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Global resource — global campaign

IUCN's members have the opportunity to create a global conservation campaign—the first in the history of conservation.

The IUCN/WWF front-line campaign for 1977-78 will be devoted to the conservation of marine life. It will be launched at the Fourth International WWF Congress in San Francisco, USA, in late November 1976.

Between now and then, IUCN will draw up a marine conservation programme, for which the WWF campaign is intended to raise funds. During this period, WWF is preparing a comprehensive package of information and publicity material.

To help this preparation, IUCN's public awareness programme is to include a set of feature articles and fact sheets on key aspects of marine conservation. These will be made available to all IUCN members who request them.

The seas and their creatures are a global commons. A global, cooperative effort is needed to save them. This International Union of conservation organizations has a unique contribution to make to such an effort.

IUCN's Secretariat urges all member organizations, and indeed all other members of the conservation movement, to join in a world campaign to save the life of the seas. If you are planning a campaign of any sort for 1977 or 1978, please devote it to some aspect of this vast and vital subject.

Let us coordinate this campaign so that each organization's actions will have the greatest possible impact. Please inform us of your plans by writing to the Marine Campaign Coordinator at IUCN, Morges.

Growing dangers, and concern, for Europe's largest wetland

Fate of Wadden Sea still uncertain

Pressure is mounting to conserve the Wadden Sea, Europe's largest coastal wetland, but the threats are mounting too.

Shared by Denmark, the Federal Republic of Germany, and the Netherlands, the 10,000 km² wetland is vital to the fisheries of the North Sea and to many bird populations. However, pollution and a host of developments threaten to reduce its usefulness sharply.

The most recent appeal for the wise use of the Wadden Sea came from a conference of Wadden Sea experts, held on the island of Schiermonnikoog in the Netherlands, 26-28 November 1975.

They drew attention to the outstanding value of the area for North Sea fisheries. The disposition of its different bottom types and the action of its tidal currents combine to create a rather high primary production by single-celled algae and to import an equivalent amount of organic matter from the North Sea.

Thus the Wadden Sea acts as a vast nutrient accumulator—a biological bank—exploited largely by benthic (bottom-dwelling) animals, which in turn are fed on by extraordinary numbers of fish and birds.

According to a joint study by the German, Dutch and Belgian fisheries research institutes, the Wadden Sea is the nursery of 58 per cent of the North Sea population of brown shrimp, 53 per cent of its population of sole, 80 per cent of its population of plaice, and almost 100 per cent of the North Sea population of herring. The landed value of these fish is some \$140 million, and of course the final market value (when they reach the consumer) is greater still.

Every year, more than five million birds use the Wadden Sea for feeding, sheltering, breeding, or wintering. More than 50 per cent and sometimes almost 100 per cent of the north west European

populations of shelduck, barnacle goose, oystercatcher, turnstone, curlew, bartailed godwit, redshank, dunlin and avocet may be observed there at the same moment. Most of these birds come from northern Europe and north west Siberia, but some originate from Iceland, Greenland and the Canadian Arctic.

The Wadden Sea is also one of the last refuges and breeding areas of the harbour seal in Denmark, the Federal Republic of Germany, and the Netherlands; and its 40 to 50 islands are relatively rich in plants. The plant species richness of the five large Dutch Wadden islands, for example, has been computed to be two to three times greater than the average value for the Netherlands.

This enormous natural resource is now seriously at risk. Major threats are:

* Pollution. For example, large quantities of mercury have escaped from a

(Continued on back page)

IUCN Programme

The progress report on the Programme adopted by IUCN's 12th General Assembly, begun in last month's *Bulletin*, continues below.

In this issue we report on programmes in South East Asia, on information on the state of world conservation, on environmental education and public awareness, and on conceptual work.

We also start an update section, giving more details of the South Pacific and marine conservation programmes.

South East Asia

The South East Asia Programme has begun with an appraisal, the objective of which is the preparation of a report on conservation in the region, with recommendations on the most effective future action. Priorities and limiting factors will be identified.

The appraisal is being carried out by two IUCN consultants, Dr Tim Whitmore and Major Ian Grimwood. The countries covered are: Burma, Indonesia, Laos, Malaysia, Papua-New Guinea, Philippines and Thailand.

Dr Whitmore has already prepared for the Tropical Rain Forest Programme a conservation review of tropical rain forests in Asia, with detailed reports on 20 countries. This is now being revised and brought up to date.

Dr Whitmore has added to this a report on non-rain forest areas in the seven countries covered. Both reports describe the range of variation in the vegetation and the conservation status of the different formations.

Major Grimwood is now on a three-month field survey of the region, due to be completed in April. The object is to assess: (a) the extent to which existing conservation measures provide adequately for the conservation of fauna; (b) the adequacy of existing systems for protection of areas; (c) the effectiveness of their management; (d) how well integrated these measures are with other aspects of land use planning and management; and (e) the principal deficiencies of, limiting factors for, and opportunities for conservation in the region.

Throughout the appraisal, information and advice is being sought from the region's Governments, IUCN Commission members, and IUCN member organizations in the countries concerned. There has been a gratifyingly good response from the latter. Close contacts are being maintained with the UN agency members of the Ecosystem Conservation Group, UNEP, FAO and UNESCO. The Joint Projects Committee of Survival International and the Committee for Indigenous Peoples is advising on some of the development implications of conservation proposals that might be made.

Between May and July, 1976, Dr Whitmore and Major Grimwood will prepare a joint report, incorporating the findings

of Dr Whitmore's review, Major Grimwood's survey, and the consultations with the organizations and individuals mentioned above, together with other correspondents.

The report will describe the state of South East Asian conservation, and make recommendations for an action programme. It will include an assessment of the kinds of action that are most likely to succeed. At this point, IUCN will begin the process of project selection so that an integrated series of projects may be developed in cooperation with the governments concerned, for funding by bodies such as the WWF.

Existing projects

A small number of projects in South East Asia have begun already or are due to begin this year. Two are mentioned here. Others will be described in forthcoming issues.

□ *River terrapin, Malaysia—research*

The first phase of a long-term project to rebuild river terrapin (*Batagur baska*) populations to former sizes and to limit human exploitation to levels that can be sustained. *Batagur* is an important protein source, but its conservation is hampered by lack of knowledge of its ecology.

□ *Elephant in West Malaysia—study*

The elephant is an important species in West Malaysia, both economically and ecologically. This project involves a detailed investigation of herd movement as a basis for management.

Information on the state of world conservation

The objective of this programme is to maintain a continuing record of the status of species, of areas requiring conservation and of areas already protected. This is designed to help in the planning of action programmes for the conservation of species and of areas; and as material for the public awareness programme and of other ways of publicizing conservation.

The data base will be developed so as to allow it to contribute fully to the IRS and GEMS elements of the UNEP Earthwatch programme. All data will be computer-stored and print-outs will be readily available to IUCN's Commissions, consultants and Secretariat, and to other bodies requiring data for conservation action.

Currently, such data are made accessible to a wider public through the Red Data Books and the UN List of National Parks and Equivalent Reserves. Three more publications have been planned for some

time: the World Directory of National Parks and Other Protected Areas, the Directory of Wetlands of International Importance, and the Green Book Inventory of Outstanding Landscapes.

For working purposes, computer storage and retrieval of the information contained or likely to be contained in these documents will be more efficient and rapid than conventional publication. However, the vast amount of data is unique and unobtainable elsewhere. Potentially it has enormous publicity value, which has not yet been adequately exploited.

Accordingly, publication policy of this programme will shortly be under review by members of the Survival Service Commission, the Commission on National Parks and Protected Areas, the Ecology Commission, the Environmental Planning Commission, and the Secretariat's editorial committee, and recommendations will be made to the Executive Board.

Education and public awareness

The education and public awareness programme has two related functions:

1. To assist in the development of education and communications projects whenever other IUCN programmes identify a need for them.
2. To improve public understanding and acceptance of conservation.

Individual education and communications projects

It is expected that surveys and appraisals for regional and other programmes will occasionally identify situations in which a given conservation objective will most easily be achieved by an education or other communications project. The programme will help in the development of such projects by (a) providing appropriate information, and (b) identifying individual specialists in education, science writing, audio-visual presentation, and other types of communication.

Some programmes will require a major emphasis on public awareness. At present there is only one, the conservation of plants programme, and in this the creation of public awareness is the third part of a tripartite programme. The other two are data collection and project selection and development.

□ *The threatened plants book*. The core element of the plant conservation public awareness project is the threatened plants book. This is intended to be a book of full-colour paintings of plants threatened with extinction, supported by drawings of their habitats and a 40,000 word text. The illustrator is Mary Grierson, a distinguished botanical artist and formerly botanical artist to the Royal Botanic Gardens, Kew, England. The author is Robert Allen, IUCN's science writer.

The book will be published commercially, in art and cheap editions. The

intention is that it be self-financing and made available to as wide an audience as possible. The chapter outline, a sample chapter, and some 30 paintings are being considered by potential publishers, and it is hoped that the book will be ready for the printer by the end of 1976.

The aims of the book are (a) to demonstrate that plants are as fascinating as the mammals and birds which today have such an enormous following; and (b) to bring home the scale and rate of the different types of threats to plants, and how great the loss to man would be if those that are threatened disappeared.

At present, no book exists on threatened plants, and there are few good articles on the subject. The threatened plants book should fill the former gap, and also the latter because it will spawn a series of feature articles for different media both pre- and post-publication, and possibly a good television script as well.

General public awareness

The general element of the programme—to improve public understanding and acceptance of conservation—consists of the production of articles for newspapers and magazines. Because there is a vast and growing conservation literature already, these articles are being restricted to topics which staff and freelance journalists neglect or treat superficially for either or both of the following reasons: they demand a disproportionate amount of research; they appear at first sight unattractive to the press and other media. Examples are plant conservation, coastal wetlands, and conservation and development.

The aim is to gather the data necessary for the production of compelling articles, to experiment with different ways of presenting both data and the various arguments in favour of conservation, and to demonstrate by publication that the subjects are sufficiently interesting and “newsworthy” to warrant much greater attention.

The number of potential subjects is so great that they have been restricted to those that fall within the small number of IUCN programmes requiring regular public exposure. Four have been chosen: the international conventions programme, the conceptual work programme, and the two IUCN/WWF front-line programmes for 1975-76 and 1977-78, respectively tropical rain forests and marine.

During 1976, a small number of articles will be written on the Convention on International Trade in Endangered Species of Wild Fauna and Flora, the Convention on Wetlands of International Importance, Especially as Waterfowl Habitat, the World Heritage Convention, and on conservation and development. A slightly larger number of articles will be written on tropical rain forests. Heaviest emphasis will be placed on preparing a series of feature articles and fact sheets for the 1977-78 campaign on marine conservation.

Copies of these articles will be sent to member organizations as they are completed, on request.

Conceptual work

The purpose of this programme is to develop and promote new thinking about conservation.

The programme's activities will be concentrated on the theme of conservation and development, with particular reference to ecodevelopment, sustainable rural development, and related types of “conservation-compatible” development.

In the first instance, a small team of specialist correspondents is being assembled. Eventually, it is hoped to hold a series of small solution-oriented “workshops”, the results of which will be published.

Update

This section revises or provides additional information on programmes described in previous issues. It will be devoted largely to brief descriptions of projects.

South Pacific

□ *Tonga: establishment and management of reserves*

This project, mentioned in last month's *Bulletin* (p2), has been included in the IUCN/WWF 1976 programme. It covers the establishment and provision of boundary fences, notices, and other facilities to protect a series of reserves in Tonga.

Marine conservation

□ *Conservation of marine turtles*

There are a number of marine turtle conservation projects. They are coordinated by Professor Archie Carr, Chairman of the Survival Service Commission's Marine Turtle Group.

□ *Leathery turtle, Malaysia—conservation project*

Provides for the acquisition of wildlaid eggs from licensed collectors, and the operation of a hatching scheme.

□ *Leathery turtle, Malaysia—establishment of sanctuary*

The only two nesting areas in the world of the leathery turtle, *Dermochelys coriacea*, are in French Guiana and in Trengganu State, Malaysia. Eight km of the 25 km nesting beach in Malaysia will be protected as a sanctuary.

□ *Sultanate of Oman marine turtle survey*

IUCN is recruiting a marine turtle specialist and providing technical direction for a project intended to protect the nesting sites of four marine turtle species on Masirah Island, and develop suitable management techniques for the sustainable utilization of this valuable food resource for the local people.

□ *Panama—study of turtle nesting beaches*

A marine turtle specialist will be provided to survey nesting beaches on

Panama's Atlantic and Pacific coasts as the basis for a management plan.

□ *Monk seal: conservation of Mediterranean population*

The Chairman of the Survival Service Commission's Seal Group, Dr David E. Sergeant, is coordinating the Mediterranean Monk Seal conservation work of some five groups and several individuals.

□ *Banc d'Arguin National Park, Mauritania—establishment and support*

A remote and remarkable coastal wetland reserve, due to be created a National Park. This project provides for the proper launching of the Park, the establishment of a surveillance system, and the gathering of the information needed for good management. Great care will be taken to allow the Imraguen fishermen to continue their traditional way of life on the Banc d'Arguin.

□ *Conservation of coral reefs of the Sudanese Red Sea*

Provides a mechanism for harnessing the efforts of a number of marine specialists located in Port Sudan for the conservation of marine habitats in the Sudanese Red Sea. It is designed to secure effective conservation legislation for the area; establish marine parks and equivalent reserves; create public awareness among local people and tourists; and create a nucleus of local persons capable of ensuring the continuation of effective conservation action.

□ *Wadden Sea, the Netherlands—conservation project*

Provides for the improvement of the Wadden Sea's legal status; research on the threats to animal and plant communities and on ways of protecting them; purchase and protection of certain key areas; the employment of a general inspector; and a public awareness programme. See p. 7 of this issue for information on the value of, and threats to, this exceptional coastal wetland.

□ *Development of an externally visible tag for marking large Cetacea*

A tag has been developed by Mr Sidney Brown, Vice Chairman of the Survival Service Commission's Whale Group. It will be tested off the coast of South Africa in October-November 1976. The purpose is to develop a tool to aid studies of the growth, movements, behaviour and population dynamics of presently protected species which does not require killing the animals to be effective. The present “Discovery” mark is an internal tag which requires that the whale be killed before the mark can be recovered. This limits its use to exploited species, and means that information is obtained only from dead whales.

□ *Law of the Sea Task Force*

A small task force has been set up to keep under review the conservation aspects of discussions at the UN Law of the Sea Conference, and to ensure that IUCN is in a position to take action on appropriate issues relating to the Law of the Sea.

News from Members

News from Members is a new section of the *Bulletin*. Its object is to provide members of IUCN with news about the activities of other members of IUCN. Its success will depend on membership participation, and we invite all members to send information which would be of interest to other members to Special Assistant for Membership, IUCN, 1110 Morges, Switzerland.

World Wildlife Fund's 4th International Congress

"The Fragile Earth—Towards Strategies for Survival" will be the theme of the 4th International Congress of the World Wildlife Fund to be held in San Francisco, California, beginning 28 November 1976.

In addition to plenary sessions, there will be a choice of six seminars conducted by experts with distinguished panelists from around the world on such subjects as: Population Dynamics and the Consequences of Growth; New Patterns of Economic Growth; Enlightened Management and Utilization of Natural Resources; Resource Recovery: The Challenge to Harvest Our Waste; Energy Stewardship and Innovation; Our Silent Neighbors: Wildlife and the Wilderness.

Further information on the conference and transportation/tours can be obtained from: Mrs Joy Skinner, WWF Congress, Official Tour Organizer, Simplified Travel International, Heron House, Chiswick Mall, London W4 2 PR, England.

Federation of Ontario Naturalists

The Federation of Ontario Naturalists, a national organizational member of IUCN in the non-governmental category, has passed another resolution calling for the termination of duck hunting in Point Pelee National Park. The Park, which was established in 1918 and comprises 1,554 ha appears in the UN List of National Parks and Equivalent Reserves.

Controversy over duck hunting has continued for many years, and the Federation claims that official Park Policy has been violated since 1964. The Federation has now asked in view of the lack of adequate protection of the park and its failure to meet park criteria that Point Pelee be removed from the entry for Canadian National Parks in the UN List.

Arizona-Sonora Desert Museum

The Arizona-Sonora Desert Museum, a national organizational member of IUCN in the non-governmental category, has reported progress during the first year of its transborder programme.

The Museum, through exhibits of living animals and plants, presents the Sonoran

Desert, a geographic zone encompassing portions of the States of Sonora, Baja California North and Baja California South in Mexico, and portions of the States of Arizona and California in the United States.

ASDM, located in Arizona, began in 1974 a major effort to promote conservation activity within the Mexican portion of the Sonoran Desert. A Mexican unit was established and contacts were made to strengthen environmental efforts. The Museum's educational programme was made available in Spanish, and technical advice was provided to establish a living regional museum, a botanical garden, and to assist in other conservation activities in the area.

Collaboration was begun with a Mexican organization, Bioconservacion A.C., a national organizational member of IUCN in the non-governmental category, in its conservation programmes.

Plans are to continue this regional activity in environmental and natural history education.

Australia's Environment Protection Act 1974-1975

Recently received from the Department of the Environment of Australia, the liaison agency for Australia as a State member of IUCN, is a pamphlet explaining the basic features of the Environment Protection (Impact of Proposals) Act of 1974-75.

Announcement has also been made of the entry into force of the Administrative Procedures of the Act, which define arrangements for its administration. The Australian Government's use of the environmental impact statement technique is thus fully implemented.

Nature Conservancy Council

The Nature Conservancy Council (NCC) liaison agency for the United Kingdom as a State member of IUCN, was set up by Act of Parliament in November 1973 "for the purposes of nature conservation and fostering the understanding thereof". Its first report to Parliament has recently been published (House of Commons Paper 499, HMSO, £2.25), which gives an account of the Council's achievements up to the end of March 1975.

The report contains 30 illustrations (17 in colour), 12 appendices, including lists of National and Local Nature Reserves, and 2 maps showing NCC regions and National Nature Reserves.

Corrigendum: IUCN Bulletin 6 (10) October 1975

"Food for All" coinage issued at the invitation of the Food and Agricultural Organization of the United Nations was the first instance in which a number of states have cooperated to issue legal tender coins in support of the same cause. WWF/IUCN's Conservation Coin Collection is the first instance in which these legal tender coins issued by different countries in support of the same cause are identical in size, weight and other specifications.

International Federation of Landscape Architects

The 15th World Congress of IFLA, an International member of IUCN, is to be held in Istanbul, Turkey, 6-8 September 1976. The meeting will be held at the invitation of the Turkish Association of Landscape Architects, under the auspices of the Turkish National Commission for UNESCO, the Ministry of Information and Tourism, and the Turkish Institute for Scientific and Technical Research. Meeting languages will be English, French and Turkish.

The general theme of the congress, chosen from among the 14 principal subject areas of the Man and the Biosphere Programme of UNESCO will be Ecological Effects of Human Activities on the value and resources of coastal zones—the role of the landscape architect in the management and development of coastal zones.

Further details may be obtained from the Congress Secretariat for the IFLA 1976 Congress, Arco Velho, Sintra, Portugal.

Biosphere reserves for northern Mediterranean countries

The beginning of a biosphere reserve network for countries of the northern Mediterranean was formulated at a meeting at Potenza, Italy, 27-31 October 1975. Pilot projects for regional cooperation within the framework of MAB Project 2, "Ecological effects of different land uses and management practices on temperate and mediterranean forest landscapes" were selected, as well as biosphere reserves within the framework of MAB Project 8, "Conservation of natural areas and of the genetic material they contain".

The following areas were proposed for inclusion in the network of reserves:

France

Camargue: An outstanding wetland in the Rhône Delta. The site of intensive ecological research on natural ecosystems.

Vallée du Fango: 4000 ha of evergreen oak forest and maquis together with a research laboratory in northern Corsica.

Greece

Gorge of Samaria: 4850 ha reserve in South Western Crete containing rugged terrain with stands of *Pinus brutia* and *Cupressus sempervirens*.

Mount Olympus: 4000 ha in northeastern Greece with forests typical of the region.

Daphne: A site near Athens where intensive studies on the ecology and physiology of "phrygana" vegetation are underway.

Italy

Forest of Circeo: 3268 ha within the Circeo National Park. Selected for its great variety of forest vegetation.

Forest of Collemellucio and Montedimezzo: Two areas (totalling 429 ha) in the Apennine Mountains containing old-growth forests and forests greatly modified

Books

Plants, man and the land in the Vilcanota Valley of Peru

by Daniel W. Gade

Biogeographica, Volume 6, Dr W. Junk b.v., The Hague, pp 240, Guilders 70

A geography of plant resources in an important Andean Valley of great environmental diversity. Provides an understanding of the use of plants, cultivated and wild, as they have varied from place and through time. Most of the contemporary data were derived from more than 20 months' observation of day-to-day practices of farming people in their fields, homes and markets. A comprehensive ethnobotanical account, of value to students of plant-culture relationships.

by man's past activities. They are representative of forest problems in the mountains of southern Italy and possess facilities for scientific research.

Forest of Pixinamanna and Is Cannoneris: An area of typical Sardinian mediterranean forest and maquis which will be part of a large national park being created in south-western Sardinia. The maquis vegetation is suitable for restoration experiments.

Portugal

Peneda-Gerês: A large national park in mountainous country on northern boundary. Portugal's extensive forests of oaks and other deciduous tree species and a relict population of *Pinus silvestris*. Excellent opportunities for cooperation with neighbouring Spain.

Arrabida: A reserve near Lisbon with maquis, oak (evergreen and deciduous species) and beech forest.

Castro Marim: A reserve in the Algarve region of southern Portugal containing wetlands and terrestrial salt-tolerant vegetation.

Spain

Ordesa-Vignemale: 51,000 ha including one of the highest parts of the Spanish Pyrenees with representative ecosystems. Cooperation with the adjacent French Parc National des Pyrénées has already begun.

Laurel forest on Las Palmas, Canary Islands: A newly protected 511 ha area of typical Canarian *Laurisilva* with a planned programme of research.

Turkey

Side: 100,000 ha in the Taurus Mountains bordering the Mediterranean coast, rich in endemic plant species.

Yugoslavia

Alps of Velebit: 130,000 ha in the mountainous coastal region of Croatia. The Croatian Institute for the Protection of Nature is studying this biologically rich area.

The meeting was sponsored by UNESCO's Man and the Biosphere (MAB) Programme and the MAB National Committee of Italy.

Africa the devastated continent?

by Antoon de Vos

Monographiae Biologicae, Volume 26, Dr W. Junk b.v., The Hague, pp 240, guilders 65.

As a member of the Commission on Ecology and in other capacities, Dr de Vos has been active in IUCN for many years. He has worked with FAO, in the Rome office, in the regional office in West Africa, and in Tehran, and has travelled throughout Africa watching developments and changes in its many nations and regions. It is from this viewpoint that his book concerning man's impact on the ecology of Africa is written. It provides a comprehensive view of the African environment, its ecological zones, and the impact of human activity in a comparatively short space.

Africa, the devastated continent? covers

the spectrum of human impacts from urban and industrial development to efforts to protect wilderness and wildlife in national parks and reserves. Problems of forestry, nomadism and other forms of animal husbandry, agriculture, soil conservation, range and wildlife management are examined. The activities of man are viewed and evaluated against the potentialities and restraints of particular ecosystems. The final chapter, "Planning for the Future", stresses the need for ecological considerations in planning for the use of land and resources, a subject of continuing concern to IUCN.

This is a useful book for an introductory university course in environmental science and conservation, and should be considered by African universities. It is sufficiently non-technical and well written to be of interest and value to the non-professional who wishes to be informed on the present state of affairs in Africa.

Energy and conservation

At long last IUCN has taken a position in an area where many of its member organizations have been active and fighting over many years—the field of energy development, use, and conservation.

The growing energy crisis and the environmental consequences of attempts to develop new energy resources have such far-reaching significance to nature conservation, that it is disturbing that IUCN has had no stated policy, and has until now failed to go on record to oppose the more destructive or dangerous forms of energy development, transportation, and use. The 12th General Assembly at Kinshasa, through the approval of Resolution 12 on Energy and Conservation, has remedied this deficiency.

Although some may believe that the wording of Resolution 12 is unnecessarily restrained, it represents the consensus of opinion of IUCN's Energy Task Force, an advisory body set up at the direction of the Executive Board in its May, 1974, meeting. This group, consisting of Dr Amasa Bishop (USA), Professor Lew Kowarski (France), Dr Amory Lovins (USA), Dr Jimoh Omo-Fadaka (Nigeria) and Prof. Dr Harald Wergeland (Norway), represents a wide range of experience with nuclear fission and fusion programmes, as well as the broader effects of energy development and use on the human environment.

The task force recognized the potentially grave hazards to the environment and man in the further production of energy from nuclear fission, and was particularly disturbed by the dangers inherent in the development and use of fast-breeding fission reactors.

It recommended that governments proceed slowly and with great caution in any further development of energy generation from nuclear fission, and that those governments which have not committed themselves to a nuclear-powered economy continue to avoid such a commitment. It further recommended abandoning fast-breeder reactor development.

The task force saw greater hope for the future in "research, development and deployment of less conventional technologies that involve renewable or inexhaustible sources of energy, and that have minimal environmental risks and/or impact associated with their production and use—particularly decentralized technologies using solar energy directly or indirectly." It further saw value in the promotion of technologies, ways of life and economic patterns which permit drastic reduction in energy use.

In this respect both the recommendations of the task force and the Energy Resolution coincide with the expressed wish of the General Assembly in relation to IUCN's programme and budget—that greater emphasis be placed on decentralized, rural development and in particular, eco-development, programmes as a part of any activities directed toward nature conservation.

Where does IUCN go from here? Obviously IUCN cannot become a source of expertise on energy development, use, and conservation. Obviously also IUCN cannot continue to lag behind other organizations in its awareness of the dangers or benefits inherent in the various energy policies proposed or adopted by governments.

It has been proposed in a recent joint meeting between the secretariats of IUCN and WWF, that the Energy Task Force continue in existence, with the task of periodically calling the attention of both organizations to recent developments in the energy field likely to have significant effects upon nature conservation and the future of the human environment.

The decision on whether or not to commit scarce financial resources to this activity is one for which the opinion of the Commission on Environmental Policy, Law and Administration is now required, and on which the views of member organizations will be welcomed.

R. F. Dasmann

pharmaceutical plant at Grindsted into Denmark's Ho Bugt area; the Elbe carries a heavy load of sewage and industrial waste, especially from Hamburg; 5 km² of chemical and electro-metallurgical industries pollute the Netherlands' Ems-Dollar estuary.

Probably the most dangerous source of pollution of the Dutch Wadden Sea is the River Rhine. The Rhine's waters, together with those of the Meuse and the Scheldt, move northwards along the Dutch coast and enter the Wadden Sea through its tidal entrance channels. The Rhine's devastating influence has been demonstrated by extremely large mortalities of sandwich terns and eider ducks in the western Wadden Sea. Heavy metals and other toxic compounds from the industries of the Netherlands, Germany, Switzerland and eastern France continue to enter the Wadden Sea via the Rhine.

* Industrial development. Large-scale industrial developments are planned or under construction in Germany and the Netherlands which could hazard the Wadden Sea through reclamation and pollution. For example, in Germany: a 700 Mw nuclear power station at Brunsbüttel is starting production this year; and a 1000 Mw nuclear power station at Brokdorf is in the planning stage; three new chemical works and a paper mill are planned or under construction. And in the Netherlands: some 10 km² of salt marsh and tidal flats at Emshaven have been reclaimed for the construction of a deep-water harbour and industrial facilities, including a fossil-fuel power station and probably a large petrochemical works. To the south-east of the Ems-Dollard estuary, the establishment of a further 3.5 km² of chemical industries is being considered.

* Military use. The western Wadden Sea is extensively used for training exercises. For example, the western sides of Vlieland and Terschelling Islands are the targets of tens of thousands of training attacks by NATO aircraft.

* Recreational use. Growing numbers of visitors to the islands of the Wadden Sea disturb birds and seals, erode the dunes and salt marshes, and encourage the development of blocks of holiday homes, yachting marinas, roads, and other tourist structures. In the period 1961-1970, the resident population of the Wadden islands grew by 12 per cent. The number of holiday guests increased by 170 per cent. The Danish island of Rømø receives

23rd Party to Endangered Species Convention

The Republic of Papua New Guinea deposited its instrument of accession to the Convention on International Trade in Endangered Species of Wild Fauna and Flora on 12 December 1975, thus becoming the 23rd Party to the Convention.

Comment

A test of Europe's will to conserve

Shared territorially by three nations (Denmark, the Federal Republic of Germany, and the Netherlands); polluted by them and by at least two others (France and Switzerland, as significant polluters of the Rhine); and economically important to the many nations that fish the North Sea—the Wadden Sea is strikingly symbolic of the bio-political interdependence of the natural resources of the sea.

It is also a test of Europe's will to conserve, one which developing countries are no doubt watching closely.

Developing countries are understandably sensitive to what they take to be "holier-than-thou" postures by conservationists in developed countries. Europe, the most developed of the continents, has few natural areas of any size left to destroy. Seldom do Europeans find themselves faced with the unpalatable alternatives of destructive development on the one hand or conserving self-denial on the other.

With Wadden Sea, for once, they do. And with Wadden Sea the choices are unusually clear—for, unlike some threatened environments, its direct economic value is unmistakable and relatively well-assessed.

Few conservation confrontations are strictly between conservation and development. They are between *development* and development: one industry (actual or potential) versus another industry. The real nature of the confrontation is obscured because generally the development classified as conservation benefits people less directly, though no less significantly, than the proposed development that would supplant it.

100,000 visitors on an average summer Sunday, and about 1 m cars in July.

In the face of pressures such as these, the Wadden Sea experts have strongly urged that the entire area be conserved as a unit. They propose that special attention be given to the following points, among others:

— the Wadden Sea's flora and fauna should be protected from pollution;

— the necessity of harbour construction should be reinvestigated; if further construction is then considered essential, existing ports should be expanded rather than a new one built; if a new deepwater port proves necessary, all new harbour construction should be confined to it;

— dike construction should be prohibited unless essential for safety;

— where it does not conflict with other vital interests, the dynamic character of the islands, tidal channels, flats and salt marshes should be preserved;

— exploration and exploitation of oil and gas, as well as other mining and quarrying activities, the construction of

In the case of the Wadden Sea, however, the conflict is straightforward: between using it in such a way that the area can support controlled recreation, restrained industrial development, and valuable fisheries—or opting instead for uncontrolled recreation, reckless industrialization, and the virtual ruin of four major fisheries.

The fisheries argument is important. The landed value alone is \$140 million a year. Analogous calculations of the value of estuary-dependent fish in the USA, suggest that the final market value is some five times greater, or \$700 million. It is surely foolish to destroy a biological investment with so great an annual yield?

IUCN has drafted a Convention for the Conservation of the Wadden Sea, and hopes that the States whose territories include this invaluable wetland will make all haste to conclude such an agreement.

But action should not stop there, and should not be confined to Denmark, the Federal Republic of Germany, and the Netherlands. The Wadden Sea will not be safe without a binding agreement by the nations controlling the Rhine watershed to heavily restrict their discharges into it.

And the fisheries of the North Sea as a whole will not be secured until all its important coastal wetlands are adequately protected. The North Sea countries might begin by adhering to the Convention on Wetlands of International Importance.

After all, Europe can have little claim on the rational exploitation of the natural resources of other continents if it does not care for its own.

Robert Allen

causeways, pipelines, buildings and so on, should be undertaken only when no lasting damage to the renewable natural resources of the Wadden Sea will occur;

— low flying aircraft should be controlled;

— recreation pressure should be regulated, by zoning the area, limiting visitor-days, and restricting the number and location of recreational installations.

These measures are vital, the Wadden Sea specialists said, if this wetland's values are to be retained.

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