

Annual Report of the International Whaling Commission 2003
55th Annual Meeting, 2003

Resolution 2003-1
The Berlin Initiative on Strengthening the Conservation Agenda of the
International Whaling Commission

WHEREAS the first objective of the International Convention for the Regulation of Whaling is “the interest of the nations of the world in safeguarding for future generations the great natural resources represented by the whale stocks”;

MINDFUL that, given the depleted status of great whale populations at the inception of the IWC, and that during the last 25 years, the International Whaling Commission has devoted a overwhelming part of its work to the pursuit of that conservation objective;

NOTING that, through the adoption of more than a hundred conservation-oriented resolutions⁽¹⁾, as well as through various Schedule amendments, the Commission has evolved into an organization internationally recognized, among other things, for its meaningful contributions to the conservation of great whales; furthering that conservation work through those Resolutions and Schedule amendments, the Commission has gradually developed an extensive conservation-oriented agenda⁽²⁾;

NOTING that since the Convention came into force in 1948 several key conventions have been adopted which may affect great whales, including, *inter alia*, UNLOS, CITES, IOC, ICSU, the CBD, CMS, ACCOBAMS and ASCOBANS;

RECOGNIZING the various challenges referred to in previous Resolutions and Schedule Amendments, it is prudent for the Commission to effectively organize its future work in the pursuit of its objective by devising an appropriate agenda that places special emphasis on its benefits to conservation.

NOW THEREFORE THE COMMISSION:

WELCOMES initiatives to assess the achievements and orientation of the cumulative work of the Commission in the pursuit of its conservation objective;

ENDORSES the proposals made by various Contracting Governments to organize, on the basis of that assessment, the future Conservation Agenda of the Commission and to cooperate in its preparation;

DECIDES to establish a Conservation Committee of the Commission, composed of all Contracting Parties, in conformity with Article III paragraph 4 of the Convention;

DECIDES to entrust the Conservation Committee with:

- (1) The preparation and recommendation to the Commission of its future Conservation Agenda, taking full account of this Resolution;
- (2) The implementation of those items in the Agenda that the Commission may refer to it and
- (3) Making recommendations to the Commission in order to maintain and update the Conservation Agenda on a continuing basis.

INSTRUCTS the Conservation Committee to meet before the Commission’s Annual Meeting in 2004, in order to organize its work, so that the Conservation Agenda can be considered for adoption by the Commission at that Annual Meeting.

DIRECTS the Conservation Committee to explore how the Commission can coordinate its conservation agenda through greater collaboration with a wider range of other organizations and conventions including *inter alia* CMS, CCAMLR, IMO, IUCN, and UNEP.

REQUESTS the Scientific Committee to advise the Conservation Committee in the performance of the tasks entrusted to it in this Resolution, and to ensure that the appropriate scientific research items, including *inter alia*, whalewatching, environmental issues and behavioural research, under the responsibility of the Scientific Committee, are incorporated in the Conservation Agenda.

REQUESTS the Conservation Committee to begin exploring the possible establishment, by the Commission, of an appropriate trust fund (including the identification of potential contributors), to make available the necessary financial resources to the Commission and, particularly, to the Contracting Governments committed to implementing specific items of the Conservation Agenda related to conservation-oriented research. To that end, the Committee shall give priority to the question of securing assistance for scientific research and capacity building for scientists and institutions from developing countries, and shall take advantage from the experiences obtained in other international environmental and conservation conventions and treaties, in the establishment of similarly-oriented international funds.

DIRECTS the Secretariat to prepare a report, to be considered by the Commission at its next annual meeting, on the implementation of Resolution 1998-6 regarding the establishment of a dedicated "Environment Research Fund" to facilitate research on environmental change and cetaceans, as well as on the results of the appeal it made in its Resolution 1999-5 "to the Contracting Governments, other governments, international organizations and other bodies to contribute financially an in kind" to research programs, and to include in that report a recommendation to the Commission, as to how that Fund could best be considered in the light of the possible establishment of the trust fund referred to in the previous paragraph.

(1) As can be appreciated in the "Compiled List of IWCA Conservation-Oriented Resolutions", attached hereto as Annex I.

(2) As can be appreciated in Annex II of this Resolution, entitled "IWC Conservation Work: An Annotated Compilation":

-Resolutions 1983/App.2; 1990/App.5 and 1998-8

-Resolutions 1980/App.8; 1983/App.4; 1984/App.2; 1990/App.3; 1991/App.5; 1992/App.9; 1993/App.4; 1994-2; 1995-4; 1996-4; 1997-8 and 2001-13

-Resolutions 1992/App.10; 1997-4 and 2001-4

-Resolutions 1993/App.9; 1994-14 and 1996-2

-Resolutions 1999-7 and 2000-2

-Resolutions 1993/App.12 and 13; 1994-13; 1995/10; 1997-7 and 1998-5

-Resolutions 1990/App.6 and 2001-9

-Resolutions 1979/App.3; 1992/App.4; 1993/App.6; 1994-3; 1995-8; 1998-3 and 2000-4

-Resolutions 1980/App.6 and 1981/App.6

-Resolutions 1985/App.2; 1986/App.2; 1987/Apps. 1 to 4; 1998/Apps. 1 to 3; 1989/App. 1 to 4; 1990/Apps. 1 and 2; 1991/Apps. 2 and 3; 1992/Apps. 5 and 6; 1993/Apps. 7 and 8; 1994-8 to 11; 1995-8 and 9; 1996-7; 1997-5 and 6; 1998-4; 1999-2 and 3; 2000-5 and 2001-7

-Resolutions 1978/App.D; 1980/App.5bis; 1998-8; 1999-6 and 2000/App.2

-Resolutions 1978-4/1980-11/1982-4/1991-6/1992-1/1993-1/1994-1/1995-App.1/1995-1/1995-2/1997-1/1999-1/2001-2

Annex I
Compiled List of IWC Conservation-Oriented Resolutions, 1976-2001

Note on Resolution numbering: The Commission did not implement a Resolution numbering system until 1994. Resolutions adopted prior to 1994 are referred to here by the year of adoption and the number of the Appendix to the report of the corresponding meeting in which they are printed.

IWC 28th Annual Meeting

- **1976:4.** Resolution on adherence to the convention.
- **1976:5.** Resolution on the prohibition of transfer of vessels, equipment and assistance
- **1976:6.** Resolution on bowhead whales and gray whales

IWC 29th Annual Meeting

- **1977:6.** Reporting requests for small-type whaling
- **1977:7** Prevention of importation of whale products.
- **1977:8** Prevention of transfer of whaling vessels etc.

IWC December 1978 Special Meeting

- **1978:D** Resolution to CITES
- **1978:E** Importation of whale products from non-IWC member countries.
- **1978:F** Transfer of whaling equipment and expertise, etc.

IWC 31st Annual Meeting

- **1979:2** Resolution to consider the implications for whales of management regimes for other marine resources.
- **1979:3** Resolution in relation to the establishment of a whale sanctuary in the Indian Ocean.
- **1979:9** Importation of Whale Products from, Export of Equipment to, and Prohibition of Whaling by Non-member Countries.

IWC 32nd Annual Meeting

- **1980:5** Resolution on cooperation and coordination between the International Whaling Commission and the proposed commission for the conservation of Antarctic Marine Living Resources.
- **1980:6** Resolution aimed at discouraging whaling operations outside IWC regulations.
- **1980:8** Resolution concerning extension of the commission's responsibility for small cetaceans.
- **1980:10** Resolution on preservation of the habitat of whales and the marine environment.

IWC 33rd Annual Meeting

- **1981:3** Resolution on Communication between the IWC and the Indian Ocean Coastal States.
- **1981:6** Resolution to implement recommendations of the Technical Committee Working Group on Non-IWC whaling.
- **1981:7** Resolution relating to pollutants in whales

IWC 35th Annual Meeting

- **1983:2** Resolution on the framework of a comprehensive assessment of whale stocks.

IWC 37th Annual Meeting

- **1985:2** Resolution on Scientific Permits

IWC 38th Annual Meeting

- **1986:2** Resolution on Special Permits for Scientific Research

IWC 39th Annual Meeting

- **1987:1** Resolution on Scientific Research Programmes
- **1987:2** Resolution on Republic of Korea's Proposal for Special Permits
- **1987:3** Resolution on the Icelandic Proposal for Scientific Catches
- **1987:4** Resolution on Japanese Proposal for Special Permits

IWC 40th Annual Meeting

- **1988:1** Resolution on Norwegian Proposal for Special Permits
- **1988:2** Resolution on the Icelandic Proposal for Scientific Catches
- **1988:3** Resolution on the Issuance of Special Permits for the Purposes of Scientific Research

IWC 41st Annual Meeting

- **1989:1** Resolution on the Icelandic Proposal for Scientific Catches
- **1989:2** Resolution on Norwegian Proposal for Special Permits
- **1989:3** Resolution on the Proposed Take by Japan of Whales in the Southern Hemisphere under Special Permit
- **1989:4** Recommendation on Scientific Coordination in the Indian Ocean

IWC 42nd Annual Meeting

- **1990:1** Resolution on Norwegian Proposal for Special Permits
- **1990:2** Resolution on Special Permit Catches by Japan in the Southern Hemisphere
- **1990:3** Resolution on Small Cetaceans
- **1990:4** Resolution on the Directed Take of Dall's Porpoises
- **1990:5** Resolution on Redirecting Research Towards Non-Lethal Methods
- **1990:6** Resolution in Support of the United Nations General Assembly Initiative Regarding Large-Scale Pelagic Driftnet Fishing and its Impact on the Living Marine Resources of the World's Oceans and Seas.

IWC 43rd Annual Meeting

- **1991:2** Resolution on Special Permit Catches by Japan in the Southern Hemisphere
- **1991:3** Resolution on USSR Proposal for Special Permit Catches in the North Pacific
- **1991:5** Resolution on Small Cetaceans

IWC 44th Annual Meeting

- **1992:2** Resolution on the Need for Research on the Environment and Whale Stocks in the Antarctic Region.
- **1992:4** Resolution on a Sanctuary in the Southern Hemisphere
- **1992:5** Resolution on Special Permit Catches by Japan in the Southern Hemisphere
- **1992:6** Resolution on Norwegian Proposal for Special Permits
- **1992:9** Resolution on Small Cetaceans
- **1992:10** Resolution on the Directed Take of Striped Dolphins in Drive Fisheries
- **1992:11** Resolution on the Directed Takes of White Whales and Narwhals

IWC 45th Annual Meeting

- **1993:4** Resolution on Addressing Small Cetaceans in the IWC
- **1993:5** Resolution on Research Related to Conservation of Large Baleen Whales in the Southern Oceans.
- **1993:6** Resolution on a Sanctuary in the Southern Ocean
- **1993:7** Resolution on Special Permit Catches by Japan in the Southern Hemisphere
- **1993:8** Resolution on Norwegian Proposal for Special Permits
- **1993:9** IWC Resolution on Whale-watching
- **1993:10** Resolution on the Directed Take of Striped Dolphins
- **1993:11** Resolution on Harbour Porpoise in the North Atlantic and the Baltic Sea
- **1993:12** Resolution on Research on the Environment and Whale Stocks
- **1993:13** Resolution on the Preservation of the Marine Environment
- **1993:18** Resolution on whaling by non-member states

IWC 46th Annual Meeting

- 1994:2 Resolution on Small Cetaceans
- 1994:3 Resolution on Biosphere Reserve of the Upper Gulf of California and the Colorado River Delta
- 1994:7 Resolution on International Trade in Whale Meat and Products
- 1994:8 Resolution on Scientific Permits
- 1994:9 Resolution on Special Permit Catches by Japan in the North Pacific
- 1994:10 Resolution on Special Permit Catches by Japan in the Southern Hemisphere
- 1994:11 Resolution on Special Permit Catches by Norway
- 1994:12 Resolution on promotion of Research Related to Conservation of Large Baleen Whales in the Southern Oceans
- 1994:13 Resolution on Research on the Environment and Whale Stocks
- 1994:14 Resolution on whalewatching

IWC 47th Annual Meeting

- 1995:6 Resolution on improving mechanisms to prevent illegal trade in whalemeat
- 1995:8 Resolution on whaling under special permit in sanctuaries
- 1995:9 Resolution on Whaling Under Special Permit
- 1995:10 Resolution on the environment and whale stocks

IWC 48th Annual Meeting

- 1996:2 Resolution on Whalewatching
- 1996:3 Resolution on Improving Mechanism to Restrict Trade and Prevent Illegal Trade in Whale Meat
- 1996:4 Resolution on Small Cetaceans
- 1996:7 Resolution on Special Permit Catches by Japan
- 1996:8 Resolution on Environmental Change and Cetaceans

IWC 49th Annual Meeting

- 1997:2 Resolution on Improved Monitoring of Whale Product Stockpiles
- 1997:4 Resolution on Cetacean Bycatch Reporting and Bycatch Reduction
- 1997:5 Resolution on Special Permit Catches in the Southern Ocean by Japan
- 1997:6 Resolution on Special Permit Catches in the North Pacific by Japan
- 1997:7 Resolution on Environmental Change and Cetaceans
- 1997:8 Resolution on Small Cetaceans

IWC 50th Annual Meeting

- 1998:2 Resolution on Total Catches over Time
- 1998:3 Resolution on the Southern Ocean Sanctuary
- 1998:4 Resolution on Whaling Under Special Permit
- 1998:5 Resolution on Environmental Changes and Cetaceans
- 1998:6 Resolution for the Funding of Work on Environmental Concerns
- 1998:7 Resolution on Coordinating and Planning for Environmental Research in the Antarctic
- 1998:8 Resolution on Cooperation Between the IWC and CITES
- 1998:9 Resolution on directed takes of white whales
- 1998:11 Resolution on IWC concern about human health effects from the consumption of cetaceans

IWC 51st Annual Meeting

- 1999:2 Resolution on Special Permits for Scientific Research
- 1999:3 Resolution on Whaling Under Special Permit
- 1999:4 Resolution on Health Effects from the Consumption of Cetaceans
- 1999:5 Resolution for the Funding of High Priority Scientific Research
- 1999:6 Resolution on Cooperation Between the IWC and CITES

- **1999:7** Resolution on Small Populations of Highly Endangered Whales
- **1999:8** Resolution on DNA Testing
- **1999:9** Resolution on Dall's porpoise

IWC 52nd Annual Meeting

- **2000:2** Resolution on Whaling of Highly Endangered Bowhead Whales in the Eastern Canadian Arctic.
- **2000:4** Resolution on whaling under Special Permit in the Southern Ocean Sanctuary
- **2000:5** Resolution on Whaling Under Special Permit in the North Pacific Ocean
- **2000:6** Resolution on Persistent Organic Pollutants and Heavy Metals
- **2000:7** Resolution on Environmental Change and Cetaceans
- **2000:8** Resolution on Western North Atlantic Right Whales
- **2000:9** Resolution on the Conservation of Freshwater Cetaceans
- Appendix 2 – Memorandum of Understanding Between the Secretariat of the International Whaling Commission (IWC Secretariat) and the Secretariat of the Convention on the Conservation of Migratory Species of Wild Animals (CMS) (UNEP/CMS Secretariat)

IWC 53rd Annual Meeting

- **2001:3** Resolution on Western North Pacific Gray Whale
- **2001:4** Resolution on the Incidental Capture of Cetaceans
- **2001:7** Resolution on Southern Hemisphere Minke Whales and Special Permit Whaling
- **2001:8** Resolution on Expansion of Jarpn II Whaling in North Pacific
- **2001:9** Proposed Resolution on Interactions Between Whales and Fish Stocks
- **2001:10** Resolution on the Stockholm Convention on Persistent Organic Pollutants
- **2001:11** Resolution on the Importance of Habitat Protection and Integrated Coastal Zone Management
- **2001:12** Resolution on Dall's Porpoise
- **2001:13** Resolution on Small Cetaceans

Annex II

IWC Conservation Work (An Annotated Compilation) (1976-2001)

INTRODUCTION: THE PROGRESSIVE DEVELOPMENT OF A CONSERVATION AGENDA IN THE INTERNATIONAL WHALING COMMISSION.

A primary objective of the International Convention for the Regulation of Whaling, as stated in its Preamble, is to conserve the great natural resources represented by the whale stocks for the benefit of all mankind and for future generations. Although in its first 25 years, the International Whaling Commission, the main organ of the Convention, remained a relatively exclusive forum of a few whaling nations, over the last 25 years the IWC has gradually expanded its membership and agenda, developing into a broad-based conservation organization whose focus now extends beyond the mere regulation of whaling, to address the multitude of threats that cetaceans face and will be facing to an increasing degree.

This broader focus is consistent with the original aims, purpose and mandate of the ICRW. To remain effective in a changing world, the IWC must continue to extend and update the scope of its activities, in order to address the most important and current conservation problems facing whales today and in the future.

The threats facing cetaceans in the 21st century can be expected to become more diverse and severe. The fishing effort is projected to continue to increase and to expand into previously unexploited areas, with a parallel increase in the numbers of cetaceans killed incidentally. The potential impacts on whales of the exploitation of other marine living resources are still poorly understood. High and increasing burdens of pollutants in many cetacean populations are a source of concern. Rapid changes to coastal habitat may threaten the populations of several cetacean species. Substantial fisheries for “small” cetaceans, unregulated by the IWC, exist in many areas. The rapid growth of high-speed shipping may pose a significant new threat to whale populations. The effects on cetaceans of impending climatic change and consequent changes to marine ecosystems, will need to be addressed.

The IWC has already moved some way along the path of expanding the scope of its activity, and enhancing its capacity to cope with the increasing extent and diversity of threats facing cetaceans.

It is particularly important for the IWC to develop its collaboration with other international agencies and with coastal states, to ensure that the conservation needs of cetaceans are not neglected in developments and decisions that affect the marine environment. The strong scientific profile of the Commission makes it well-placed to fulfill this role.

This background paper provides a summary of IWC decisions and actions in each of its main areas of activity, that indicate the progress made to date towards developing its new agenda, and provide a perspective for its future development.

The developing conservation inspired activities of the IWC are summarised under the following headings:

1. Scientific Research, including the development of non-lethal techniques
2. “Small” cetaceans
3. Incidental takes of cetaceans
4. Non-consumptive utilization of cetaceans
5. Highly endangered species and populations
6. Whales and their environment
7. Ecosystem approaches and interactions with other marine living resources
8. Sanctuaries
9. Enforcement and compliance with conservation measures
10. Management of “scientific whaling”
11. Collaboration with other organisations

1. SCIENTIFIC RESEARCH

A commitment to scientific research is enshrined in Article IV of the ICRW. In the first few decades of its existence, the IWC relied almost exclusively on data collected from whaling operations, and scientific activities of the IWC were limited to the application of traditional stock-assessment methods similar to those used in other fishery management bodies for the determination of whaling quotas.

Over time the scientific activities of the IWC and its Scientific Committee have developed substantially. Science is now a major emphasis of the IWC. Its Scientific Committee gathers unparalleled expertise in the science of cetacean conservation, management and population assessment. The agenda of the Scientific Committee is now longer limited to issues related to the regulation of whaling, but covers the spectrum of conservation issues facing cetaceans.

There follows a brief summary of the historical development of the IWC's current research agenda, and an outline of the new developments that are described further under the subsequent headings.

1. a) *International Decades of Cetacean Research*: The need for increased whale research was identified in the Declaration of the UN Conference on the Human Environment (Stockholm, 1972). In response, the IWC established the International Decade of Cetacean Research at its 24th Annual Meeting in 1972. The aim of the IDCR was to develop a research programme for whale stocks that would be largely independent of whaling operations.

The IDCR programme did not get underway until 1976, and its main project was the series of annual assessment cruises for baleen whales in the Antarctic, which were conducted each austral summer from 1978/9 to 1995/96. The second IDCR followed on the end of the first in 1985. The cruises initially involved whale marking exercises that only provide data on subsequent capture by whaling expeditions, but from 1984/85 onwards, exclusively non-lethal methods were used, primarily surveys based on visual sightings. Since 1996/97, the cruises have continued under the Southern Ocean Whales and Environment Research Programme, under which the focus has shifted, from pure population assessment to research aimed at identifying the relationship between the abundance of whales and factors in their environment.

1. b) *The Comprehensive Assessment*: Until the mid-1980's, the main work of the Scientific Committee had been to provide short-term management advice to the Commission, on the exploitation of the major harvested stocks of economic importance to the whaling industry. Given the limited data available, the urgent nature of the advice required, and the inevitably contentious nature of scientific advice with direct economic consequences, the Scientific Committee had little opportunity to develop a broader and longer-term approach to the scientific assessment of whale populations.

At its 34th Annual Meeting in 1982, the IWC adopted the cessation of commercial whaling from 1986 onwards, with the provision that a Comprehensive Assessment of the effects of this decision be conducted. Resolution **35:2**, adopted by the IWC in 1983, outlined a framework for the Comprehensive Assessment. The concept of the Comprehensive Assessment soon expanded beyond the assessment of the effects of the moratorium decision *per se*, to include an assessment of whale stocks in greater breadth and depth than had been possible, in the context of providing short-term management advice for whaling. A Special Meeting of the Scientific Committee held in April 1986, made recommendations for the scope and conduct of a Comprehensive Assessment, which were adopted by the Commission at its 38th Annual Meeting. The Comprehensive Assessment included the main elements:

- i) methodological: development and application of new methods, including those independent of whaling operations, to assess the status and trends of whale populations;
- ii) a series of in-depth assessments of the status and trends of major whale populations
- iii) review and evaluation of management objectives and procedures.

The main conclusions of the Comprehensive Assessment with respect to methodology were: The old whaling-based methods of assessment, such as Catch Per Unit Effort and Mark-Recapture methods, were of limited utility. Several existing and new non-lethal methods were found to have promise their development was given priority, including:

- Visual surveys
- Photo-identification of individual whales
- Telemetry
- DNA methods

These new non-lethal methods have now largely superseded the old whaling-based methods of study, although one member state continues to insist on the killing of whales for scientific purposes (see "Scientific whaling" below). Resolution **1990:5**, on redirecting research towards non-lethal methods, welcomes this development and calls on members to highlight their use of non-lethal methods in their research reports.

Comprehensive Assessments of major whale stocks were conducted over the subsequent years as follows:

- 1990: Eastern North Pacific Gray whales
Southern Hemisphere minke whales
Northern hemisphere minke whales
- 1991: Bowhead whales
North Atlantic fin whales
North Pacific minke whales
- 1995-6: North Pacific Brydes whales
- 1998: Right whales
- 2001-2: North Atlantic Humpback whales

The Comprehensive Assessment of Southern Hemisphere humpback whales, is currently in progress, but no date for completion has been set. A reassessment of Southern Hemisphere minke whales, prompted by the possibility of a serious decline since the last Comprehensive Assessment in 1990, is expected to be completed in 2003.

Also included in the Comprehensive Assessment was the development of a Revised Management Procedure (RMP) which was approved by the Commission in Resolution **44:3**, adopted in 1992, as one element of a Revised Management Scheme (RMS). The RMS is aimed at providing a comprehensive and secure basis for the regulation of commercial exploitation of baleen whales, to guarantee protection from overexploitation in the shorter and longer term. The contents of the RMS have been further clarified in subsequent Resolutions (1994:5; 1996:6; 1998:2 and 2000:3). Most elements are now agreed, and it is anticipated that when the process is complete, the IWC will be able to shift its focus of attention to more forward-looking tasks than the regulation of a legacy industry.

The other main developments in the IWC's scientific agenda, include:

1. c) *Range of species covered:* While the IWC previously focussed only on species of direct economic importance for whaling, its coverage now extends to all species for which conservation action is needed or may become so in the future, including species which are too small for too fare to be a target of industrial whaling (see "Small cetaceans" and Highly endangered species" below).

1. d) *Geographical scope:* While the IWC previously concerned itself mainly with high-latitude regions, where the commercially significant concentrations of large whales have traditionally been exploited, recent years have seen a growth in research in sub-tropical and tropical waters, including the waters of developing coastal states and the adjacent ocean areas.

1. e) *Range of threats addressed:* Previously the IWC only considered the effects of whaling on whale populations, which was reasonable in the past when this was by far the greatest threat to whales. Over the years, the agenda has expanded to include: incidental catches; pollutants and contaminants; effects of exploitation of other species on which whales depend; effects of environmental change including climate change; habitat alteration and degradation; noise pollution;

1. f) *Research collaboration:* While the IWC's scientific work was earlier on a stand-alone basis, the expanded agenda has shifted the emphasis towards multi-disciplinary collaborative research with coastal states and other international organizations, because the issues and threats are increasingly of a nature that the IWC cannot address on its own.

1. g) *Other new issues* on the scientific agenda include:

- Scientific aspects of the management of non-consumptive utilization, including whale watching;
- Scientific aspects of enforcement and verification methods, such as DNA testing of market products;
- Issues associated with the human health risks of contaminated cetacean products.

1. h) Associated with the development of the scientific agenda, has been an expansion of the range of scientific disciplines that the IWC must call upon to address the questions before it, and an expansion of the range of countries from which experts with knowledge of the local cetacean fauna are required, particularly developing countries. This has highlighted the need to develop means to provide the required assistance for scientific research and capacity building, including financial assistance and other measures to enable scientists and other experts from developing countries to participate in the work of the Commission and its Scientific Committee.

2. “SMALL” CETACEANS:

2. a) In its first 30 years of existence, the IWC concerned itself almost exclusively with the species of large whale of most interest to industrial whaling, in particular sperm whales and the larger baleen whales. Over the years, the range of species which the Commission has shown an interest in has been gradually extended as outlined chronologically here:

1974: First meeting of the IWC Scientific Subcommittee on “Small Cetaceans”

1975: Establishment of the Standing Scientific Subcommittee on Small cetaceans. It recommended to the Commission that members report statistics on all direct and accidental takes of small cetaceans to the Commission. Specific management recommendations were provided on spotted dolphins, Dall’s porpoise, harbour porpoise and Indus river dolphins.

1976: Adoption of an agreed list of small cetacean species, including 64 species of smaller odontocetes and 2 species of smaller baleen whales (*RIWC* 27:30-31).

Resolution **1977:6** on reporting requirements for ‘small-type’ whaling, called on member Governments to submit statistics on all direct and incidental catches of small cetaceans. These are published by the IWC from 1979 onwards.

The northern bottlenose whale was included into the IWC Schedule as a Protected Stock (*RIWC* 28:35).

Resolution **1980:8** on the extension of the Commission’s responsibility for small cetaceans, directed the Scientific Committee to continue to provide scientific advice on small cetacean stocks to member Governments, coastal States, and other interested governments and inter-governmental organizations.

2. b) During the 1980’s, the Scientific Committee conducted an in-depth assessment of major exploited small cetacean species, on a rotating basis as follows:

- 1981: White whales, narwhal, killer whales, pilot whales;
- 1982: Black Sea dolphins; Eastern Tropical Pacific spotted and spinner dolphins (*Stenella* spp.) and striped dolphins (*Stenella coeruleoalba*) in the Western North Pacific;
- 1983: Porpoises: harbour porpoise, vaquita and Dall’s porpoise ;
- 1984: Cephalorhyncus spp.: Hector’s dolphin (New Zealand), Heaviside’s dolphin (Southern Africa), black dolphin (Chile) and Commerson’s dolphin (Chile, Argentina, Kerguelen)
- 1985: Baird’s beaked whale;
- 1986-7: Pilot whales in the North Pacific and in the North Atlantic;
- 1988: All beaked whales;
- 1989: All pilot whales;
- 1990: Porpoises: harbour porpoise, Dall’s porpoise, vaquita and spectacled porpoise;

2. c) During the 1990’s:

Resolution **1990:3** on small cetaceans. The Commission directed the Scientific Committee to prepare a comprehensive report on all stocks of small cetaceans subject to direct and incidental takes, and agreed to present a report of this work to UNCED (Rio 1992).

Resolution **1990:4** called on Japan to reduce its kill of Dall’s porpoise as recommended by scientific advice.

Resolution 1991:5 on small cetaceans endorsed the Scientific Committee's report for UNCED and duly forwarded it. The report is published in *R/WC* Special Issue 15:73-130, and includes a revised list of 66 'small cetacean' species recognized by the Committee.

In **Agenda 21**, adopted in 1992 at UNCED, States agreed to recognize the work of the IWC Scientific Committee on all cetaceans (chapter 17.94).

Resolution **1992:9** on small cetaceans, noting the decisions taken by UNCED: called on States with small cetacean populations subject to anthropogenic threats, to seek advice from the IWC; invited other relevant organizations, including ICES and agreements concluded under CMS, to exchange information with the IWC; invited member Governments to provide assistance to States with endangered small cetacean stocks; and instructed the Scientific Committee to continue its work on assessing threats to small cetacean populations.

In view of the long-standing dispute over the extent of the IWC's competence for the management of small cetaceans, the Commission agreed to establish a working group to consider a mechanism to address small cetaceans in the IWC (*R/WC* 43:50).

Resolution **1992:10**, on the directed take of striped dolphins in drive fisheries, called on Japan to address the problem.

Resolution **1992:11** on directed takes of white whales and narwhals, called on States with white whales and narwhals in their waters to take appropriate conservation measures.

Resolution **1993:4** on addressing small cetaceans in the IWC, adopted by consensus, identified a need to improve mechanisms for handling small cetaceans in the IWC, including mechanisms to: ensure participation of coastal states, including non-members, in small cetacean research; improve availability and quality of data on small cetaceans; secure funding coastal State participation in small cetacean issues; develop the relationship between the IWC and regional organizations with respect to small cetaceans.

Resolution **1993:10** on the directed take of striped dolphins, again urged Japan to take appropriate action to conserve striped dolphins subject to its drive fishery.

Resolution **1993:11** on harbour porpoises in the North Atlantic and Baltic Sea, called on the range States to meet the Scientific Committee's request for more data on population, abundance, incidental catches, and pollutant levels in harbour porpoises, to take steps to reduce incidental catches, and to report on progress the following year. It also agreed on co-operation with the new Agreement on Small Cetaceans in the North and Baltic Seas (ASCOBANS) established under CMS.

Resolution **1994:2** adopted by consensus: specified efforts to be made to improve collaboration with coastal States on small cetacean issues; established a voluntary fund for the participation of scientists from developing countries in small cetacean work; and agreed to co-operate with UNEP and organizations established under the auspices of CMS.

Resolution **1994:3** on the Biosphere Reserve of the Upper Gulf of California and the Colorado River Delta, commended Mexico on its efforts to protect the vaquita and invited other members to provide assistance.

Resolution **1996:4** reminded members of the previous Resolutions on small cetaceans, and invited member Governments to report on progress with the previous recommendations.

Resolution **1997:8** called for the work of the Scientific Committee on small cetaceans to be continued and for members to co-operate with it.

Resolution **1998:9** on white whales, called on States with beluga populations to collaborate in the Scientific Committee's assessment of beluga.

Resolution **1999:9** on Dall's porpoises, instructed the Scientific Committee to conduct an assessment of Dall's porpoises in 2001, and invited Japan to submit information.

2. d) A Memorandum of Understanding was signed in 1999 with UNEP/CMS to ensure ongoing co-operation between the UNEP/CMS and IWC Secretariats with respect to cetaceans.

2. e) In the 2000's:

Resolution **2000:9** on freshwater cetaceans, called on States with freshwater cetaceans to collect and supply information and to ensure that conservation needs of freshwater cetaceans are taken into account in river development plans.

Japan indicated in 2000 that it would cease scientific collaboration on small cetaceans, if the Commission pursues its plan to conduct an assessment of Dall's porpoise in 2001. As from the 2001 Annual Meeting, Japan withdrew its participation in Scientific Committee work on small cetaceans, and declined to supply any data on Dall's porpoise.

Resolution **2001:12** on Dall's porpoise, called for the Scientific Committee to conduct a full assessment of Dall's porpoise and for Japan to supply the required information.

Resolution **2001:13** called on members to respond to Scientific Committee recommendations on small cetaceans and for the Committee to regularly review the implementation of its recommendations. It further encouraged members to provide technical, scientific and financial support to range States to assist their small cetacean conservation measures.

2. f) During the 1990's and beyond, the Scientific Committee continued its assessments of small cetaceans on a rotating basis, as follows:

- 1992: White whales and narwhals; species taken in Japanese drive fisheries;
- 1993: Small cetaceans in Southeast Asia;
- 1994: Small cetaceans in Latin America;
- 1995: Harbour porpoises in the North Atlantic and Baltic Sea;
- 1996: *Lagenorhynchus* spp;
- 1997: Small cetaceans in coastal waters of Africa and striped dolphins throughout the world;
- 1998: Small cetaceans in the Indian Ocean, Red Sea, and coastal waters of the Arabian peninsula;
- 1999: Bycatch mitigation, acoustic devices; white whales and narwhals;
- 2000: Freshwater cetaceans;
- 2001: Dall's porpoise and
- 2002: Humpback dolphins (*Sousa* spp.);

2. g) Special Issues of the IWC Report on small cetaceans have been published as follows:

- 1988: The genus *Cephalorhynchus*;
- 1993: Pilot whales (N. Hemisphere only) and
- 1995: Phocoenids (porpoises).

2. h) Although the issue of its competence to manage small cetaceans has long been a source of contention within the Commission, the attitude of members is gradually changing. Several members who had previously had reservations about the IWC's competence for small cetaceans, have since changed their views.

2. i) Implications for the IWC of small cetacean work: Despite differing views on its competence to manage smaller cetacean species, the scope of the IWC's work has gradually extended over the last 25 years beyond the species of traditional interest to the whaling industry (the large baleen and sperm whales), to cover the full range of cetacean species. This has brought the following shifts of emphasis:

- (1) A shift away from a concentration only for whales in the traditional high-latitude whaling grounds, of interest to relatively few countries, to also include species and populations in temperate and tropical waters, including in particular the coastal waters of many more countries, and of developing countries in particular;

(2) A shift away from concern exclusively with direct exploitation, towards addressing the panoply of threats, including accidental entanglement in fishing nets, habitat degradation and exclusion, and so on, that face cetaceans, especially smaller ones.

2. j) For this expansion in scope to be effective, it will be necessary to involve many more coastal States in the work of the IWC, preferably as full members. The need to improve the participation of coastal States, particularly developing countries, in the work of the Commission and its Scientific Committee, has been recognized in several IWC resolutions, including the need for financial assistance.

2. k) The discussions on the competence issue, have revealed that a distinction between cetacean species purely on the basis of body size is no longer the most useful distinction with respect to conservation and management issues. Rather than distinguishing between 'small' and 'large' cetaceans, the IWC should bring its classification into line with UNCLOS and distinguish between (a) highly migratory species of cetacean; and (b) other species. The highly migratory species include those listed in Annex A of UNCLOS, plus any other species subsequently confirmed to be highly migratory.

2. l) While the IWC remains the primary organization for the management and conservation of the highly migratory species, which Article 68 of UNCLOS requires States to co-operate with, primary responsibility for the remaining species rests with coastal States and regional organizations (such as those established under CMS). The IWC's main role here is to contribute in the form of scientific assessments and advice, assistance with the co-ordination of scientific research, and the building of scientific capacity.

3. INCIDENTAL TAKES OF CETACEANS:

3. a) In the past, the main catches of cetaceans were direct catches by whaling vessels. Today, more cetaceans are killed incidentally in nets than are captured deliberately. In 2000, approximately 2000 cetaceans were reported killed incidentally and approximately 2000 deliberately, but the true number killed incidentally is believed to be much higher (*JCRM* 4 (Suppl.):387-390, 2002).

3. b) The Scientific Committee originally recommended, in 1975, that data on incidental as well as deliberate catches of all cetaceans be submitted to the Commission. This was agreed by the Commission in Resolution **1977:6**. Statistics on incidental catches have been published in the Scientific Committee report since 1980. Although the number of countries supplying information has increased over the years from 4 in 1979 to 19 in 2000, the information is still very incomplete.

3. c) Resolution **1990:6** supported the UN General Assembly initiative to tackle the problem of large-scale pelagic driftnet fishing, and in October 1990 the Scientific Committee held a workshop on the mortality of cetaceans in fishing nets and traps (*RIWC* Special Issue 15:1-71, 1994). The workshop concluded that incidental takes were unsustainable for the highly endangered species vaquita and baiji, and that these face extinction if takes are not eliminated. In addition, incidental takes were estimated to be unsustainable for several other populations, including:

- Hump-backed and bottlenose dolphins on the coast of Natal, South Africa;
- Striped dolphins in the Mediterranean and
- Harbour porpoises in the western North Atlantic.

3. d) Cases where the level of take was unknown but believed likely to be unsustainable included:

- Dusky dolphins in the eastern South Pacific;
- Northern right whale dolphins in the central North Pacific and
- Sperm whales in the Mediterranean sea.

Levels of incidental takes in many other areas were unknown but considered to be significant.

3. e) Partly based on the findings of the IWC workshop, the UN General Assembly adopted Resolution 46/215 in December 1991, which called for a moratorium on pelagic driftnet fishing by the end of 1992.

3. f) In 1991, the Scientific Committee prepared a comprehensive global report on all small cetacean populations subject to incidental takes, that was submitted by the Commission in 1992 to UNCED (*RIWC* Special Issue 15: 76-130). This contributed to UNCED's recognition of the IWC's role with respect to all cetaceans.

3. g) Following Resolution **1993:11** on harbour porpoises, the Scientific Committee conducted extensive studies during 1994-97 on the assessment of incidental catches of harbour porpoises, the effects on the populations, and means of

mitigation. From 1998 onwards, this work was continued by a joint working group of the IWC and ASCOBANS.

3. h) Resolution **1997:4** on cetacean bycatch reporting and bycatch reduction, drew attention to the fact that many members are not fulfilling their obligation to report incidental catches, and called upon them to do so from 1998 onwards. However, the Scientific Committee in 1999 re-iterated its concern that incidental catch figures were still not being submitted from many parts of the world, and called for this deficiency to be remedied (*JCRM 2 (Suppl):50*).

3. i) Resolution **1998:2** on total catches over time specified, for the first time, that incidental catches, along with collisions with ships and other sources of human-induced mortality, should be considered on a par with deliberate catches, and should be counted towards total allowable removals.

3. j) The Scientific Committee, in 1999, held a special session on acoustic mitigation measures to reduce by-catches ('pingers' that warn cetaceans of the presence of nets). While this method appeared promising in some trials, more studies were identified that needed to be conducted, to determine how effective they would be in practice. It was concluded that acoustic warning devices would not be a sufficient remedy for the problem of bycatch of the endangered vaquita. A further workshop held in 2000, examined other methods of bycatch mitigation.

3. k) From 2001 onwards, the Scientific Committee has maintained a regular subcommittee on "Bycatch and other Human-Induced Mortality" that meets annually. So far its main task has been to develop methods for improving estimation of the actual amounts of such mortality occurring.

3. l) Resolution **2000:8** on Western North Atlantic Right Whales, and Resolution **2000:9** on freshwater cetaceans, recognized incidental catch as one of the main factors leading to the predicted extinction of Northwest Atlantic right whales and the baiji respectively.

3. m) Resolution **2001:4** on the incidental capture of cetaceans, noted that incidental catch is also a major concern of other organizations, including organizations under CMS, and supports the Scientific Committee's work on the issue. It further recommended that entangled whales be released alive where possible, but where this is not possible, they should only be used commercially when a DNA sample is submitted to the appropriate register and the bycatch counts towards any catch limit that might be in force. The aim is not to prevent utilization of animals that are already dead, but to help ensure that "bycatches" do not develop into a form of exploitation outside IWC regulation.

3. n) Implications for the IWC of work on incidental takes: Although the issue of incidental takes has been considered by the IWC for over 20 years, it took some time before for incidental takes to be considered on a par with direct takes and in equal need of management. Incidental takes occur in a broader range of countries, regions and fisheries than direct takes, and hence their management will involve a substantial expansion of the IWC's focus. Management of incidental takes will also require more extensive collaboration with other bodies, including coastal States, regional fishery organizations, regional conservation agreements, and global bodies including FAO, UNEP and CMS. The major scientific, technical and legal challenges include:

- Improving methods of monitoring incidental takes;
- Developing technical methods to reduce incidental takes and
- Developing and implementing regulatory measures.

4. NON-CONSUMPTIVE UTILIZATION OF CETACEANS:

4. a) The International Whaling Commission has addressed the subject of whale watching since 1975. As the only global body responsible for the conservation of whales, the IWC has provided a focus for all aspects of the discussion regarding whale watching, including the scientific, legal, socio-economic and educational aspects. The IWC has provided the function of a clearinghouse for the collation, analysis and dissemination of information on whale watching to both member and non-member Governments.

The IWC has performed a critical function of providing a framework to help coastal States draft regulations and guidelines and peer review of the scientific aspects of issues arising from whale watching. This has contributed to the overall sustainability of whale watching and ensuring that the economic and educational benefits are capitalized upon.

4. b) 1975: Concerns were expressed within the IWC Scientific Committee, that excursion boats entering Scammon and other breeding lagoons in Mexico, which had started in 1970, might be detrimental to the whales.

4. c) 1976: IWC Scientific Committee asked the Commission to request the US and Mexican Governments to "...establish regulations to reduce harassment of (gray) whales in all their breeding areas". The Commission responded by adopting a

Resolution, proposed by Denmark, that noted the Committee's recommendation and that "the gray whales are generally protected", and recommended "... that contracting governments establish such regulations as soon as possible."

4. d) 1982: The USA proposed at the IWC that there should be a special meeting in the Spring of 1983, "to address the non-consumptive utilization of cetacean resources, giving consideration to research, recreation, education and cultural aspects." The IWC agreed to co-sponsor such a meeting.

4. e) 1983: The first whale watching conference, "Whales Alive", was held in Boston, with the participation of the IWC Secretary as an Observer.

4. f) 1984: The outcome of the conference was considered by the IWC, including that the new issue of non-consumptive use should be considered by the IWC.

4. g) Resolution 1993:9: First whale watching resolution adopted by IWC in 1993, establishing a Working Group on Whale Watching to meet prior to the 1994 IWC and, *inter alia*, "assemble and summarise information about whale watching from both party and non-party states".

4. h) 1994: Whale watching working group meets just prior to the IWC, under the chairmanship of F. von der Assen (Netherlands). The main document under consideration was the report prepared by the Secretary on the basis of overviews provided by 11 member Governments, namely: Argentina, Chile, France, Ireland, Mexico, New Zealand, Oman, Spain, Sweden, UK (including British Virgin Islands and Caicos Islands), and the USA. There were in addition late papers from Japan, Brazil, Australia and Norway.

4. i) Resolution 1994:14: Resolution on whale watching adopted which, *inter alia*, requests the submission of information by Contracting Parties on whale watching, requests advice from the Scientific Committee in setting guidelines, and requests the IWC to keep under review all aspects relating to whale watching

4. j) 1995–Present: The IWC Scientific Committee has addressed a large variety of scientific issues concerning whale watching. A standing whale watching Sub-Committee of the Scientific Committee was set up in 1998 from the Working Group set up in 1995. Matters addressed include:

- Identifying and assessing the possible effects of whale watching operations on cetaceans/whales;
- Examining current status of methods of assessment of impacts, including assessment of behavioural change;
- Providing advice on the management of future whale watching based on assessment of impacts;
- Reviewing information on noise production from vessels and aircraft and its effects on cetaceans;
- To draw up a set of guidelines to assist coastal states in the management of whale watching, based on the experience of member countries;
- Considering the assessment of possible short and long term effects of whale watching, and some special situations such as "swim-with" programmes and dolphin feeding programmes;
- Utilizing the opportunities for scientific research conducted from whale watching boats and
- Research on the effectiveness of, and compliance with, management measures.

4. k) Resolution 1996:2: IWC Resolution adopted which, *inter alia*, committed the Commission to discuss educational, economic and social aspects of whale watching at its Annual Meeting in 1997.

4. l) 1997: IWC considers the educational aspects of whale watching. The USA submitted information indicating the potential educational opportunities that are available through whale watching operations, and how to make best use of these opportunities.

4. m) 1998: IWC considers the socio-economic aspects of whale watching, indicating that:

- It offers new development opportunities for coastal communities;
- It can provide substantial economic benefits;
- It is a sustainable, non-consumptive use of cetaceans offering opportunities for non-lethal research and
- It offers opportunities for education and for development of research methods.

4. n) 1999: IWC considers the legal aspects of whale watching, including a compilation of existing and “model” legislation and guidelines from around the world.

4. ñ) 2000: IWC Considers the increasing value of whale watching to small island developing States, and endorses the continuing work of the Scientific Committee. The Scientific Committee held a special two day workshop on assessing the long-term effects of whale watching on cetaceans.

4. o) 2001: IWC continues the discussion regarding the value of whale watching as non-consumptive sustainable use of whales. New Zealand indicated that whale watching is a global industry worth more than 1 billion dollars per annum.

4. p) 2002: The Scientific Committee continued to address research from whale watch operations; the effects of noise on whales and the effectiveness and compliance with national whale watching guidelines and regulations.

4. q) Implications for the IWC of work of non-consumptive utilization:

When at the 1982 Annual Meeting the USA first proposed that the IWC consider the general issue of whale watching, the matter was dismissed by one Commissioner of a leading whaling nation as “trivial”. Since that time, whale watching has overtaken whaling as the economically, most significant form of utilization of whale resources on a global level, with an estimated worth of more than \$1,000m per annum. Given appropriate management, it has good prospects for being sustainable in the long term.

4. r) The transition from whaling to whale watching as the prevalent form of economic utilization of whales, impacts the IWC’s priorities in several ways. In particular, whale watching industries occur in a much wider range of countries (87 States and territories at the last count) than whaling.

4. s) The development of non-consumptive use is a key plank in the national policies of many IWC members with respect to whales, including Brazil, Mexico, South Africa and Australia, to name just a few.

5. HIGHLY ENDANGERED SPECIES AND POPULATIONS:

5. a) In the past, the IWC concerned itself almost exclusively with species and populations of whales that were still abundant enough to be commercially interesting. One species of whale after another was depleted to the point at which it needed complete protection. For example, in the Southern Hemisphere, blue and humpback whales were protected from 1965 onwards, fin whales from 1976 and sei whales from 1979. Right and gray whales had already been seriously depleted before the IWC came into existence: some populations have since recovered, others not. Once protected, previously exploited species tended to be forgotten, as attention turned to currently exploited species.

5. b) In recent years, the IWC has become increasingly conscious of its duty of care towards species and populations that have been seriously depleted by past whaling, and the need to ensure that they are closely monitored and protected from threats that could jeopardize their recovery:

The issue became especially topical in 1993, following revelations that large illegal catches by the former Soviet Union had caused some species to be even more severely depleted than had been previously realised. The following actions were taken:

Resolution **1993:5** recognized the importance of taking appropriate conservation measures for assisting the recovery of severely depleted populations, and adopts a proposal to develop a research programme for Southern Hemisphere blue whales.

Resolution **1994:12** welcomed the work by the Scientific Committee in preparing for such research and invites a full proposal to be submitted the following year.

Recognizing that visual surveys of whales as rare and scattered as blue whales in the Southern Hemisphere are not very practical, the Scientific Committee decided to focus on two items: (i) development of acoustic methods to

detect blue whales; and (ii) develop means to distinguish the two types of blue whales (true and pygmy blue whales) at sea. The Commission approved the proposal in 1995.

The priorities of the IWC's Comprehensive Assessment programme have also been modified to shift the emphasis from commercially important species to highly endangered species that require conservation attention. Accordingly, a global Comprehensive Assessment of right whales was conducted by the Scientific Committee in 1998, and a special assessment of the highly endangered North Atlantic right whale was conducted in 1999. The assessments are published in Special Issue 2 of the IWC's new journal, *Journal of Conservation Research and Management* (2001).

Resolution **1999:7** on "Small Populations of Highly Endangered Whales" identified the following small populations that remain highly endangered from previous over-exploitation:

- Bowhead whales in the Okhotsk Sea, Spitsbergen and the eastern Canadian Arctic;
- Gray whales in the western North Pacific and Okhotsk Sea;
- Right whales throughout the Northern Hemisphere;
- Various blue whales populations in both hemispheres;

The Resolution welcomed the Scientific Committee's decision to give more priority to these populations, and calls on all members and non-members to avoid all takes of these species.

Resolution **2000:2** on the highly endangered bowhead whales in the eastern Canadian Arctic, calls for the hunting of these whales to be ended and urges Canada to rejoin the IWC.

Resolution **2000:8** on the western North Atlantic right whales, noted that this highly endangered population numbers less than 300 and is declining, and identifies entanglement in fishing gear and collisions with shipping as the two main causes of deaths of these right whales. It called for continued work to help ships avoid right whales and for co-operation with the International Maritime Organisation (IMO).

In 2001 the Scientific Committee expressed its serious concerns about the status of the western North Pacific gray whale, including the risk of disturbance from oil seismic exploration in their feeding grounds. Resolution **2001:3** on western North Pacific gray whales adopted by the Commission, notes the critical status of the population and calls for all disturbances to be minimized and for the studies of the population to continue. The Scientific Committee held a special workshop on the western North Pacific gray whale in October 2002, but no report is available yet.

5. c) Implications for the IWC of focus on highly endangered populations of whales: The scientific and management priorities of the IWC have begun to shift in recent years, from whale species and populations of commercial importance for potential exploitation, to the rarer and more endangered species whose conservation needs are greatest.

Since the main threats to these species are in most cases not direct takes, this change involves a shift in focus towards the kinds of conservation threats most critical for the highly endangered species, including entanglement in fishing gear and collisions with ships, plus possible food shortages, reproductive failure, and other dangers. Research methods will also need to be adapted accordingly, to cover small and sparse populations.

6. WHALES AND THEIR ENVIRONMENT:

6. a) When the ICRW was concluded in 1946, few of those involved suspected that protection of whales' habitat and environment would eventually become the greatest challenge in conserving whale populations for future generations.

6. b) Following the first UN Conference on the Human Environment in 1972, a regular item ("Effect of pollution on whale stocks, including small cetaceans") was placed on the agenda of the Scientific Committee, but action was initially limited to noting the information received.

6. c) In response to the Scientific Committee's concern about the lack of information, Resolution **1980:10** on the preservation of habitat of whales and the marine environment, notes the issue in general terms and calls upon governments to submit reports on environmental threats to whales as they become aware of them, and on remedial measures taken. The IWC then proceeded as follows:

Resolution **1981:7** on pollutants in whales repeated the call for information, mentioning explicitly the increasing levels of heavy metals, organochlorines and PCBs in whales, especially sperm whales, and the effects of shipping and offshore mining and drilling activities.

In 1982, Denmark tried to get the IWC to take action on the matter of icebreakers and the opening of regular shipping lanes in ice-covered areas, because of the threat to cetaceans from sonic pollution, but at the time IWC members were reluctant to accept Commission competence for such matters

From 1977, the Committee recommended that tissue samples be collected from all stranded cetaceans for pollutant analysis.

In 1979, the Committee reviewed the possible effects on cetaceans, especially bowhead whales, beluga and narwhal, of industrial developments in the North American Arctic. Concern was expressed that pollution could be the cause of the decline in the harbour porpoise in the Baltic and North Seas.

In 1981 the Scientific Committee again recommended that regular sampling for pollutants of stranded and other animals be conducted, especially for toothed whales, and that the IWC co-operate with ICES and IOC in this.

Over the next few years, sampling for pollutants was undertaken in many coastal States, and gradually the level of information improved, but little further collective action was taken by the Commission, until the 1992 UNCED Earth Summit put environmental issues back into to the centre of the global agenda with the adoption of Agenda 21.

Resolution **1992:2** on the need for research on the environment and whale stocks in the Antarctic region, noted the adoption of the precautionary approach by UNCED with respect to environmental threats, and established the impact of environmental changes on whale stocks as a regular item on the agenda of the Scientific Committee. It directed the Scientific Committee to collaborate with CCAMLR and SCAR, to research the probable effect of global environmental change on whales in the Antarctic region.

Resolution **1993:12** on research on the environment and whale stocks, extended this mandate to cover environmental issues through the world's seas, and directed the Committee to convene a special workshop on the effects of global change on cetaceans before the 1996 meeting. Resolution **1993:13** on the preservation of the marine environment contained a further statement of policy, but did not identify specific action.

The Scientific Committee noted that work on environmental issues required expansion of the range of expertise available to it, and also the need to collaborate with other organizations, including WMO, IOC, ICES and UNEP. Given the enormity of the topic, the Committee decided to split it into several main areas:

- (a) Climate change;
- (b) Chemical pollution (contaminants);
- (c) Direct (e.g. bycatch) and indirect (e.g. competition for food) effects of fisheries on cetaceans and
- (d) Noise and other disturbance by human activities.

Resolution **1994:13** on research on the environment and whale stocks, endorsed the plans of the Scientific Committee and called on Governments to co-operate by providing information and appropriate experts.

The workshop on Chemical Pollutants and Cetaceans was held in March 1995, with the financial support of Norway and the Environmental Investigation Agency (EIA). The workshop recommended that systematic sampling programmes for chemical pollutants in cetaceans be established, and that comparative studies of more and less polluted cetacean populations be conducted, with a view to determining cause/effect relationships.

Resolution **1995:10** on the environment and whale stocks, endorsed the scientific recommendations and directed the Secretary to consult with members to facilitate the execution of the proposed research and sampling.

The Workshop on Climate Change and Cetaceans held in March 1996 in Hawaii, considered the possible effect of the various climate change scenarios on cetaceans, and how this could be assessed. Three main areas of work were recommended:

- (i) Collaboration with other organizations, especially CCAMLR and South Ocean GLOBEC on ecological research, to examine the relationship between cetacean distribution and changes in prey distribution;
- (ii) Investigation of the influence of climatic and other environmental factors on whale population dynamics for all populations with available data and
- (iii) Special attention to possible effects of climate change on Arctic cetaceans given the predicted loss of sea ice.

The Scientific Committee established the Southern Ocean Whale and Environment Research Programme (SOWER), as the successor to the earlier IDCR series of research cruises, to reflect the change in emphasis away from the assessment of whale populations for commercial purposes, towards the understanding of the relationship of whales with their environment.

Resolution **1996:8** on environmental change and cetaceans, endorsed the establishment by the Scientific Committee of a Standing Working Group on Environmental Concerns, and instructed them to continue to address the main areas of concern on an ongoing basis:

- (i) Development of methods to predict effects of climate change on cetaceans;
- (ii) Sampling of contaminant burdens in cetacea and development of cause-effect (dose-response) relationships;
- (iii) Impact of noise;
- (iv) Effects of habitat degradation on cetaceans and
- (v) Direct and indirect effects of fisheries.

The Resolution further instructed the Committee to collaborate with other organizations, particularly SCAR, CCAMLR, GLOBEC, IPCC and IOC, noting that few of the issues can be tackled by the IWC alone.

Resolution **1997:7** on environmental change and cetaceans, endorsed two major research programmes involving two long-term collaborative multi-disciplinary multinational research programmes, developed by the Scientific Committee, one on contaminants in whales, which became the Pollution 2000+ project, and one, in collaboration with CCAMLR and SO-GLOBEC, on field research in the Southern Ocean, to understand the relationship between whales and food supply, that could be affected by environmental change, the main item of which became the SOWER 2000 project. Workshops to plan the research activities for each of these two programmes, were held in March 1999. The Scientific Committee identified in 1998 two further priority areas for research:

- (i) Effect on cetaceans of habitat degradation and
- (ii) Effects of environmental change on Arctic cetaceans.

Resolution **1998:5** endorsed the Committee choice of projects and priority areas and directed the Committee to:

- (i) Give high priority to implementation of the proposed research on environmental factors, and to continue to produce costed scientific proposal for non-lethal research, to identify and evaluate the effects of environmental change on cetaceans in all priority areas;
- (ii) Ensure the participation of experts with the necessary expertise in environmental change and
- (iii) Include, in its ongoing programme of Comprehensive Assessments of whale stocks, an assessment of the impacts of environmental change, and other non-whaling human influences, on the dynamics of cetacean populations.

The Resolution also established 'Environmental Concerns' as a regular item on the Commission's agenda.

Resolution **1998:7** on coordinating and planning for environmental research in the Antarctic, urged members with Antarctic whale research programmes, to co-operate towards realizing the field research activities envisaged in the Scientific Committee's project on whales and their environment in the Southern Ocean.

Resolution **1998:6** on the funding of work on environmental concerns, agreed in principle to the use of the Commission's reserves to fund this work, and Resolution **1999:5** on the funding of high priority scientific research, explicitly authorized the use of these funds.

Resolution **1998:11** about human health effects of the consumption of cetaceans, noted the mandate of the Convention that the Commission shall take "into consideration the interests of the consumers of whale products", and for the first time addressed in the IWC context the issue of the health implications of the consumption of certain cetacean products, in the light of current knowledge of the levels of chemical contaminants in cetaceans. It called for collaboration between the IWC and WHO on this issue.

Resolution **1999:4** on the same topic took the health issue further, by agreeing to keep the matter under regular review, and directed the Scientific Committee to collate and forward information on toxic contaminant burdens in cetaceans to the WHO and competent national authorities.

The first Special Issue of the Commission's new "Journal of Cetacean Research and Management" (*JCRM*) is devoted to chemical pollutants and cetaceans (1999), and contains the finalized proposal for the Pollution 2000+ project. The project focuses on PCB's in harbour porpoises and bottlenose dolphins, these being the substances and species for which meaningful conclusions might be obtainable in the shorter term.

The first joint IWC and CCAMLR field research under the SOWER 2000 project, took place in the 1999/2000 Antarctic season.

Resolution **2000:6** on persistent organic pollutants and heavy metals, urged members to ratify the protocol on Persistent Organic Pollutants of the Convention on Long Range Transboundary Air Pollution (LRTAP), with a view to reducing the rate of entry of these contaminants into the marine food chain. Resolution **2001:10** on the Stockholm Convention on Persistent Organic Pollutants (POP's), urged members to ratify the new Convention.

Resolution **2000:7** on environmental change and cetaceans, directed the Scientific Committee to produce an annual "State of the Cetacean Environment Report" (SOCER), and endorsed the Committee's plans for workshops on habitat degradation and cetacean/fishery interactions.

6. d) Implications for the IWC of work on environmental concerns: Research into whales and their environment is the fastest-growing area of the IWC's range of activities. It is a large topic that in future will occupy a large part of the Commission's attention.

The increasing attention to environmental issues will affect the character of the IWC in several ways. It will greatly expand the breadth of expertise needed to carry out its work, which will in turn necessitate substantially more collaboration with other agencies, whose focus of activities and expertise complement those of the IWC.

The past focus of the IWC on short-term and tightly circumscribed management questions, will gradually be replaced by an emphasis on longer-term programmes and policies of a more open-ended nature.

7. ECOSYSTEM APPROACHES AND INTERACTION WITH OTHER MARINE LIVING RESOURCES:

7. a) Resolution **1979:2** on the implications for whales of management regimes for other marine resources, drew attention to the potential impact on whales of a krill fishery in the Southern Ocean, and calls for IWC involvement in the proposed convention, then under negotiation, of Antarctic marine living resources, to ensure that the possible effects on whales are taken into account.

7. b) Resolution **1980:5** on co-operation and co-ordination between the IWC and the proposed Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), called for formal relations to be established between the IWC and CCAMLR as soon as the latter comes into existence. This was subsequently implemented and the scientific collaboration relationship between the IWC and CCAMLR continues.

7. c) In 1978 the Scientific Committee noted the problems arising when fishermen believe that cetaceans are responsible for declining coastal fish stocks, leading to killing of the cetaceans involved, in the absence of scientific evidence of an actual relationship. Examples cited were false killer whales and bottlenose dolphins at Iki Island in Japan, and killer whales along the coast of Norway. The Committee called for research by member nations, into cases of actual or alleged cetacean-fishery interactions, and this request was endorsed by the Commission (*RIWC* 29:26-27). Reports on interactions were reviewed annually until 1983, and information supplied to FAO which published a World Review of interactions between marine mammals and fisheries (*FAO Fish. Tech. Pap.* 251, 1984). The main interactions were the incidental take of cetaceans in fisheries: losses by fisheries to cetaceans occurred but not to a widespread extent.

7. d) The issue of cetacean/fishery interaction returned to the IWC agenda in 1999, following Japanese claims that cetaceans were consuming five times as much fish as the entire world fish catch. The Scientific Committee prepared a proposal for a workshop to address the issue, which the Commission endorsed in principle in Resolution **2000:7**, for further development as part of its programme of work on environmental change and cetaceans. A revised proposal for the workshop was endorsed by the Commission in Resolution **2001:9** on interactions between whales and fish stocks, proposed by the USA and Japan, which also called for the participation of FAO. Regrettably, Japan subsequently refused to participate in the Workshop, which was held in June 2002. The report is still in preparation.

7. e) In 2000, Japan announced the expansion of its scientific whaling in the North Pacific, to encompass Bryde's and sperm whales as well as minke whales, giving as the main motivation a desire to study whale diets for the purpose of determining the impact of whales on fisheries. In 2002, the programme was further expanded to include sei whales as well, with the same motivation given.

8. SANCTUARIES:

8. a) Article V of the ICRW provides for the fixing of open and closed waters, including the designation of Sanctuary areas.

A sanctuary (known as "The Sanctuary") was in effect from 1938 to 1954 in the eastern South Pacific sector of the Southern Ocean, having originally been designated by the ICW, the ICRW's predecessor. The Sanctuary applied only to pelagic baleen whaling, which it effectively closed for the area in that sector south of 40 degrees S. From a current standpoint, it would be more appropriately described as a closed area than a sanctuary, because it lacked ecologically coherent boundaries and was only of limited effectiveness in protecting the whales, which passed through the area.

8. b) Indian Ocean Sanctuary: The first sanctuary in accord with modern concepts of whale sanctuaries was the Indian Ocean Sanctuary, proposed by the Republic of the Seychelles in 1979, and adopted by the Commission. The Sanctuary covers the entire Indian Ocean north of 55°S, plus adjacent waters including the Red and Arabian Seas and the Gulf of Oman (*RIWC* 30:27). The provision was to last for 10 years, subject to a review after 5 years.

The aim of the proposal was to provide an area where whale populations could be studied in the absence of disturbance from whaling, to provide an opportunity for depleted populations to recover, and to provide a reserve in case other populations elsewhere in the world of the species occurring in the Indian Ocean were lost.

The sanctuary was originally intended as an ecologically coherent area, but the boundary at 55°S was adopted as a compromise, to accommodate the interests of those countries conducting pelagic whaling in the Indian Ocean sector of the Antarctic, whaling which continues to this day.

The Scientific Committee's views on the sanctuary proposal were mixed. At that time, the main source of data on whale populations was from whaling, and many scientists had concerns that a sanctuary could lead to a lack of data on the whale populations in the region, although it was noted that whaling under scientific permits would not be prohibited.

In any event, the years following the sanctuary designation saw a rapid development in non-lethal techniques for the study of whales, including those developed on the pioneering *Tulip* cruises in the Indian Ocean, sponsored by the World Wildlife Fund and other bodies. Knowledge of the cetacean fauna of the Indian Ocean is now much more extensive than it was in 1979, but there is still much to be learned.

Resolution **1979:3** in relation to the establishment of a whale sanctuary in the Indian Ocean, called on the Scientific Committee to investigate the kinds and level of research that would be needed in the Indian Ocean Sanctuary, to address the questions of interest to the Commission, and to report back by 1981. This advice was provided to the Commission (*RIWC* 32:132-135), which also received and endorsed the recommendations from a meeting of Indian Ocean States held in the Seychelles in 1980, including the proposal to hold a scientific meeting to plan research in the Sanctuary. This took place in 1981, under the sponsorship of the Seychelles and the Netherlands.

Resolution **1981:3** on communication between the IWC and Indian Ocean Coastal States, proposed by Oman, directed the Secretary to keep Indian Ocean States, including non-member States, informed of the Commission's work on the Sanctuary.

The accession, after the Sanctuary was adopted, of India, Kenya, Oman, Egypt, and Mauritius to the ICRW, increased the representation of Indian Ocean States within the IWC.

In view of the provision for a review after 5 years, the Scientific Committee in 1983 drew up an agenda for a scientific review meeting on the Sanctuary (*RIWC* 34:167), to be held in collaboration with FAO, IOC and UNEP, who were asked to provide assistance for the participation of representatives of IWC non-members.

Other priorities of the Commission delayed the review, but at the insistence of the Seychelles, Kenya, India, Oman, Australia, France and South Africa, the Commission agreed in 1985 to appoint a sub-committee of Indian Ocean member States, to prepare a proposal for a review to be held in 1987 (*RIWC* 36:13). At its 1986 meeting, the Commission approved the plans for a scientific review meeting on the sanctuary to be hosted by the Seychelles, and noted UNEP's offer to fund the participation of representatives from non-IWC Indian Ocean coastal States.

The scientific meeting held in 1987, found that cetacean research in the Indian Ocean Sanctuary had taken some time to get underway, mainly due to economic factors, and because of a shortage of expertise in the countries bordering the sanctuary. The situation was, however, improving thanks to support from UNEP and others. An administrative meeting on the Sanctuary held just before the 1987 Annual Meeting, made a number of recommendations to promote and co-ordinate research in the Indian Ocean Sanctuary, and the Commission established a sub-committee to implement these recommendations (*RIWC* 38:16-17). The general review of the prohibition of whaling in the Sanctuary, provided for in the original decision to be held by 1984, was re-scheduled for 1989, when the decision on whether or not to renew the Sanctuary would be taken. In 1988, the Commission endorsed the recommendation of the sub-committee, that the Scientific Committee compile a review of all research conducted in the Sanctuary since its establishment (*RIWC* 39:16-17). This was published by UNEP.

The Scientific Committee found that approximately up to half the published research was directly related to the Sanctuary designation, while the remainder would probably have occurred anyway (*RIWC* 40:72-73). The Committee noted further that the pause in commercial whaling, in force since 1986, had reduced the importance of the sanctuary designation, relative to the situation when it was adopted in 1979, but that this could change if commercial whaling were resumed.

After considerable debate on the merits of the Indian Ocean Sanctuary, the Commission adopted Recommendation **1989:4**, which noted that fulfillment of research objectives in the Indian Ocean Sanctuary is a long-term process, and depends on: (1) assistance to countries with little previous experience in cetacean research to develop their skills and capacity; (2) co-ordination of methods and exchange of materials, data and results and (3) facilitation of access [for research in waters under national jurisdiction]. The recommendation empowered the Secretary to work with UNEP, IOC and appropriate regional bodies to help achieve these goals.

Considering that a decision on the longer-term future of the Sanctuary should await the results of the Comprehensive Assessment, the Commission agreed by consensus to extend the Indian Ocean Sanctuary for three years (to 1992).

When the Commission returned to the matter in 1992, it took account of developments in the interim, both political and scientific. At a meeting of IOMAC (Indian Ocean Marine Affairs Committee), the Indian Ocean States, including the members and the non-members of the IWC, had passed a resolution calling for the declaration of the Indian Ocean as a Sanctuary for whales for all time. On the scientific front, one of the main results of the global Comprehensive Assessment was the draft Revised Management Procedure (RMP) which was to replace the previous management procedure of the IWC. The draft RMP, which was accepted by the Commission in Resolution 1992:3, did not envisage exploitation of baleen whales in their breeding grounds such as in the Indian Ocean Sanctuary. The Commission agreed by consensus to extend the Indian Ocean Sanctuary indefinitely, without any changes to its boundaries, but with a provision for review after 10 years (2002).

When the issue came up for review in 2002, the Scientific Committee reviewed extensive compilations of the research conducted in the Sanctuary to date. The Committee attempted to address the questions contained in the tentative evaluation guidelines for sanctuaries that were drawn up by the Commission in 2001. Although the Committee was able to provide substantive advice on many of the questions posed, no consensus conclusions could be reached as to the implications of this advice for the merits or otherwise of continuing the sanctuary. The Committee drew attention to the need to make the scientific objectives of sanctuaries clearer, and for the evaluation criteria themselves to be made more precise and operational (see below).

8. c) Southern Ocean Sanctuary: France first presented its proposal for a Sanctuary for great whales in all waters south of 40°S to the 44th Annual Meeting of the IWC in 1992. France appreciated that many members needed more time to consider it. Resolution **1992:4** on a Sanctuary in the Southern Hemisphere, adopted by consensus, agreed to consider the proposal fully at the 45th Meeting in 1993. It called on member Governments to submit comments and questions in the meantime, and for the Secretary to seek comments from CCAMLR, SCAR and other relevant international organizations. The Scientific Committee was instructed to review and advise on the scientific comments and questions raised.

Considerable support for the proposal was apparent at the 45th Annual Meeting. The Technical Committee endorsed the proposal by a majority vote. However, many members felt that more time was needed to fully consider all the implications of such a far-reaching proposal. Countries whose own exclusive fishery or economic zones might overlap with the proposed sanctuary, such as Chile, needed time to consider the implications especially carefully, and in particular the boundaries of the proposed sanctuary.

Resolution **1993:6**, adopted by a majority vote, endorsed the concept of a sanctuary in the Southern Ocean, and resolved to address the outstanding legal, ecological, geographical, management, financial and global environmental issues relating to such a sanctuary. It accepted the offer by Australia to host a working group meeting to address these outstanding issues, and to make recommendations with a view to enabling the Commission to take a decision on the sanctuary at its 46th Meeting in 1994.

The Working Group met in Norfolk Island in 1994, and made an extensive set of recommendations which were endorsed by the Commission. In particular, it noted that there are no irreconcilable objections among the members of the Working Group and that a sanctuary could be created if the Commission so decided.

In 1994 the Commission adopted, by 24 votes to 1, an amended version of the French proposal, put forward by Mexico, whose boundary was at 60°S in the SE Pacific and far SW Atlantic sectors, thereby not overlapping the EEZ's of Argentina and Chile. In the Indian Ocean sector, the amended proposal had a boundary at 55°S, thereby adjacent to but not overlapping the Indian Ocean Sanctuary. The boundary was set at 40°S in the central and eastern South Atlantic and the western South Pacific. The sanctuary overlaps with the EEZ's of Australia and New Zealand, and with the fishery conservation zones of overseas territories of France and the UK.

The decision contained a provision that it be reviewed at 10-year intervals. The first review is due in 2004, but the Scientific Committee has proposed, and the Commission agreed, that its review of the scientific aspects should start in 2003, to be completed in 2004.

Japan lodged an Objection under the ICRW within the prescribed 90-day period, to the Sanctuary with respect to minke whales. No general objections to the Sanctuary were lodged, but Norway, and subsequently Japan, questioned the legality of the sanctuary decision, on the grounds that it was not 'based on scientific findings' as Article V of the ICRW requires.

Some of the recommendations from the Norfolk Island Working Group related to scientific research in the sanctuary, and thus remained relevant after its adoption. These were considered by a Workshop to Outline a Programme of Non-lethal Research in the Sanctuary, held in 1995 with the co-sponsorship of WWF, Greenpeace and IFAW. The IWC Scientific Committee reported that most of the research recommendations from Norfolk Island were addressed in the Scientific Committee's ongoing Comprehensive Assessment of southern hemisphere baleen whales, and in its work on environmental concerns.

In 1995, 1996, 1997 and 1998, Japan presented legal opinions to the Commission which challenged the legality of the Sanctuary decision, but the Commission did not find it necessary to take any action on this, with many members commenting that the decision had been properly taken, that Japan had exercised its right to object with respect to one of the species affected, and that the proper way to call for a revision of the decision would be to propose a Schedule amendment. Accordingly, Japan in 1999 proposed amendments to the Sanctuary decision, including the exclusion of minke whales from the Sanctuary provision, but this was not adopted by the Commission. In 2000, 2001 and 2002, Japan submitted further proposals for Schedule amendments, which aimed at qualifying the prohibition on whaling in the Sanctuary, to make it dependent on advice from the Scientific Committee. All these proposals were withdrawn or voted down by the Commission. In 2002, Japan also submitted a proposal to abolish the Southern Ocean and Indian Ocean Sanctuaries, packaged with a proposal to adopt some elements of the Revised Management Scheme (RMS), but this was also voted down.

Resolution **1995:8** on whaling under Special Permit in Sanctuaries, called on members to conduct research in the Sanctuary using non-lethal methods and to refrain from issuing Special Permits for catches of whales in the Sanctuary.

In response to a request from the Scientific Committee for clarification of the scientific objectives of the Sanctuary, the Commission adopted Resolution **1998:3** on the Southern Ocean Sanctuary. The Resolution affirmed that the agreed objectives are to provide for: (1) recovery of whale stocks, including research and monitoring of depleted stocks; (2) the continuation of the Comprehensive Assessment of the effects on whale stocks of zero catch limits; and (3) the undertaking of research on the effects of environmental change on whale stocks. It further directed the Scientific Committee to provide the Commission with a long-term framework for non-lethal research, including multi-disciplinary research on the impact of environmental changes on cetaceans in the Sanctuary, and in particular to give priority to non-lethal research that will be relevant to the review of the Sanctuary in 2004 and beyond.

In 1999 the Scientific Committee reported back on its work in this regard. This include its SOWER 2000 project in collaboration with CCAMLR and SO-GLOBEC, its ongoing blue whale research programme under SOWER, and its ongoing comprehensive assessments of southern hemisphere baleen whales.

A new development relevant to the Sanctuary was the Scientific Committee's finding in 2000, that its earlier estimates of minke whale abundance in the Sanctuary from the 1990 Comprehensive Assessment appeared no longer to be current, and that the abundance appeared to have declined substantially. A programme of work was initiated to investigate this further. Definitive conclusions are scheduled for 2003. Resolution **2000:4** noted the concern and renewed the call on Japan to refrain from scientific whaling in the Sanctuary.

8. d) South Atlantic Sanctuary: In 1999 Brazil developed a proposal for a South Atlantic Sanctuary, to cover the waters of the South Atlantic bounded in the North by the equator, in the west by the Atlantic coast of South America, in the South by the boundary of the Southern Ocean Sanctuary, and in the east by the coast of Africa and the boundary of the Indian Ocean Sanctuary. It includes coastal waters of Argentina, Uruguay, Brazil, South Africa, Namibia, Angola, Dem. Rep. Congo, Congo, Gabon, Equatorial Guinea and São Tomé and Príncipe. In order to allow time for more consultations with member countries bordering the Sanctuary, Brazil asked for consideration by the Commission to be deferred to 2001.

Brazil and Argentina formally proposed the South Atlantic Sanctuary to the Commission in 2001, emphasising their rights as coastal states to utilize whale resources non-lethally, and that this be respected and protected by the Commission against the threat from a possible resumption of commercial whaling. With 19 votes for and 13 against, the proposal did not achieve the required $\frac{3}{4}$ majority. Some members indicated that they had not voted for it because of the lack of information on whether non-member countries in the region endorsed the proposal. Brazil consulted with non-members and reported their responses to the Commission in 2002, and re-proposed the Sanctuary. It failed again with 23 for to 18 against. Gabon had in the meantime joined the Commission, and voted against the Sanctuary in 2002.

Brazil, Argentina and South Africa have already established whale sanctuaries in their coastal waters.

8. e) South Pacific Sanctuary: Australia and New Zealand tabled a proposal in 1999 for a sanctuary covering the western and central South Pacific, between the equator and the Southern Ocean Sanctuary, adjoining the Indian Ocean Sanctuary in the west. The proposal was referred to the Scientific Committee, which could not give a definitive recommendation, but listed general arguments for and against sanctuaries.

The sanctuary was formally proposed to the Commission in 2000. The proponents, Australia and New Zealand, believed that it would: (1) protect whale stocks that have been severely depleted in the 19th and 20th centuries and allow their recovery; (2) complement and improve the effectiveness of the Southern Ocean Sanctuary in protecting migratory whale species; (3) foster long-term ecosystem-based research on whale stocks that are not being harvested; and (4) enable management of whale stocks in accordance with the goal of long-term conservation of biodiversity and the precautionary principle.

Despite considerable support, the South Pacific Sanctuary proposal failed to gain the required $\frac{3}{4}$ majority (18 votes for to 11 against). The proposal was resubmitted in 2001 and 2002, with similar voting results (approx. 60% for to 40% against, not counting abstentions).

The Commission was informed that meetings of the South Pacific Regional Environmental Programme (SPREP), and the Pacific Island Leaders' Forum, where most countries in the region were represented, had expressed support for the Sanctuary. Australia and New Zealand stressed the importance of recognizing the non-consumptive relationship of the people in the region with whales.

Many South Pacific countries have now declared their Exclusive Economic Zones (EEZs) to be whale sanctuaries, or zones of protection for whales. Environment Australia indicates that the waters of New Zealand and Vanuatu are *de facto* sanctuaries as a result of whale protection legislation. In addition the EEZs of French Polynesia, The Cook Islands, Niue, Tonga and Australia have been declared sanctuaries.

8. f) Other sanctuaries: Various other sanctuaries have been mooted, including the NW Atlantic (by Jamaica), a proposal from UK for a NE Atlantic sanctuary, and the Mediterranean sanctuary which was agreed by all the Parties to ACCOBAMS (the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area), but is yet to be brought forward to the IWC, though Italy announced its intention to do so at the 2002 IWC Commission meeting.

8. g) General criteria for sanctuaries: At the 1981 and 1982 Commission meetings, Australia noted the desirability of the Commission drawing up general guidelines on the matter of sanctuaries, to facilitate evaluation of future sanctuary proposals. A Technical Committee Working Group was established, which drew up criteria that a sanctuary should satisfy, and information that should be supplied in order for a sanctuary proposal to be evaluated.

The Technical Committee proposals were not formally adopted, because questions were raised by several countries about coastal State jurisdiction in sanctuaries. The Commission directed the Secretary to collect information from member Governments on areas of protection for whales in waters under their jurisdiction. The Secretary presented a list of these areas in 1984, based on the responses received from members, and additional information from FAO and UNEP on protected areas in the waters of non-member countries.

Over the 1980's and 1990's, consideration of sanctuaries by the IWC was entirely in the specific contexts of the Indian Ocean Sanctuary and the Southern Ocean Sanctuary, that was adopted in 1994. The issue of generic criteria for sanctuaries was raised by the Scientific Committee again in 2000, when it was asked to review the proposal for a South Pacific Sanctuary.

In 2001, the Commission adopted a set of "Instructions from the Commission to the Scientific Committee for Reviews of Sanctuaries", and directed the Committee to use them for the review of the Indian Ocean Sanctuary in 2002, and for any new sanctuary proposals, and to report back to the Commission on the utility of these guidelines.

In 2002 the Scientific Committee used the guidelines for its review of the Indian Ocean Sanctuary, but found that they needed to be made more precise and operational. It agreed to develop a proposal for a more precise set of criteria to be presented to the Commission in 2003 (IWC/54/4 p.98).

8. h) Conclusions on sanctuaries: Whale sanctuaries represent an opportunity for all aspects of the emerging expanded agenda of the IWC, to be realized in an ecologically coherent region. This is especially evident in the Southern Ocean Sanctuary, and to some extent in the Indian Ocean Sanctuary, although in the latter case it is clear that more assistance is needed to help coastal States develop their capacity and expertise for cetacean research and conservation. The Indian Ocean Sanctuary is, however, a good example of how the IWC can support a regional consensus, that uses of whales be strictly non-lethal.

The cases of the proposed South Pacific and South Atlantic sanctuaries, show that the IWC has a potential role to play in providing international support to coastal States who seek to develop exclusively non-lethal uses of their cetacean resources. They seek support and protection from the IWC, as the only body capable of giving protection to the whales in their waters, while they are passing through High Seas areas.

It is therefore important to explore within the IWC context, the concept of sanctuaries as regions of special protection for whales, in which the IWC could declare a policy of supporting coastal States' desires for exclusively non-lethal use of the cetaceans migrating into their waters. The pillars of such an approach could include:

- (1) Collaboration with coastal states;
- (2) Co-operation with other regional conservation organisations, including agreements established under the auspices of CMS (Bonn Convention) and
- (3) A policy of not relaxing current ICRW protection measures for whales in these regions (for example the zero catch limits in effect since 1986).

9. ENFORCEMENT OF CONSERVATION MEASURES AND MONITORING OF COMPLIANCE:

9. a) In the IWC's first 30 years or so, large-scale catches of whales were authorized by the IWC, and the debates focused on what conservation measures were necessary. As the Commission gradually moved to a more conservation-oriented and precautionary approach to management, and has steadily extended the scope of its conservation measures, the importance of ensuring that the Commission's conservation measures are actually complied with, has gathered in importance relative to the adoption of new measures.

9. b) Non-member whaling: In the 1970's the main compliance problem was considered to be non-member whaling. In 1974 the IWC sought the assistance of UNEP in persuading non-member countries engaged in whaling to join the IWC. Resolution **1976:4** on adherence to the Convention called on non-members engaged in whaling to join the Commission, while Resolution **1976:5** resolved that members should prohibit the transfer of whaling vessels, equipment, or expertise to non-member countries or entities. Resolutions **1977:2, 3** and **4** on specific whale stocks called on specific non-member whaling countries to join the Commission. Resolution **1977:8** repeated this call and resolved that members report on the steps taken to implement it. Resolution **1977:7** on the prevention of importation of whale products, required members to prohibit the import into their countries of whale products, as did Resolution **1978:E** on the importation of whale products from non-IWC countries. Resolution **1978:F** on the transfer of whaling equipment and expertise, repeated the call not to export whaling technology or expertise to non-members. Resolution **1979:9** on the importation of whale products from, export of whale products to, and prohibition of whaling by non-member countries, reiterated these requirements with more force, and further called on members to prohibit non-member whaling within their fishery conservation zones, the precursors to the EEZ's that would be recognized under the emerging Law of the Sea.

9. c) Partly as a result of the resolutions, whaling countries Korea, Spain, Chile and Peru became members of the IWC in 1979.

9. d) The Commission in 1979 established a register of whaling vessels, to help members take action against whaling by vessels flying flags of convenience (*RIWC* 30:32).

- 9. e)** Resolution **1980:6** on discouraging whaling operations outside IWC regulations, established a Working Group to consider all questions relating to whaling operations outside the ICRW, and called for consideration of Schedule amendments to enforce the measures relating to prohibitions of imports from, and exports of technology to, non-member whaling countries or entities. Resolution **1981:6** adopted the recommendations of the Working Group, including the endorsement of procedures to enable the IWC to gather information on whaling vessels, via insurance records and inspection visits to non-member countries (subject to the latter's agreement).
- 9. f)** Resolution **1993:18** on whaling activities by non-member states, returned to the issue, and directed the Secretary and members to gather and submit information on whaling by non-member States.
- 9. g)** International trade in whale products and co-operation with CITES: CITES (Convention on International Trade in Endangered Species of Flora and Fauna) came into force in 1975. From the beginning, it supported the conservation efforts of the IWC by including in its Appendix I those species which were fully protected from commercial whaling by the IWC, namely blue, humpback, right and gray whales. By prohibiting international commercial trade, or introduction from the sea, in these species, it provided a legal means to assist with the implementation and enforcement of IWC conservation measures.
- 9. h)** In 1977, the IWC offered to CITES to be its adviser on cetaceans, to provide scientific information on whale populations in relation to the CITES listing criteria, information on the explanation of species listed on CITES appendices, and advice on the identification whale products (*RIWC* 28:23). The IWC offer was accepted by the CITES Special Working Session in 1977, where it was provisionally agreed that CITES would provide protection to whale populations, not just whole species, that were protected by the IWC. This request was formalized in IWC Resolution **1978:D**, addressed to CITES. CITES in turn adopted Resolution 2.9 at its 2nd Conference of Parties in 1979, which called on its members not to issue permits for imports or exports of products from whale populations protected from commercial whaling by the IWC. The populations were added to Appendix I of CITES, and all other cetaceans were placed on Appendix II.
- 9. i)** Subsequently, when all remaining large whale populations became protected from commercial whaling by the IWC in 1986, CITES transferred them to Appendix I. The policy of CITES adopted in Resolution 2.9 remains in effect, having been consolidated into Resolution 11.4, adopted at the 11th CITES COP in 2000.
- 9. j)** The IWC did not follow up on its original offer to assist with the identification of cetacean products in trade, until new DNA analysis technology became widely available in the 1990's, that made it practical to identify cetacean species from samples of meat and blubber on the market.
- 9. k)** Following discoveries of various illegal shipments of whale products, and the identification of various prohibited species on domestic whalemeat markets, Resolution **1994:7** on international trade in whale meat and products, requested members to provide information on whale products in their domestic markets, and their source; information on intercepted shipments; and information on national laws and regulations relating to trade in whale meat. CITES reciprocated with Resolution 9.12, that requested its members to forward any information on illegal trade in whalemeat to the Secretariat, and for the CITES and IWC Secretariats to exchange any information received.
- 9. l)** Resolution **1995:6** on trade in whale meat, called on members to prohibit domestic sales of whale products that could not have come from whales obtained in accordance with IWC and CITES regulations; to conduct random sampling of whale products on their markets; to determine the species on sale; and to establish measures to monitor the composition of whale meat stockpiles, and report this to the Commission.
- 9. m)** Resolution **1996:3** on improving mechanisms to restrict trade in whale meat, called on members to report annually, from 1997 onwards, on stockpiles of whale products, and on domestic regulations to control illegal trade in whale meat and on the actions taken to enforce them.
- 9. n)** Resolution **1997:2** on improved monitoring of whale meat stockpiles, called on members to maintain registries of DNA samples of each individual whale entering into commerce and to make these databases available to the Commission.
- 9. ñ)** Resolution **1998:8** on co-operation between the IWC and CITES, reaffirmed the long-standing relationship between the IWC and CITES, and called on members to fully comply with the previous resolutions relating to trade in whale products.
- 9. o)** Resolution **1999:8** on DNA testing, added a regular item to the agenda of the Scientific Committee relating to the collection, archiving and analysis of DNA samples from direct and incidental catches, frozen stockpiles, and seized or impounded products, and to provide advice on a system for tracking and verifying all legal whale products.
- 9. p)** Resolution **1999:6** on co-operation between the IWC and CITES, notes the valuable contribution of CITES to the enforcement of IWC conservation measures, by including on its Appendix I all whale species subject to zero catch limits

under the ICRW, and informs CITES that the IWC is not yet ready to amend such zero catch limits.

10. MANAGEMENT OF LETHAL SCIENTIFIC RESEARCH (“SCIENTIFIC WHALING”):

10. a) The ICRW is a science-friendly convention. It empowers the IWC to co-ordinate and conduct scientific research, and requires it to base its decisions on scientific findings. It also gives members the right, under Article VIII, to issue permits for the take of cetaceans for scientific purposes.

10. b) Unfortunately, some members have interpreted this provision as a licence to bypass the IWC’s conservation measures, and to issue scientific permits for catches of whales on a similar scale to ordinary commercial whaling. Although Article VIII does indeed exempt whales taken for scientific purposes from the specific regulations of the Convention, it does not authorize members to ignore the general obligation to conserve whales for the benefit of future generations. Nor does it exempt members from general requirements under international law, including the Law of the Sea, to ensure that marine resources are not overexploited and to co-operate with the appropriate international organizations.

10. c) The (ab)use of the scientific permit provision to conduct commercial-scale whaling on protected species and stocks, has long been an issue of contention within the Commission. For example, in the 1970’s some members issued permits for the take of commercial quantities of Brydes whales in the Southern Hemisphere, despite the Commission’s decision to set a precautionary zero catch limit for Bryde’s, pending a satisfactory estimate of stock size (*RIWC* 27:34).

10. d) In 1979, the Commission obtained legal advice that it was permissible under the Convention, Article VIII notwithstanding, to require prior review of Scientific Permits by the Scientific Committee, and a Schedule amendment to that effect was adopted (*RIWC* 30:31).

10. e) In 1985, some members submitted plans for the issuance of scientific permits, which implied that they would continue whaling after the coming into effect of the moratorium in 1986, at a level similar to their (then) current commercial whaling activities. Resolution **1985:2** drew attention to the risk that scientific whaling could assume the characteristics of commercial whaling during the moratorium period, and established a working group to address the problem. These discussions resulted in Resolution **1986:2**, which recommended that Scientific Permits only be issued when the research objectives cannot be met by non-lethal methods, and when the research is structured to provide information that is essential for the rational management of the stock.

10. f) Resolution **1987:1** further recommended that the Scientific Committee review each proposed permit against the above criteria, and determine whether it addresses questions that need to be answered, to conduct the Comprehensive Assessment or meet other critically important research needs. The Resolution mandated the Commission to review annually the Committee’s advice on Scientific Permits and to inform the governments concerned when a permit or proposed permit is found not to meet the guidelines. On this basis, Resolutions **1987:2, 3** and **4** called on those members with scientific whaling programmes to end them (in one case) or suspend them pending clarification of some questions (in two cases).

10. g) Resolution **1988:3** on the issuance of scientific permits, recommended that no permits be issued until members of the Commission had had at least 60 days to consider the Scientific Committee’s evaluation of the proposed permit. Resolutions **1988:1-2** found that one proposed and one ongoing scientific whaling programme did not meet the criteria established in the above Resolutions, and notified the relevant governments accordingly. Resolutions **1989:1-3** called for the reconsideration of three members’ scientific whaling programmes. In 1990, two of these programmes were still continuing, and Resolutions **1990:1-2** repeated the call to reconsider them. One of these programmes (Japanese scientific whaling in the Antarctic) continued in 1991 and Resolutions **1991:2, 1992:5, 1993:7** and **1994:10** called again for it to be reconsidered. Resolution **1991:3** called for a proposed new programme by the then USSR, not to commence until it had been brought into line with Commission’s guidelines and reviewed anew by the Commission. Resolution **1992:6** called for a new scientific whaling programme announced by Norway to be reconsidered. This request was not complied with, and was repeated in Resolutions **1993:8** and **1994:11**.

10. h) In 1994, Japan announced a new scientific whaling programme for minke whales in the North Pacific. The Commission, on the advice of the Scientific Committee, found that the objectives of the research did appear to meet the Commission’s criteria, but recommended that they be achieved by non-lethal methods (Resolutions **1994:8** and **9**).

10. i) The continuation of scientific whaling in the Antarctic, despite its designation as a sanctuary in 1994, introduced a new dimension into the scientific whaling problem. Resolution **1995:8** on whaling under scientific permit in sanctuaries, called on members to collaborate on a programme of research in the Southern Ocean Sanctuary using non-lethal methods, and to refrain from issuing scientific permits for the take of whales in the Sanctuary.

10. j) Resolution **1995:9** on whaling under special permit, replaced Resolutions 1986:2 and 1987:1. It recommended that

scientific research to assist in the Comprehensive Assessment be conducted by non-lethal means, and that the killing of cetaceans for scientific purposes only be permitted in exceptional circumstances, where the research addresses critically important issues which cannot be answered by the analysis of existing data or the application of non-lethal methods. It further instructed the Scientific Committee to reassess all existing and new scientific whaling to identify what critically important questions, if any, are addressed by the lethal takes and whether these could be met by non-lethal means. This resolution is still in effect and represents current IWC policy with respect to scientific whaling.

10. k) Based on these criteria, Resolution **1996:7** called on Japan to end its scientific whaling in the Southern Ocean and the North Pacific. This request was repeated in Resolutions **1997:5 and 6**.

10. l) Resolution **1998:4** notes that other scientific organizations now have ethical guidelines as to under what circumstances the killing of animals for scientific research is justified, and instructed the Secretariat to compile information on the policies of other international scientific organisations in this regard. Resolution **1999:3** noted the finding of this review that the legislation, guidelines and codes of conduct that exist, generally require that research be conducted so as to minimize the stress, distress, pain and suffering caused to the animals, and that non-lethal means or fewer animals be used where possible. Accordingly, Resolution **1999:2** instructed the Scientific Committee to determine, in each case, whether the information obtained from scientific permits is (a) required for management and (b) obtainable by non-lethal means.

10. m) In 2000, Japan announced the expansion of its scientific whaling in the North Pacific to encompass Bryde's and sperm whales, as well as minke whales, giving as the main motivation a desire to study whale diets for the purpose of determining the impact of whales on fisheries. In 2002, the programme was further expanded to include sei whales as well, with the same motivation given. Resolutions **2000:5** and **2001:8** stated the Commission's view that this is not a sufficient justification for the takes of whales.

10. n) In 2000 and 2001, the Scientific Committee noted that recent data indicate that the abundance of minke whales in the Southern Ocean, appears to have declined substantially since the last Comprehensive Assessment of these populations was conducted in 1990. It initiated a thorough reassessment of Southern Ocean minke whale abundance to be completed in 2003. Resolutions **2000:4** and **2001:7** asked Japan to cease catches of minke whales in the Southern Ocean Sanctuary, pending the results of this review.

10. ñ) Conclusions on the scientific whaling problem: The non-compliance with the Commission's policy on scientific whaling is now a greater conservation problem than official commercial whaling. Current definitions of non-compliance with respect to marine conservation, such as that in the draft FAO compliance agreement, define non-compliance to include any action that undermines the effectiveness of conservation measures adopted by the competent regional or international organization, regardless of whether or not the action is technically legal. Thus, even countries which take the view that Article VIII of the ICRW legalizes all scientific takes, however excessive, cannot claim to be in compliance with the ICRW so long as they continue to ignore IWC decisions in this regard.

Given the limited success in obtaining compliance with the IWC decisions to date with respect to scientific whaling, it is clear that a new approach is needed. However, it is important that any difficulties encountered in tackling this problem do not delay progress in the many other areas where the IWC needs to move forward.

11. COLLABORATION WITH OTHER ORGANISATIONS:

11. a) In its first few decades, most conservation actions of the IWC related purely to the regulation whaling: at that time the impact of whaling on the whale populations dwarfed the other conservation issues relating to whales. Consequently, most of the actions taken by the IWC could be taken in isolation with little reference to other organizations.

11. b) However, the mandate of the IWC is not limited to the regulation of whaling. Article IV of the ICRW empowers the Commission to collaborate with agencies of the member Governments or with other public or private agencies, establishments or organizations, to encourage, recommend or, if necessary, organize studies and investigations relating to whales. Article VI empowers the Commission to make recommendations on any matters relating to whales and to the objectives of the ICRW.

11. c) As the emphasis of the IWC's activities shifts away from its traditional focus on the regulation of whaling, and more towards the conservation of whale populations with respect to the whole panoply of new threats which they face, so will the extent to which the IWC can achieve its objectives working alone diminish. The multi-faceted nature of the new threats to cetaceans are such, that they impinge on the responsibilities of States and numerous international and regional agencies, such that the Commission's work will inevitably be characterized by increasing collaboration with States and other agencies.

11. d) Over the years the IWC and its Scientific Committee have co-operated with a number of other international organizations whose fields of competence or activity overlap with those of the IWC, or relate to matters that have implications for whale conservation. The specifics of this collaboration are listed under the relevant subject items in this document.

11. e) Interactions between cetaceans and fisheries, including incidental catch, have necessitated co-operation with FAO, ICCAT, and IATTC.

11. f) The dependence of many whales on the Southern Ocean ecosystem, and the possible effects of exploitation of other resources there, and of environmental change, has motivated the collaboration with CCAMLR, SCAR, and SO-GLOBEC.

11. g) The co-operation with CITES is described in the section on trade in whale products.

11. h) There has long been collaboration with UNEP and IUCN on a variety of cetacean conservation issues.

11. i) Co-operation with ICES has been on sampling of pollutants in cetaceans, and more recently on multi-species modelling and management issues involving cetaceans.

11. j) The IWC has on occasions provided direct input to the UN, for example in 1990 on the issue of cetacean bycatch in large pelagic driftnets, on the question of Antarctica, and input to UNCED in 1992.

11. k) The Convention on Migratory Species (CMS) and regional cetacean conservation agreements negotiated under CMS, such as ASCOBANS in the North and Baltic Seas, and ACCOBAMS in the Black and Mediterranean seas, provide a framework for conservation measures for cetaceans that complement those of the IWC, and scientific collaboration on issues of population status and threats is clearly advantageous. A Memorandum of Understanding between the IWC and CMS was signed in 2000.

11. l) The increasing attention of the IWC to the effects of global ocean change on cetaceans, motivates the increased collaboration with the Intergovernmental Oceanographic Commission (IOC).

11. m) The co-operation with IOMAC (Indian Ocean Marine Affairs Co-operation) has been in the context of implementation and renewal of the Indian Ocean Sanctuary.

11. n) Implications for the IWC of increased collaboration: The increased emphasis on collaborative actions will in turn involve changes to the structure and working methods of the IWC and its subsidiary bodies, such as the Secretariat and Scientific Committee.

An increasingly important role of the IWC is not only to take actions itself, but to ensure that cetacean conservation needs are taken into account in decisions by other bodies that impact cetaceans and their environment. With its strong scientific profile the IWC, together with its new proposed Conservation Committee, is well-placed to fulfill this role, provided that it is successful in developing its standing as a world scientific, technical and management authority for cetaceans. Its Conservation Agenda will be instrumental to this end. The IWC has much scientific expertise at its disposal that is mutually complementary to that of other agencies. It is important that the IWC works to “put itself on the map” in the perception of States and agencies involved in marine affairs.