Appendix 1

RESOLUTION ON HUMANE KILLING

WHEREAS Article IV,1 of the International Convention for the Regulation of Whaling provides that the Commission may encourage, recommend or organise studies and investigations relating to whales and whaling.

WHEREAS the IWC, following its 43rd Annual Meeting in Reykjavík, convened a special workshop, which met in Glasgow on 20 to 22 June 1992, to consider all methods of killing currently in use in whaling or known to be in development; to assess those methods, their efficacy and physiological effects; to evaluate times to death achieved by the various killing methods; to evaluate progress since 1980; and to complete a comparative analysis of the methods.

WHEREAS the participants in that Workshop are to be congratulated on the constructive manner in which they approached their task, exchanged information and promoted a better understanding of killing methods.

WHEREAS the Workshop submitted its report, IWC/44/18 SUP, with advice, to the Humane Killing Working Group of the IWC's Technical Committee.

Now THEREFORE the Commission

(1) COMMENDS the report of the Workshop

(2) URGES that the members of the IWC continue to promote the development of humane killing methods

(3) ACCEPTS the 11 point action plan appended to this resolution as the basis for advice to members of the IWC.

ACTION PLAN

Equipment and methods

1) Encourage continued cooperation between Japanese and Norwegian agencies to refine the design of penthrite grenades as far as possible.

2) Review means of improving accuracy of delivery of penthrite grenade harpoons, including assessment of refined sighting equipment suitable for rapid action under conditions encountered at sea. Support the development and implementation of programmes to provide training in the safe handling and effective use of devices such as the penthrite grenade and in other aspects of the hunt.

3) Review constraints on shooting distance and relative orientation of vessel and whale and identify and encourage reduction of practices which may lead to increased times to death in whales.

4) Review effectiveness of secondary killing methods with a view to reducing time to death in whales.

Indication of insensibility and death

5) Investigate the basis of agreed criteria for assessment of loss of sensibility and time of death in whales, using observations, including those of muscle tone, jaw and flipper disposition; and recordings of EEG and evoked responses under controlled conditions; to establish baselines.

Assessment of cause of death in relation to observed time to death

6) Where possible undertake post-mortem assessment of representative penthrite-killed animals, to determine location and extent of injuries and precise cause of death, including specific assessment of the role of concussive cerebral damage and arterial embolism in death. Develop standardised protocols for post-mortem recording of major indicators of rapid death.

Collection and provision of information on time to death

7) Undertake analyses and presentation of any further information on penthrite harpoon use, including times to death and strike area on body, in Japanese commercial Antarctic whaling for 1984-1986/87 seasons and in Japanese coastal minke whaling since 1984. Introduce where appropriate methodology comparable to that used in commercial Antarctic whaling, in collecting and analysing data for times to death in catches under special scientific permit.

8) Encourage collection and presentation of struck and lost rates and standardised time to death records in aboriginal subsistence catches of whales and undertake assessment of requirements for controls on the use of rifles to kill unsecured whales.

9) Encourage the incorporation of data collection and reduction of struck and lost rates in initiatives in Greenland relating to the beluga and narwhal hunts.

Assessment of physiological status of hunted animals

10) Develop procedures for, and where possible implement collection of, representative samples of blood, brain and other tissues from selected animals, to allow assay of stress indicators and other physiological parameters in animals killed in whaling operations.

Next steps

11) Encourage the International Whaling Commission to review progress regularly in all the above areas, seeking data and papers; and to consider holding further workshops.

Appendix 2

RESOLUTION ON THE NEED FOR RESEARCH ON THE ENVIRONMENT AND WHALE STOCKS IN THE ANTARCTIC REGION

RECALLING the Commission's responsibility to promote research into whales and whaling in accordance with Article IV,1(a) of the International Convention for the Regulation of Whaling as endorsed by the United Nations Conference on Environment and Development (UNCED).

RECALLING that Article V,1 of the International Convention for the Regulation of Whaling provides for the designation of sanctuary areas to achieve the Convention's objectives.

AWARE of the guidelines for establishing whale sanctuaries under this Article as recommended by the Technical Committee Working Group of the 34th Annual Meeting of the IWC (IWC/34/14).

RECOGNISING the ecological sensitivity of the Antarctic region and its particular importance as the largest single feeding area for Southern Hemisphere whales.

NOTING the French Government's proposal to the 44th Annual meeting of the IWC for a Southern Ocean Whale Sanctuary (IWC/44/19).

NOTING the recognition given to the precautionary approach by UNCED in the face of inadequate scientific data and of the need to improve our understanding of the effects of global environmental change on marine ecosystems (Agenda 21, Chapter 17).

RECOGNISING the value of the Scientific Committee's work on the Comprehensive Assessment of Southern Hemisphere baleen whales and the need for it to continue.

CONSCIOUS of the advisory role and expertise of the Scientific Committee of the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR) and the Scientific Committee on Antarctic Research (SCAR) to enhance our understanding of the Antarctic environment.

CONSCIOUS of the scope to develop existing links between the Scientific Committees of the IWC, CCAMLR and SCAR.

The Commission Decides

i) That the Scientific Committee establish a regular agenda item to address the impact of environmental changes upon whale stocks.

ii) That the Scientific Committee should contact CCAMLR, SCAR and other relevant organisations to exchange information on the effects of global environmental change in the Antarctic region which may be of relevance to whale stocks.

iii) That the Scientific Committee should develop practical means to address the questions raised by these exchanges.

Appendix 3

RESOLUTION ON THE REVISED MANAGEMENT SYSTEM

WHEREAS the International Convention for the Regulation of Whaling Recognises the interests of the nations of the world in safeguarding for future generations the great natural resources of the whale stocks;

WHEREAS Schedule paragraph 10(a) to 10(c) proved to be deficient in several important respects particularly with regard to the expected advice which the Scientific Committee was unable to provide in the face of uncertainty over the status of stocks, and which, therefore, often left the Commission without adequate advice on classifications and catch limits;

WHEREAS the Commission as a consequence of these deficiencies adopted paragraph 10(e) of the Schedule and committed itself to the undertaking of a Comprehensive Assessment of the effects of its decision;

WHEREAS the Commission, having considered the advice of the Scientific Committee at its 43rd Annual Meeting:

(i) accepted the Scientific Committee's recommendation for the core single-stock management procedure for baleen whales;

(ii) proposed, *inter alia*, that the 'high tuning' of 0.72, and the protection level of 0.54, be adopted;

(iii) requested the Scientific Committee to continue the development of multi-stock management procedures;

WHEREAS the Scientific Committee has now provided to the Commission a Draft Specification for the calculation of catch limits in a Revised Management Scheme for baleen whales (IWC/44/4 Annex H);

GRATEFUL for the hard and dedicated work of the Scientific Committee in the development of the multi-stock catch limit algorithm and its specification;

NOTING that the Scientific Committee has made considerable progress on the specification of minimum standards for data and related issues;

NOW THEREFORE the Commission:

1. ACCEPTS that the Draft Specification for the Calculation of Catch limits in a Revised Management Scheme for baleen whales given in IWC/44/4 Annex H together with its attached annotations completes the main scientific component of the development of a Revised Management Scheme for commercial baleen whaling;

2. REQUESTS the Scientific Committee to provide full documentation of the Catch Limit Algorithm and the control program;

3. REAFFIRMS its agreement that commercial whaling shall only be permitted for populations in areas and seasons for which catch limits are in force. These catch limits shall have been calculated by the Scientific Committee, and forwarded to and approved by the Commission in conformity with all the provisions of the Revised Management Scheme. Commercial catch limits for all other populations in all areas and seasons shall be zero.

4. NOTES that the additional steps required to complete the Revised Management Scheme include agreement upon:

- minimum data standards;
- guidelines for conducting surveys and analysing the results;
- a fully effective inspection and observation scheme;
- arrangements to ensure that the total catches over time are within the limits set under the Revised Management Scheme;
- incorporation of the Draft Specification and the other elements of the Revised Management Scheme into the Schedule;

CONSIDERS that until there is agreement on all aspects of the Revised Management Scheme elaborated above, the catch limit algorithm should not be implemented.

Appendix 4

RESOLUTION ON A SANCTUARY IN THE SOUTHERN HEMISPHERE

WHEREAS the International Convention for the Regulation of Whaling seeks to provide for the proper conservation of whale stocks and thus make possible the orderly development of the whaling industry;

WHEREAS Article V of the Convention provides for the adoption of regulations fixing open and closed waters, including the designation of sanctuary areas;

WHEREAS the Government of France has proposed in IWC/44/19, annexed to this resolution, that a sanctuary be designated in the waters of the Southern Hemisphere;

WHEREAS the Contracting Governments did not have sufficient time to give full consideration to all aspects of the proposal IWC/44/19;

WHEREAS the proposal IWC/44/19 contained a number of specific questions addressed to the Scientific Committee, for which the Committee was unable to prepare answers in the time available at its 1992 meeting;

Now THEREFORE the Commission;

RESOLVES to give full consideration to the proposal by France at its 45th meeting when the advice of the Scientific Committee will be available;

INVITES Members to submit questions and comments on the proposal, by January 31 1993, for consideration by the Scientific Committee and the Commission at the next annual meeting;

REQUESTS the Secretariat to invite the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), the Scientific Committee for Antarctic Research (SCAR) and other relevant organisations to comment on scientific matters raised in the proposal.

REQUESTS the Scientific Committee to structure its agenda for its next annual meeting to allow it to review and provide advice to the Commission at its next annual meeting on scientific questions and comments raised;

ESTABLISHES a Working Group of the Technical Committee to meet prior to the 45th annual meeting to collate the responses from the Scientific Committee of the International Whaling Commission, SC-CCAMLR, SCAR and other relevant organisations, with comments of Members arising from the proceedings of the 44th meeting of the Commission, and any other matters subsequently raised by Member Governments.

A Southern Ocean Whale Sanctuary

Proposal by the Government of France

SUMMARY

This document sets out arguments for establishing a large sanctuary covering the feeding ranges of at least one biological population of each of the globally distributed species of large whales. It also gives arguments for selecting the Southern Ocean for that purpose from among three possibilities, given the present state of knowledge about the ranges and identities of such populations. In combination with a sanctuary protecting corresponding breeding areas (and the Indian Ocean is an obvious choice) this could provide protection of some populations throughout their migratory ranges and life cycles, which would supplement new regulatory measures for resumed commercial whaling elsewhere under the Revised Management Procedure or such other schemes as may be adopted.

A specific reason for choice of the Southern Ocean is that a sanctuary there would contribute to the rehabilitation of a marine ecosystem which has been severely, but hopefully not irretrievably, damaged by human exploitation in less than one century. This proposal integrates well with other current international actions towards protection of the entire Antarctic region. Given the special circumstances of this region with respect to its distance from industrial centres, and the vigour with which environmental protection and conservation measures there are now being developed by the international community, the Southern Ocean seems to offer the best prospects for securing a satisfactory habitat for cetaceans - and other marine life - in the long-term.

Almost all the proposed area - circumpolar, reaching from the ice edge to 40°S latitude - has the legal status of High Seas and so is an especially appropriate object of international consensus. No Southern Hemisphere Nations have declared any interest in resuming commercial whaling in the coming years, and there is no aboriginal subsistence whaling in the region with which the establishment of a sanctuary might conflict. Insofar as the proposed sanctuary would impinge on or include small areas under national jurisdictions most such areas are already given special status with respect to whales and no conflict with them appears to be likely.

A Southern Ocean Whale Sanctuary

Proposal by the Government of France to the 44th Annual Meeting of the IWC

1. It is proposed that at its 44th Annual Meeting, July 1992, the International Whaling Commission designate all the waters of the Southern Hemisphere south of 40° south latitude as a sanctuary in accordance with Article V(1)(c) of the 1946 Convention for the Regulation of Whaling. This will call for an amendment of the Convention by inclusion of a new paragraph or sub-paragraph in Section III CAPTURE of the Schedule. This, if adopted, will in turn require a minor amendment of the present paragraph 7. A proposed text for the main Schedule amendment will be made available in due course.

2. The primary purpose of this proposal is to contribute to the rehabilitation of the Antarctic marine ecosystem by reinforcing and complementing other measures for the conservation of whales and the regulation of whaling, in particular by the protection of all Southern Hemisphere species and populations of baleen whales and the Sperm whales on their feeding grounds. Other measures referred to, which essentially concern the protection of breeding groups of the migratory species, and of the tropical Bryde's whale, are:

(a) the establishment of the Indian Ocean Sanctuary; and

(b) the long-standing prohibitions of pelagic operations by factory ships north of 40° south, of the killing of calves and lactating females, and of killing whales smaller than designated minimum lengths[1].

In the view of the Government of France it is desirable that all these other types of regulatory measures be maintained, and that certain additions to, and extensions of, some of them also now be considered.

3. In preparing this proposal the Government of France has taken into consideration the guidelines suggested in 1982 by the Technical Committee Working Group on Whale Sanctuaries of which the Commission took note at its 34th meeting, as well as the comments made at that meeting by delegations on the Report of the Working Group, including some reservations with respect to coastal states' rights and responsibilities. Those comments also included an affirmation that the establishment of sanctuaries should not be used merely as a tool to invalidate catch limits. The present proposal is intended to supplement, rather than to supplant, still less to invalidate, the Revised Management Procedure (RMP) that the Commission has expressed its intention to adopt for setting future catch limits by species of baleen whales and by ocean regions and smaller sub-areas.

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(1) Many of these regulations, adopted incrementally, predate the 1946 Convention. The Convention for the Regulation of Whaling, Geneva 1931 (sponsored by the League of Nations) - which applied only to baleen whales - prohibited the taking or killing of calves and suckling whales, immature whales and females accompanied by calves. The Protocol of the International Whaling Conference, London 1937, established minimum size limits for Blue, Fin, Humpback and Sperm whales for the protection of immature animals. A size limit for Sei whales, including Bryde's whales, was subsequently added to the Schedule of the 1946 Convention. The 1937 Protocol also forbade the use of factory ships for taking baleen whales in the Southern Hemisphere north of 40 degrees S and in certain other waters. The Protocol of the International Whaling Conference, London 1938, established the Southern Ocean sector south of 40 degrees S between 70 degrees West and 160 degrees West longitude as a sanctuary for baleen whales.

4. It is generally accepted in modern approaches to environmental management that a number of complementary types of regulatory measures, including the designation of protected areas, may be needed. This is in part because no single type of action can safely be assumed to be infallible. For example, when the Commission adopted new management rules in 1975 the Scientific Committee said it was confident that it would be able to fulfil the demands on scientific knowledge made by those rules. Yet it very soon became obvious not only that those rules were flawed in themselves but also that scientific knowledge was inadequate for applying them in accordance with the original intention(2). Similarly, although the RMP now being considered for formal adoption has been tested by computer simulation, and the Scientific Committee is once again confident of its ability to apply the new rules, it would be most unwise to rest all our hopes for whale conservation solely on them. The new rules would need to be tried in practice, in selected locations, for a prolonged period.

5. Another reason for favouring a set of different kinds of measures is that different measures address different though related aspects of the problem. For example, the RMP will be implemented on a species by species, stock by stock basis, whereas a sanctuary for all species of whales would have as its focus the restoration, as a whole, of a complex of species and populations. Such complexes have been much damaged and distorted by industrial whaling, and nowhere more so than in the Southern Hemisphere. It might be thought that humans could manipulate and thus assist restoration while continuing to kill some whale species in commercial numbers. It has even been suggested that a resumption of minke whaling is needed in order to assist the recovery of the Blue whale. But scientists do not agree about whether there is evidence - as distinct from mere speculation - for substantial interactions between these species, and between them and other species. Furthermore, even if some evidence were to appear, we certainly are far from being able to calculate the consequences of continued selective whaling or of assessing objectively the consequences of such intervention. So, if the Southern Ocean is, as a matter of long-term policy, to be restored - as far as the whales are concerned - close to its state before the most destructive whaling began in the 1930s, then we have no option but to protect all whales there and monitor the changes in that ecosystem as best we can.

6. At the 1975 meeting at which the Scientific Committee, with excessive confidence, affirmed its ability to provide advice for the application of the management rules then being proposed, it added a warning that in future scientific advice should "be based not only on the concept of sustainable yields in numbers by species but should also include considerations such as the health of the ecosystem as this is quantified."(3) This warning is as relevant now as it was then, but - unfortunately - no such quantification has yet been attempted. Subsequently, in 1980, the World Conservation Strategy (WCS) prepared by the World Wide Fund for Nature (WWF) and the World Conservation Union (IUCN), and endorsed by the United Nations Environment Programme and many governments, affirmed that there should be no more commercial whaling until "the consequences for the ecosystems concerned of removing large portions of the whales' populations, and such populations' capacity for recovery, can be predicted." This condition was considered to hold for the lifting of a general moratorium on commercial whaling, but it is particularly applicable to the Southern Ocean, where the impact of past and recent whaling has been especially grave. Yet essentially no scientific progress has been made towards meeting this condition during the fifteen years since the WCS was drawn up.

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(2) See the Chairman's Report of the 26th meeting, *Rep. int. Whal. Commn* 26: 26, 1976. This concerns the New Management Procedure now embodied in Paragraph 10(a), (b) and (c) of the Schedule.

(3) See Report of the 1974 meeting of the Scientific Committee, *in Rep. int. Whal. Commn* 25: 63, 1975. The Committee and the Commission both agreed at the time that rational management of commercial whaling would optimise not numbers, but total weight of production.

7. Taking account of all the above considerations the Government of France has arrived at the conclusion that while new rules along the old species-by-species, stock-by-stock, area-by-area lines might be tried in some parts of the world Ocean, a more cautious and synthetic policy should be followed in at least one major region.

CHARACTERISTICS AND CHOICE OF AN APPROPRIATE SANCTUARY

8. Almost all species of baleen whales, and also the Sperm whale, are to be found together in all ocean regions. During their long evolution they have become separated into distinct ocean populations. Thus the whales in the North Atlantic are now genetically and behaviourally distinct from the same species in the North Pacific, and both are distinct from the populations in the Southern Hemisphere (and the northern part of the Indian Ocean)[4]. This presents the possibility of according full protection for a long period to one or more populations of most species, throughout their migratory ranges, by declaration of a sanctuary in one of these three major regions.

9. In each of the three major regions the distributions of the various species of large whales overlap geographically, particularly on their feeding grounds. Their diets also overlap to a degree, especially those of the baleen species. Of those that breed in lower latitudes and feed in higher latitudes (that is the Sperm whale and all baleens except the Bryde's whale), the older, larger individuals tend to travel closer to the polar regions to feed than do the smaller, younger individuals. This behaviour is reflected in dietary differences.

10. The Technical Committee Working Group on Whale Sanctuaries, in its final report delivered July 1982[5], defined a whale sanctuary as:

> "a special area closed to whaling for a specified period of time for the prime purpose of affording whales protection in order to provide for their long-term conservation."

A supplementary objective defined by the Working Group was to establish a reference area with a view to providing information on levels and trends within unexploited whale populations, comparative information on biological characteristics and changes in them for comparison with those from exploited populations, and areas in which research might be undertaken on the behaviour and social structure of populations not disturbed by whaling.

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(4) The Bowhead and Gray whales occur only in the Northern Hemisphere. The Right whales and the Bottlenose whales of the North Atlantic and the Southern Hemisphere are in each case considered to be two species of the same genus, *Eubalaena* and *Hyperoodon* respectively. There are few known instances of individual baleen whales (other than the tropical Bryde's whale) moving between the two hemispheres in the Atlantic or the Pacific, but the different phases of the migratory and hence the breeding cycles in the two hemispheres ensure that the populations are for all practical purposes quite distinct. Some geneticists now believe, on the basis of DNA analyses, that differences between hemispheres and between oceans may in the cases studied be sufficient to justify recognition of sub-species of the species of balaenopterid whales.

(5) Doc. IWC/34/14. See Chairman's Report of the 34th meeting, *Rep. int. Whal. Commn* 33: 22, 1983.

The desirable characteristics of sanctuaries were said to include the following:

> "- so far as possible their boundaries should be based on ecological considerations;
> - their provisions may apply to populations of certain whale species, or to populations of all whale species, in an area;
> - they should be of sufficient size to fulfil the objectives of their establishment;
> - sanctuaries can be areas which encompass all or a significant part of the range of species populations and/or areas biologically significant or unique for whales."

11. These objectives and characteristics could in principle be fulfilled by a large sanctuary in any one of the three major ocean regions. For the reasons already given it is desirable to afford long-term protection to a group of populations of as many - perhaps interacting - whale species as possible throughout their ranges. That means, specifically, protecting them both on their feeding and their breeding grounds insofar as these are known. However, it does not seem to be essential for such protection to be afforded everywhere by a particular sanctuary designation. In particular, it may be that adequate protection would be afforded in breeding areas through other types of long-standing regulatory measures, according to circumstances, such as those mentioned above: protection of mothers and calves, prohibition of pelagic operations in tropical and sub-tropical zones, and other more limited sanctuary provisions as in the Indian Ocean southward of 55°S.

12. A further need for distinction between the feeding and the breeding areas with respect to long-term protection arises from the fact that whereas the feeding areas in all regions are fairly well-known, and different species certainly mix on them, the exact breeding areas are - with the exceptions of the Gray, Right and perhaps Humpback whales - still poorly known. This dearth of basic knowledge has become evident again in the course of the comprehensive assessments of Minke whales made in recent years in all the regions, and the Fin whales in the North Atlantic. In general, it is not known whether breeding grounds are localised or extensive, how many of them there are for each species, and whether any localised breeding areas for the various species overlap. This may necessitate a more complex and progressive approach to protection as far as breeding areas are concerned, as more information becomes available. It may also imply, as is argued below, that national legislation could play a relatively more important role in protecting the breeding than the feeding areas.

13. The degree to which some protection of breeding areas already exists is one consideration in selecting the Southern Hemisphere as the location of a sanctuary which would give long-term protection to the feeding areas of most species. The existing provisions for protection of mothers and calves, and prohibition of factory ship operations in the tropics and sub-tropics, are universal, but the existing Indian Ocean Sanctuary provides more comprehensive protection of breeding areas in at least a part of the Southern Hemisphere. Furthermore, a number of the Southern Hemisphere states - especially those which are coastal to the Indian Ocean - have declared waters under their national jurisdictions as protected areas for whales (and other cetaceans).

14. The only other sanctuary that has every been designated by the IWC (referred to as 'The Sanctuary') was also in the Southern Hemisphere. That sanctuary, established in 1938, was kept in being until 1955. Its purpose was to protect a significant part of the Antarctic feeding grounds which had not previously been subject to pelagic whaling because of its distance from the main Northern Hemisphere whaling ports and the presumed relatively low density of whales there (see footnote 1, page 2). It was thought at the time that The Sanctuary would be a source of replenishment of reduced stocks in other sectors but, although it is now known that there is considerable longitudinal movement of whales in the Antarctic, any such replenishment could not make up for the rate of depletion elsewhere. The Sanctuary was eventually reopened to pelagic whaling precisely to provide some relief to the other sectors in a period when it was not politically feasible to reduce sharply the overall baleen catch limit. Nevertheless, while it was closed, and supplemented by the prohibition of pelagic operations from 40°S to as far as 35°N, it served temporarily to help maintain stocks, if not distinct populations, of all baleen whale species in a substantial sector of the Southern Hemisphere.

15. This brief account of the original Sanctuary has been given because it is pertinent to the present proposal. Most of the area was far from land-based whaling[6], whether commercial or for aboriginal subsistence. If it had not existed pelagic operations would certainly have begun there sooner or later (as stock levels elsewhere inevitably fell). But at that time and place The Sanctuary ensured that "no Member nation was thereby unduly disadvantaged", a consideration commended many years later by the Technical Committee Working Group.

FURTHER CONSIDERATIONS REGARDING SELECTION OF THE SOUTHERN OCEAN

16. The Antarctic continent and its surrounding seas are recognised by the community of nations as a special region in several respects. Antarctic treaty powers agreed in October 1991 to a series of far-reaching measures for the protection of this region. A formula for the effective prohibition of minerals activities within the Treaty Area for at least fifty years was adopted, as well as Protocols which, *inter alia*, set out principles for "the protection of the Antarctic environment and dependent and associated ecosystems." These principles include provision that activities shall be planned and conducted "... so as to avoid detrimental changes in the distribution, abundance and productivity of species or populations of fauna and flora ... (and) significant changes in the ... marine environment." While the Treaty Area is bounded by the 60°S parallel, it is well-known that as far as the marine environment is concerned the waters southward of this latitude are oceanographically and ecologically associated with contiguous waters northward of it.

17. The new environmental provisions for Antarctica and its dependent and associated ecosystems refer not only to current and future activities but to the restoration, where practicable, of the pristine character of the region. There is, for example, a specific obligation to clean up past waste disposal sites and abandoned work sites. Recognition of such obligations is an expression of the collective will of the Parties to the Antarctic Treaty to begin to make amends for the consequences of past detrimental practices. Amends made for failures adequately to govern whaling in the past may be seen in the same spirit.

18. Other inter-governmental bodies concerned with aspects of the conservation of Antarctica and the surrounding environment have also recently taken important steps to that end. Parties to the 1973 International Convention for the Prevention of Pollution from Ships have given special status to the sea area south of 60°S, through amendments which came into force in March 1992. Oil discharges will be forbidden, as they already are in the Mediterranean Sea and vulnerable parts of the northern Indian Ocean.

19. Under the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR) unanimous agreement has been reached to set an upper limit for the catching of krill in the Atlantic sector of the CCAMLR area, which extends northwards beyond the Antarctic Treaty area, approximately to the Antarctic Convergence. This decision is significant as far as whales are concerned because Article II of the CCAMLR is understood to imply that the catching of, for example, krill shall be regulated so as not to affect adversely the populations of species dependent on krill, such as the baleen whales.

20. Many species of baleen whales, and female Sperm whales, feed extensively outside the CCAMLR area but southward of 40°S. Fin whales, for example, feed on the copepods and small fishes in this intermediate zone. It is unlikely that substantial commercial fisheries will begin in this zone, beyond limited coastal areas, in the foreseeable future. Thus these whales do not seem to be at risk from depletion of their food supplies, as the same species may be in the Northern Hemisphere.

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(6) During the period, however, hundreds of Blue and thousands of Fin whales were caught from land stations in Chile (not then a Member of IWC) just northward of The Sanctuary boundary.

21. For these and other reasons - among them its remoteness from industrial developments and other human activities in coastal areas and on the continental shelves - the Southern Ocean offers the best opportunity for the restoration of the cetacean component of any marine ecosystem. To this may be added the firmly expressed interest of coastal states of the Southern Hemisphere in protecting whale populations, including by the long-term prohibition of commercial whaling. No Southern Hemisphere state is thought now to have any interest in resuming commercial whaling. In particular, none of the coastal states whose national jurisdictions impinge on the proposed sanctuary, all of whom are members of the IWC, has expressed any intention of resuming commercial whaling. And the coastal states of the Indian Ocean have, through the Indian Ocean Marine Affairs Co-operation (IOMAC) expressed the wish that the entire Indian Ocean be declared by the IWC as a permanent sanctuary for whales. Taken together these considerations make the Southern Ocean the clear choice for a major whale sanctuary.

THE BOUNDARIES OF A SOUTHERN OCEAN SANCTUARY

22. Since the larger and older individuals of several baleen whale species, as well as the large male Sperm whales, feed close to the ice edge, and in some cases within the pack ice, the southern boundary is naturally the limit of the continent or of the fast ice as the case may be.

23. The northern boundary should be determined primarily by the feeding distribution of whales and the distributions of sufficiently dense aggregations of their food organisms. Not all individuals of the migratory species travel regularly to high latitudes to feed, nor do they all move from high to low latitudes during the southern winter. In particular the smaller individuals of baleen species, especially of the Sei whale, and young female Sperm whales, are found in summer not far south of 40°S.

24. While Blue, Humpback and Minke whales feed mainly at the latitudes of the Antarctic Convergence (which vary according to longitude from about 45 to 60°S), the Fin whale feeds both south and north of the Antarctic Convergence, overlapping the more northerly feeding distributions of the Sei and the Pygmy Blue whales. This latitudinal transition is marked by a change in the primary diet, from the Antarctic krill (*Euphausis superba*) to other species of euphausiids and various species of copepods and amphipods. Corresponding changes from south to north in the diets of Sperm whales have also been observed. The northerly limits of the distributions of these food species vary, but they are mainly confined to the region at or south of the southern Sub-tropical Convergence(7).

25. The Sub-tropical Convergence is an oceanographic feature serving as a "demarcation between the Southern Ocean and the rest of the World Ocean"(8). Tchernia describes this feature as "not so much a line of convergence as a zone of convergence, of which the main position varies, according to the location and the season, between the 38th and 42nd degree of south latitude." This "hydrological frontier" is well marked in the South Atlantic, the Indian Ocean and the Western Pacific, but less so in the Eastern Pacific. It is not well-defined in the sector from 75°W (coast of Chile) to about 130°W. In the Western South Atlantic, off the coast of Argentina, the Sub-tropical Convergence turns northward to lower latitudes. Tchernia continues: "One sees that (it) encloses the South Island of New Zealand, the southern tip of South America, and a certain number of islands and archipelagos which mark the summits of ridges partitioning off the depths of this vase domain." [Figure 1]

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(7) See *FAO Species Identification Sheets for Fisheries Purposes: Southern Ocean*, Vol 1, Rome 1985. Ed. by W. Fischer & J.C. Hureau.

(8) See *Descriptive Regional Oceanography* by P. Tchernia, p44 *et seq.* English translation from original in French, by D. Densmore, Pergamon Press, Oxford and New York, 1980.

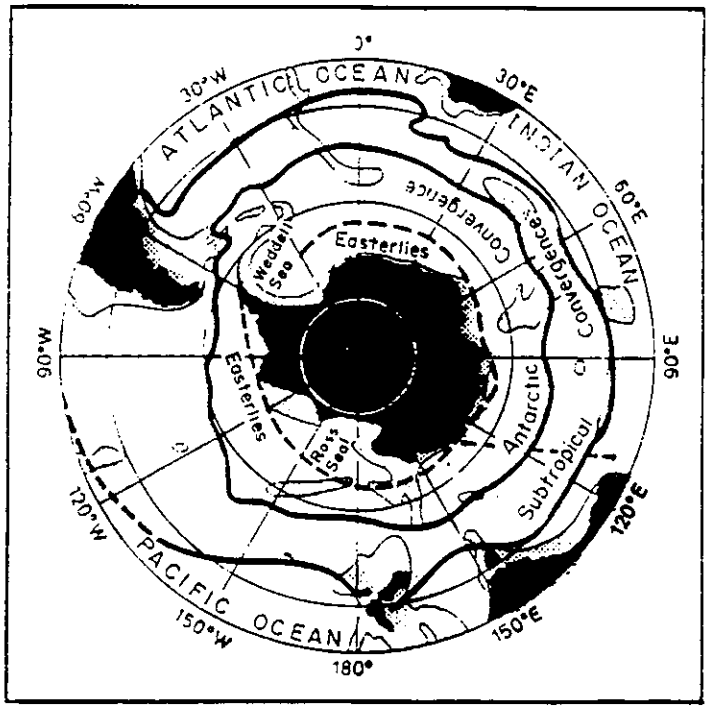

Figure 1. Sketch of the Southern Ocean, showing the Sub-tropical and Antarctic Convergences. After Tchernia, 1980, Fig. 4

26. Taking into consideration these facts of oceanography, and distributions of whales on their feeding areas, and also that the Sperm whale and the baleen whales are fully protected where they occur northward of 40°S in the Indian Ocean, by the present sanctuary there, and that the baleen whales are protected from pelagic operations in the other sectors north of 40°S, it is clear that the purposes of the proposed Southern Ocean Sanctuary would be met by setting its northern boundary along that parallel.

27. In order to define longitudinal boundaries for the proposed sanctuary it is necessary to consider the sparse knowledge available about the latitudinal migrations of whales and their foraging behaviour on the southern feeding grounds. The former have already been mentioned briefly. The precise breeding locations of most species are largely unknown. However, it is thought, from the routes and timing of some observed migrations, and from the history of exploitation in the tropics and sub-tropics from land stations and - before 1937 - by pelagic operations, that there are distinct breeding areas for each species in the Atlantic and Pacific sectors and in the Indian Ocean.

28. It has been further hypothesised that in certain cases separate breeding areas exist on the western and eastern sides of these sectors, while the possible existence of breeding areas, at least of some species, in mid-ocean, or more or less continuously across a sector, cannot be ruled out. Furthermore, judging by what is now known about Humpback whales in the North Pacific, from research involving individual identification of whales by natural external markings, a whale may breed one year in a clearly defined area on one side of an ocean region, yet appear in another year on a breeding ground on the other side of that region. Also, in certain cases whales identified each on different breeding areas may 'share' a particular feeding area. Yet, on the contrary, relatively homogeneous 'feeding aggregations' have been recognised.

29. There is evidence, mainly from whales marked in the Northern Hemisphere, that a whale may return in a later year very precisely to the marking location, yet it is also known, from the same kinds of evidence, that a baleen whale can travel very great distances in the space of a few days. Thus we have what may at first sight seem to be contradictory evidence about whale movements - they are highly mobile, yet can apparently have tight 'home ranges' on feeding grounds. We suppose that the same whale may return repeatedly to the same breeding ground, yet we know that mature whales can occasionally switch to another ground. From repeated sightings of the same individuals we see that the same whale may return repeatedly to the same feeding area, yet we know that whales from different populations may share a feeding area. These scattered pieces of evidence about the nature of baleen whales have yet to be fitted together in a coherent hypothesis.

30. Most of what little is known for sure about the movements of whales in the Southern Hemisphere has come from recaptures of whales marked in the International Marking Programme and a corresponding Programme conducted by the USSR(9). Marks placed in the Southern Ocean have been recovered from whales killed from land stations in lower latitudes, and *vice versa*. The markings and recoveries have not always been in the same longitudinal sector. For example, of two marked Minke whales killed off the coast of Brazil (34°W, 6-7°S) one had been marked due south of that location, at 62°S, while the other had been marked at the far eastern side of the South Atlantic sector, at 19°E, 69°S. Other examples can be cited. Fin whales marked in the Antarctic as far apart, longitudinally, as the southeastern Atlantic and the southeastern Indian Ocean have been recovered north of 40°S in the western Indian Ocean, off Durban. Fin whales marked in low latitudes off the coast of Chile have been recovered in the Southwestern Atlantic sector of the Antarctic.

31. The breeding and feeding concentrations of Humpback whales appear to be more localised, and the migrations more strictly north-south. Nevertheless, inter-ocean movements have been recorded, for example between western and eastern Australia. Some Humpbacks from a population breeding off the East coast of Africa are thought to have fed in the eastern Atlantic sector of the Antarctic; others from a West African breeding group appear to have fed in the Western Indian Ocean sector. More limited data from Sei and Sperm whales do not deny the possibility of extensive longitudinal, inter-sector movements during the generally north-south migrations of these species.

32. It is clear from the above observations that it would not be safe to assume that protection of a broad feeding area in, say, the Indian Ocean sector of the Antarctic would completely protect the whales that habitually breed in the warmer waters of the Indian Ocean.

33. Many more marks have been placed in and recovered from whales on high latitude feeding grounds. From these there is substantial evidence of extensive longitudinal movements, both during one summer and from one summer to another. Two points about this evidence need to be made for the present purpose. First, it is not uncommon for marks placed in whales feeding in one ocean sector to be recovered from another sector. Second, differences of 60° or more, in either direction, between longitudes of marking and recovery are also not uncommon, and a few much greater differences have been recorded. Marked Blue whales have moved between the Southwest Atlantic and the Southeast Pacific, and between the Indian Ocean and the Southeast Atlantic during the same summer. Similar displacements have been noted from one year to another. In one case, at an interval of two summers, displacement was noted between 60°E in the Indian Ocean and 130°W in the South Pacific.

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(9) Attempts have been made to supplement this information by comparative morphological studies of animals killed in different areas, of the chemical composition of blubber oil, of blood types and other genetically determined features, and most recently - but only for a few species - DNA identification from skin samples obtained by biopsy. However, this supplementary information has rarely been conclusive.

34. Recent studies of Minke whales show of displacement similar to those noted for the larger baleen species. Of 93 recoveries made up to February 1987, from batches marked from 1976/77 to 1982/83, 17 were from ocean sectors other than those in which the marks were placed. Five of these displaced from the Indian Ocean to the Atlantic, and six from the Atlantic to the Indian Ocean. If the division between the Indian Ocean and the Pacific is taken rather arbitrarily to be at 130°E, then two recoveries were displaced from the Indian Ocean to the Pacific (but only short distances in these cases), and four from the Pacific to the Indian Ocean. Two of these were long displacements, from mid-Pacific longitudes to the western Indian Ocean. An apparent asymmetry of easterly-westerly displacements, and the absence of records of displacements between the Atlantic and Pacific sectors, have little or no significance. These features of the data result from the small total numbers of recoveries, together with the absence of pelagic operations in the high latitudes of the Southwestern Atlantic, and the fact that whales were marked only relatively recently in that sector and in the Southeastern Pacific.

35. Interpretation of the longitudinal displacements of all species is complicated because whaling operations have never been spaced evenly around the hemisphere. The most even spacing has been during the era of Minke whaling, when catch limits were set by six 'Management Areas'. Only in the later years of that era were marks placed systematically in one Area after another. Most marking data for other species comes from times when there were no Area-by-Area catch limits, and in part when The Sanctuary was in force. Blue, Fin and Sei whaling efforts were not spread around the Antarctic continent, nor were marks systematically distributed. Even after The Sanctuary was opened the pelagic whaling effort stayed uneven, partly because operations moved selectively into the ex-Sanctuary sector.

36. The uneven longitudinal distribution of whaling effort, together with the practice of conducting marking in the sectors of most intensive whaling, results in the observed longitudinal displacements being less than may actually be occurring. This reservation applies equally to observed displacements within a summer on the feeding grounds, and displacements from one year to another. Even when, as in the case of the Minke whaling, catches were forced to be circumpolar by the establishment of sectoral catch limits, the distributions of effort within sectors was very uneven because of the practice of the whalers in operating close to sector boundaries. A good example of the consequences of this is that little effort was made to catch Minke whales in the mid-Pacific between 170°E and 120°W, so the distances between marks placed in the Indian Ocean and recovered in the Western Pacific, and *vice versa*, do not adequately measure the scale of that particular inter-ocean displacement, nor its prevailing direction if any.

37. Although some marks in the Southern Ocean were recovered far from where they were placed, others were recovered, as in other regions, very close to the marking location, even after a lapse of several years. Possibly individual whales, or social groups, have favourite feeding spots, but there are several of these some distance from each other. Alternatively, whales may travel between breeding and nearest feeding areas by a fairly direct and annually repeated route, and then move longitudinally on a remembered search patter. Whatever is actually going on it is clear that there is no simple way of dividing the Southern Ocean into more than one longitudinally defined sector in such a way that one of those could be designated as a sanctuary which would ensure the complete protection of one or more entire biologically distinct populations of each species within the hemisphere. Thus an effective Southern Ocean Sanctuary must be circumpolar.

DURATION OF THE SANCTUARY

38. The Technical Committee Working Group's guidelines suggested that any sanctuary should be established "for a specified period of time." Given that the primary purpose of the proposed Southern Ocean Sanctuary is to provide an opportunity for recovery of the hemispheric complex of baleen and Sperm whales, and that their present status and recovery rates are mostly unknown, it is not practicable now to specify an exact period. It is therefore proposed that the sanctuary should be established indefinitely, that is until the Commission may decide otherwise.

39. If the sanctuary provision is to be indefinite it seems desirable that provision should be made for review of this provision after a specified lapse of time. The relatively slow rates of change of whale populations, and the levels of precision obtainable in large-scale surveys, indicate that a period of at least ten years is the minimum time over which significant information could be obtained regarding the fulfilment of the sanctuary's purpose. This fundamental monitoring problem is likely to persist even if survey techniques are considerably improved. For example the Scientific Committee has been quite unable so far to assess any of the effects of the commercial moratorium which came into force in 1985. It is therefore proposed that provision be made in the Schedule amendment under which the sanctuary is established for a comprehensive review of the effects of that decision to be conducted not less than ten years after its establishment.

RESEARCH AND MONITORING

40. It is suggested that the Scientific Committee be asked, at the time of adoption of this proposal, to draw up a long-term Programme for research and monitoring the Southern Hemisphere whale populations. Such a Programme should be coordinated with relevant studies sponsored by the Scientific Committee of CCAMLR and by ICSU/SCAR in the area south of the Antarctic Convergence, and by national research organisations in the more northerly latitudes of the sanctuary. The long-term Programme might include infrequently repeated sightings surveys for baleen whales, comparable with those conducted to date from ships under the IDCR, but possibly also by remote sensing from satellites. Further development of acoustic sensing of Sperm whales, DNA sampling and, where practicable, visual identification methods and trackable attached marks should also be considered.

41. In planning a research and monitoring Programme the Scientific Committee might decide that it is necessary for whales to be taken in the sanctuary under special permits. In that case the pertinent guideline provided by the Technical Committee Working Group on Whale Sanctuaries should be applicable unless agreed otherwise by the Commission. This was:

> "Research should be largely based on, but not limited to, benign (non-lethal) techniques and no whales should be killed intentionally, or taken, or treated in a sanctuary for research or any other purpose except in accordance with arrangements agreed by members of the Commission and cognizant of the rights of nations as given in Article VIII of the 1946 Convention."

INCLUSION WITHIN THE SANCTUARY AREA OF CERTAIN COASTAL AREAS UNDER NATIONAL JURISDICTIONS

42. After the 34th Meeting of the IWC, in 1982, had considered the Report of the Technical Committee Working Group the Chairman of the Commission reported that "Many delegates, whilst welcoming the report and indicating their views on the use of sanctuaries as provided for under the Convention, nevertheless reserved their positions with respect to coastal state sovereignty and their rights to the resources within their 200 mile zones, as well as the guidelines themselves."(10)

43. The Indian Ocean Sanctuary, which was declared in 1979 for a period of ten years and renewed in 1989 for a further period, includes the zones of extended national jurisdictions, or parts of such zones, of several states, including some members of the IWC. While these states all maintain their rights in those zones under applicable international law the fact of their inclusion in the sanctuary has not given rise to legal difficulties.

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(10) Chairman's Report of the 34th Meeting. *Rep. int. Whal. Commn* 33: 22, 1983.

44. Inclusion of such zones appears to carry with it two advantages. One, concerning management, is that additional measures to enhance the effectiveness of the sanctuary as a whole, but beyond the competence of the Commission, may be taken under domestic law. This should be encouraged. The other, which concerns research and monitoring as well as management, is that the existence of the IWC sanctuary can provide a framework for coordination of national activities and can attract funds and scientists, including from non-member states, to study whales in the region.

OTHER SUPPORTIVE AND SUPPLEMENTARY ACTIVITIES, AND ASPECTS OF THE GUIDELINES PREPARED BY THE TECHNICAL COMMITTEE WORKING GROUP ON SANCTUARIES

45. The 1990 General Assembly of the World Conservation Union (IUCN)[11] in Perth, Australia, adopted a resolution on "Cetacean Conservation and the International Whaling Commission Moratorium". This called upon the IWC to:

(a) "support an indefinite extension of the Indian Ocean Whale Sanctuary and widen its boundaries to include the full migratory range of the whale species within it" and

(b) "consider the creation of other sanctuaries within a comprehensive system for the conservation of whales".

The 1990 conference of the inter-governmental body for Indian Ocean Marine Affairs Co-operation (IOMAC) recommended that "requisite action" be taken by all states ... and especially by Indian Ocean States of IOMAC which are members of the IWC "to ensure the permanent establishment of the Indian Ocean Sanctuary for all time."

46. If the general and specific objectives to which the proposed Southern Ocean Sanctuary is intended to contribute are to be attained it will be essential for existing conservation measures applicable elsewhere in the Southern Hemisphere to remain in force. The general objective is protection of some populations of all species of whales throughout their migratory ranges and life cycles. The specific objective is to contribute to the restoration of the marine biological system of the Antarctic. Maintaining the designation of the Indian Ocean as a sanctuary is a key measure in this respect, and a decision about that has to be taken at the 1992 meeting of the IWC.

Since the Southern Ocean and Indian Ocean sanctuaries are two complementary parts of a whole it would be reasonable for the Indian Ocean Sanctuary also to be extended indefinitely, with provision for a comprehensive review after ten years. Administrative adjustments could be made to the contiguous boundaries of the two sanctuaries to avoid overlap, but this is not a substantive matter. [Figure 2, page 14]

47. One item in the Working Group's Report, under "establishment information required" concerned "the effects of the sanctuary area on current exploitation of whales". There is, of course, no commercial whaling at present, and no aboriginal subsistence whaling has ever taken place in the Southern Ocean. There is some current catching of Minke whales under special permits, but the establishment of the proposed sanctuary would not as such affect that, subject to any further guidelines that the Commission may adopt, as outlined in paragraph 39 above. Thus the designation of the proposed area as a sanctuary at this time would have no significant immediate economic and social consequences. Furthermore, the sanctuary would not impede the establishment of non-zero catch limits in the Southern Hemisphere outside the sanctuary - for example in the South Atlantic north of 40° South - under any adopted Revised Management Procedure, subject to such other regulatory measures as may apply, particularly the extension of the Indian Ocean Sanctuary provision.

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(11) Membership of the IUCN at that time included 61 states and 121 government agencies as well as 23 international non-governmental organisations and 400 national non-governmental organisations.

SUGGESTED QUESTIONS TO BE PUT TO THE SCIENTIFIC COMMITTEE

48. The Committee is about to embark on a "Comprehensive Assessment" of the southern baleen whales other than the Minke. This will inevitably have a limited scope, not least because it is hardly practicable to retrace the history of population changes over a long period when censuses were not conducted, detailed operational data were not collected and when modern biological methods - such as the ability to determine ages of animals, genetic data and photo-ID data - were not available. Furthermore, experience in conducting Comprehensive Assessments of Minke whales in all oceans and of Fin whales in the North Atlantic is not very encouraging. More time is needed for scientists to work carefully and critically, rather than simply to compile data and apply some new methods in a more or less automatic way.

49. Thus we cannot expect a Southern Hemisphere baleens assessment, carried out along the same lines as previous 'comprehensive assessments', to do more than provide a baseline from which to monitor future events in the proposed sanctuary. This is an important task, but it cannot be expected to provide information of a kind which might directly influence decisions to be taken now regarding the establishment of the sanctuary. New studies might reveal more than is at present known about whale movements to and from their feeding grounds, and within those grounds. It is conceivable that such knowledge would point the way to defining a sanctuary that is less than completely circumpolar. Other studies might indicate that the northern boundary could be defined more appropriately. The proposed mandatory review after a certain time would cover such possibilities and provide an opportunity for amendments. Meanwhile it would be useful if the Scientific Committee would express its opinion on the following matters.

50. Is the proposed northern boundary in reasonable accord with present knowledge of the location of the relevant oceanographic features and the northward limits of high concentrations of the species which collectively form the major foods of the baleen and Sperm whales?

51. It is argued in this document that in order to give protection to a complex of breeding populations of many species in any one of three distinct ocean regions - South Atlantic, South Pacific and Indian Ocean - it is necessary to protect whales in their higher latitude feeding grounds over a much wider sector. It is further argued that when allowances are made for the limited and discontinuous distributions of past whaling operations, marking experiments reveal very broad circumpolar movements on the feeding grounds both within and between summers. It is suggested that such broad dispersion would be expected from the known features of circumpolar oceanography, the proven capabilities of large whales to move great distances in short times, and new information about the variable distributions of the plankton productivity on which the whales depend. Does the Scientific Committee consider this to be a reasonable appraisal of existing information?

52. Notwithstanding vast areas of ignorance and uncertainty, more is known about the history of exploitation of whales in the Antarctic than about other ocean regions, because large scale whaling began there relatively recently and an attempt was made, virtually from the beginning, to collect basic catch data. In recent years the Southern Ocean has been more extensively and rigorously surveyed, under international control, than any other extensive region. These surveys, and related studies, provide a better database from which recovery under long-term protection could be monitored and analysed than is available for any other area. Is this a reasonable assessment of the situation?

53. Whales are increasingly being affected by adverse environmental factors arising from human activities other than whaling. Examples of these are incidental catches in fishing gears, pollution by chemicals and non-degradable debris, boat traffic in areas of whale concentrations. Is it reasonable to suggest that the prospects for containing such effects are better in the Southern Ocean than elsewhere, both because of its overall distance from industrial centres and because international arrangements for environmental protection are relatively advanced in this region?

54. Given that the Indian Ocean undoubtedly encompasses distinct breeding areas for whales, and that it has been a sanctuary for 13 years and it is proposed that this should be continued indefinitely, is it reasonable to say that a combination of the Indian Ocean and the Southern Ocean sanctuaries would offer full protection to at least one self-contained population of each of the large whale species? How significant is interchange of individuals from one breeding ground in one sector to one or more other breeding grounds in other sectors likely to be?

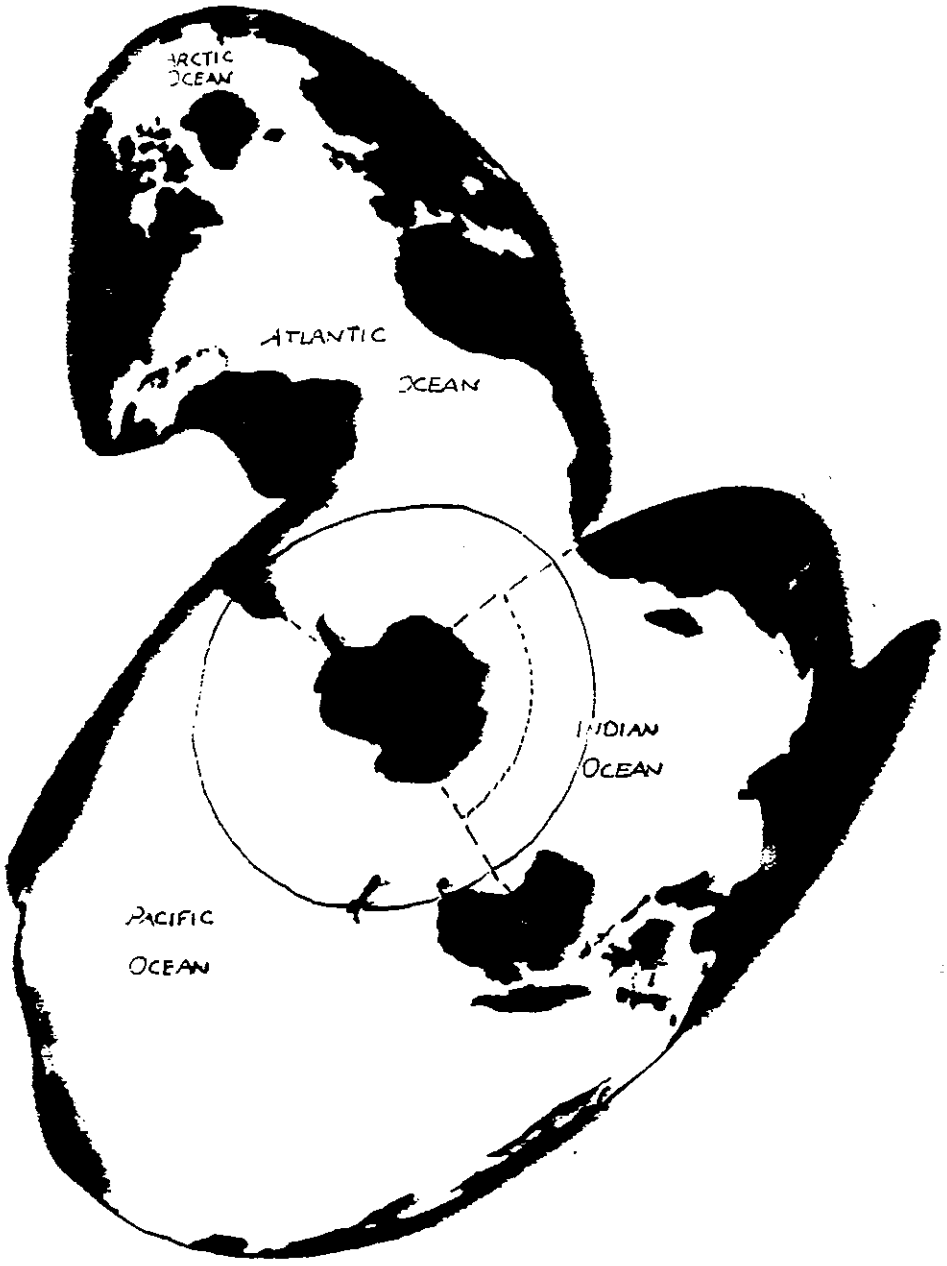

Figure 2. Spilhaus Whole Ocean map (equal area projection) showing the proposed boundary of the Southern Ocean Whale Sanctuary, and also the existing Indian Ocean Sanctuary. Ocean sectors within the former are shown by dotted lines.

Appendix 5

RESOLUTION ON SPECIAL PERMIT CATCHES BY JAPAN IN THE SOUTHERN HEMISPHERE

WHEREAS the Commission has considered the Report of the Scientific Committee IWC/44/4 concerning the results of the Japanese catches on minke whales in the Southern Hemisphere described in SC/44/SHB10 and SC/44/SHB11, the proposed catch in 1992/93 described in SC/44/SHB14, and the responses of the Government of Japan to earlier criticisms of the research programme arising in the Scientific Committee's reports (IWC/39/4; Report of Special Meeting, Cambridge 1987; IWC/40/4, IWC/41/4, IWC/42/4 and IWC/43/4);

WHEREAS the Commission has encouraged Contracting Governments to base their research programmes to the maximum extent possible on non-lethal methods (*Rep. int. Whal. Commn* 40: 70) and the Government of Japan has made important contributions to the development of non-lethal whale population assessment methods especially through sightings surveys conducted under the IWC/IDCR programme of Southern Hemisphere Minke Whale Assessment Cruises;

WHEREAS the Government of Japan, through its various modifications to the original research programme, including those outlined in SC/44/SHB14 has attempted to address the concerns expressed by the Scientific Committee in its earlier reports;

WHEREAS the Commission takes cognizance of Article VIII of the International Convention for the Regulation of Whaling, under which the granting by any Contracting Government to its nationals of a Special Permit authorising the killing, taking, or treatment of whales for purposes of scientific research remains the responsibility of each Contracting Government, exercising its sovereign rights in respect of maritime areas under its jurisdiction and freedom of the high seas;

Now, THEREFORE, the Commission

CONSIDERS; taking into account the comments of the Scientific Committee; that the proposed take of minke whales in the Southern Hemisphere described in SC/44/SHB14 does not fully satisfy the criteria specified in both the 1986 Resolution on Special Permits for Scientific Research and the 1987 Resolution on Scientific Research Programmes in that the proposed research is not structured so as to contribute information presently required for the management of these stocks, though it addresses research needs;

INVITES the Government of Japan to continue to reconsider and improve the proposed research under special permit in 1992/93 in the light of the above.

Appendix 6

RESOLUTION ON NORWEGIAN PROPOSAL FOR SPECIAL PERMITS

WHEREAS the Commission takes cognizance of Article VIII of the International Convention for the Regulation of Whaling, under which the granting by any Contracting Government to its nationals of a Special Permit authorising the killing, taking, or treatment of whales for purposes of scientific research remains the responsibility of each Contracting Government, exercising its sovereign rights in respect of maritime areas under its jurisdiction and freedom of the high seas;

WHEREAS the Commission notes the past efforts by Norway in research on whales and investigation of their habitat which do not involve the taking of whales;

Now, THEREFORE, the Commission

CONSIDERS; taking into account the comments of the Scientific Committee (IWC/44/4); that the proposed take of 382 minke whales in the North Atlantic in 1992-94 under the research programme described in SC/44/NAB18 does not satisfy all the criteria specified in both the 1986 Resolution on Special Permits for Scientific Research and the 1987 Resolution on Scientific Research Programmes, particularly in that the proposed research is not adequately structured so as to contribute to or materially facilitate the completion of the Comprehensive Assessment; neither has it been established that the proposed research addresses critically important research needs.

INVITES the Government of Norway to reconsider the proposed take of minke whales in 1992, 1993 and 1994 under special permit, in the light of the above conclusions.

Appendix 7

PROPOSAL FOR THE ESTABLISHMENT OF A WORKING GROUP TO BE CONVENED PRIOR TO THE 45TH ANNUAL MEETING TO CONSIDER A MECHANISM TO ADDRESS SMALL CETACEANS IN THE IWC

TERMS OF REFERENCE:

- To initiate discussions aiming at a framework under which the IWC could address the issue of small cetaceans without prejudice to the different positions held by member states;

- To set up an interim arrangement for dealing with the issue until the completion of the framework.

Appendix 8

MEXICAN POLICIES FOR THE CONSERVATION AND UTILISATION OF NATURAL RESOURCES

To set a few essential facts, the Mexican delegation wishes to list some achievements, concerning its conservation of marine species, both the ones covered by IWC regulations and those which are not:

Mexican policy on management of its marine resources is well recognised over the world and has received several international recognitions for the actions taken in favour of the preservation of marine species in their Economic Exclusive Zone (EEZ), established in 1976 in accordance with the International Law of the Sea.

Mexico has 28 consecutive years of experience and research on the nesting areas of marine turtles in our country. In May 1990, the Government imposed a total and permanent ban on the taking of all species in Mexican waters.

Since 1930, the Mexican government has developed a strong policy on the regulation of marine mammals populations and has established specific laws and programs to study and protect all the species of pinnipeds in our seas; the northern elephant seal, the Guadalupe fur seal, the California sea lion and the harbour seal. The results have been very successful allowing these species to expand to other areas outside our EEZ where they were depleted.

In 1972, Mexico established the first whale sanctuary to protect the breeding areas for the gray whales. Again, the results obtained from this action are now evident and recognised worldwide.

In 1980 Mexico created its National Program for Research and Conservation of Marine Mammals (PNICMM).

Progress in the reduction of the number of dolphins caught in the operations of tuna boats has shown the effectiveness of actions taken by the Mexican Government reducing the incidental mortality the success of which has taken much longer with the tuna fleets of other nations. We have established a program with observers aboard 100% of Mexican tuna boats, as well as creating a national programme for the management of tuna and the conservation of dolphins. After the short time in operation these actions permit us to predict even better results in the future.

The preoccupation with the preservation of endemic species in our country had also a long history. In the decade of the 30's the Mexican authorities established regulations for the fisheries activities in the northern part of the Gulf of California, habitat of totoaba, a fish, and the vaquita, a marine mammal, which share this environment. Those regulations included also bans and restrictions on the use of some types of fisheries equipment.

In 1974, the Government took the decision of establish a reserve zone and permanent ban for the totoaba in the upper part of the Gulf of California.

In 1992, several legal procedures were approved by the Government prohibiting: The use of nets bigger than 10 inches (calibre 36-40) locally named "totoaberas". On 2 March of the same year, the National Technical Committee for the Conservation of vaquita and totoaba was created, incorporating several national research and academic institutions for a cooperative work on the conservation of vaquita. On 22 April 1992, President Salinas signed the agreement for vaquita and totoaba conservation.

Other international research programmes have been recently created for marine mammals and especially vaquita, one of them between Mexico and USA (included in the MEX-US-Pacifico bi-national program).

The National Institute for Fisheries Research will continue its efforts in the study of distribution and abundance of vaquitas, in collaboration with the National University of Mexico in a joint research programme.

Finally it is important to note that these policies and actions adopted by the Government of Mexico, promoting the conservation and rational utilisation of its resources are in continuous revision based on scientific knowledge, effects on productivity activities and our past experiences.

In conclusion Mexico uses its fisheries resources with responsibility and has been in favour of international cooperation for the protection of marine mammals, leading and providing expertise in this field.

Appendix 9

RESOLUTION ON SMALL CETACEANS

The International Whaling Commission,

- AWARE that some stocks of small cetaceans continue to be depleted through, inter alia, incidental catches in fishing operations, habitat degradation and targeted kills,

- RECOGNISING the urgent need for further international cooperation to conserve and rebuild depleted stocks of small cetaceans,

- AWARE of the differences in views among member states on the regulatory competence of the IWC with regard to small cetaceans, and noting that this resolution does not seek in any way to prejudice different members' positions,

- AWARE of the progress being made within the framework of the UN Convention on Migratory Species to develop regional agreements for the conservation of small cetaceans;

- CONSCIOUS of the sovereign rights of coastal states, as set out in the United Nations Convention on the Law of the Sea, and recalling also the provisions of Article 65 of that Convention, and the decisions taken by governments during the recent United Nations Conference on Environment and Development,

- NOTING that the Commission has the expertise to undertake the practical work required in this area,

- WELCOMING the helpful information provided by Japan and some other Governments on specific small cetacean stocks, particularly those referred to in reports of the Scientific Committee,

Now, therefore:

1. INVITES those countries with stocks of small cetaceans which have been adversely impacted by directed take, habitat degradation, adverse interactions with fishing operations or other anthropogenic or environmental impacts, to seek advice from the International Whaling Commission on ways in which those impacts may be assessed, and to this end to share catch statistics and data on incidental takes.

2. INVITES the Secretariats of ICES, Agreements for the conservation of small cetaceans negotiated under Article IV of the Convention on Migratory Species and other relevant organisations, to exchange information with the Secretary of the IWC.

3. INVITES the Scientific Committee to continue to consider the problems facing the stocks of small cetaceans which have been brought to their attention and to advise on ways in which those threats may be eliminated or minimised.

4. INVITES Contracting Governments to cooperate by providing technical or financial assistance as appropriate to those countries with small cetacean stocks which are considered to be endangered, threatened or vulnerable, or whose status is uncertain.

5. INVITES those countries with stocks of small cetaceans which have recently been reviewed to note the recommendations provided to the Commission by the Scientific Committee.

6. REQUESTS the Secretary to forward to contracting and non-contracting governments, intergovernmental organisations and other entities as appropriate, copies of this resolution together with the relevant sections of the Scientific Committee's report on small cetaceans, at the same time drawing their attention to any particular scientific advice contained therein and offering more detailed advice if that should be sought.

Appendix 10

RESOLUTION ON THE DIRECTED TAKE OF STRIPED DOLPHINS IN DRIVE FISHERIES

WHEREAS the Commission gratefully acknowledges the contributions made by the Government of Japan and Japanese scientists in providing fishery and biological information on striped dolphins to the Scientific Committee this and past years;

WHEREAS the Commission notes the significance of the striped dolphin catches in the Japanese drive fishery;

WHEREAS the mean annual catches of striped dolphins in the drive fisheries have declined from 7,558 in the 1960s, to 6,295 in the 1970s, to 4,070 in the 1980s, to just 899 in the 1990s so far;

WHEREAS the Scientific Committee has expressed concern since the mid 1970s that takes of striped dolphins in the drive fishery have sharply declined over the years and concluded in 1981 that this has been caused by the overexploitation of the coastal population of striped dolphins;

WHEREAS the Scientific Committee since 1981 has called for the management of all stocks of small cetaceans taken in the drive fishery to be on a scientific basis;

WHEREAS the Scientific Committee strongly recommended in its report (IWC/44/4) that an assessment be made of the coastal population of striped dolphin taken in the drive fishery as a matter of urgency;

WHEREAS the Scientific Committee noted in the same report that the striped dolphin population cannot support continued exploitation at the current level and advised that an interim halt to the fishery would be appropriate;

WHEREAS the Commission is aware of the differences in views among member states on the regulatory competence of the IWC with regard to small cetaceans, and noting that this resolution does not seek in any way to prejudice different members' positions;

Now, THEREFORE, the Commission INVITES the Japanese Government:

1) to consider the advice from the Scientific Committee including research needs as a matter of urgency;

2) to take appropriate action as soon as possible that will allow recovery of the population;

3) to consider appropriate action regarding other species of small cetaceans taken in the drive fishery individually and on a scientific basis.

Appendix 11

RESOLUTION ON THE DIRECTED TAKES OF WHITE WHALES AND NARWHALS

WHEREAS on several occasions since the 34th Annual Meeting, the Scientific Committee has expressed its concern about the status of some white whale stocks;

WHEREAS at the 43rd Annual Meeting, the Scientific Committee requested in its report (IWC/43/4) more accurate and complete information about total removals for all areas where white whales and narwhals are hunted and expressed its continuing concern about some white whale stocks in eastern Canada that are harvested at rates above their estimated yield levels;

WHEREAS also in that report, the Scientific Committee pointed out that assessments of the impact of directed catches on stocks of narwhals and white whales are limited by sparse information on stock sizes in general and by little or no information on catches in some areas;

WHEREAS this year the Scientific Committee reviewed new information on white whales and narwhals and expressed continuing concern about the estimated kill levels in the eastern Canadian and western Greenlandic hunts of both white whales and narwhals and recommended that both countries improve the quality and completeness of their catch and reporting schemes (IWC/44/4);

WHEREAS the Scientific Committee shared the concern expressed by the Canada-Greenland Joint Commission on the Conservation and Management of Narwhal and Beluga that the available data suggest that the present harvest of the Baffin Bay stocks of white whales and narwhals (stocks exploited by both countries) is not sustainable;

WHEREAS in 1991 the Scientific Committee recommended that the USA obtain more accurate estimates of stock size of white whales in Alaskan waters;

WHEREAS the Commission is aware of the differences in views among member states on the regulatory competence of the IWC with regard to small cetaceans, and noting that this resolution does not seek in any way to prejudice different members' positions;

Now, THEREFORE the Commission

INVITES all states having white whale or narwhal populations in their waters, in cooperation with Inuit organisations, to continue to work individually and through such organisations as the Canada-Greenland Joint Commission, and with other white whale and narwhal range states to conduct research on white whales and narwhals concerning stock identity, life history data, hunting methods and ecology, and that such information be supplied to the Scientific Committee as available;

RECOMMENDS that all states having white whale or narwhal populations in their waters, in consultation with Inuit organisations, continue efforts to document information on total removals and to determine stock size and other information that is necessary for the proper management of these species;

INVITES the USA to submit results of planned surveys in Norton Sound, Bristol Bay and Cook Inlet to the Scientific Committee as they become available; and

REQUESTS that the Secretariat transmit the text of this resolution to the Government of Canada, requesting their cooperation with the IWC regarding conservation of white whales and narwhals and development of scientific information related to these stocks.

Appendix 12

RESOLUTION ON THE KILLING OF PILOT WHALES (*Globicephala melas*)

RECALLING that at its 38th Annual Meeting the Commission adopted a proposal to urge the Danish Government to encourage the Faroese Government to make every effort to minimise the use of the gaff and spear, killing from boats, and to further reduce the number of authorised bays so as to limit the hunt to those bays where pilot whales may be killed in a more humane manner in the Faroese pilot whale fishery.

WELCOMING the establishment of the Faroese Whaling Committee in 1986 to study *inter alia* improved methods of killing and the subsequent ban on the use of the spear and harpoons;

NOTING that the subject of killing methods in the Faroese pilot whale drive hunt, including exsanguination, warranted discussion in the 1992 Humane Killing Workshop;

THEREFORE THE COMMISSION INVITES the Danish Government to:

i) inform the Commission of the measures currently used for the killing of pilot whales;

ii) contribute to the action programme agreed by the Commission in its Resolution on Humane Killing (Appendix 1).

Appendix 13

APPROVED BUDGET 1992/93: FORECAST 1993/94

	Budget 1992/93		*Forecast 1993/94*	
	£	£	£	£
Income				
Contributions from Contracting Governments:				
Realisations required1992/93#		662,500		*696,000*
Assessed 1992/93 £738,616*				
Arrears realised		-		-
Interest on late contributions		-		-
UK tax recoverable		30,700		*32,200*
Staff Assessments		70,000		*77,100*
Observer fees		32,700		*35,100*
Sales		23,000		*21,000*
Bank interest		75,500		*78,000*
		894,400		*939,400*
Expenditure				
Secretariat	557,000		*594,600*	
Annual Meeting	130,000		*165,000*	
Printing and copying	35,000		*36,700*	
Sponsored Publications Costs	38,000		*25,000*	
Research	106,500		*106,000*	
Provisions made against				
Severance Pay	16,800		*18,100*	
Enhancement of Reserves	17,000		*14,000*	
Supplementary budget allocation -				
Annual Meeting	27,000			
		(927,300)		*(959,400)*
Excess (deficit) of income against expenditure		(32,900)		*(20,000)*
Net Transfers (to) from Funds				
Publications Fund		26,400		*16,800*
Research Fund		6,500		*3,200*
SURPLUS/DEFICIT FOR THE YEAR		-		-

* This is the amount upon which individual Contracting Government contributions are based.

\# Represents the level of contributions which can be expected.

Appendix 14

AMENDMENTS TO THE SCHEDULE INTERNATIONAL CONVENTION FOR THE REGULATION OF WHALING, 1946

At its 44th Meeting held in Glasgow, UK, 29 June - 3 July 1992, the International Whaling Commission adopted the following amendments to the Schedule (changes in **bold** type):

Amend paragraph 7

(a) so that the penultimate sentence reads:

"This prohibition applies irrespective of **such catch limits for baleen or toothed whales** as may from time to time be determined by the Commission."

(b) delete the final sentence and replace with:

"This prohibition shall be reviewed by the Commission at its Annual Meeting in 2002."

Amend Table 1

(a) so that the North Atlantic West Greenland Stock catch limit for fin whales is 21 with footnote [2]

(b) the North Atlantic Central Stock of minke whales has a catch limit of 12 with footnote [3]

Footnotes:

[2] Available to be taken by aborigines pursuant to paragraph 13(b)3. **Catch limit for each of the years 1993 and 1994.**

[3] Available to be taken by aborigines pursuant to paragraph 13(b)3. Catch limit for each of the years **1993** and **1994.**

Revise paragraphs 11 and 12, and Tables 1,2 and 3

by substitution of the dates **1992/93** pelagic season, **1993** coastal season, **1993** season, or **1993** as appropriate.