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Editorial

The harp seal: cause for unease

Every March the harp seal hunt on the ice off eastern Canada gets a stormy reception from the public—this year more so than ever and extending far beyond the boundaries of North America. This year it is not just the Canadian Prime Minister's wife (or for that matter Brigitte Bardot) who is insisting "I would never wear a baby seal". A well-conducted publicity campaign has seen to it that in very many countries of western Europe and elsewhere, seal hunting is now equated in the public mind with barbarism.

What has all this to do with IUCN, an organization concerned strictly with conservation issues? First, behind the emotional thrust of the campaign is the charge

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that the present level of kill is endangering the species. The charge must be examined. Second, total silence from a conservation body of IUCN's standing on a conservation issue about which the public feels strongly gives the impression not so much of "getting quietly on with the job" as of neglecting the job.

Conservationists are forever prating about "public awareness". It would be a pity (to say the least) to spurn it when it's there, all ready and waiting to be informed. If it appears that "hard-headed professionals" are unwilling to have any truck with "soft-hearted amateurs", then public concern can easily turn to cynicism—to the detriment of the whole conservation cause. The drawing of dividing lines may be useful. The drawing up of battle lines is certainly not.

The background facts

By the end of the '60s it was becoming abundantly plain that the commercial catch, averaging 282,000 a year throughout the decade, was excessive. Such protective measures as had been introduced—for example, progressively earlier closing dates to the hunt and the protection of adult females while whelping—were proving in-

sufficient to arrest the steep decline in population. All authorities are agreed that during the '50s and '60s numbers dropped by at least 60%.

In 1971 the Canadian government set up an advisory Committee on Seals and Sealing, COSS. The chairman was and is Professor Ronald who is also chairman of IUCN's seal group. In the same year the International Commission for the Northwest Atlantic Fisheries, ICNAF, introduced a quota system with a figure of 245,000. The kill was 231,000.

In 1972 the quota was reduced to 150,000 and remained unchanged for four years. The quota gave 120,000 to Canadian and Norwegian ships and allotted 30,000 to those who hunt on foot or from small boats. This so-called landmen's allotment was not controlled; administrative difficulties were adjudged too great. (Throughout this article all quotas, all catches and all estimates of sustainable yield *exclude* the allotment of 10,000 to the indigenous peoples of northern Canada and Greenland and the allowance of 100 to ships of other flags.)

Some conservationists remained worried that the quota was still too high. But during the next three years difficult ice conditions resulted in the ships' catches falling well below their entitlement. So although the landmen took more than their allotment in '73 and '74, the total catch never reached 150,000. 1975 was a different story. The ships amply filled their quota and the landmen took

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53,000. The total kill was 174,000 (of which 141,000 were pups).

For 1976 the quota was reduced to 127,000. But with the landmen taking no less than 68,000, the catch was hardly below the previous year's. At 165,000 (135,000 pups) it topped not only the quota for the year, but also the higher quota of earlier years.

The sequel is on the face of it strange. A high catch in '75 had been followed

by a lower quota. The high catch of '76 was followed by a *raising* of the quota to 160,000—10,000 above the 1972-75 level. How come?

Wide disagreement among experts

Part of the answer lies in the reasoning behind the reduction of quota for 1976. This was not so much a result of the previous year's high catch as of wide disagreement among the experts on birth

The excessive catch in '75 was followed by a lower quota, the excessive catch in '76 by a higher quota. How come?

rates and natural death rates. A 1975 aerial census emanating from Guelph University, Ontario, had given a pup count of fewer than 200,000. At the other extreme was an estimate of 340,000. Estimates of natural mortality ranged from 9% to 21%. The quota was a compromise.

In October 1976 ICNAF met to determine the quota for 1977. New investigations, chiefly in the form of new interpretative models, were presented. Fresh facts were not plentiful, although Dr Sergeant, an eminent Canadian biologist, had provided new data showing that the age at which whelping starts has now dropped appreciably (a "natural correction" occurring when numbers decline).

There were four assessments. On mortality rates agreement was unanimous that previous high estimates were wrong and that the true overall figure was around 11%. Three of the four were also in close agreement on birth-rate predictions for 1977 and on sustainable yields. The yields ranged from 180,000 to 205,000 (given that pups represent 80% of the kill). The fourth assessment came from Guelph and consisted of five different models. Even though two of these models gave birth rates in line with the other assessments, all five gave appreciably, sometimes dramatically, lower sustainable yields—the range was 65,000 to 160,000.

(Continues back page—for synopsis, see p. 20)

Population and food

Population fallacies

by Jack Parsons

Elek/Pemberton, 286 pp, 19 figures, £8 hardcover, £4 softcover

Jack Parsons is a rare individual—one who clearly understands his subject and writes about it with wit, vigour and precision. Just as well: his subject, population growth, so often provokes typhoons of wordy illogic from opponents and proponents alike that one views yet another book about it with gloom.

Mr Parsons, who is Deputy Director of the David Owen Centre for Population Growth Studies at the University College, Cardiff (Wales), scrutinises and then explodes 15 favourite fallacies held by those who regard population growth as a good thing.

In turn, Mr Parsons shows that there is no necessary conflict between population control and individual liberty, exposes the shakier arguments about statistics and projections, mocks the claim that more people means more military power (as Virgil pointed out, "it never troubles the wolf how many the sheep be"), and demonstrates the silliness of the fallacies that overpopulation can be solved by migration (either to other countries or into space) and that large families are socially better than small ones. In every case the author examines all the arguments known to have been advanced in defense of a fallacy and scotches them carefully, politely and firmly.

He then turns his attention to the more technical fallacies, including that of the demographic transition—namely that human populations go through roughly three phases: equilibrium caused by a high birth rate balanced by a high death rate; expansion when the death rate declines (due to medical intervention); new equilibrium when the birth rate also declines (due to affluence).

Unfortunately Mr Parsons' discussion of such a complex issue is weakened by his failure to consider recent debate on the theory (a failure apparently attributable to a three-year gap between completion of the book and its publication)—including the contributions of Michael Teitelbaum and others, which give support to much of his argument, and if examined would have made that argument appear less superficial.

Mr Parsons is back on surer ground when he attends to 7 economic fallacies: for example, that population growth is needed to prevent labour shortages (!); that a stable population would result in an excessive number of aged dependents; that a growing population stimulates the economy by increasing effective demand. Once again each fallacy is demolished thoroughly and fairly straightforwardly, with only an occasional diversion to

skirmish with straw men. The book is worth reading.

World population trends: signs of hope, signs of stress

by Lester Brown

Worldwatch Paper 8, 40 pp, 1 figure, \$2

The two faces of malnutrition

by Erik Eckholm and Frank Record

Worldwatch Paper 9, 63 pp, \$2

Health: the family planning factor

by Erik Eckholm and Kathleen Newland

Worldwatch Paper 10, 30 pp, \$2

These three papers maintain the high standards of accuracy and readability set by previous publications of the Worldwatch Institute. Mr Brown's signs of hope are the achievement of apparent population stability by Austria, the German Democratic Republic, the Federal Republic of Germany, and Luxembourg; the seemingly imminent population stability of Belgium, the United Kingdom, the United States, and several other industrial countries; and the tremendous progress in population control made by a number of non-industrial countries, notably China. His signs of stress are the recent rises in death rates in India, Bangladesh, Sri Lanka, and parts of Africa, caused by hunger and nutritional stress.

Food and family planning are the themes of the other two papers, which like Brown's paper contrast conditions in industrial and non-industrial countries. Eckholm and Record briefly review the effects of undernutrition in poor countries, but devote most of their paper to discussing the relationship between the affluent diet (rich in saturated fats, dairy produce, sugar and salt; poor in fibre) and such diseases as coronary heart disease, diabetes and various cancers.

Eckholm and Newland provide a useful summary of the health risks of inadequate family planning. They show that these risks would be minimized if women bore children only between the ages of 18 and 35 and bore no more than 4 children; births were spaced at least 2 years apart; and parents who had completed their families avoided contraception-induced risks by being sterilized.

The world food crisis

by Sayed A. Marei

Longman, 126 pp, £3.25

World of hunger: a strategy for survival

by Jonathan Power and Anne-Marei Holenstein

Temple Smith, 202 pp, 2 figures, £1.95

The authors of both these books are acknowledged authorities on the world food problem. Sayed Marei was Secretary General of the UN World Food Conference and is now President of the World Food Council. Jonathan Power has earned a reputation as one of the more lucid of journalist-commentators on the subject, and Anne-Marie Holenstein is a prominent member of the Berne Declaration Group.

However, although Mr Marei provides an interesting introduction to the actual and potential food and aid policies of Arab countries, his survey of the world food crisis is much less thorough than that of Mr Power and Ms Holenstein. The latter authors have written a marvellously well-informed, humane and unhysterical account of the global food problem without falling into the trap of overgeneralisation.

World of hunger contains an excellent description of the problem and an even better analysis of the deficiencies of food aid policies, the relationship between food shortages, migration, urbanization and income inequality, and the weaknesses of the so-called Green Revolution. But the real strengths of the Power/Holenstein work are the authors' ability to maintain a global view yet spell out the great differences between countries and their cogent appeal for rural development on a modest scale rather than the conventionally grandiose schemes proposed by the development establishments.

Indeed the only serious omission in *World of hunger* is the failure to examine seriously the difficulties facing even rural development of winning adequate yields quickly without jeopardizing the carrying capacity of the land. Perhaps this will be treated in the authors' next book. In the meantime, this is one of the most satisfactory introductions to the world food crisis.

Environmental introductions

Environment and man. Volume 1: Energy resources and the environment. Volume 2: Food, agriculture and the environment. Volume 3: Health and the environment. Volume 4: Reclamation

edited by John Lenihan and William W. Fletcher

Blackie. Vol. 1: 194 pp, 38 figures, £8.30. Vol. 2: 130 pp, 19 figures, £6.30. Vol. 3: 166 pp, 23 figures, £7.90. Vol. 4: 172 pp, 25 figures, £7.90.

The quality of this new series is belied by the prices, which are extortionate, and the preface, which is fatuous: "Man is a discovering animal—science in the seventeenth century, scenery in the nineteenth and now the environment. . ."

The books are much better than this curious pronouncement would imply. Each volume consists of essays by different hands on various aspects of the subject covered. Many of these essays are of a high standard, written by well-known

(Continued on page 21)

IUCN Strategy

The progress report on the Programme adopted by IUCN's 12th General Assembly continues below. The overall programme is now called the Strategy to avoid confusion with the individual programmes that compose it.

This issue reports on two programmes: Latin America and Conservation of Selected Animal Groups.

Latin America

The IUCN programme for Latin America continues to make progress. With UNEP support several consultancies are now under way, and from resulting reports the exact status of conservation in the region will become clear.

The 1976 calendar of meetings: main conclusions

Havana, 2-7 February. Twelfth Session of the Latin American Forestry Commission. Convened by FAO, the fourth session of the Committee on National Parks and Wildlife proved highly productive. Among its recommendations were: that a regional centre for training managers of national parks and wildlife be set up; that trained conservationists or wildlife experts should be invited to participate in all forestry projects; that a consistent terminology for protected areas be adopted in line with international usage and regional requirements; that in each country protected areas should contain a representative range of ecosystems with particular emphasis on marine coastal habitats and humid forests; that wildlife legislation in the different countries should be coordinated and that those countries which have not yet ratified the Endangered Species Convention should speedily arrange to do so.

Santiago, June. Sixth General Assembly of the Organization of American States (OAS). A resolution was approved urging all member states to ratify (where necessary) and implement the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere (1940). The OAS may also decide to convene a conference to plan cooperative action on Convention matters.

Iquitos, 28 June-2 July. First Meeting of the Intergovernmental Technical Group for the Conservation of the Amazonian Flora and Fauna. This meeting in Peru resolved: to prepare a list of endangered species using IUCN criteria; to establish in Lima a permanent secretariat and information centre to coordinate action to protect the flora and fauna of Amazonia; to arrange student courses on conservation of Amazon wildlife. Agreement was reached on conservation measures for primates and the establishment of representative forest ecosystems. Having regard to UNESCO's MAB programme, it was further agreed that special consideration would be given to the subject of biosphere reserves.

One of the consultants is Mr Arne Dalfelt, a wildlife management specialist working for the Tropical Agricultural Centre for Research and Training (CATIE) in Turrialba, Costa Rica. He has been engaged in the follow-up of the recommendations of the *Central American Meeting on Management of Natural and Cultural Resources*. Organized by IUCN this meeting was held in San José, Costa Rica, in December 1974.

Mr Dalfelt has been on a fact-finding tour of Central America, as well as Mexico, Venezuela and Colombia. In Venezuela, following a field survey last August, he has at UNEP's request prepared a management plan for the Morrocoy National Park, a coastal area west of Caracas.

Bogotá, 5-10 July. Experts' Consultation on Environment and Development in Latin America. The meeting, sponsored by FAO, looked at several aspects of planning, administration and law in relation to the management of renewable natural resources. The Colombian National Code for Environmental Conservation, the first of its kind in Latin America, was presented and discussed in detail.

Turrialba, 8-12 September. Consultation Meeting for Central American Forestry Officers. Concerned with implementing the San José recommendations, this meeting was sponsored by CATIE and concentrated on inter-state cooperation in forestry activities. Action priorities were agreed with regard to national parks, wildlife management and humid forests.

Santarem, 7-14 November. International Meeting on Conservation Units Management in the Amazon Basin. This meeting in Brazil recommended: that the setting up of "conservation units" (guaranteeing ecosystem diversity) in the Amazon region be accelerated and that within them a common terminology be adopted. It also urged that the controlling agencies in each country be strengthened and that international agencies be asked to give support.

Kino Bay, 5-7 December. A meeting of members of IUCN's Survival Service Commission with Mexican scientists and representatives of government and professional bodies. This meeting in Mexico was to coordinate joint action in promoting the protection and rational development of the Gulf of California and its islands. The Gulf is a Mexican resource of great scientific and economic importance. Its value, though, is being steadily eroded. The rivers flowing into the Gulf are seriously polluted, tourism is doing damage to the fauna and flora, industry is springing up along the coast, and the desert is claiming more and more of the surrounding land due to excessive use of fossil groundwater.

Other countries in the region also show activity. In Panama a project for a park in Darien is going ahead. In the same area a drive to control foot-and-mouth disease is being backed by the US Government, to whom a well-maintained national park means an efficient buffer against the disease. Collaboration with this effort is expected from Colombia on the other side of the border.

In Costa Rica the Park Service has asked CATIE for assistance in planning the Rincon de la Vieja National Park. Nicaragua has requested a survey of certain potential conservation areas and Honduras is interested in further support in the Lake Yojoa region.

Last but by no means least the Central American project arising from the San José Conference has been given a significant boost: the Rockefeller Brothers Fund has generously contributed US \$182,750 to CATIE to assist in the follow-up work.

From this meeting came two major proposals. One: an international commission comprising Mexican and foreign institutions should be set up to study the highly complex environmental problems of the Gulf and to make development recommendations. Two: on all islands of the Gulf sanctuaries or biological reserves should be set up. The islands, set in a unique desert region, have an extremely varied biota. Their preservation is of prime importance to the world's scientific community and, properly protected, they could prove a tourist attraction of great value to Mexico.

Threatened deer

The Threatened Deer Programme comes within the overall programme dealing with Selected Animal Groups. The main theatre of operations is Asia where most threatened deer species are found. However activities are increasing in Latin America and reports have also been received from certain Mediterranean countries. It is hoped to initiate projects there shortly.

The research stage of the programme (launched in 1974) is now in a few cases complete. In other cases it is nearing completion. By the middle of this year some 10 major deer projects should be fully under way. A global round-up of activities during the 18-month period June 1975-December 1976 now follows. It is culled from a newsletter produced by the Threatened Deer Group. Any *Bulletin* reader requiring a copy should write to Dr Colin Holloway at Morges.

USSR Thanks to recent conservation measures the status of Bokharan deer has considerably improved. The most successful experiment has been in the Ramit Reserve where 12 deer were introduced in 1960-61. Some 14 years later this number had swollen to 190. In 1975 the estimated total throughout the country, excluding zoos and farms, was around 625.

Soviet research data and conservation experience on the Siberian musk deer has been the subject of a monograph by Professor Bannikov. It is now being

translated into English and will in due course be published by IUCN.

Nepal A research project on another sub-species of musk deer, the Himalayan musk deer, is to be undertaken in the Langtang National Park. March is the starting date.

A 2-year study of the northern race of swamp deer was completed last June and will form the basis of management recommendations. The principal study area was the Sukla Phanta Reserve.

India The world's largest population of swamp deer exists in the Dudhwa National Park in the State of Uttar Pradesh. A count in 1975 gave an estimate of 1200-1600 and the evidence suggests that numbers are still on the increase.

For the southern race of this deer the picture is also improving—help arrived just in time. The loss of habitat to cultivation and villages, poaching, and a variety of subsidiary factors had by 1970 taken such toll that the population was down to a mere 66, all within a small area of the Kanha National Park. Strict conservation measures were then introduced and now, with the advent of *Operation Tiger*, the Kanha National Park has been trebled in size to 940 sq km, all forestry operations have been stopped and twelve villages have been moved out of the reserve—with a further eight to be moved this year. Already the deer are responding well. At the most conservative estimate the population in 1976 was 215—a big advance on the 1970 figure.

The Dachigam Sanctuary in Kashmir is the principal reserve for the hangul (or Kashmir stag). The sanctuary is plagued by various forms of human disturbance. In October 1975, with the deer population around only 200, the Indian army stationed 15 infantrymen there to curb poaching. Since then WWF has provided funds to equip sanctuary guards. The sheep population of the adjacent Government sheep station has been restricted to 3000. But this still vastly exceeds the originally agreed ceiling of 800.

The Keibul Lamjao Sanctuary in the Vale of Manipur is the sole remaining habitat of what is almost certainly the world's rarest deer: the Manipur brow-antlered deer. A helicopter census in March 1975 counted only 14 animals. However the species may yet be saved. Vigorous conservation measures are now being applied and the Sanctuary has been upgraded to National Park.

Thailand A proposal by the Thai Government (probably to be funded by WWF under *Operation Tiger*) aims to improve the management of three sanctuaries which fall within the range of both Fea's muntjac and the thamin which is a candidate for the Red Data Book.

Indonesia Kuhl's deer is endemic to the small island of Bawean some 200 km north of Java. A research project on this deer has been funded by the Gerrits Foundation. Field work will begin shortly.

Philippines The Government has proposed a national wildlife sanctuary on

Culion Island to protect the Calamian deer (a species newly added to the Red Data Book). Seven of these deer (three females, four males) were captured on this island early in 1976 to form the nucleus of a captive breeding programme in England. Meanwhile on Busuanga Island the owners of the newly established Yulo King Ranch, which contains about 30% of all Calamian deer, have undertaken to give the species total protection.

Iran The captive herd of Persian fallow deer at Dasht-e-Naz continues to increase. The Department of the Environment is considering long-term plans for transferring part of the herd to a larger area.

Turkey Although the European fallow deer is not a threatened species, it is close to extinction in Turkey. A survey in the spring of 1975 found only three surviving populations totalling about 100 deer. Chief threats are poaching and loss of habitat. Conservation proposals include the reintroduction of the species in suitable areas (these have been identified) and local education programmes.

Latin America Status surveys suggest that the marsh deer is declining throughout its range. The chief causes are believed to be loss of habitat, over-hunting and diseases transmitted by cattle. It is considered to be endangered in Argentina, Paraguay and even Brazil, although several thousands probably still inhabit the Matto Grosso. In Bolivia it is widely distributed, but numbers are dwindling. The species is protected by law in all countries but law enforcement is often lax. Dr Schaller has now started a study on the marsh deer and the jaguar in Brazil's Carcara Reserve.

A project on behalf of the Argentine (or southern) pampas deer is part of the Threatened Deer Programme. Begun in September 1975, the project seeks to uncover the causes of the deer's catastrophic decline and to implement curative

measures. The other two sub-species of the pampas deer are still widely distributed in Brazil and Bolivia and are not considered to be endangered.

The Chilean huemul is under severe pressure. Surviving populations are small and very widely scattered over the southern half of Chile. Temperate rain forests are the chief habitat, but these are shrinking fast as subsistence settlers move in with cattle and dogs and as logging operations continue to expand. Competition from the red deer may also soon have to be faced. This deer already occurs in certain of the Chilean forests, having spread from Argentina. There seems to be no barrier to its further increase, especially as prominent landowners are keen to encourage it.

On a brighter note the only Peruvian huemuls on Chilean soil appear to be prospering. Protected by two guards and a WWF vehicle, the small population of this deer in the Lauca National Park in the extreme north-east is slowly increasing.

Corsica, Sardinia The Corsican red deer is almost certainly extinct in Corsica. Poachers are believed to have claimed the last few survivors in the winter of 1972-73. In Sardinia it still survives—just. The probable total is around 150. However serious efforts are at last being made to save this deer. One of its reserves has been enlarged, the hunting laws are stricter, and the Italian Hunting Federation, Gagliari University and WWF are providing grants for education and have begun public awareness programmes.

Tunisia, Algeria Barbary deer have of late been increasing in Tunisia but declining in Algeria. However a recent report suggests that the Algerian population of this deer is higher than was generally supposed. The new estimate is 400-600. The report proposes a conservation programme within the forest regions which the deer inhabits.

Northwest Atlantic harp seal: synopsis of the facts

- 1951 Estimated population: 3.3 million. Pup births: 645,000 or more.
- 1960s Average annual kill: 282,000; pups 215,000 (76%).
- 1970 Pup births: 300,000 or less.
- 1971 Quota system introduced: 245,000; kill 231,000. Canadian government sets up advisory Committee on Seals and Sealing (COSS).
- 1972 Quota reduced to 150,000. Large ships 120,000; landsmen's *uncontrolled* allotment 30,000. Kill 130,000; pups 117,000; landsmen's catch 24,000.
- 1973 Quota unaltered. Kill 123,000; pups 98,000; landsmen's catch 45,000.
- 1974 Quota unaltered. Kill 146,000; pups 114,000; landsmen's catch 40,000.
- 1975 Quota unaltered. Kill 174,000; pups 141,000; landsmen's catch 53,000. Range of estimates for 1976 births: 198,000-340,000. Range of estimates for natural mortality: 9%-21%.
- 1976 Quota reduced to 127,000. Kill 165,000; pups 135,000; landsmen's catch 68,000. Range of estimates for 1977 births: 193,000-340,000. Range of estimates for sustainable yield (based on pups representing c.80% of catch): 65,000-205,000. COSS recommends 1977 quota should not exceed 140,000 and opening of hunt be postponed from 12 March to 20 March to allow aerial census of breeding colonies.
- 1977 Quota raised to 160,000; landsmen's *controlled* allotment increased to 63,000. Estimated population: 1-1½ million. Hunt opens 15 March.

N.B. All figures for quota, catch and sustainable yield *exclude* the 10,000 allotment to the indigenous peoples of northern Canada and Greenland.

Books continued

authorities, such as Earl Cook on the flow of energy through technological society (Vol. 1), Malcolm Slesser on the energy requirements of agriculture (Vol. 2), and G. Melvyn Howe on environmental factors in disease (Vol. 3). The four books provide non-contentious if pedestrian primers, suitable for teachers and university students.

Climate and the environment

by John G. Griffiths

Elek, 148 pp, 46 figures, £2.95

Electromagnetism, man and the environment

by Joseph H. Battocletti

Elek, 84 pp, 5 figures, £2.95

Pesticides: boon or bane?

by M. B. Green

Elek, 111 pp, 12 half-tone illustrations, 10 other figures, £2.95

The changing information environment

by John McHale

Elek, 117 pp, 33 figures, £2.95

Transportation and the environment

by John G. B. Hutchins

Elek, 106 pp, £3.25

These titles belong to yet another series on the environment: Elek's *Environmental studies*, edited by J. Rose and E. W. Weidner. Already there are too many mediocre books on the environment, and new series such as this and Blackie's *Environment and man* reviewed above need to be looked at with an especially baleful eye lest the unwary seeker after truth be beguiled into buying yet another flaccidly written, conceptually barren reiteration of data.

This series is not all that bad, but nor is it particularly good. The books are competently and uninspiringly written; they contain lots of facts; some are oddly silent on some points. *Climate and the environment* has scarcely anything on climate change (the very issue that attracts so much attention today); *Pesticides: boon or bane?* practices its preaching about objectivity more rigorously when dealing with boons than with banes.

Much the most interesting volume is *Electromagnetism, man and the environment*, perhaps because its field is relatively unworked. Few people pause to consider the possible effects of the growing number of man-made electrical and magnetic fields with which they are in contact. Dr Battocletti discusses the sources of these fields and considers in some detail those that may be hazardous and the levels at which they might do damage. His careful and dispassionate analysis indicates that electromagnetism should be added to the lengthening list of pollutants for society to watch.

UNEP, IUCN strengthen links

Senior staff members of UNEP and IUCN met together in Morges on 13-14 January to review joint activities and to consider what form future cooperation should take. It was in all respects a most fruitful meeting—and one to which both parties had clearly attached maximum importance. The UNEP group was led by Mr Tolba, the executive director, and the group from IUCN by Mr Poore, the acting director general.

In the all-important areas of terrestrial ecosystems and marine resources the programme objectives of the two organizations were found to be in very close accord, and the rationale for UNEP's support of IUCN activities was thus reaffirmed. The meeting noted, however, that IUCN, as an independent body made up of Governments and NGOs, must ensure that its funding does not come predominantly from any one source.

UNEP suggested that the Union plan on the assumption that the present substantial UNEP "umbrella" contract would be renewed—though at this stage no firm commitment could be given. It was agreed that a time-table should be drawn up for all activities covered by the

contract and that output should be specified under the following headings: the overall world conservation strategy—who is doing what and what needs to be done by whom; the assembly, assessment and dissemination of facts on the status of ecosystems and species; and the type of technical assistance provided by IUCN—either direct as in the planning of development projects, or advisory as in identifying action priorities.

Agreement was also reached on arrangements for the provision of the Secretariat of the Endangered Species Convention. It was further agreed that the two organizations should exchange progress reports at regular intervals and should hold twice-yearly consultations.

Seychelles accedes to Endangered Species Convention

The Republic of Seychelles acceded to the Convention on International Trade in Endangered Species of Wild Fauna and Flora on 8 February 1977, thus becoming the 35th Party to the Convention.

Letters

Sea turtle trade

Sir,

In the second column, third paragraph of the article "Sea turtle saga crowns endangered species conference" (*IUCN Bulletin* December 1976) you say: "As for West Germany, its delegate insisted that the green turtle was *not endangered at all*—a claim he backed up with the news that *imports of green turtle products into Germany were increasing*" (my italics).

I regret to inform you that this sentence does not correspond with what I said on this conference on two essential points.

I rather said that only those species *threatened by extinction* (Cf. Article II, paragraph 1 of the Convention) might be included in Appendix I; this, however, could not be the case with *Chelonia mydas* (green turtle) as it *continues to be imported* into the Federal Republic of Germany *in substantial quantities*. In addition, I perfectly recognized that the green turtle is indeed threatened and will thus have to be submitted to effective trade controls (Cf. Article II, paragraph 2 of the Convention); it was only the strict trade embargo I did not consider to be justified.

I am all the more astonished at your article since IUCN in its capacity as Secretariat of the Convention and of the Conference not only disposes of the records on the exact course of the sessions but is obliged to be particularly correct when reporting the course of the sessions to the public.

Therefore I must ask you to publish this counter-statement in the *Bulletin*.

As for the rest, I may point out that in the plenary session opinions about the question whether *Chelonia mydas* should be included in Appendix I or not were altogether divided, which is unfortunately expressed in the article in an insufficient manner only. By mentioning only the 4 negative votes, the wrong impression is given that the remaining 20 votes were cast in favour of the inclusion.

It is, however, correct that there were also 6 abstentions besides 14 ayes, which underlines the fact that the decision was actually touch and go.

Furthermore I take the liberty of remarking that this Convention is not aiming at reserving the use of natural resources for those States only where these resources occur. This idea is indicated at some points in the article. It may be left undecided here whether this thought in itself is right or wrong—regarding the interpretation and application of the Convention, which has to battle with quite enough difficulties, it is irrelevant.

Yours sincerely, by order, Kolodziejcok, Der Bundesminister für Ernährung, Landwirtschaft und Forsten, Bonn-Duisdorf, Federal Republic of Germany.

Every effort is made to ensure the accuracy of facts published in the Bulletin. Regrettably, no tape-recording was made of Committee I sessions, so it is not possible to check the accuracy of the disputed sentence. Nevertheless, I believe the Bulletin account to be correct in all essentials—Editor.

Guelph assessments, in stark contrast to others, suggest that the population is still in decline.

Furthermore four of these five models suggest that the harp seal population is still in decline (the fifth suggests stability) in stark contrast to the consensus of other estimates which indicates a gradual improvement since 1972/73.

Different base-line data and higher natural mortality estimates for young seals (an unproven but very likely hypothesis) would seem to account for this conflict of views. However the reasons for it are not our province: the *Bulletin* cannot adjudicate between rival sets of estimates. There is, though, an important point of principle. Even the most sophisticated statistical techniques are of limited value until grounded in hard biological facts. Until then there is certain to be disagreement among reputable scientists. And until then elementary prudence should dictate that management policy be based on the more conservative estimates and the more cautious projections.

Reasons for unease

In view of the present disagreement among experts and the size of the kill in the past two seasons, the 1977 quota cannot reasonably be described as conservative. The authors of the Guelph assessment put forward three of their five models for particular consideration by ICNAF. The least conservative of these suggested that a quota of more than 130,000 would further deplete declining stocks.

The Canadian Minister of Fisheries was advised by his own specialist committee, COSS, that the 1977 quota should

Elementary prudence should dictate that management policy be based on the more conservative estimates and the more cautious projections. The 1977 quota cannot be described as conservative.

not exceed 140,000. He overruled them on the grounds that subsequent ICNAF papers were more persuasive and that anyway the difference was only 13%. He was also requested by COSS to delay the opening of the main hunt from 12 March to 20 March to allow an adequate aerial census of the whelping colonies. The delay granted was only until the 15th.

This has given very little time to acquire the hard facts on which to base future quotas. Reliable data cannot be gathered while hunting is in progress. The trouble is that the biology of pups is such that the needs of the sealing industry clash with those of research. The pups begin to shed their "whitecoats" only a week or so after birth and total births for the year are concentrated into a very short time span. So if the quota is to be filled, research has only a very few days in

which to operate—during a season when the weather is unlikely to be helpful.

The landmen's allotment is another oddity. It has been more than doubled—from 30,000 to 63,000. The new figure, we are told, is to accommodate the 4-fold increase since 1972 of small boats used in the hunt and thus, in the words of the Canadian Minister of Fisheries, "to ensure that large overruns of the estimates do not take place again". This surely is a back-to-front argument. Hunting aids should be bound by quota constraints; not vice-versa. And the fact that this year for the first time the allotment is a *controlled quota* may be less significant than it sounds. Since

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helicopters were banned in the '60s, the landmen's kill has only exceeded the new quota once (last year). It would perhaps have been more useful to have instituted this control when the allotment was being exceeded almost annually.

Red herrings

It is an open secret that sections of the Newfoundland fishing industry would not be broken-hearted if harp seals were no more. Seals annually consume huge quantities of fish, including 300,000 metric tons (Dr Sergeant's figures) of capelin. Capelin fishing is a new industry but already the catch is some 500,000 tons a year. Since cod and other fish also feed on capelin, it is argued that seals depress fish stocks. But no model exists for exploring the immensely complex predator-prey interactions in this area.

As to harp seals being major transmitters of codworm (a serious parasite of cod), this is a favourite canard. In fact, as the Canadian Ministry of Fisheries confirms, the codworm problem chiefly concerns grey seals.

A moratorium?

Since 1972 the annual kill has been virtually halved. Yet still the experts differ. The population may be rising; it may be declining; it may be stable. The present quota may be contributing one way—or the other. From Dr Sergeant's annual age-sampling surveys it appears that seals born in and after 1972 (helped by below-quota catches from '72 to '74) are surviving in much healthier numbers than they were. In which case the full beneficial effects should begin to be felt this year as the 1972 survivors start producing pups.

That about half these pups, as in every year, have now been slaughtered to satisfy an essentially frivolous trade is what offends the public. From the purely conservation angle, though, it is preferable to the killing of older seals of mating age.

Even without hunting, natural mortality probably claims most young seals before ever they can breed.

Management strategy on the harp seal is allegedly based on building up the stock size from its present estimate of around 1.2 million (excluding pups) to between 1.6 million and 2 million in 10-15 years. This is believed to be the level of population which will give maximum sustainable yield (MSY)—a yield that will then be appreciably higher than the present one. In a paper presented to the 1976 ICNAF meeting, Dr Lavigne pointed out that if standard management policies of the International Whaling Commission were applied to the harp seal, the latter would enjoy immunity from hunting. All whales which are more than 10% below MSY level are totally protected. On the most optimistic assessments the harp seal is more than 20% below.

If a one-year hunting ban would significantly help to heal scientific divisions, so enabling management to act on agreed data, then a one-year ban there should be—in 1978.

Dr Lavigne's roundabout case for a moratorium on harp-seal hunting made little headway. It was insisted that seals and whales are very different. Nevertheless the question remains—would a moratorium be a good thing?

If bad weather plus shortage of time should once more have defeated all efforts to gain from the breeding colonies the hard facts on which alone a scientific management policy can be built, then there would be a case for requesting a one-year moratorium to ensure that the job gets done. For until it is done, dispute will continue and serious management mistakes may be made. And since seal stocks are—incontrovertibly—well below MSY level, the effect on stocks could only be beneficial. The loss to the sealing industry would thus be very temporary.

It comes to this then. While scientific opinion is divided, the conservative view should prevail. And if a one-year hunting ban would significantly help to heal scientific divisions, so enabling management to act on agreed data, then a one-year ban there should be—in 1978.

The Editors are most grateful for help given in the preparation of this article by Professor Keith Ronald, Dr David Sergeant, Dr Torger Øritsland, Mr Colin Platt and Mr M. C. Mercer, but remain responsible for all matters of opinion and any error of fact.

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