

REPORTS ON THE SCIENTIFIC CONSULTATION ON THE CONSERVATION
AND MANAGEMENT OF MARINE MAMMALS AND THEIR ENVIRONMENT.
BERGEN, NORWAY, AUGUST 31 - SEPTEMBER 9, 1976.

Introduction

During its meeting at Mallorca in the spring of 1976 the "European Association for Aquatic Mammals" (EAAM) agreed that it would be represented officially at the Conference "Mammals in the Seas", organized by the "Food and Agriculture Organisation" (FAO) of the United Nations, to be held in Bergen, Norway in September 1976.

Consequently Dr J. L. van Haaften, research associate for seals with the Rijks Instituut voor Natuurbeheer (Institute for the Management of Nature), Arnhem, Netherlands was delegated to attend the Conference, on behalf of the EAAM.

As this Conference mostly consisted of parallel working sessions, it was virtually impossible for a single person to attend to all activities. Therefore we asked Dr W. M. A. de Smet, research associate for cetaceans with the Koninklijk Instituut voor Natuurwetenschappen (Royal Institute for Sciences), Brussels, Belgium, to report on the smaller cetaceans, which sessions he attended as representative for his country.

Although the Conference was able to finish successfully the extensive program within the fixed period, it is feared that the publication of the first results may take a long time. It was one of the expectations, expressed during the final session, that any concerned organisation would take part in distributing the conference conclusions or reports. Therefore the Board of the "European Association for Aquatic Mammals" wishes to publish the two reports read by both its members during its symposium at Monaco, 20-23 March 1977.

Dr W. H. Dudok van Heel, president
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FAO - Conference "Mammals in the Seas"
Report on working groups nos 3, 10 and 19 by Dr J. L. van Haaften.

What kind of "values" for modern man do marine mammals have, and are they compatible? What other effects on the living system of the ocean does man now have - other, that is, than by harvesting it, and how do these affect the other mammals, and inter-act with each other? We are acquiring at last the power to "manipulate" the ocean environment but we know not quite what we do.

Man is the predicting mammal, yet he still has to find sure ways of predicting the responses of the natural world to his gesticulations. He will keep seeking, and the Bergen meeting had to be part of this effort. When he knows whether he can usefully predict the consequences of his maritime actions, he could be in a better position to consider whether, why and how he wishes to pursue those actions. Meanwhile, we can also en-

quire what is the effect of our multiplying interactions with our marine relatives on us? This you could find in the prospectus of the Bergen meeting.

The Committee on Fisheries (COFI) of the Food and Agriculture Organization (FAO) requested in April 1972 that a review should be made of the status of whales, seals, porpoises and other marine mammals. The FAO Advisory Committee on Marine Resources Research (ACMRR) was charged to carry out the review called for by COFI, and it established a working party of scientists for this purpose. The working party, in turn, sought advice from a considerable number of scientists, through four informal groups. They have received relevant information from numerous sources, mostly in the form of specially prepared review documents and prepared reports.

The purpose of the consultation was primarily to expose these reports to a larger number of scientists concerned with one or other aspect of marine mammal research, with the place of these animals in the marine eco-system, and with their conservation and management.

An important task of the meeting had to be the approval of a strategy for marine mammal research, including details of projects requiring international assistance and cooperation.

Each participant was assigned to two or more working groups. Several working groups related to a particular agenda item worked simultaneously, each under a convener nominated by the steering committee.

Discussion of each agenda item took place in plenary sessions starting with a brief presentation of the results of the particular working group.

The following 24 working groups had been composed :

1. Whales
2. Smaller cetaceans
3. Pinnipeds
4. Sirenians
5. Marine otters
6. Population identification
7. Population distribution and movements
8. Population size
9. Vital processes
10. Behaviour and social structure in populations
11. System identification, classification and function
12. System energetics and eco-dynamics
13. Stability of systems and disturbance of them
14. System evolution
15. Phrenology
16. Objectives of conservation and management
17. The theory on which conservation and management are based
18. The practice of conservation and management
19. Advice for management and conservation
20. Research proposals
21. Substitutes for products from marine mammals
22. Public information and education
23. Historical studies on whaling and sealing
24. Low consumptive use of marine mammals

I could attend three working groups : no. 3, 10 and 19.

There were more than 200 participants, including about 140 research workers.

The report of working group 3 is divided in 6 chapters : seal biology, state of stocks, pinnipeds in marine ecosystems (relation with other species, use and management, relation with man), dangers in stocks, future demands for seal products, and research. The monk seal is the most endangered species of seals, the caribbean monk seal is now considered to be extinct. Many populations of fur seals which were subjected to very low numbers. These species, surviving the results of sealing, are showing a recovery which is very variable.

Little pinniped meat is eaten by man, their productivity being utilized as furs, oil and leather, in approximately that order of economic importance. Populations of long-lived animals, such as pinnipeds, have many reproductive age classes, and population changes are, therefore, inevitably sluggish, so that harvesting regimes, that sporadically take one or only a few age-classes, cannot rapidly reduce the species' abundance. With these data I cannot feel very happy because we know how easily you can overharvest, especially when one takes only the pups, which certainly can diminish the total number of seals by the ageing of the adult population.

Speaking about harvesting and mentioning numbers, more than 200,000 pups of the harp seal are taken annually, the suggestion has been made to exploit the crabeater seals in the Antarctic pack ice. By a catch of about 175,000 seals per year the sustainable yield would not be far in excess of this. I really cannot understand why man should start this exploitation, because we don't need the seal products any longer ! There are enough substitutes for products from marine mammals nowadays. Only where seals are a locally conspicuous pest of fisheries, do they have to be controlled on the ground of damage (grey seals preying on salmon).

A special case of fisheries control is that of the grey seal, which is the permanent host of a nematode worm, the so called "cod worm", the larvae of which occur in food fishes, principally cod. A relationship between the abundance of seals and the incidence of wormy cod has been demonstrated, but not quantified.

Most existing major sealing industries are aware of the danger of overharvesting and are managing so to avoid it. However, uncertainty still exists with the western Atlantic stock of harp seals, where the stock size, and hence the harvests calculated from it, are still being discussed.

Naturally occurring elements, such as mercury or cadmium, are probably of little consequence to seals in the open ocean, but may be of importance in enclosed waters, when increased amounts of these have been added by man and are not readily diluted. Probably a greater threat are man-made contaminants of long biological half-life. These include organochlorines such as PCB's, DDT and dieldrin. These have been found in high concentration in seal tissues and in some cases (California sea lion, Baltic seals, seals on the North Sea coast of Europe), have been associated with reduced reproductive performance. It is not known how heavy metals affect seals in the wild but some have been shown to be able to demethylate methyl mercury. Oil spills may affect seals via this food supply, or by contamination of their pelagic and skin initiation.

The report of working group 10 about behaviour and social structure in populations, is dealing with the influence of harvesting, of commercial activities, of tourism, but also scientific research. Research still needed is :

1. thorough review - quantified as much as possible - of current knowledge on the effects of disturbance on each marine mammal species, to provide an assessment of the state of area.
2. specifically designed experiments on the effects of disturbance factors, which could be important in their respective circumstances.
3. that for each experiment, the evaluation of pre-disturbance conditions be clearly defined, that the disturbance be completely described, and that what is actually measured be fully described and quantified.
4. there should be as much standardization as possible in the behavioral aspects to be measured.

I have to say I really was very glad to have the opportunity to take part in the discussions in this working group but it also was a pity that I was unable to attend the working group 7 : Population distribution and movements which met at the same time.

The working group 19 : Advice for management and conservation felt, that the main subject of interest was not considered to be advice as such or the mechanisms or systems as such, but the functioning of the mechanism systems in making the best possible advice available to the decision makers. The mechanism system must be such as to :

1. be competent to deal with all possible objectives, consumptive or non-consumptive.
2. ensure that the advice is the best possible in terms of scope, relevance, precision, timeliness, impartiality etc.
3. provide advice, which is based on all available data, and make use of available competent expertise.
4. ensure, that all relevant disciplines of science and technology are brought to bear in the process of procuring the advice, including biology, ecology, general resource utilization, sociology and economics, with appropriate futuristic approaches.
5. ensure, that communication with the general scientific community and public is good and timely.

IUCN's recent establishment of a Working Group on Management of Whales and an Interim Committee on Marine Mammals was noted. Both are considered to be relevant to the development of improved international arrangements for providing advice on marine mammal management.

However this working group had to deal with very theoretical problems, the discussions were very interesting but a real solution for all the problems in this field is not to be given.

The Consultation will prepare a summary report and recommendations - including supporting documentation - and its proceedings will be published, in full, in book form. The results of the consultation will be used by the ACMMR Working Party to prepare its final report to the Advisory Committee, which will, in turn, present its advice to the Director-General of FAO. The reports will be published and widely distributed for further action by governments, international organizations and others concerned.

I am very grateful to the European Association for Aquatic Mammals that I was allowed to be its delegate in Bergen. I really am not able to overlook the results of this enormous meeting, but I am sure the proceedings of this meeting are going to be very worth while.

I hope the results will be in favour of the marine mammals all over the world.

FAO - Conference "Mammals in the Seas"

Report on working group no 2 by Dr W. M. A. De Smet.

In the working group on Smaller Cetaceans (WG 2) a few Europeans took an active part (e.g. Dr P. E. PURVES, Dr P. H. J. VAN BREE, Dr R. DUGUY, Dr R. LLOZE, Mme D. VIALE, Dr W. M. A. DE SMET). A lot of basic information for this working group had already been gathered in an extensive document, reporting the meeting of an "ad hoc group on Smaller Cetaceans and Sirenians" in La Jolla, California, from the 16 to the 19 of December 1974. For further information the participants could also peruse two very substantial studies made by Dr E. MITCHELL. One of these is the report of a meeting on "The Biology and Fisheries for Smaller Cetaceans", Montreal, 1st to 11th of April 1974, the other being "Monograph n° 3" edited in 1975 by the "International Union for the Conservation of Nature" (IUCN).

As a result of this good preparatory work, the working group, meeting during a complete day, was able to concentrate its attention to several of the most crucial problems in smaller Cetaceans. Critical problems, requiring immediate concerted attention, seemed to be the three following ones : the threat of immediate extinction of a river dolphin, the Indus susu, *Susu/Platanista indi/minor*, due to the critically low number and the severely restricted region ; the inadequate information on the state of another river dolphin, the white flag dolphin, *Lipotes vexillifer*, from the China inland waters and the all too high exploitation rate of the dolphins and porpoises in the Black Sea.

Two other potential problems at the species level were identified for dolphins with a limited distribution : Hector's Dolphin, *Cephalorhynchus hectori*, from the New Zealand waters and the Harbour Porpoise (or Cochito) of the Gulf of California, *Phocoena sinus*. The multispecies dolphin kills during yellowfin tuna fishing, the all too high killing numbers of narwhals, *Monodon monoceros*, in High Arctic waters and the threat on the Amazone river dolphin (or Tucuzi), *Sotalia fluviatilis*, raised much concern on behalf of the participants, as well as the new problem arising out of the widespread incidental mortality due to entanglement in shark nets near tropical beaches.

As recommendations for immediate study fields the working group saw : an international study of age determination methods, an international study of the reproductive cycles, a greatly expanded international collection of catch and effort statistics by species and a coordinated international determination of the levels of biocides and heavy metals in the tissues of smaller cetaceans and their effects on the physiology of these specimens.

In the following days the members of these first working groups (respectively : whales, smaller cetaceans, pinnipeds, sirenians, marine otters) took part in the other working

groups on partial problems. In one of these "System energetics and Ecodynamics" (WG 12) a part of the attention went to the state of the porpoises, dolphins and seals in the North Sea and the Mediterranean Sea, but in most other WGs problems of Smaller Cetaceans in Europa were of minor importance.

One of the additional working groups, "Low-consumptive uses of Marine Mammals" (WG 24), drew attention to the many new forms of financial incomes due to marine mammals, for example : delphinaria and other exhibitions of living marine mammals, films, television and radio programmes, records, music performances, books, magazines, cruises and other natural history trips, art objects, educational kits, assistance by marine mammals to man , etc. The provisional list included 19 television films, 5 studio films, 8 records, 20 books in the U.S.A. alone, 14 conservation organisations etc. The convener of the group came to the conclusion that this represented a gross annual value of at least 225 million dollars, while at the other side the whaling industry represents only 100 million dollars, - but his arguments were not accepted by all participants.

ADDENDUM.

Resolution of the International Seal Working Group.

During the discussions in the session of working Group 19 of the FAO-Conference „Mammals in the Seas", Bergen, Norway, September 1976, it seemed that most of the participants thought that the pollution of coastal waters is only a local problem and of no importance for the seal populations of the world. Sweden and the Netherlands were very disappointed about this and it was therefore a resolution was passed during the last meeting of our international seal working group in Arnhem which says following :

The International Seal Working Group, meeting in Arnhem (the Netherlands) on 3d and 4th March 1977, and attended by seal research workers from England, Sweden, Denmark, Germany, Belgium and the Netherlands, feel that it is necessary to state the following :

1. Pollution of the North and Baltic seas is affecting the reproduction of the seals in these waters (Common, grey and ringed seal), leading to a serious decline in the seal populations. This means that both the seals and their environment are being endangered, also the entire ecosystem (including man) are being put at risk unless things can be changed in favour of the ecosystem.
2. Disturbance of all kinds, caused by human activities in the seals environment (especially the common seal), during the pupping and suckling period is having a bad effect on the seal populations. Most of this disturbance is taking place during the holiday period, when large numbers of people travel to the sea shore for recreation. The setting aside of special seal reserves is an important factor in providing suitable places for the seals to produce their pups and suckle them successfully.
3. During the Bergen meeting in 1976 it was suggested by many people that this is a purely "local-problem". But this "local problem" involved at least 20-30% of the European coastline and must be regarded as more than local. Also what is happening in this area may soon be a problem on other coastlines and in other oceans.

Although the problems affecting the seals are being discussed, it is felt that the entire ecosystem is equally at risk.

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