

**Agenda Item 5.2: Further survey and research needs
Preparations for SCANS II and other surveys**

P. S. Hammond, "Small Cetacean abundance in the North Sea and adjacent waters: a pre-proposal for a survey to update and extend knowledge"

Submitted by: Secretariat



ASCOBANS

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Small Cetacean Abundance in the North Sea and adjacent waters: a pre-proposal for a survey to update and extend knowledge

P. S. Hammond

Sea Mammal Research Unit, Gatty Marine Laboratory
University of St Andrews, St Andrews, Fife KY16 8LB

Introduction

In summer 1994, a major international survey for small cetaceans was conducted to study the distribution and abundance of harbour porpoises and other small cetaceans in the North Sea and adjacent waters (Hammond *et al.* 1995). The study, known as SCANS (Small Cetacean Abundance in the North Sea), attracted support from the European Commission, from the governments of Denmark, France, Germany, Ireland, Norway, the Netherlands, Sweden and the UK, and from WWF Sweden.

The SCANS survey was highly successful, providing the first North Sea wide estimates of abundance for the three most common cetacean species: the harbour porpoise; the minke whale and the whitebeaked dolphin. Estimates were also obtained for the Kattegat, Skagerrak and Celtic Sea. The Baltic Sea was included in the SCANS survey but inadequate coverage of this area precluded the calculation of an abundance estimate. A subsequent survey in the Baltic Sea in summer 1995 achieved better coverage but was still unable to survey all areas where porpoises are known to occur and the limited survey effort resulted in an abundance estimate of poor precision. The waters to the west of Britain and Ireland have never been surveyed systematically. These waters are rich in cetacean life; in particular, there are known to be substantial numbers of harbour porpoises in inshore waters. Areas to the north of the North Sea have been surveyed as part of the North Atlantic Sightings Surveys (NASS) in 1987, 1989 and 1995 and by the Norwegian Independent Line transect Survey (NILS) in 1995. These waters will be surveyed again in NASS-2001.

The main aim of project SCANS was to provide information on distribution and abundance that was essential to the conservation and management of harbour porpoises, and to serve as a baseline for their future monitoring. The abundance estimates have been used to assess the potential impact of cetacean bycatch in the North Sea and the Celtic Sea. Bycatches of porpoises also occur in the Irish Sea, in waters to the west of Britain and Ireland, and in the Baltic Sea. The impact of these bycatches cannot be assessed until there are reliable estimates of porpoise abundance in these areas.

It is now approaching seven years since the first SCANS survey. Incidental sightings data have been collected from platforms of opportunity in the North Sea and adjacent waters before and since that time. Methods have been developed recently that allow indices of abundance to be calculated from these data (Bravington 2000); these indices are an important source of information for assessing the status of small cetacean populations in these areas (Pout *et al.* 2001). However, it has always been recognised that future surveys similar to SCANS would be required to monitor absolute abundance at infrequent intervals. It is now time to initiate planning for a second SCANS survey.

Aims and objectives

The main aim of SCANS-II should be to re-estimate the abundance of harbour porpoises and other small cetaceans in the North Sea and adjacent waters and to extend these estimates to adjacent waters to include the Baltic Sea and the previously unsurveyed waters to the west of Britain and Ireland. Results from this survey (together with results from NASS-2001) will allow total abundance of harbour porpoises in European waters to be estimated for the first time.

There are plans to survey the Baltic Sea in 2001 and if this results in an adequate estimate of harbour porpoise abundance it may not be necessary to include the Baltic Sea in SCANS-II.

Secondary aims for SCANS-II should be to incorporate passive acoustic survey methods with a view to investigating the use of these for monitoring abundance between infrequent SCANS surveys, and to accommodate seabird observers to collect data on seabirds and cetaceans.

Methods

The survey should be conducted in mid-summer to provide the best opportunity for success and to be comparable with SCANS-94 and other surveys (NASS and NILS). The survey should broadly follow the design, methodology and logistics of the SCANS survey. Some areas of the North Sea and adjacent waters are difficult to survey because, for example, of the convoluted coastline. In SCANS-94, these areas (and areas where particularly high densities of porpoises were expected) were surveyed by aircraft. This should also be the case for SCANS-II. Other areas should be surveyed by ship.

The success of SCANS-94 was in part because standardised protocols were developed and applied over the entire survey increasing the power of data analysis. SCANS-II must also adopt standardised methodology across all shipboard surveys and across all aerial surveys. The data collection and analytical methodology developed as part of SCANS-94 (Borchers *et al.* 1998; Hiby & Lovell 1998) should form the basis for SCANS-II. Recent developments for shipboard surveys (e.g. Palka & Hammond in press) and aerial surveys (Hiby pers comm) should be accommodated.

Organisation

SCANS-94 was co-ordinated by the Sea Mammal Research Unit (Hammond), based at that time in Cambridge, UK. The Research Unit for Wildlife Population Assessment, University of St Andrews was contracted to develop data collection and analysis methodology and assist with survey logistics. Other partners included laboratories in Denmark, France, Germany, The Netherlands, Norway and Sweden.

It is proposed that overall co-ordination of SCANS-II is also undertaken by Hammond at SMRU, now located at the University of St Andrews, Scotland. Because SCANS-II as envisaged would be a significantly larger project than SCANS-94, it is proposed that the survey be sub-divided into three sub-projects, each with a co-ordinator, based on survey area. For example, Area 1 could be the North Sea proper; Area 2 the coastal and shelf waters west of Britain and Ireland; and Area 3 the Baltic Sea, Belt Seas, Kattegat and Skagerrak.

It is recognised that two kinds of partners will be necessary in this project: scientific partners and logistics partners. Scientific partners should include the University of St Andrews (SMRU and RUWPA) and other laboratories that will provide significant scientific input, for example through the provision of cruise leaders or as sub-project co-ordinators. Logistics partners should include agencies and organisations that are able to interact with governments that are providing support in the form of funding, survey vessels, personnel, etc.

A number of groups have already expressed interest in being partners in SCANS-II. These include University College Cork in Ireland, the Danish Institute for Fisheries Research and the Fjord and Baelt Center (Kerteminde), Denmark, and the University of Stockholm.

Funding

SCANS-94 cost approximately Euro 1.4M. SCANS-II will save on some costs (methodological development, experimental survey) but will likely cost more overall because of the larger area proposed to be surveyed. Exact costings have not been worked out, but it is reasonable to expect that SCANS-II will cost at least Euro 1.5M and possibly up to Euro 2M. Funding will need to be obtained from the European Commission and from the governments of countries bordering the survey area, as was the case for SCANS-94. Additional funding may also be obtained from the oil and gas industry (particularly for areas west of Britain and Ireland) and environmental organisations (e.g. WWF).

Next steps

The following next steps seem appropriate:

1. Project convenor (Hammond) to approach potential partners.
2. Potential partners to lobby for support for the project in respective countries (funding, survey vessels, personnel, etc).
3. Project convenor to investigate EC interest in supporting project (funding, appropriate target for proposal).
4. Plan for meeting of proposed partners to develop full proposal to EC and other potential sources of support (summer 2001?).
5. Aim for submission of full proposal to EC in October 2001? with a view to conducting survey in summer 2002?

The timetable will depend on responses and progress over the next 3-6 months. It may become clear during this period that, for various reasons, it is overly optimistic to plan for the survey in 2002 and that it should be planned for 2003.

Support from ASCOBANS

Whilst it is recognised that ASCOBANS itself does not have significant funds available for research, it is hoped that the ASCOBANS Advisory Committee will give this pre-proposal its full support. In addition, it is hoped that the relevant persons on the Advisory Committee will pursue appropriate channels in their countries to secure national support and funding.

References

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