To prepare publications in the field of ecological science as it relates to conservation, including scientific, review, and popular articles, edited collections, and short notices in professional journals etc.

Salary: 80,000 to 95,000 Swiss francs annually.

Application deadline: October 30, 1985.

WILDLIFE TRADE MONITORING UNIT

Traffic Bulletin

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THE PEOPLE'S TRUST FOR ENDANGERED SPECIES

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Traffic Bulletin

The Traffic Bulletin is the only international publication devoted entirely to information on wildlife trade. It covers all aspects of international trade in wild animals, plants and wildlife products and special reports are produced on areas of particular concern. These have included the Indian Reptile Trade, a Review of International Trade in Marine Mammals, the Indian Bird Trade, the International Trade in Elephant Ivory and the European Trade in Sealskins and Kangaroo Products. Although directed mainly at those concerned with wildlife trade, the Bulletin is also of interest to anyone concerned about wildlife exploitation.

Annual subscription to the Traffic Bulletin costs £7.00 (or \$14.00) a year (4 issues) to commercial enterprises and private individuals. (For more than one copy a reduced rate is available). Government wildlife agencies, conservation organisations and other institutions in a position to further the conservation of threatened species, may receive the Traffic Bulletin free of charge, but donations towards the production costs will be welcomed.

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