

Agenda Item 4.6: Review of new information on population distribution, sizes, structures and bycatches of small cetaceans

Trans North Atlantic Sightings Survey - TNASS

Submitted by: NAMMCO



NOTE:
IN THE INTERESTS OF ECONOMY, DELEGATES ARE KINDLY REMINDED TO BRING THEIR OWN COPIES OF THESE DOCUMENTS TO THE MEETING

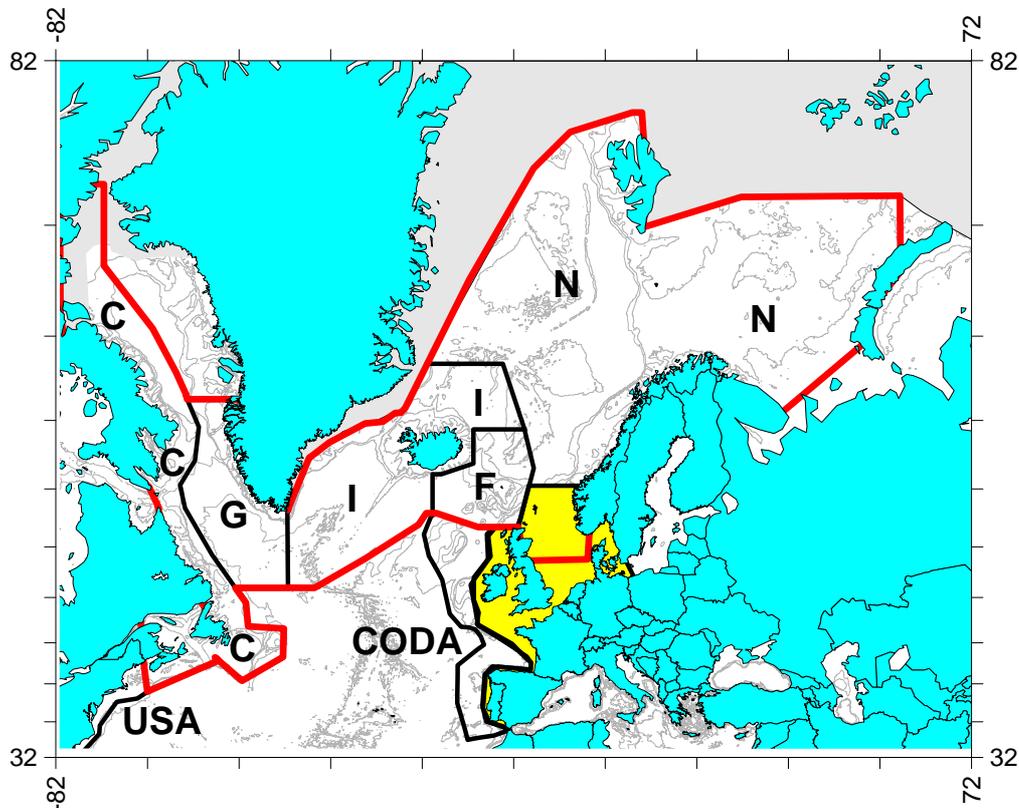


NORTH ATLANTIC MARINE MAMMAL COMMISSION

Trans North Atlantic Sightings Survey – TNASS

G. Desportes and D. Pike

Figure 1:
TNASS, the first complete synoptic coverage of the northern North Atlantic.



TNASS and associated survey areas. The TNASS area is outlined in red, and includes the survey areas of Canada (C), Greenland (G)¹, Iceland (I), the Faroes (F) and Norway² (N). The yellow area was covered by SCANS-II in 2005, and the shaded area is the approximate southern extent of pack ice in the summer. Associated surveys are the American Eastern Seaboard and CODA surveys.

¹ The area north of Disko Bay is known to have few whales in the summer, and will not be surveyed.

² The Norwegian area is surveyed over a 6 year period, and only a portion will be surveyed in 2007.

INTRODUCTION

The TNASS project will estimate the abundance of cetacean populations in the Northern North Atlantic from survey data collected during summer 2007. It will become part of a long-term series of international North Atlantic Sightings Surveys (NASS) that have been conducted in 1987, 1989, 1995 and 2001.

After the completion of TNASS in 2007 the NASS-TNASS series will have occurred over a time period of 20 years, which provides a realistic opportunity for detecting changes in abundance over time for species with long life spans and slow reproductive rates. This has in fact been observed for fin and humpback whales over the course of the NASS between 1987 and 2001 (Pike *et al.* 2005)³.

The extension of the TNASS to areas west of Greenland will provide the first estimates of abundance for whale species in parts of this area. It will also help to resolve long-standing questions about the distribution of cetaceans in this area, and their connections with concentrations in adjacent areas.

The information on abundance and trends in abundance provided by these surveys is absolutely critical for the management of these species, and at present there is no other means of determining their conservation status. The information is used directly in the management programs of NAMMCO, the IWC and national management agencies in setting levels of removal (direct, by-catch or other) that can be sustained by these populations.

Baseline estimates of abundance and trends, as well as changes in distribution, are also important in determining the effects of environmental changes, including potentially human-induced global warming, increases in anthropogenic marine noise and marine pollution.

The hunting of cetaceans for food, oil and bone is an important cultural and economic activity in several NAMMCO countries, including Greenland, the Faroes and Norway, as well as for the Inuit of northern Canada. These activities are dependent on sound management programs for their long term sustainability and to provide assurance internationally that these harvests are being conducted in a sustainable manner. To this end the West Nordic Council has recently recommended that the west Nordic countries cooperate in cetacean research, and especially in obtaining reliable and accurate estimates of abundance (Rec. 3/2005, see <http://www.vestnordisk.is/>)

PROJECT DESCRIPTION

Objectives

- i. To estimate absolute abundance of cetacean species in Northern North Atlantic waters to provide information that can be used (along with information on trends, see 2.) in a management framework to recommend safe catch limits, both direct and indirect, for cetacean species which are subjected to aboriginal, direct or indirect catch in the Nordic areas and especially Greenland. This will support the definition of a clear course of action to allow populations to recover to or maintain a favourable conservation status.
- ii. To assess trends in distribution and abundance by comparing with results of previous North Atlantic Sightings Surveys (NASS 1987, 1989, 1995 and 2001) in areas that have been covered by several surveys.
- iii. To obtain the most comprehensive and geographically extended mapping possible of the summer distribution of cetacean species in the Northern North Atlantic waters and adjacent areas - especially those species of poorly known status such as blue, right, sperm and beaked whales, and possibly other large marine species such as leather back turtles, and large sharks.

³ Pike, D.G., Gunnlaugsson, Th., Øien, N., Desportes, G., Víkingsson, G.A., Paxton, C.G.M and Bloch, D. 2005. Distribution, abundance and trends in abundance of fin and humpback whales in the North Atlantic. ICES CM 2005/R12.

- iv. To contribute data to the effort made in Europe (Scans II and CODA EU Life projects) for identifying cost-effective methods for monitoring cetaceans and estimate trends of abundance of species at risk in the period between expensive half decadal or decadal large scale surveys.
- v. An accessory objective is to contribute to the knowledge (distribution and abundance) of generally poorly known deep diving species. These species may be impacted by seismic and sonar activities, which represent a potentially important threat to offshore cetaceans.

Methods

The project will run for 31 months in the calendar year 2006-2008. The abundance survey will be conducted in the summer of 2007 for a period of about a month, centred upon July.

The northern boundary will be approximately 80 °N and the southern limit will be approximately 40 °N (Figure 1). The TNASS will cover areas to the west of Greenland and the northeastern coast of Canada that have not been covered in earlier surveys, **providing a full trans-Atlantic coverage for the first time**. For increasing the area covered, especially with regards of mapping summer distribution, TNASS will take advantage of other surveys and platforms of opportunity occurring in the same period in adjacent areas (*e.g.* International Redfish survey and the Russian-Norwegian annual herring and mackerel survey). Where possible, dedicated cetacean observers will be placed on these vessels.

The TNASS surveys will be conducted using the highest standard shipboard (both visual and passive acoustic) and aerial survey techniques. Survey methods will take into account the methodological development successfully implemented under the EU SCANS-II project (LIFE Program) and further developed for the upcoming EU CODA project (if that project goes ahead). To insure this, the coordinator of the SCANS and CODA is a member to the TNASS advisory group and an agreement on co-operation and support has been established. Survey methods will be standardised among all platforms and participating countries, though encompassing differences in national target species.

Project funding

The total project budget is set to 27,931 kDKK, with 1,102 kDKK in 2006 (coordination and planning). A detailed provisional budget has been prepared. Some national funding has been provisionally approved, although in most cases the precise amount is not agreed upon yet.

An application was sent in December to the Arctic Co-operation Programme 2006-2008 under the Nordic Council of Ministers, covering items such as co-ordination and planning expenses, extension of the Greenland survey to connect to the Canadian, development of cost-effective monitoring methods, and enhanced Russian participation. The project was not funded within this framework, but was forwarded to the relevant sector of the Council for re-evaluation and eventual support.

To facilitate funding the TNASS project has been/is looking for accreditation by international programs. The TNASS project has been accepted as a sub-project of the umbrella project ESSAR under the International Polar Year program. Other potential funding partners, such as private funding agencies and relevant oil companies that are conducting activities in the survey area, are being investigated.

Participants and coordination

Partners

NAMMCO countries

- Partner (1): Greenland Institute of Natural Resources, Nuuk, **Greenland** – CP: M. P. Heide-Jørgensen
- Partner (2): Marine Research Institute, Reykjavík, **Iceland** – T. Gunnlaugsson
- Partner (3): Museum of Natural History, Tórshavn, **Faroe Islands** – CP: B. Mikkelsen
- Partner (4): Institute of Marine Research, Bergen, **Norway** – CP: N. Øien

Adjacent areas

- Partner (5): Polar Research Institute of Marine Fisheries and Oceanography, Murmansk, **Russian Federation** - CP: V. Zabavnikov
- Partner (6): Department of Fisheries and Oceans, St John's, **Canada** – CP: J. Lawson

Coordination

North Atlantic Marine Mammal Commission (NAMMCO), Tromsø, **Norway**

Project co-ordinators:

G. Desportes, Faroese Museum of Natural History, c/o GDnatur, Denmark.

D. Pike, NAMMCO, Norway

WHY IS THIS AN UNIQUE OPPORTUNITY?

Previous NASS have covered the Eastern and Central North Atlantic only as far west as Cape Farewell, the southern tip of Greenland. The participation of Greenland and Canada will extend this coverage to the North American coast. In addition, the waters southeast of the TNASS area will be surveyed simultaneously as part of the Cetacean Offshore Distribution and Abundance in the European Atlantic (CODA) while the waters to the southwest will be covered simultaneously by the American Eastern Seaboard survey. **Together, these three surveys would provide the most complete synoptic coverage yet of the northern North Atlantic.**

The coordinated TNASS and CODA surveys, conducted simultaneously with the American survey, offer a unique opportunity to get very wide survey coverage of the North Atlantic, thus reducing the bias/doubt that might arise from the possible movements of the whales between surveyed and non-surveyed areas. This opportunity has never occurred until now, although the coordinating committees of the previous NASS have always invited cooperation from Canada and USA. The synoptic overview obtained from combining results from these surveys will represent a considerable enhancement of our understanding of cetacean populations in the North Atlantic.

The timing, coverage and survey methodologies of the TNASS and the CODA surveys will be coordinated, such that the data will be compatible and synoptic estimates can be produced. The coordination of these surveys will greatly enhance their individual value, thus providing the best possible value in terms of information for money spent. This will also ensure that the survey is conducted according to the best international practice and standards and that the outcome of the survey can be internationally agreed upon, and used in management of the highest international standards.

The year 2007 is also an International Polar Year (IPY), of which there have been only 2 in the past 125 years. As a result, a great many other marine research projects will be conducted simultaneously and in the same area as TNASS. The TNASS will be included as an IPY project. This facilitates sharing of data and results with other projects, and may lead to innovative research on the ecology of cetaceans in the area.

The coordinated TNASS and CODA surveys, conducted simultaneously with the American NMFS survey, offer an absolutely unique opportunity to get complete coverage of the northern North Atlantic, an opportunity that has never arisen before and may never be available again. The outcome of this project will be important to the understanding of the dynamics of cetacean populations in the entire North Atlantic. It will also represent the largest ever synoptic survey of cetaceans. It will therefore become an obligatory reference for all international and national research and management bodies, thereby promoting the position of NAMMCO countries as leaders in this field.