Editorial

This issue of the Journal follows the 2003 meeting of the International Whaling Commission held in Berlin, Germany. Details of the Commission meeting will be published in the next *Annual Report of the International Whaling Commission*. The full report of the Scientific Committee will be published in spring 2004 as *J. Cetacean Res. Manage*. 6 (Suppl.). However, as is now traditional, here follows a summary of the work of the Scientific Committee at the recent annual meeting.

REVISED MANAGEMENT PROCEDURE

After the adoption of the moratorium on commercial whaling in 1982, the Committee spent over eight years developing the Revised Management Procedure (RMP) for baleen whales (IWC, 1999b). In brief, the RMP is a generic management procedure designed to estimate safe catch limits for commercial whaling of baleen whales. This was adopted some time ago by the Commission (IWC, 1993). However, the Commission has stated that it will not set catch limits for commercial whaling for any stocks until it has agreed and adopted a complete Revised Management Scheme (RMS). The RMS will also include a number of non-scientific matters, including inspection and enforcement. This has been the subject of a considerable amount of discussion within the Commission. A special task force led by the Chair of the Commission (Henrik Fischer) will operate during the year to see how to move to completion of the RMS.

Implementation Simulation Trials

Implementation Simulation Trials are trials that are carried out before using the RMP to calculate a catch limit and involve investigating the full range of plausible hypotheses related to a specific species and geographic area, particularly with respect to issues of stock structure.

The process of developing *Implementation Simulation Trials* is not the same as identifying the 'best' assessment for the species/region, but involves considering a set of alternative models to examine a broad range of uncertainties with a view to excluding variants of the RMP that show performance that is not sufficiently robust across the trials. Account needs to be taken of the plausibility of the various trial scenarios when evaluating RMP variants.

In the light of difficulties experienced in recent years, particularly with respect to the North Pacific region (common minke whales and Bryde's whales), the Committee has spent some time discussing the general question of how best to ensure that the process of carrying out *Implementations* (or *Implementation Reviews*) is efficient and prompt, whilst taking into account the available information. To achieve this it agreed that they should be conducted at discrete intervals, using the data available at one point in time. The process from *'pre-Implementation Assessment'* to initial *Implementation* and *Implementation Reviews* was formalised and clarified last year and a major review will be undertaken in 2004.

North Pacific common minke whales

The Committee has been working on *Implementation Simulation Trials* for this area since 1994; a special workshop was held prior to the Berlin meeting. The process has proven to be difficult for a number of reasons, including (1) harvesting is projected to take place on migration as well as on feeding grounds; (2) there is a seasonally-dependent overlap of management stocks; (3) continual updating of information on relatively complex population structure; (4) issues related to the plausibility of trials, particularly with respect to population structure; (5) complexity and time required to code and run trials; (6) lack of agreement on when to stop 'improving'. Completing this process was one of the major areas of work for the 2003 meeting.

The Committee considered four stock scenarios for the western North Pacific (ranging from 2-4 stocks with various boundaries and levels of mixing) and six management variants (allowing catches in different *Small Areas* and combinations of *Small Areas* and times of year). It also carried out trials with 1% and 4% MSYR and a variety of sensitivity investigations of a number of assumptions including numbers of bycaught animals, level of depletion of the non-target 'J-stock' etc.

There was disagreement within the Committee with respect to the plausibility of the various stock scenarios and this led to lack of consensus over the most appropriate management variant to recommend. Most members supported the management variant that performed best under all stock scenarios, whereas some supported the variant that performed best for the stock scenario that they believed was most plausible.

A full review of how best to implement the RMP in cases of uncertain stock structure will take place at next year's meeting.

North Pacific Bryde's whales

The Committee has made relatively slow progress on completing the *implementation* for western North Pacific Bryde's whales *inter alia* due to its heavy workload. While noting that it was in the *pre-implementation assessment* stage, the Committee noted the considerable work already undertaken and agreed that it should be possible to move faster towards *implementation* than would be the case for new situations. It will be an important topic at next year's meeting.

North Atlantic common minke whales

The Committee completed an *Implementation Review* of North Atlantic minke whales this year, taking into account new information on stock structure and abundance. The Committee recommended some changes to the *Small Area* boundaries for the eastern *Medium Area* and agreed that the *Catch-cascading* option at the *Medium Area* level remained the preferred management option.

Bycatches of large whales

The RMP estimates a limit for the number of non-natural removals, not simply a catch limit for commercial whaling. It is therefore important to estimate the numbers of whales

removed from the population by indirect means including bycatches in fishing gear and ship strikes, for example.

The Scientific Committee began to consider this issue in some detail two years ago. It agreed that priority should be given to those areas where the RMP is likely to be implemented – such as the northwestern Pacific and the northeastern Atlantic. Four steps are required: (1) identification of the relevant fisheries; (2) description and categorisation of those fisheries to allow a sampling scheme to be devised; (3) identification of a suitable sampling strategy or strategies; and (4) design and implementation of the sampling scheme to enable estimation of the total bycatch.

The Committee has reviewed general methods for estimating bycatches. These fall under two headings: (1) those based on fisheries data and observer programmes; and (2) those based on genetic data. The former have been used successfully for several small cetacean populations. The Committee agreed that independent observer schemes are generally the most reliable means of estimating bycatch rates in a statistically rigorous manner, but that they may not always be practical and will require careful design.

Genetic approaches potentially represent a new way of estimating bycatches. The Committee has agreed that although genetic methods based on market samples may not be the primary approach to estimating bycatch, they could provide useful supplementary data that could not be obtained in another way. The use of market samples to provide absolute estimates should not be ruled out. However, it will require further developments in sampling design with input from experts with detailed knowledge of market sampling issues. A proposal for a workshop on that subject is being developed for consideration in 2004.

Work to further explore improved bycatch estimation methods for the two approaches noted above is continuing. Improved data reporting for large whale bycatches was also recommended.

DEVELOPMENT OF AN ABORIGINAL WHALING MANAGEMENT PROCEDURE

With the completion of the RMP, the Commission asked the Scientific Committee to begin the process of developing a new procedure for the management of aboriginal subsistence whaling. Such a procedure must take into account the different management objectives for such whaling when compared to commercial whaling. This is an iterative and ongoing effort. The Commission will establish an Aboriginal Whaling Scheme that comprises the scientific and logistical (e.g. inspection/observation) aspects of the management of all aboriginal fisheries. Within this, the scientific component might comprise some general aspects common to all fisheries (e.g. guidelines and requirements for surveys and for data c.f. the RMP) and an overall AWMP within which there will be common components and case-specific components.

At the 2002 meeting, the Committee completed its work with respect to the Bering-Chukchi-Beaufort Seas stock of bowhead whales. It agreed a *Strike Limit Algorithm (SLA)* for bowhead whales and the scientific aspects of a Scheme; this was adopted by the Commission. It noted that should the Commission decide, it would be possible to apply the *Bowhead SLA* at that meeting. Work continued intersessionally on gray whales and during the 2003 meeting. After a Workshop, the Committee hopes to be able to present a formal recommendation to the Commission for a *Strike Limit Algorithm* for gray whales in 2004. The situation for the Greenlandic fisheries for fin and minke whales is less promising. A considerable amount of research, especially concerning stock identity, is required and to this end, the Committee has developed a research programme in cooperation with Greenlandic scientists (see below).

ASSESSMENT OF STOCKS SUBJECT TO ABORIGINAL SUBSISTENCE WHALING

Aboriginal subsistence whaling is permitted for Denmark (Greenland, fin and minke whales), the Russian Federation (Siberia, gray and bowhead whales), St Vincent and The Grenadines (Bequia, humpback whales) and the USA (Alaska, bowhead and gray whales). It is the responsibility of the Committee to provide scientific advice on safe catch limits for such stocks and until the AWMP is completed then the Committee provides advice on a more *ad hoc* basis, carrying out major reviews according to the needs of the Commission in terms of establishing catch limits and the availability of data. It also carries out brief annual reviews of each stock.

The present catch limits had been set up to the 2002 season and so at the 2002 meeting, the Committee had to provide management advice for all of the stocks considered. The Commission sets catch limits based on the scientific advice and a 'need' statement from the countries involved.

Eastern gray whales

In 2002, the primary assessment carried out was for the eastern gray whale population (Issue 1 of volume 4 of the *Journal* was devoted to gray whale papers). New information on abundance, distribution, catches and ecology was presented. The population is believed to be close to carrying capacity. The Committee agreed that an annual take of up to 463 whales was acceptable; based on the submitted need statement, the Commission set a total for the 2003-6 seasons of 620 with a maximum of 140 in any one year.

Bering-Chukchi-Beaufort Seas stock of bowhead whales

In addition to the work on the *Bowhead SLA*, the Committee also examined the status of the Bering-Chukchi-Beaufort Seas stock of bowhead whales. New information in 2002 included a preliminary abundance estimate for 2001 of 9,860 (95%CI 7,700 – 12,600) giving a rate of increase between 1978 and 2002 of 3.3% (95%CI 2%, 4.7%). The Committee noted that irrespective of its work on the *Bowhead SLA*, the information here suggests that it is very likely that an annual catch of 102 whales will allow the stock to increase. A proposal to continue to include provision for such catches (up to 280 bowhead whales to be landed in the period 2003 – 2006, with no more than 68 whales struck in any year) failed to reach the necessary three-quarters majority in the Commission at the 2002 Annual Meeting but was agreed at a later Special Meeting. This year the Committee considered the work necessary to complete an in-depth assessment at the 2004 meeting. It agreed that the primary focus of the in-depth assessment should be: (a) the data required for the *Bowhead SLA*; and (b) examining whether the present situation is within the tested parameter space for that *SLA*. The latter effort will include consideration of such issues as stock identity and biological parameters. Previous assessment models can be used to investigate this, but it will not be necessary to determine the 'best' model or to calculate management-related quantities (in the time-consuming manner of previous assessments) as the *Bowhead SLA* will be used to provide management advice.

Minke and fin whales off West Greenland

Last year, at the Commission, the same catch limits as previously in force were agreed for the 2003-6 period, i.e. West Greenland minke whales – an annual limit of up to 175 strikes; East Greenland minke whales – an annual catch of up to 12 animals; West Greenland fin whales – an annual catch of up to 19 whales. The Committee had been unable to provide scientific advice on safe catch limits and once again this year, the Committee received little new information on stocks of minke and fin whales off West Greenland. It stressed that this inability to provide any advice on safe catch limits is a matter of great concern, particularly in the case of fin whales where the best available abundance estimate dates from 1987/88 and is only 1,096 (95% CI 520-2,100); that for West Greenland common minke whales dates from 1993 and is 8,371 (95% CI 2,400 – 16,900). The Committee strongly recommended that an abundance survey be carried out this year if at all possible.

The Committee also stressed that obtaining adequate information for management must be seen as of very high priority by both the national authorities and the Commission. Without this information, the Committee will not be able to provide safe management advice in accord with the Commission's management objectives, or develop a reliable *SLA* for many years, with potentially serious consequences for the status of the stocks involved.

Humpback whales off St Vincent and the Grenadines

Last year, after considerable debate in the Commission, a catch of up to 20 whales for the period 2003-7 was agreed (the Scientific Committee must review this in 2005). This year, the Committee repeated that it believes it is most plausible that eastern Caribbean humpbacks are part of the West Indies breeding population (abundance in 1992/93 – 11,570, 95%CI 10,100 – 13,200). However, it recommended further collection of relevant data to confirm this. It also agreed that catch limit set by the Commission would not harm the stock if it is part of the West Indies breeding population.

STOCK IDENTITY

Of general concern to the assessment of any cetaceans is the question of stock identity. Examination of this concept in the context of management plays an important role in much of the Committee's work, whether in the context of the RMP, AWMP or general conservation and management. In recognition of this, the Committee has established a Working Group to review theoretical and practical aspects of the stock concept in a management context. The Committee has noted that it is important, in any application of stock structure methods, to examine the sensitivity of conclusions to different *a priori* decisions about the definition of initial units, and as to which population structure hypotheses to examine.

A specialist workshop to examine the use of simulation testing to assess the performance of methods to identify population structure was held in January 2003 and discussed at the Berlin meeting. The workshop developed a suitable simulation framework to allow evaluation of genetic methods used in inferring population structure both in general terms (the issue is of great relevance to conservation and management outside the IWC) and from a specifically IWC viewpoint (particularly in an RMP/AWMP context).

It was recognised that such a complex project must proceed in an iterative fashion and the Workshop concentrated on specifying the various modular tasks needed for Phase I of the process (c.f. *Initial Exploration Trials* in the AWMP process), for which some results might be expected within a year, while also identifying the types of scenarios that would need to be covered in Phase II and beyond. The Workshop report will be published in *J. Cetacean Res. Manage.* 6 (Suppl.). Funding has been provided that will allow Phase I of the TOSSM project (Testing Of Spatial Structure Models) to be completed. The most challenging module is the development and validation of a program to simulate realistic genetic datasets. It is hoped that the first sets of simulated data will become available in February or March 2004. If so, some results for at least some methods may be available for consideration at next year's Scientific Committee meeting

COMPREHENSIVE ASSESSMENT OF WHALE STOCKS

The 'Comprehensive Assessment' of whale stocks

The development of the concept of the 'Comprehensive Assessment' is reviewed in Donovan (1989). It can be considered as an in-depth evaluation of the status of all whale stocks in the light of management objectives and procedures; this would include the examination of current stock size, recent population trends, carrying capacity and productivity. Clearly, it is not possible to 'comprehensively assess' all whale stocks simultaneously, and the Committee has been working in an iterative manner towards this, initially concentrating on stocks that have recently or are presently being subject to either commercial or aboriginal subsistence whaling. Some of these stocks have already been discussed in the sections on the RMP and AWMP.

Antarctic minke whales

The Committee has carried out annual surveys in the Antarctic (south of 60°S) since the late 1970s. The last agreed estimates for each of the six management Areas for minke whales (see Donovan, 1991) were for the period 1982/83 to 1989/90 (IWC, 1991). At the 2000 meeting, the Committee agreed that whilst these represented the best estimates for the years surveyed, they were no longer appropriate as estimates of current abundance. An initial analysis of available recent data had suggested that current estimates might be appreciably lower than the previous estimates (e.g. see Branch and Butterworth, 2001).

Subsequently, considerable time has been spent considering Antarctic minke whales with a view to obtaining final estimates of abundance and considering any trend in these. This has included a review of data collection methods (e.g. see Murase *et al.*, this issue) and analytical methodology. After considering many of the factors affecting abundance estimates, there is still evidence of a decline in the abundance *estimates*, although it is not clear how this reflects any *actual* change in minke abundance. Three hypotheses that might explain these results have been identified:

(1) a real change in minke abundance;
(2) changes in the proportion of the population present in the survey region at the time of the survey;
(3) changes in the survey process over time that compromise the comparability of estimates across years.

A considerable amount of work has been undertaken and further work is ongoing. It will again be a priority item for discussion at next year's meeting.

Southern Hemisphere blue whales

The Committee is beginning the process of reviewing the status of Southern Hemisphere blue whales. An important part of this work is to try to develop methods to identify pygmy blue whales from 'true' blue whales at sea (IWC, 1999a) and progress is being made on this. Work on genetic and acoustic differentiation techniques is continuing and there is considerable progress with morphological methods. The Committee has agreed on a number of issues that need to be resolved before it is in a position to carry out an assessment, which it believes should commence in 2006.

Southern Hemisphere humpback whales

Considerable progress has been made in recent years in working towards an assessment of humpback whales. Attention has focussed both on data from historic whaling operations and on newly acquired photo-identification, biopsy and sightings data. The Committee made a number of research recommendations to further progress towards an assessment. An intersessional group was established last year to review progress and determine whether it is feasible to set a deadline for the assessment to be completed. Further work was identified this year and progress will be reviewed in 2004.

North Atlantic right whales

The Committee has paid particular attention to the status of the North Atlantic right whale in the western North Atlantic in recent years (e.g. see special issue 2 of the Journal – *Right whales: worldwide status*). The Committee is extremely concerned about this population, which, whilst probably the only potentially viable population of this species, is in serious danger (*ca* 300 animals). By any management criteria applied by the IWC in terms of either commercial whaling or aboriginal subsistence whaling, there should be no direct anthropogenic removals from this stock.

This year, the Committee once again noted that individuals are continuing to die or become seriously injured as a result of becoming entangled in fishing gear or being struck by ships. It repeated that it is a matter of absolute urgency that every effort be made to reduce anthropogenic mortality in this population to zero. This is perhaps the only way in which its chances of survival can be directly improved. There is no need to wait for further research before implementing any currently available management actions that can reduce anthropogenic mortalities.

The Committee reviewed progress on a number of research and management recommendations concerning this stock.

Western North Pacific gray whales

This is one of the most endangered populations of great whales in the world. It numbers less than 100 animals (see the paper by Weller *et al.,* 2002) and there are a number of proposed oil and gas-related projects in and near its only known feeding ground. The Committee held a Workshop in October 2002 to review this further. The Workshop report will be published in *J. Cetacean Res. Manage*. 6 (Suppl.). Overall, the Workshop agreed with the conclusions of previous reviews on western gray whales. Specifically, that the population is very small, and suffers from a low number of reproductive females, low calf survival, male-biased sex ratio, dependence upon a restricted feeding area and apparent nutritional stress (as reflected in a large number of skinny whales). Other major potential concerns include behavioural reactions to noise (notably in light of increasing industrial activity in the area) and the threat of an oil spill off Sakhalin which could cover all or part of the Piltun area and thus potentially exclude animals from this feeding ground. The Workshop had noted that assessments of the potential impact of any single threat to the survival and reproduction of western gray whales were insufficient and had strongly recommended that risk assessments consider cumulative impact of multiple threats (from both natural and anthropogenic sources).

The Committee adopted the Workshop report and endorsed its recommendations, including the research and monitoring plan. In conclusion, the Committee strongly reiterated that it is a matter of absolute urgency that every effort is made to reduce anthropogenic mortality (including direct catches) and disturbance to zero to save western North Pacific gray whales from extinction.

EFFECTS OF ENVIRONMENTAL CHANGE ON CETACEANS

There is an increasing awareness that whales should not be considered in isolation but as part of the marine environment; detrimental changes to their habitat may pose a serious threat to whale stocks. The Committee has examined this issue in the context of the RMP and agreed that the RMP adequately addresses such concerns. However, it has also emphasised that the species most vulnerable to environmental threats might well be those reduced to levels at which the RMP, even if applied, would result in zero catches (IWC, 1994). Over a period of several years, the Committee has developed two multi-national, multi-disciplinary research proposals. One of these, POLLUTION 2000+ (Reijnders *et al.,* 1999) has two aims: to determine whether predictive and quantitative relationships exist between biomarkers (of exposure to and/or effect of PCBs) and PCB levels in certain tissues; and to validate/calibrate sampling and analytical techniques. The other, SOWER 2000 (IWC, 2000) is to examine the influence of temporal and spatial variability in the physical and biological Antarctic environment on the distribution, abundance and migration of whales. Progress reports on both of these programmes were considered at the 2003 meeting.

At the 2003 meeting, the Committee also held a special session on Southern Ocean climate change and cetaceans. In particular it considered two presentations, one summarising work on krill, its physical environment, competitors and predators, and emphasised major findings and current hypotheses. The other focussed on the US SO-GLOBEC programme, and described the integrated study of physical and biological oceanography, krill and krill predators, noting IWC collaboration with respect to cetaceans. The implications of this work (much of which occurs outside the normal timing of Antarctic cetacean research) for other aspects of the IWC's work (e.g. see the Antarctic minke whale section above) was noted.

The Committee has also begun to look at the issues surrounding fisheries and cetaceans. The main long-term objective of the Committee on this topic is to answer the question 'how are changes in abundance of cetaceans likely to be linked (in the short- and long-term) to changes in fishery catches?' A Workshop to address modelling-related issues related to the interactions between cetaceans and fisheries was held in July 2002. The report of the Workshop will be published in *J. Cetacean Res. Manage*. 6 (Suppl.). Its

aim was to evaluate existing modelling approaches, including identifying their constraints and data requirements, in order to identify those approaches most likely to answer the above question. The Workshop reviewed all the available major modelling approaches that deal with top predators and multi-species fisheries interactions.

The Workshop concluded that despite recent advances, most multi-species models are still in the development phase. It therefore agreed that no single approach could be recommended at this stage to provide reliable information of value to consideration of cetacean dynamics in an ecosystem context. However, this does not necessarily rule out the possibility that useful inferences might be drawn if a number of different modelling approaches yield qualitatively similar results. The Workshop also agreed that despite these difficulties, the consideration of ecosystem interactions between fish stocks and cetaceans is a potentially important research topic.

The Committee endorsed the Workshop conclusion that for no system at present are we in the position, in terms of data availability and model development, to provide quantitative management advice on the impact of cetaceans on fisheries, or of fisheries on cetaceans. However, this does not rule out the possibility of providing qualitative advice if a number of different approaches yield qualitatively similar results. It also endorsed the conclusion that consideration of ecosystem interactions between fish stocks and cetaceans is a potentially important research topic in a general sense; however, there was disagreement as to whether further pursuit of this matter was likely to be helpful to the Committee in providing advice to the Commission regarding the management of whale populations.

SMALL CETACEANS

Despite disagreement within the Commission over the management responsibilities of the IWC with respect to small cetaceans, it has been agreed that the Scientific Committee can study and provide advice on them. As part of this programme, the Committee has reviewed the biology and status of a number of species and carried out major reviews of significant directed and incidental catches of small cetaceans (Bjørge *et al*., 1994).

In 2001, the Government of Japan had indicated that it would no longer co-operate with the Committee on small cetacean related matters. In 2002, the Committee referred to the great value of the information provided by the Government of Japan on the status of small cetaceans in previous years and respectfully requested that the Government of Japan reconsider its position on this matter and resume the valuable contribution of Japanese scientists to its work on small cetaceans. Unfortunately, this did not happen in 2003.

At the 2003 meeting, the Committee considered the status of small cetaceans in the Black Sea. The species of concern are the harbour porpoise (*Phocoena phocoena*), the short-beaked common dolphin (*Delphinus delphis*) and the common bottlenose dolphin (*Tursiops truncatus*). All three are found in the Turkish Straits System (TSS) but only harbour porpoises and bottlenose dolphins are present in the Azov Sea. There is relatively little information on current distribution. With respect to stock structure, it was agreed that the Black Sea harbour porpoises and bottlenose dolphins comprise separate stocks for management and conservation purposes. A similar but provisional conclusion was reached for common dolphins. A number of research recommendations to improve understanding of distribution and stock structure within the region were made. Similarly, the Committee recommended that systematic abundance surveys are required for all three species throughout their range. The Black Sea is one of the most highly modified marine ecosystems in the world and the habitats of cetaceans in this basin have been degraded by numerous human activities. However, for most of these, the effects on cetaceans in the region are unknown and the Committee recommended research into these.

Uncontrolled directed takes were the primary threat to cetaceans in the Black Sea until a ban was imposed in 1983. There is no evidence of continued directed takes. All three species are taken as bycatch, but incidental takes of harbour porpoises are of greatest concern. Illegal, unreported or unregulated (IUU) fisheries are widespread in the Black Sea and may have a significant bycatch. Further quantitative elaboration of bycatches for all species is important, particularly for the bottom-set gillnet fisheries for turbot. After the ban on directed harvest, removals of live bottlenose dolphins has continued and in view of the many other threats faced by this species in the Black Sea, it is recommended that any removals of live cetaceans be preceded by a rigorous assessment of the impacts of such removals.

In conclusion, the Committee was unable to fully evaluate the status of small cetaceans in the Black Sea due to a lack of information. It concluded, however, that all three species probably declined dramatically in the 20th century as a result of large directed catches; fisheries bycatch and habitat degradation pose the most significant current threats to these species.

The Committee also reviewed progress on previous recommendations it had made, particularly those concerning the critically endangered baiji and vaquita. The Committee received some information from China and welcomed the initiatives being taken. However, it reiterated that the prospects for the baiji remain extremely poor. The Committee was informed of some further research that suggested the vaquita's range may have contracted – fishing and bycatches continue. It reiterated its grave concern over the survival of this species. It noted that CIRVA (International Committee for the Recovery of the Vaquita) will meet later in 2003/4 and looked forward to receiving an update of progress.

The Committee reiterated its support for the ASCOBANS recovery plan for harbour porpoises in the Baltic which it hoped would be adopted and implemented by the ASCOBANS parties.

The Committee also reviewed progress on work on the reduction of bycatches in fishing gear. It expressed concern over the number of animals being taken in pelagic trawl fisheries in western Europe and recommended that independent observer programmes be established to document the extent of bycatches in pelagic trawl fisheries of all nations in this region where such programmes do not already exist.

The Committee repeated its concern over the catches and quotas for some stocks of white whales and narwhals, particularly in Greenland, east Hudson Bay and the Russian Arctic. Finally, the Committee repeated previous requests for all Governments to submit relevant information on direct and incidental catches of small cetaceans in their national progress reports and for improved information on stock identity and abundance.

Priority next year will be given to addressing the status of the franciscana (*Pontoporia blainvillei*).

SCIENTIFIC ASPECTS OF WHALEWATCHING

In 2000, the Committee had identified a number of areas for further research on possible long-term effects of whalewatching on whales and a number of possible data types that could be collected from whalewatching operations to assist in assessing their impact. The Committee developed this further at the 2003 meeting and will continue to work on data collection issues in the intersessional period.

The Committee also reviewed: whalewatching guidelines and regulations; and new information on dolphin feeding and 'swim-with' programmes. The Committee also welcomed the news that a whalewatching management workshop will be held in late 2003 or early 2004 in Cape Town, South Africa. It recommended that workshop participants should be geographically representative and include scientists, managers, conservation organisations, whalewatching operators and representatives from other disciplines, such as economics and social sciences. The Committee established an intersessional correspondence group to provide scientific advice for the organisation of the workshop

REVIEW AND COMMENT ON SCIENTIFIC PERMITS ISSUED FOR SCIENTIFIC RESEARCH

All proposed scientific permits have to be submitted for review by the Scientific Committee following guidelines issued by the Commission. However, in accordance with the Convention the ultimate responsibility for issuing them lies with the member nation.

Most of the discussion at the 2003 meeting centred on the proposal for a two-year feasibility study in Icelandic waters involving the taking of 100 common minke whales, 100 fin whales and 50 sei whales. The stated goal was to improve understanding of the biology and feeding ecology of important cetacean species in Icelandic waters for better management of living resources based on an ecosystem approach. It includes multiple specific objectives with different priorities for the different species. For common minke whales the primary specific objective is to increase the knowledge of the species' feeding ecology in Icelandic waters. For fin and sei whales the primary specific objective is the study of biological parameters during the apparent increase in population size in recent decades. These objectives are the basis for the proposed sample sizes. Other research objectives include studies of population structure, pollutants, parasites and pathogens, and the applicability of non-lethal methods.

There was considerable disagreement within the Committee over most aspects of this research programme, including objectives, methodology, sample sizes, likelihood of success, effect on stocks and the amount and quality of data that could be obtained using non-lethal research techniques.

The Committee also briefly considered the continuing programmes on Antarctic minke whales (last extensively reviewed in 1997 – IWC, 1998) and in the western North Pacific (150 common minke whales, 50 Bryde's whales, 50 sei whales and 10 sperm whales each year for an unspecified period). The latter was extensively reviewed last year.

WHALE SANCTUARIES

The Committee had been asked by the Commission to review the Southern Ocean Sanctuary (SOS) in 2004 and an intersessional working group had been appointed to develop a proposed framework to carry out the review. The Committee's discussions of sanctuaries in the past have been somewhat inconclusive, with attention being drawn to a number of general arguments both in favour of and against sanctuary proposals. This year discussions centred on consideration of existing criteria to review sanctuaries, the use and interpretation of the 'Precautionary Approach', the appropriateness of the use of simulation trials to evaluate sanctuaries and the introduction of the Marine Protected Area (MPA) concept. A number of detailed comments on the review process for the SOS were made and a mechanism to improve the review next year was developed.

DATA AVAILABILITY

The question of data availability is complex and sensitive. A balance must be struck between the needs of the Committee and the rights of the scientists who have invested considerable time and effort in collecting the data. To reach agreement on this has proved difficult in the past. A major achievement at the 2003 meeting was that consensus was reached on a protocol for data availability. The agreed protocol was based on the principles that:

(1) data represent a significant temporal and financial investment by scientists and research institutes – use of their data by others should be accompanied by appropriate safeguards;
(2) the right of first publication is a generally accepted scientific norm;
(3) if important management decisions are to be made, they should be based on a full scientific review of both data quality and analysis that can be independently verified.

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Editor

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