



منظمة الأغذية
والزراعة
للأمم المتحدة

联合国
粮食及
农业组织

Food
and
Agriculture
Organization
of
the
United
Nations

Organisation
des
Nations
Unies
pour
l'alimentation
et
l'agriculture

Organización
de las
Naciones
Unidas
para la
Agricultura
y la
Alimentación

COORDINATING WORKING PARTY ON FISHERY STATISTICS

Twenty-first Session

Copenhagen, Denmark. 1-4 March 2005

Report by IWC

Report on the IWC's Programme of Fishery Statistics

Background

In 1982 the IWC took the decision that, from the 1986 and 1985/86 seasons, the catch limits for all commercial whaling would be zero. As this decision remains in force, no commercial catch of whales takes place under IWC management at this time. During this period of zero catch limits the IWC is developing a Revised Management Procedure and Scheme (IWC 1999) for setting commercial catch limits, which involves measures for setting quotas by small areas and for improving the national inspection and international observer scheme and methods of reporting catch statistics. The work is based on the precautionary principle and has been subject to intensive testing. The procedure for setting catch limits is designed to have minimal data requirements.

A Scheme for managing aboriginal subsistence harvests from the Bering-Chukchi-Beaufort Seas stock of bowhead whales and eastern north pacific stock of gray whales has recently been developed (IWC2002, IWC2003, IWC2004a). Work has begun on the development of a procedure for aboriginal subsistence harvests from Greenland (IWC2004b)

Main Purpose and Usage of Statistics

The data collected and held by the IWC are primarily for use by IWC scientists; in particular, for use in stock assessments and in connection with the development and use of the new and revised management procedures for regulating commercial and aboriginal subsistence whaling. On request, data are also supplied to the wider public.

Recent Catches of Large Whales

The IWC collects catch data for large whales from its member countries on an annual basis and these are published in the Annual Report of the International Whaling Commission. Subsistence catches by aboriginal peoples are included, as are catches taken under national scientific permits and commercial catches by Norway. The latter are taken under objection to the moratorium.

The IWC also collects data on incidental catches of large cetaceans although at present the number of reports of incidental catches is small.

Historic Catch Data

The IWC holds a historic catch database of individual whales taken during the past century. Whale data are always collected (and used in stock assessment programs) on the basis of individual catch numbers, rather than biomass. Work continues on this database, both adding further records and checking the existing records. The information includes species, sex, length, data and position of capture. Over two and a quarter million records have been entered so far. The dataset contains detailed annotations wherever corrections or revisions have been made, enabling users to confirm the reasons for any changes to the data.

The whale catch data supplied by the former USSR from 1948 to 1972 was extensively falsified, both for the North Pacific and the Southern Hemisphere. Some of the original data has been recovered and is being entered into the IWC database, while work has continued to try and recover more data. Well over 200,000 whales were taken by Soviet floating factories operating in the Southern Hemisphere during this period and the lack of accurate data represents a significant omission from the database.

The database represents an important dataset and provides an exceptionally long time series. For example, catch positions have been used (de la Mare 1997) to indicate the position of the Antarctic ice-edge for some decades prior to more recent, direct, monitoring of the ice-edge.

The catch database is currently kept in ASCII format using specially written Fortran programs to extract subsets of the data as required. The data are also available in Excel format.

As the individual catch database can never include all whale catches (either because the data were never collected or are unavailable) the IWC has recently created an additional summary database of all whaling expeditions since 1900. The data held include the area of operation, the season dates, the number of each species caught and the oil production. The new database will be an important tool in stock assessment work and it is intended that it be made available on the IWC web site shortly.

Small Cetacean Catches

The IWC continues to collect small cetacean data from its Contracting Governments and the members of its Scientific Committee. The data are published annually in the *Journal of Cetacean Research and Management*. The initial catch data tables are provisional as the data are often received a year or two after the current season and may also be subsequently revised. To overcome these problems the published tables give data both for the most recent season, and also for the preceding two years. In this way the tables show the current state of knowledge of catch levels. The tables include data from both member and non-member nations, and list all known takes of small cetaceans including both directed catches and by-catches as well as actual and estimated numbers. Where estimates are used, further details, such as information on the proportion of the catch that was monitored, are given when available.

The tables are necessarily incomplete since by-catches are frequently unrecorded. In addition, catches made by fishing vessels of non-Contracting parties are not reported to the IWC. Finally there is no official recognised requirement to supply data on small cetaceans to the IWC - there are different views among member countries over the legal competence of the IWC to manage small cetaceans. Hence some nations do not report statistics to the IWC.

The magnitude of small cetacean catches is a matter of concern to the IWC Scientific Committee, which continues to assess the status of stocks of small cetaceans and to encourage the collection and reporting of data. (IWC20004c).

Bycatch

The IWC Scientific Committee and others have identified the incidental capture of cetaceans in fishing gear as one of the most important threats to the conservation and management of their populations (e.g. Perrin *et al.*, 1994; Hall and Donovan, 2002; Reeves *et al.*, 2003) and it is known to be a significant threat to survival in certain cases (e.g. the North Atlantic right whale, Caswell *et al.*, 1999; the vaquita, D'Agrosa *et al.*, 2000). The IWC has recently begun developing a program for ascertaining levels of incidental catch.

A collaboration with FAO was initiated last year to investigate fishery data that may allow better estimates of large whale bycatch. FAO holds at least three datasets that are potentially useful for IWC purposes: the Global Fishing Fleet database; the Global Discard Study database; and the Inventory of Fisheries project, particularly the last. The FAO/IWC collaboration intends to use the Inventory to determine how easily some measure of fishing activity or effort by gear category can be extracted from the database, while also determining how easily the Inventory might be populated with existing information on cetacean bycatch. To formalise this arrangement, a letter of agreement would need to be exchanged between organisations. In the longer term, an

appropriate formal mechanism for collaboration might be through the Fishery Resources Monitoring System (FIRMS).

The IWC also intends to hold a methodological workshop in May 2005 to evaluate whether market data can be used to provide reliable estimates of bycatches and to co-ordinate a series of broad-based regional workshops focussing on regions where bycatch problems exist. The objectives of the workshop are:

(1) to review available methods that have been used to provide estimates of large cetacean bycatches via market samples, including a consideration of their associated confidence intervals in the context of the RMP;

(2) to provide advice as to whether market-sampling-based methods can be used to reliably estimate bycatch for use in addressing the Commissions objectives regarding total removals over time and, if so, the requirements for such methods.

The IWC Scientific Committee has agreed that bycatch problems of either large whales or small cetaceans require case-specific solutions; a full assessment of any bycatch problem requires input from people with additional types of expertise to cetacean biologists (including fishery biologists and managers) and from 'stakeholder' groups (such as fishermen and conservation organisations). To further this, it will co-ordinate a series of broad-based regional workshops to be held under IWC auspices, focussing on regions with significant bycatch problems. These workshops should involve collaboration with other relevant organisations (e.g. CMS, FAO, IUCN and relevant international and regional fishery bodies).

Measures to reduce levels of by-catch have been investigated by the Scientific Committee. The most prominent and widely applied approach to reducing cetacean by-catch in gillnets is the attachment of pingers (small sound-generating devices) to the fishing gear (IWC2000).

The IWC receives information on bycatch through annual Progress Reports from its member governments, but the level of gear information provided is often poor. To overcome this the Scientific Committee has agreed to adopt the international standard classifications of fishing gear (as approved by CWP-10, 1980) in reporting whale bycatches and entanglements, although more detailed typographies are also encouraged in addition to the standard categories (for example shark exclusion nets which are not included in the standard classifications).

Other Databases

The IWC has undertaken dedicated sightings surveys in the Antarctic since 1978, first as part of the IDCR programme (International Decade of Cetacean Research) and more recently as part of the IWC-SOWER programme (Southern Ocean Whale and Ecosystem Research). The Government of Japan has generously provided vessels for these cruises, which provide a method of assessing whale population levels scientifically and independently of whaling operations. The data from these cruises are held in the IWC-DESS database (Database Estimation Software System) together with data supplied by member nations from national sightings cruises. DESS is designed to standardise IWC survey data storage and to streamline population estimation from these data. It is based on the Paradox for Windows system and also uses the Geographic Information Package (GIS) MapInfo to dis-aggregate survey data and for visual display. Work is continuing to add new data to the DESS database and to provide new utilities to improve data extraction and analysis.

The IWC also holds a database of whale marking tag and recapture data, which contains the data from the International Marking Scheme in the Southern Hemisphere (excepting for Soviet recovery data that is being sought, as the original recovery reports were falsified). It is envisaged that data from the North Pacific and North Atlantic will be added at a later date.

Observer Programmes and Vessel Monitoring Systems

In the absence of commercial whaling there is currently no implementation of an observer scheme or of vessel monitoring systems.

Prior to the moratorium, an International Observer Scheme was introduced by the IWC in 1972 (Schedule para 21c and RIWC 1973). This scheme is known to have improved the reliability of catch data. For example the data from the former USSR are believed to be substantially correct following the introduction of the programme. An improved observer programme would be an important part of the Revised Management Scheme and the IWC is currently discussing the details. The most recent discussions centre on an RMS 'package' proposed by the Chair of the Commission, a summary of which is attached as Appendix 1 to this report.

Up until the current moratorium on commercial catches, the IWC maintained a register of whaling vessels. If commercial whaling is resumed it is anticipated that this register would be resumed and updated.

Access to data

The IWC has a requirement that member nations provide it with details of catches of large whales. This information is in the public domain. Records are kept whenever data are forwarded to people or agencies, and it is IWC policy to inform recipients of any significant revisions that are subsequently made to the data.

As detailed above it is intended to make the new summary catch database available on the IWC web site shortly (<http://www.iwcoffice.org>).

Last year, the IWC Scientific Committee agreed a data availability protocol (see Appendix 2) for other data used in the work of the Committee. The question of data availability is both complex and sensitive. A balance must be struck between the need of the Scientific Committee and the rights of the scientists who have invested considerable time and effort in collecting the data. The protocol was found to have worked well in its first year, although some minor modifications were made to it.

References

- Caswell, H., Fujiwara, M. and Brault, S. 1999. Declining survival probability threatens the North Atlantic right whale. *Proc. Natl Acad. Sci. USA* 96(6):3,308-13.
- D'Agrosa, C., Lennert-Cody, C.E. and Vidal, O. 2000. Vaquita by-catch in Mexico's artisanal gillnet fisheries: driving a small population to extinction. *Conserv. Biol.* 14:1110-9.
- de la Mare 1997 *Nature* 389, 57-60
- Hall, M.A. and Donovan, G.P. 2002. Environmentalists, fishermen, cetaceans and fish: is there a balance and can science find it? pp. 491-521. In: P.G. Evans and J.A. Raga (eds.) *Marine mammals: biology and conservation*. Kluwer Academic/Plenum Publishers, New York.
- IWC 1973: *Rep. Int. Whal. Comn* 23 (1973) 22-3
- IWC 1999 Report of the Scientific Committee *J.Cetacean Res.Manage.*1 (suppl.) 1999: 251-8
- IWC 2000 Report of the Scientific Committee (Item 12.3) *J.Cetacean Res.Manage.*1 (suppl.) 2000

IWC 2002 Report of the Scientific Committee. Annex E. Report of the Standing Working Group (SWG) on the Development of an Aboriginal Subsistence Whaling Management Procedure (AWMP). *J. Cetacean Res. Manage. (Suppl.)* 4:161-6.

IWC 2003. Report of the Fourth Workshop on the Development of an Aboriginal Subsistence Whaling Management Procedure (AWMP). *J. Cetacean Res. Manage. (Suppl.)* 5:493.

IWC20004a Report of the Scientific Committee 2004. Item 8.2

IWC20004b Report of the Scientific Committee 2004. Item 8.3

IWC20004c Report of the Scientific Committee 2004. Item 13.

Perrin, W.F., Donovan, G.P. and Barlow, J. (eds.). 1994. Report of the International Whaling Commission (Special Issue 15). Gillnets and Cetaceans. International Whaling Commission, Cambridge, UK. 629pp

Reeves, R.R., Smith, B.D., Crespo, E.A. and Notarbartolo di Sciara, G. 2003. Dolphins, Whales and Porpoises - 2002-2010 Conservation Action Plan for the World's Cetaceans. IUCN/SSC Cetacean Specialist Group, Gland and Cambridge. xi+139pp

Appendix 1

Extract from IWC/56/26

Chair's Proposals for a Way Forward on the RMS

Summary of Chair's Proposal for an RMS 'Package'

A small group comprising myself, Denmark, Iceland, Japan, the Netherlands, Spain, Sweden, the USA and the Secretariat met twice in Cambridge. Based on the very constructive discussions held, I would like to bring a proposal forward for consideration by the whole Commission on how to take us forward towards an RMS. I believe that an effective RMS is essential both for the wise management and conservation of whale stocks; the present stalemate is not conducive to either.

The proposal included in this document and summarised below is based on the principle of compromise and respect of the various viewpoints held by Commission members within a framework that ensures that the rules and regulations of the Commission are obeyed and seen to be obeyed in an efficient and cost-effective manner. This will involve use of both the Schedule and voluntary measures such Resolutions and codes of conduct (issues requiring Schedule text are shown with an asterisk below).

ELEMENTS OF A PROPOSED RMS 'PACKAGE'

1. **RMP***: as agreed by the Scientific Committee and endorsed by the Commission.
2. **A phased-in approach to the resumption of commercial whaling***: for an initial period (e.g. 5 years after the lifting of the moratorium), commercial whaling would only be allowed in waters under national jurisdiction.
3. **National inspection and observation scheme***: as proposed by the EDG (generally, observers and inspectors on all boats where practical) with VMS on very small vessels with <24hr trips and one observer per catcher attached to a factory ship.
4. **Additional catch verification to combat IUU whaling and/or unreported bycatches (NOT to monitor trade)**:

National diagnostic DNA registers and market sampling to agreed standards (with outside review) and a procedure to allow checking of samples against the registers*.

Resolution urging countries to institute national legislation prohibiting the import of whale products from non-IWC countries as well as from IWC countries that are non-whaling .

Documentation up to port of entry if importation from IWC member *.
5. **Compliance***: Compliance Review Committee with duties as developed by the RMS Expert Drafting Group and agreed by the Commission, and inclusion of Schedule text as proposed in Berlin: 'The Compliance Review Committee reports on infringements and the seriousness of these infringements to the Commission and advises the Commission what actions, if any, to be taken'.
6. **Mechanism to apportion RMS costs among Contracting Governments***: Costs for national activities should be borne by relevant national governments, while international costs for securing transparency could be allocated in the context of the overall financial contributions scheme.

7. **Measures for the lifting of Paragraph 10(e)*:** modify paragraph 10(e) such that it becomes invalid on a specific day whilst ensuring that any whaling operations are undertaken under the full RMS package (N.B. catches other than zero can only be set for species/areas the Scientific Committee provides advice for under the RMP – currently very few).
8. **Whaling under Special Permit:** recognise that it is a Sovereign right under the Convention but develop a Code of Conduct.
9. **Animal welfare considerations:**
Explicit recognition of the issue in the Schedule*: 'The hunting of whales shall be undertaken so that the hunted whale does not experience unnecessary suffering and so that people and property are not exposed to danger.'

Resolution focussing on improving techniques, voluntary provision of data to regular scientific workshops and possible co-operative research programmes.

This 'package' of measures includes, in some way, all but two of the elements that have been discussed recently in the context of the RMS. The exceptions are blanket trade restrictions and sanctuaries. While some form of trade restriction might be appropriate in deterring IUU whaling, I believe that a blanket ban on international trade in whale products would be discriminatory against some countries, against principles of free trade, and outside the competence of IWC. With respect to sanctuaries, each should be reviewed on its own conservation and management merits and would therefore be difficult to build into any RMS 'package'.

If the Commission reacts favourably to my proposals in Sorrento, recognising that they are of course open to discussion, then I believe it should be possible to have firm proposals ready for adoption at the meeting in 2005. This will however require substantial intersessional activity of both a technical and policy nature.

Appendix 2:

Data availability protocol

I. rules for data availability in the scientific committee

A. DATA AVAILABILITY GROUP

The Scientific Committee shall be represented by a small group comprising the Chair, the Vice-Chair and the Head of Science, hereafter called the Data Availability Group.

B. CONDITIONS FOR DATA RECIPIENTS

Applications deemed suitable under Procedure A or Procedure B below are granted under the following conditions:

- (1) Data shall not be transmitted to third parties.
- (2) Papers may only be submitted to a Committee meeting in accordance with the time restrictions given below. Such papers must not include the raw data or the data in a form in more detail than is necessary to understand the analysis.
- (3) Papers must carry a restriction on citation except in the context of IWC meetings.
- (4) Data owners are offered co-authorship.
- (5) Publication rights remain strictly with the data owner.
- (6) Data shall be returned, to the Secretariat or the data owner as appropriate, immediately after the meeting at which the paper is submitted and any copies destroyed, unless an extension is granted.
- (7) Data requesters sign a form agreeing to the above conditions. Such forms will be held by the data owner and the Secretariat. In the case of Procedure B, the Data Availability Group will sign the agreement on the Committee's behalf and ensure that the conditions of any agreement are met by any individual scientists involved in the analysis.
- (8) In the event of a breach of the conditions in (6), serious sanctions [to be determined] will apply.

C. Procedure A

The following shall apply with respect to data required for the process outlined in IWC (2003, pp.11-12) for the RMP, the AWMP (see IWC, 2003) and other information used to provide advice on aboriginal subsistence catch limits before the relevant SLAs have been completed. The rules apply to all data owners who wish their analyses to be considered as part of the process to provide advice on catch limits.

Data owners may submit data to be treated under this procedure, even if they do not intend to analyse the data themselves.

When an application for data under this procedure is submitted, the Data Availability Group shall (a) decide whether an application fulfils the criteria with respect to the objectives of the study and (b) determine whether the methods proposed are considered standard or novel. The small group may take advice from the data owner, applicant or other relevant scientists in this process.

- (1) If they wish analyses to be considered by the Committee, data owners must make data used for the analysis available in an agreed form and specified resolution (if desired, to the Secretariat) no later than 6 months before the meeting at which they are to be used. Examples are given in Appendix 1. These data shall be made available to accredited persons only under the conditions listed above. Data owners shall be notified of any such requests, including a description of the objectives of the study and the methods to be used.
- (2) The Secretariat or data owners shall respond (i.e. send the data) to requests for data approved by the small group promptly, normally within two weeks of receiving the request.

- (3) If novel methods are to be used, Scientific Committee papers documenting data analysis and results shall be circulated no less than 3 months before the meeting at which they are to be considered. Any such papers should include sufficient documentation of the analysis for it to be fully reviewed and any associated analytical software shall be lodged with the Secretariat.
- (4) If standard methods are used, Scientific Committee papers documenting data analysis and results shall be circulated no less than 2 months before the meeting at which they are to be used.
- (5) Alternative analyses carried out in response to papers submitted under (3) or (4) shall be circulated no less than 1 month before the meeting at which they are to be used.

Procedure B

This applies to data required for analyses deemed important in providing advice to the Committee other than catch limits (e.g. on the status of stocks not subject to whaling). For data not subject to Procedure A, the data owners shall produce, in collaboration with the Committee, a published protocol for data access that applies to requests generated by the Committee, to ensure clarity and a mutual understanding of the process.

- (1) The Committee shall specify the nature of the work and the data required during the meeting at which the recommendation is made, to the fullest extent possible in the time available at the meeting and in accord with the published protocol. It should also name the appropriate scientists to undertake the work and designate an appropriate timeline.
- (2) Applications to the data owners following the published protocol referred to above, should be submitted by the Data Availability Group assisted by a nominated member of the relevant delegation or institute. The Data Availability Group will consult with relevant members of the Committee if further explanation or clarification is required.
- (3) If the above process is followed, then the data owners will normally approve the applications within a specified time period in accordance with the published protocol.
- (4) Applications shall only be granted under conditions given above.

Procedure B

This applies to data required for analyses deemed important in providing advice to the Committee other than catch limits (e.g. on the status of stocks not subject to whaling). For data not subject to Procedure A, the data owners shall produce, in collaboration with the Committee, a published protocol for data access that applies to requests generated by the Committee, to ensure clarity and a mutual understanding of the process.

- (1) The Committee shall specify the nature of the work and the data required during the meeting at which the recommendation is made, to the fullest extent possible in the time available at the meeting and in accord with the published protocol. It should also name the appropriate scientists to undertake the work and designate an appropriate timeline.
- (2) Applications to the data owners following the published protocol referred to above, should be submitted by the Data Availability Group assisted by a nominated member of the relevant delegation or institute. The Data Availability Group will consult with relevant members of the Committee if further explanation or clarification is required.
- (3) If the above process is followed, then the data owners will normally approve the applications within a specified time period in accordance with the published protocol.
- (4) Applications shall only be granted under conditions given above.