

The gift of awareness

Most people who practice conservation, privately or in the exercise of their professions, have an important quality in common: *awareness*.

Awareness of the natural world brings knowledge. Awareness encourages the development of positive attitudes toward the needs of nature, and the needs of mankind, which ultimately are the same. The absence of this quality usually marks insensitivity—the cruel attitude which begets, among other things, disrespect for the natural world with abuse and even destruction of its wonders.

Awareness of nature is a fundamental goal for programmes in environmental conservation education. These are being pursued actively in a number of countries and by many organizations, including IUCN, whose pioneering role is widely recognized. In the total conservation effort, few programmes, in our view, have greater importance or deeper implications for mankind.

But formal education is not enough. Today, especially, much more is needed. The issue has been lucidly presented in an editorial in *The Conservationist** of October–November 1971, particularly in the following paragraphs:

“What is there that we can give our children which will outlast the vulnerable plastic-cardboard-shoddy world of most gift giving? Have you tried giving the ultimate gift to a child, the gift of a sense of wonder—the sense of wonder so movingly described by Rachel Carson in her book bearing that title?

“This Christmas and throughout the coming year take your young ones by the hand into this world of discovery. Take the time to catch a snowflake on a sheet of black paper, and let them see it through a hand lens. A child’s mind is a blotter, his curiosity a marvelous thing to behold, his capacity limitless. Introduce him to the world of insects, and make him aware of the constant pulse of life which throbs around him; share with him the ever changing pageantry of the seasons; take the time to stand silently with him and listen to the song of eternity...

“A sense of wonder once developed is never lost. It is a gift for a lifetime. Out of it grows understanding. Out of understanding evolve love and respect, and these are the keys which enable us to live harmoniously with others and with the natural world around us.

“Nurturing a sense of wonder in a child will help him in later life find assurance in the unchanging truth that life on earth is one piece; that for all there is birth, life and ultimately death; that we all are small segments of a shared destiny.

“And while you are helping your children find their sense of wonder, you may recover some of your own.”

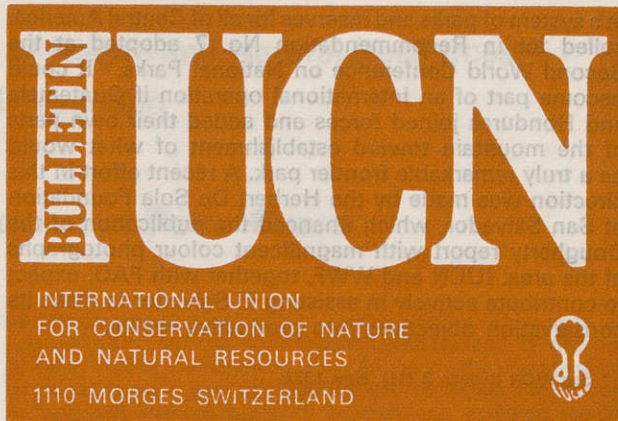
Christmas is not celebrated in all countries, but the lessons of this beautifully expressed message should be taken to heart everywhere, by all adults who have the privilege of sharing their own microcosm with children.

R. I. Standish

* Published every two months by the New York State Department of Environmental Conservation.

Western Samoa joins IUCN

The Government of Western Samoa has conveyed to the IUCN Director General Western Samoa’s wish to adhere to the Statutes of IUCN. It has thus become the thirty-fourth State member of the Union.



NEW SERIES Vol. 4 No 12 DECEMBER 1973
Published with the financial assistance of UNESCO; issued monthly

Conservation action in El Salvador

El Salvador, with more than 4 million people in an area of just over 20,000 sq. km., is by far the most densely populated country on the mainland of the Americas. Fertile soil, largely derived from fresh volcanic material, is limited. A large amount of its territory is mountainous and prone to erosion. With heavy pressure from its increasing population, the country’s original forest has almost completely disappeared, and there is little chance that more than a few small samples will be saved. Despite the pressures, two of the most important original forest formations have fortunately been conserved, and presently a substantial effort is being made to promote conservation action in the country.

The highly fragile mangrove forests are included in the areas considered for protection. Their value as breeding grounds for marine animals of all kinds, their importance for protecting certain ecosystems, and their role in providing, through leaf-fall, the material that is at the basis of many food chains, is recognized by the Ministry of Agriculture, to which their conservation has been entrusted. The new Minister, Mr. Robert Llach Hill, is interested in protecting these mangroves through the establishment of a national park or reserve and he discussed such a project with the Director General during his recent visit to El Salvador.

Even more important than the mangrove forest is a substantial area of cloud forest, locally called “Bosque nebuloso”, in the north-west corner of the country on the border with Guatemala and Honduras. This beautiful piece of forest, which was recently the subject of a special study by Dr. Howard Dougherty, is under considerable pressure to make room for pasture, flower cultivation and other highland land-use practices. However, principally due to the efforts of conservationists in El Salvador and especially a local group called “Friends of the Earth”, there is a good chance that the area will become El Salvador’s first national park and be placed under correct management. Salvadorian authorities, accompanied by representatives of IUCN, WWF and Dr. Kenton Miller who heads FAO’s Latin American parks project, recently inspected the area and agreed that its potential is great although many problems remain to be solved.

Around the cloud forest, there is an important area with native pines that is being managed under scientific guidance. This is also under threat from various schemes to introduce crops adapted to higher elevations; potato cultivation has already been started. Clear decisions on land-use need to be made.

The unique value of the cloud forest as a regulator of the water regime, as habitat for the quetzal and other cloud forest fauna, and as a refuge for magnificent vegetation that includes striking orchids, aroids, ferns, mosses, bromeliads and various species of plants found only there, truly qualify it as part of the heritage of El Salvador and the rest of the world. This area should be incorporated

in a system of parks and reserves for all of Central America, called for in Recommendation No. 7 adopted at the Second World Conference on National Parks.* It could become part of an international operation if Guatemala and Honduras joined forces and added their own parts of the mountain toward establishment of what would be a truly remarkable frontier park. A recent effort in this direction was made by the Herbert De Sola Foundation of San Salvador, which financed the publication of the Dougherty report with magnificent colour photographs of the area. IUCN and WWF, together with FAO, expect to contribute actively in assisting El Salvador to make its conservation objectives into productive reality.

* See IUCN Bulletin 3 (11), Nov. 1972

Protection for polar bears

An Agreement on Conservation of Polar Bears was concluded at Oslo on 15 November 1973. Five Arctic States, Canada, Denmark, Norway, USSR and USA, participated in a three-day Conference which ended with the signing of the Agreement by four nations; USSR is also expected to sign soon.

The new accord will give almost complete protection of polar bears in the Arctic. Taking of polar bears is banned although some defined exceptions are allowed, most importantly traditional hunting by local people.

The Agreement calls for each country to carry out research on polar bears and to coordinate research and exchange information with other parties.

The Conference was convened by the Government of Norway which invited IUCN to participate and provide a technical secretariat. The Agreement was first proposed by the IUCN Polar Bear Specialist Group and was based on a draft prepared by IUCN in consultation with the participating Governments.

A resolution of the Conference calls for a ban on the taking of females with cubs and their cubs, and also for protection of denning sites.

This is the first treaty between the five Arctic States. Hopes were expressed that it would lead to further accord between the countries in matters relating to conservation in the Arctic.

Text of the Agreement is printed as a Special Supplement to this issue of the Bulletin.

Bulletin subscription data

The IUCN Bulletin is free to members. "Supporters" and interested conservationists may subscribe at US\$10.00 for 12 issues per year. Cheques may be mailed to Morges, or deposited to any one of the following bank accounts provided Morges is advised:

- The Riggs National Bank of Washington D.C., Dupont Circle Office, 1913 Massachusetts Avenue N.W., Washington 20036 U.S.A., Acct. No. 04 07 077 297.
- Barclay's Bank Ltd., Lowndes Square Branch, 8 West Halkin Street, London S.W.1., U.K., Acct. No. 3049 2248.
- IUCN's Account with the Société de Banque Suisse, 1110 Morges, Switzerland.
- IUCN's Account with the Union de Banques Suisses, 1800 Vevey, Switzerland.
- IUCN's Post Cheque Account 10-22.605, Lausanne, Switzerland.
- Crédit Commercial de France S.A., 103, Av. des Champs-Elysées, Paris, 8^e, France, Account No. 020 285.5870.

Japan and USSR object to whaling regulations

The International Whaling Commission (IWC) has responsibility for international regulation of most of the world's whaling. Since 1949, the IWC has met, normally once a year, to review the current status of whale stocks and to propose amendments to its schedule of regulations for whaling, in accordance with scientific reassessment of whale populations and taking account of the whaling industry's requirements. New regulations, in the form of approved amendments to the schedule, are not binding on a contracting government, however, if it lodges an objection to an amendment within ninety days of notification of the proposal.

It has been announced that both the Governments of Japan and USSR have objected to three new amendments to the IWC schedule that were approved at the 25th Annual Meeting of the IWC, in London, in June 1973 (see IUCN Bulletin 4 (8):31). The three amendments refer to regulations that would: (1) phase out whaling for fin whales in the Antarctic by 1976, through successive reduction of annual quotas; (2) limit the minke whale quota in the Antarctic to 5,000 in the 1973/74 season, and (3) sub-divide the 1973/74 quota for sperm whales in the Southern Hemisphere by geographical regions. The first amendment is rejected by Japan, only, and the second and third amendments by Japan and USSR.

It is understood that Japan's objection to the phased moratorium for fin whaling and restriction of the minke whale quota in the Antarctic is made on the grounds that the present quotas are thought to be considerably less than the sustainable yield and that ultimate elimination of fin whaling and restriction of minke whale catches would cause hardship to Japanese whale meat consumers. The need for geographical sub-division of the sperm whale quota is accepted in principle, but Japan maintains that present sub-divisions are not based on scientific classification of stocks and that implementation of the new regulations would have no validity but would cause legal and technical difficulties of control. Soviet objections are believed to be based on similar grounds.

No alternative proposals have been made on sub-division of the sperm whale quota, but Japan has, apparently, stated that it will impose "voluntary quotas" on fin and minke whale catches in the Antarctic, that its voluntary quota for fin whales would not exceed present levels (presumably referring to the quota set for 1973/74 of 1450 whales) and, for minke whales, would be based on scientific study of stocks (in June 1973, the final Japanese proposal for the minke whale quota was 8,000 whales). Agreement on voluntary quotas is believed to have been reached between Japan and USSR.

In the past, the IWC has been widely criticized for its failure to act quickly and decisively on whale conservation problems. Within recent years, however, the Commission's conservation record has improved substantially. IUCN views the Japanese and Soviet reactions to the Commission's latest regulations on whaling in the Southern Hemisphere with grave concern. Not only are they opposed to the majority views of the IWC and its scientific advisors, but they may serve to undermine the Commission's authority and restrict effective conservation measures in the future. Letters have been dispatched to the International Whaling Commissioners of Japan and USSR, to inform them of the Union's concern and to urge them to reconsider their decisions.

Errata

In the November issue the article on the new national parks established in Greece by decree contained an unfortunate error locating the park in the Vicos-Aoos area. It is in the Ioannina, Epirus region, not, as reported, in the "Ioannian - Epirus" region.

International Union for Conservation of Nature and Natural Resources

1110 Morges, Switzerland

Agreement on Conservation of Polar Bears

The Governments of Canada, Denmark, Norway, the Union of Soviet Socialist Republics, and the United States of America,

Recognizing the special responsibilities and special interests of the States of the Arctic Region in relation to the protection of the fauna and flora of the Arctic Region;

Recognizing that the polar bear is a significant resource of the Arctic Region which requires additional protection;

Having decided that such protection should be achieved through co-ordinated national measures taken by the States of the Arctic Region;

Desiring to take immediate action to bring further conservation and management measures into effect;

Have agreed as follows:

Article I

1. The taking of polar bears shall be prohibited except as provided in Article III.
2. For the purpose of this Agreement, the term "taking" includes hunting, killing and capturing.

Article II

Each Contracting Party shall take appropriate action to protect the ecosystems of which polar bears are a part, with special attention to habitat components such as denning and feeding sites and migration patterns, and shall manage polar bear populations in accordance with sound conservation practices based on the best available scientific data.

Article III

1. Subject to the provisions of Articles II and IV, any Contracting Party may allow the taking of polar bears when such taking is carried out:
 - (a) for *bona fide* scientific purposes; or
 - (b) by that Party for conservation purposes; or
 - (c) to prevent serious disturbance of the management of other living resources, subject to forfeiture to that Party of the skins and other items of value resulting from such taking; or
 - (d) by local people using traditional methods in the exercise of their traditional rights and in accordance with the laws of that Party; or
 - (e) wherever polar bears have or might have been subject to taking by traditional means by its nationals.
2. The skins and other items of value resulting from taking under sub-paragraphs (b) and (c) of paragraph 1 of this Article shall not be available for commercial purposes.

Article IV

The use of aircraft and large motorized vessels for the purpose of taking polar bears shall be prohibited, except where the application of such prohibition would be inconsistent with domestic laws.

Article V

A Contracting Party shall prohibit the exportation from, the importation and delivery into, and traffic within, its territory of polar bears or any part or product thereof taken in violation of this Agreement.

Article VI

1. Each Contracting Party shall enact and enforce such legislation and other measures as may be necessary for the purpose of giving effect to this Agreement.
2. Nothing in this Agreement shall prevent a Contracting Party from maintaining or amending existing legislation or other measures or establishing new measures on the taking of polar bears so as to provide more stringent controls than those required under the provisions of this Agreement.

Article VII

The Contracting Parties shall conduct national research programmes on polar bears, particularly research relating to the

conservation and management of the species. They shall as appropriate co-ordinate such research with research carried out by other Parties, consult with other Parties on the management of migrating polar bear populations, and exchange information on research and management programmes, research results and data on bears taken.

Article VIII

Each Contracting Party shall take action as appropriate to promote compliance with the provisions of this Agreement by nationals of States not party to this Agreement.

Article IX

The Contracting Parties shall continue to consult with one another with the object of giving further protection to polar bears.

Article X

1. This Agreement shall be open for signature at Oslo by the Governments of Canada, Denmark, Norway, the Union of Soviet Socialist Republics and the United States of America until 31st March 1974.
2. This Agreement shall be subject to ratification or approval by the signatory Governments. Instruments of ratification or approval shall be deposited with the Government of Norway as soon as possible.
3. This Agreement shall be open for accession by the Governments referred to in paragraph 1 of this Article. Instruments of accession shall be deposited with the Depository Government.
4. This Agreement shall enter into force ninety days after the deposit of the third instrument of ratification, approval or accession. Thereafter, it shall enter into force for a signatory or acceding Government on the date of deposit of its instrument of ratification, approval or accession.
5. This Agreement shall remain in force initially for a period of five years from its date of entry into force, and unless any Contracting Party during that period requests the termination of the Agreement at the end of that period, it shall continue in force thereafter.
6. On the request addressed to the Depository Government by any of the Governments referred to in paragraph 1 of this Article, consultations shall be conducted with a view to convening a meeting of representatives of the five Governments to consider the revision or amendment of this Agreement.
7. Any Party may denounce this Agreement by written notification to the Depository Government at any time after five years from the date of entry into force of this Agreement. The denunciation shall take effect twelve months after the Depository Government has received the notification.
8. The Depository Government shall notify the Governments referred to in paragraph 1 of this Article of the deposit of instruments of ratification, approval or accession, of the entry into force of this Agreement and of the receipt of notifications of denunciation and any other communications from a Contracting Party specifically provided for in this Agreement.
9. The original of this Agreement shall be deposited with the Government of Norway which shall deliver certified copies thereof to each of the Governments referred to in paragraph 1 of this Article.
10. The Depository Government shall transmit certified copies of this Agreement to the Secretary-General of the United Nations for registration and publication in accordance with Article 102 of the Charter of the United Nations.

In witness whereof the undersigned, being duly authorized by their Governments, have signed this Agreement.

Done at Oslo, in the English and Russian languages, each text being equally authentic, this fifteenth day of November, 1973.

International Union for Conservation of Nature and Natural Resources

1110 Morges, Switzerland

Agreement on Conservation of Polar Bears

The Government of Canada, Denmark, Norway, the Union of Soviet Socialist Republics, and the United States of America, recognizing the special responsibilities and special interests of the States of the Arctic Region in relation to the protection of the fauna and flora of the Arctic Region, and recognizing that the polar bear is a significant resource of the Arctic Region which requires additional protection, and having decided that such protection should be achieved through co-ordinated national measures taken by the States of the Arctic Region;

Article VIII

Each Contracting Party shall take action as appropriate to promote compliance with the provisions of this Agreement by nationals of States not party to this Agreement.

Article IX

The Contracting Parties shall continue to consult with one another on research and management programmes, research results on research and management programmes, research results and data on bears taken.

Article X

This Agreement shall be open for signature at Oslo by the Government of Canada, Denmark, Norway, the Union of Soviet Socialist Republics and the United States of America until 31st March 1974. After that date it shall be open for signature only to States which have deposited their instruments of ratification, approval or accession with the Depositary Government.

This Agreement shall be open for accession by the Government of any State which has not deposited its instrument of ratification, approval or accession with the Depositary Government.

This Agreement shall enter into force ninety days after the date of deposit of the third instrument of ratification, approval or accession. Thereafter, it shall enter into force for a signatory State on the date of deposit of its instrument of ratification, approval or accession.

This Agreement shall remain in force indefinitely for a period of five years from its date of entry into force, and unless any Contracting Party during that period requests the termination of the Agreement at the end of that period, it shall continue in force thereafter.

On the request addressed to the Depositary Government by any of the Governments referred to in paragraph 1 of this Article, consultations shall be conducted with a view to convening a meeting of representatives of the five Governments to consider the revision or amendment of this Agreement.

Any Party may denounce this Agreement by written notification to the Depositary Government at any time after five years from the date of entry into force of this Agreement. The denunciation shall take effect twelve months after the Depositary Government has received the notification.

The Depositary Government shall notify the Governments referred to in paragraph 1 of this Article of the deposit of instruments of ratification, approval or accession, of the entry into force of this Agreement and of the receipt of notifications of denunciation and any other communications from a Contracting Party.

The original of this Agreement shall be deposited with the Government of Norway which shall deliver certified copies thereof to each of the Governments referred to in paragraph 1 of this Article.

The Depositary Government shall transmit certified copies of this Agreement to the Secretary-General of the United Nations for registration and publication in accordance with Article 102 of the Charter of the United Nations.

In witness whereof the undersigned, being duly authorized by their Governments, have signed this Agreement.

Done at Oslo, in the English and Russian languages, each text being equally authentic, this fifteenth day of November, 1973.

Recognizing the special responsibilities and special interests of the States of the Arctic Region in relation to the protection of the fauna and flora of the Arctic Region, and recognizing that the polar bear is a significant resource of the Arctic Region which requires additional protection, and having decided that such protection should be achieved through co-ordinated national measures taken by the States of the Arctic Region;

Deciding to take immediate action to bring further conservation and management measures into effect;

Recognizing that the taking of polar bears shall be prohibited, except as provided in Article III;

For the purpose of this Agreement, the term "taking" includes hunting, killing and capturing;

Each Contracting Party shall take appropriate action to protect the ecosystems of which polar bears are a part, with special attention to habitat components such as denning and feeding sites and migration patterns, and shall manage polar bear populations in accordance with sound conservation practices based on the best available scientific data;

Subject to the provisions of Articles II and IV, any Contracting Party may allow the taking of polar bears when such taking is carried out:

- (a) for bona fide scientific purposes; or
- (b) by that Party for conservation purposes; or
- (c) to prevent serious disturbance to the management of other living resources, subject to limitation to that Party of the animals and other bears of value resulting from such taking;

whenever polar bears have or might have been subject to taking by traditional means by its nationals;

Under sub-paragraphs (b) and (c) of paragraph 1 of this Article shall not be available for commercial purposes;

The use of aircraft and large motorized vessels for the purpose of taking polar bears shall be prohibited, except where the application of such prohibition would be inconsistent with domestic law;

A Contracting Party shall prohibit the exportation from the territory and delivery into, and the importation into the territory of any bear or product thereof taken in violation of this Agreement;

Each Contracting Party shall enact and enforce such legislation and other measures as may be necessary for the purpose of giving effect to this Agreement;

Nothing in this Agreement shall prevent a Contracting Party from maintaining or amending existing legislation or other measure or establishing new measure on the taking of polar bears so as to provide more stringent controls than those required under the provisions of this Agreement;

The Contracting Parties shall conduct national research programmes on polar bears, particularly research relating to the

Programme Activities

Meeting on ecological guidelines for American tropics set

Final plans for an international meeting on the use of ecological guidelines for development in the American humid tropics, to be held 20-23 February in Caracas, Venezuela, have been announced. (See IUCN Bulletin 4 (7) p. 27.)

Tropical rain forest areas are currently prime targets for development planning. Experience to date in the development of such areas has been disappointing and projects have often resulted only in the destruction of the potential of these important renewable natural resources which could, if properly used, make important contributions to the long-term stability and well being of the countries involved.

It is now clear that development planners must work in accordance with ecological principles and that effective use of tropical forest areas can only be attained by careful planning that takes ecological imperatives into account.

There is an urgent need to formulate ecological principles that are relevant to the development process in tropical forest areas and to evolve guidelines based on such principles. The present conference has been convened for this purpose. It will bring together invited ecologists and planners along with specialists from appropriate disciplines and officers from government agencies in Latin America dealing with agriculture, forestry and land-use to discuss and prepare the draft guidelines.

In particular it will take into account alternative land-use systems including forestry, agriculture, pastoralism, wildlife utilization, conservation of natural areas, and tourism.

The Instituto Venezolano de Investigaciones Cientificas (IVIC) in Caracas will host the meeting.

Technical sessions will be devoted to the presentation of selected commissioned papers and subsequent discussion under the guidance of a chairman and vice-chairman who will act as discussion leaders. Matters to be covered include agriculture and pastoralism, forestry and wildlife resources, engineering and natural areas, tourism, and guidelines for development based on ecological principles.

Convened by IUCN, the meeting is co-sponsored by five UN agencies: FAO, UNDP, UNEP, ECLA and UNESCO, plus the Organization of American States (OAS). The meeting is being supported by the Swedish International Development Authority (SIDA) and the World Wildlife Fund (WWF).

A similar meeting will be held 28-31 May 1974 in Bandung, Indonesia, to develop ecological guidelines for development planners in tropical forest areas of South East Asia. Details of this project will be announced later.

Two new members of the Secretariat at Morges

IUCN's Secretariat at Morges has been strengthened recently by the addition of two new members.

Dr. Bruce E. Weber and his wife, Katherine, through cooperation of the U.S. Peace Corps, have been assigned to Morges for two years. They will work on national park projects, including up-dating the UN List of National Parks and Equivalent Reserves and compilation of the World Directory of National Parks and Other Protected Areas. Dr. Weber holds a Ph.D. degree from Colorado State University, and has considerable field experience, particularly in South East Asia and the Caribbean area. Mrs. Weber is a candidate for the MS degree at Colorado State University, and worked as a field assistant to Dr. Weber in Dominica.

IUCN publishing proceedings of second world parks conference

Proceedings of the Second World Conference on National Parks, which was held at Yellowstone and Grand Teton National Parks in September last year, is now in press. The English version should be available for distribution early in 1974.

The book is being published in Switzerland for the National Parks Centennial Commission of the United States. This special organization, under the Chairmanship of Edmund B. Thornton, provided host services for the World Conference and was a sponsor along with the National Park Service of the U.S. Department of the Interior and IUCN.

Separate editions in English, French, and Spanish are being printed. The book will contain more than 500 pages and will be bound in hard covers. It was edited by IUCN's scientific editor, Sir Hugh F. I. Elliott.

Complimentary copies will be distributed during 1974 by the National Park Service of the United States to all participants. Copies may be ordered from IUCN at US\$ 10 each. This price includes prepaid postage.

Conservation of non-human primates

Strategies for the conservation of non-human primates, in the form of action priorities and plans for a coordinated protection programme under the direction of the IUCN/SSC, were evolved in discussions held in London on 17-19 November.

The meeting of invited experts was presided over by the Chairman of the SSC Primates Specialist Group, Professor Hans Kummer of the Zoological Institute of Zürich, who is also President of the International Primatological Society.

Top priorities for action programmes included the following: (a) anthropoids (great apes) are the priority targets; (b) their habitats require priority conservation action, and (c) the Cameroun rain forests represent the priority habitat.

Action is now in hand to form the Primate Specialist Group as a small action group, representative of each main geographical area, with a team of specialist consultants whose advice can be sought on specific problems.

The Group will coordinate conservation projects within the priority areas. Due regard will be paid to public relations and communication and to the establishment of liaison with decision makers.

Close liaison will be maintained with actual and potential sources of funding and encouragement given to projects complementary to those specifically funded through IUCN/WWF.

The meeting was held at the Medical Research Council Laboratory Animal Centre, Carshalton, UK, with the Primatological Society of Great Britain as host.

Conservation stamps

Thailand has just issued a set of eight stamps featuring endangered mammals: Schomburgk's and Eld's deer, Asiatic buffalo, kouprey, goral, serow and Javan and Sumatran rhinoceros.

IUCN BULLETIN

New Series Vol. 4, No. 12, December 1973.

Published monthly by the International Union for Conservation of Nature and Natural Resources with the financial assistance of Unesco. (Unesco Subvention 1973 DG/2.1/414/37.)

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

Conservation Notes

International Working Group meeting on MAB Project 6: Mountain and Tundra Ecosystems

UNESCO's Man and the Biosphere Programme is an interdisciplinary research programme concerned primarily with the structure and functioning of the biosphere and the impact of man on natural ecosystems. Its aim is to develop a basis for rational use of natural resources and to improve global relationships with man and his environment.

The first Working Group meeting on a MAB Project (No. 6: Mountain and Tundra Ecosystems) took place at Lillehammer, Norway, on 20-23 November 1973. The elaboration of the scientific content of the project and approaches and study plans that could be recommended to National Committees for project implementation was undertaken by an ad-hoc panel of experts in Salzburg, Austria, 27 January to 4 February 1973. The Working Group's function was to consider national programmes proposed for research and to establish objectives and make a preliminary synthesis for an international programme that would incorporate national programmes and ensure comparability of research aims, methods and results.

The Group divided into three sub-committees on mountain and tundra ecosystems in high latitudes, temperate mountains, and mountain regions in the tropics. Draft reports were produced for each region that summarize land-use practices, man's needs and the consequences of his actions, provide basic models for research and itemize more specific research requirements. They will form the basis for a further compilation in the MAB Report Series that is expected to be published early in 1974.

Colin W. Holloway

Sakaerat Experiment Station

The Sakaerat Experiment Station in Thailand, an important centre for studies of tropical environmental data, is encouraging visiting scientists to take advantage of biological research opportunities available there.

Located on 80 sq. km. of varied forest land at the northern edge of the tropical rain forest, the station was established in 1967 by the Applied Scientific Research Corporation of Thailand, the country's national research institution. It is just east of Khao Yai National Park which covers more than 2,000 sq. km. Khao Yai has a variety of environments, from tropical dipterocarp forests to deciduous-evergreen forest complexes.

The station includes one of the best calibrated sites in the tropics, valuable for modelling and food chain studies. A file of data on climate, soils, flora and fauna, energy balance, hydrological cycle and geochemical element cycle in deciduous-evergreen forest is available. Laboratory and housekeeping facilities are excellent.

Requests for use of the station should be directed to:

Research Director,
Environmental & Ecological Research Institute,
Applied Scientific Research Corporation of Thailand,
Bang Khen, Bangkok 9, Thailand

More nations sign Convention on trade in endangered species

As of 29 October the number of nations which have signed the Convention on International Trade in Endangered Species of Wild Fauna and Flora was 39. Most recent signatures were by Australia, Bangladesh and Poland.

The Convention is open for signature at Bern. IUCN urges all states who have not yet done so to sign and ratify the Convention as soon as possible.

Rhino fence in Nepalese national park

A fence to protect the Great Indian one-horned rhinoceros in the Chitawan National Park in Nepal has been completed with funds from the Frankfurt Zoological Society channelled through the World Wildlife Fund.

The fence will prevent the animals from wandering into cultivated areas where they cause damage, and will help protect them from poachers. It will also serve to keep grazing cattle out of the national park where they compete with wild animals for food and could spread disease.

New Zealand protects island groups

The Solander Islands Group and Secretary Island, both lying within the boundary of Fiordland National Park, have been given the highest degree of protection under New Zealand's National Parks Act of 1952.

Both island areas are free of introduced animals and the natural vegetation has not been modified by man.

Entry to the areas is prohibited except under special written permit.

Book Review

Seber, G. A. F. (1973): *The Estimation of Animal Abundance* London: Griffin. 506 p., £12.00

There is a bewilderingly wide variety of methods of estimating the size of animal populations; new techniques are appearing in the literature at an exponentially increasing rate. For some time the field worker has been in desperate need of an authoritative and comprehensive assessment of the numerous techniques at his disposal. Professor Seber has bravely attempted to meet this need and has splendidly succeeded. Workers in all areas of population estimation will find his book invaluable.

It is indeed as comprehensive as one could hope for; as many as 600 original papers are referred to. This vast amount of material is organised into a coherent, concise and readable review of the whole subject. And this is achieved with no loss of theoretical rigour; the rationale of each technique is described and justified.

Despite an introductory chapter explaining statistical methods used in the book, some biologists may find the mathematical apparatus somewhat daunting. However even the non-mathematical reader will profit from the excellent descriptions and discussions of the various methods and from the many numerical examples. My only criticism is that the author's style, though always perfectly clear, is rather pedestrian.

The statistical preliminaries are followed by a full discussion of density estimation by quadrat, line-transect, and nearest-neighbour techniques.

The next four chapters are devoted to the many ramifications of capture-recapture methodology. This jumble of techniques is transformed into a well-ordered set of clear options.

This is followed by excellent explanations of catch-effort techniques, change in ratio methods, estimation of mortality rates from life-table and age data, and methods of estimation based on geographical stratification. Each technique is illustrated by at least one worked numerical example based on field data.

In the final chapter the merits of the different methods are compared on the basis of their relative precision and cost, and for the robustness of their assumptions.

The book has the rare value of theoretical excellence wedded to a full awareness of the practicalities of field work.

Whenever possible the assumptions of a model are tested against reality. The author's simplest, yet perhaps soundest, advice is to use more than one method to estimate the same population.

On first receiving this book I was shocked by its price. Having now read it I think it is worth every penny.

M. D. Mountford