

Report of the NAMMCO Scientific Committee Working Group to plan NASS-95

Tromsø, 2 December 1994

The meeting was held in the SAS Hotel in Tromsø, Norway on 2 December 1994. The meeting was convened by the Chairman of the Working Group, Finn Larsen. Present at the meeting were members of the NASS-95 Working Group, as well as a number of invited experts. A list of participants is contained in Appendix 1.

1. *Chairman's welcome and opening remarks*

The Chairman of the Working Group, Finn Larsen, welcomed Working Group members and other participants to the meeting. He expressed his appreciation in particular to those participants who had taken the time to stay on for the NASS meeting, or who had come to Tromsø especially, in order to share their expertise with the Working Group in their planning of NASS-95. He referred participants to the general terms of reference of the Working Group, and the NAMMCO Council's request to the Scientific Committee in July 1993 to "plan joint cetacean sighting surveys in the North Atlantic by coordinating national research programmes".

2. *Adoption of agenda*

The Agenda, which was adopted without amendment, is contained in Appendix 2.

3. *Appointment of rapporteur*

The Secretary of NAMMCO, Kate Sanderson, was appointed as rapporteur.

4. *Review of available documents*

The Report from the last meeting of the NASS-95 Working Group was distributed to Working Group members and invited participants, and is attached as Appendix 3. The report from the informal meeting to discuss g(0) which had been held earlier in the week, as well as the Norwegian minke whale survey planning meeting held just prior to the NASS-95 Working Group, provided further background for discussions at the present meeting.

5. *Identification of priority species*

Bloch (Faroes) reported that there was a proposal from the Faroes to include minke whales and remove bottlenose whales and bottlenose dolphins from the list of species identified as priority species for the Faroes. This raised some questions as to the intentions of the Faroes with respect to NASS-95. Buckland suggested that if abundance estimates were required, the real priorities should be identified.

Øien pointed out that surveys were designed for specific species. It was noted that it was important to be clear about why a species was identified as a priority species in the context of survey planning, i.e. whether this was simply to gain knowledge of distribution, or to provide an abundance estimate.

Sigurjónsson suggested that there was a need for qualitative descriptions of how to meet these aims when there were different kinds of species targeted. Hammond pointed out that for the earlier NASS surveys in 1987 and 1989, common protocols had been agreed for the different priority species involved. Operating in passing mode, for example, it would not be possible to identify *Lagenorhynchus* all the time.

It was noted that it was important to establish what kind of extra effort was needed, which would depend on the existing level of knowledge of the distribution and stock boundaries of particular species.

With regard to the Faroese priority list, Buckland suggested that an abundance estimate could be provided for dolphins, but given their subsidiary status in relation to pilot whales, the survey should not be designed for dolphins. Buckland suggested that the Faroes could compile a subsidiary list, while the combined/common priority species from each country would constitute the NASS priorities. Bloch (Faroes) agreed that the pilot whale should be seen as a priority, while the other species indicated by the Faroes would be included on a subsidiary list.

The priority species identified by Greenland, Iceland and Norway remained as indicated in the Report of the Scientific Committee (*NAMMCO/4 - Report*, p. 56), namely - Greenland: minke and fin whales; Iceland: minke, fin and sei whales; Norway: minke whales.

6. Area coverage

The Working Group discussed which areas were important to cover for the target species. Sigurjónsson informed the meeting that the fin whale was first priority for Iceland, and the sei second, and that coverage would be more like the 1987 coverage. This could jeopardise the pilot whale coverage, since in 1989, for instance, major abundance of pilot whales was found as far south as 50-55°N, between 20-30°S. Buckland pointed to the particular importance of conducting the survey for pilot whales further south in the mid-Atlantic, noting that the difference between the abundance estimates gained from 1987 and 1989 was largely due to the extent of the area covered.

Hammond noted that Denmark, Germany and the Netherlands should not be a high priority as these northern European waters had been well-covered by the SCANS survey in the summer of 1994.

Working Group members agreed that the surveys should cover a larger area, ideally also to the west in waters off North America and Canada. Stenson (Canada) gave as his personal opinion that it was unlikely that there would be any Canadian coverage in the summer of

1995. Smith (USA) commented that there would not be USA coverage other than in inshore waters (see under 10.1).

Hammond suggested that the Report include a map showing the planned survey areas. These should be overlaid with the known plot distribution of priority species, which would then reveal visually the gaps in coverage. This map is included as Appendix 4.

7. Methodology

7.1 Platform

Platforms for surveys had been identified by the NASS Working Group at its February meeting as follows: Faroes - ship; Greenland - aircraft; Iceland - ships offshore, aircraft inshore; Norway - ships. Larsen reported that there may also be some shipboard survey effort at southwest Greenland, but this would depend on available funding.

7.2 Data collection and analysis

The Chairman referred to p. 3 of the last Working Group Report which outlined the methods proposed for each survey. The question was raised as to whether the surveys would be operating in passing or closing mode.

Norway reported that passing mode would be used in the Norwegian survey for minke whales. The Faroes had been considering passing mode but were waiting to see which mode would be the best to survey pilot whales, especially in relation to assessing group size. Iceland was planning to use closing mode on fixed tracklines.

Donovan (IWC) noted the importance of a common approach to line transect methodology. After lengthy discussion of the matter, it was agreed that passing mode combined with independent observer experiments would be best for minke whales, while closing mode could be used on larger species (ie fin and sei).

7.3 Problems defining group size in pilot whale surveys

The Working group discussed the difficulties in determining the pod size of pilot whales during surveys, given the unknown levels of discrepancy in the proportion of the school at the surface at any one time.

A general approach may be to close on a pod and do some kind of strip survey, although this would require further development. There was also further discussion of the question of moving off the trackline to identify the number of animals in a subgroup. It was noted that subgroup sizes would be more reliable when assessed close to the line in passing mode at a lower speed.

Stenson suggested that a fast series of photographs of the school might help resolve some of the problem.

Lockyer (UK) suggested that a camera mounted on a manoeuvrable kite could be used to obtain better data on group size. This, as well as a similar idea of using a remote-control model aircraft, should be looked into in more detail.

It was noted that the ICES Pilot Whale Study Group had identified a difference in school size offshore as opposed to that recorded in the coastal whale drive in the Faroes. Buckland suggested that passing mode would be preferable, and could be supplemented with the use of a helicopter. Delayed closing mode could be another alternative.

Donovan noted that it was important to keep the momentum going on pilot whales with respect to previous and future results of NASS. There should be clear guidelines for the shipboard crews on sighting methodology for pilot whales. Smith (USA) noted that detailed information on superschools was lacking.

7.4 *Improving estimates of population size for small cetaceans*

7.4.1 Correct species identification

Experience from the SCANS survey suggests that the use of high-powered binoculars mounted on poles for stability will help resolve this problem. It was noted that not all survey vessels will need this equipment during NASS-95, as some of the vessels will not encounter small cetaceans in any number.

7.4.2 Definition of group size

As for species identification, experience from the SCANS survey suggests that the use of high-powered binoculars mounted on poles for stability will help resolve this problem.

7.5 US Navy Integrated Undersea Surveillance System data

The Working Group discussed briefly the work which had been done to collect data on whale distribution (blue, fin and minke) in 1993 in the North Atlantic using the US Navy's Integrated Undersea Surveillance System (IUSS) to track signals underwater emitted by whales (cf IWC/46/4 - Annex M1: C.W Clarke, *Application of US Navy underwater hydrophone arrays for scientific research on whales.*) . It was agreed that the relevant researchers (Clarke & Watkins) could be contacted informally for more information.

7.6 Improvements in present methods and new techniques for data collection

With reference to the report from the informal g(0) working group meeting in Tromsø (28 November) and the Norwegian survey planning discussions (2 December), Hammond raised the matter of standardising data equipment, noting that during SCANS, every cruise followed exactly the same procedures. He noted that this was apparently not going to be the case with NASS-95, where separate analyses would be undertaken. There was the possibility of developing standardised data-recording computer programmes. The importance of accurate time stamps on tape recorders was also noted.

7.7 Survey mode considerations

It was recommended that independent observer (I/O) experiments should be carried out on all vessels, including surveys for fin and sei whales.

7.8 Collection of behavioural and ancillary data

The recording of dive times was noted as an obviously important element of supplementary information to be collected during surveys.

The Working Group also discussed the possibilities of collecting other data such as satellite data on sea-surface temperatures, which might be useful in relation to the primary data obtained from the survey. Oceanographic XPT's provide temperature profiles through the water column, and this was a relatively simple procedure (although expensive) to implement in the course of a survey. Kato (Japan) explained that these had been conducted in the course of Antarctic surveys. It was noted that access to such data was becoming less complicated. Sigurjónsson reported that he had recently obtained sea surface temperature data for the 1987 and 1989 NASS surveys, even several years after they had been conducted.

The Working Group noted that although such data collection would be simple, if there was no immediate interest from oceanographic institutes or others in collecting such data, it could only be considered a possibility, as long as others were responsible for covering the costs involved.

Other ancillary data mentioned which could be collected during surveys included the presence of calves. Larsen also reported that Greenland would be collecting minke whale cue rate data. The Working Group noted that it would be up to the individual surveys to determine to what extent deviations could be made for unexpected or unusual sightings (eg right whales), or to conduct photo-identification work.

8. *External expertise*

The Chairman of the Working Group noted the presence of a large number of external experts at the meeting, some of whom had received a specific invitation to attend the meeting through the NAMMCO Secretariat, as well as others who had kindly stayed on after the Norwegian Marine Mammal Symposium in Tromsø that week. Larsen thanked participants for their interest in, and willingness to contribute to the NASS-95 planning process, concluding that their very presence made further discussion under this agenda redundant.

9. *Increasing the coverage of NASS-95: update on progress*

The Chairman asked the Secretary to report on progress in enlisting the participation of other North Atlantic states in NASS-95. The Secretary explained that the Governments of North Atlantic countries identified by the NASS-95 Working Group had been approached through diplomatic channels with an invitation from the Chairman of the Council of NAMMCO to make the necessary resources available to ensure as wide a survey coverage as possible in the North Atlantic in 1995. Very little response had been received so far, other than general acknowledgments of receipt. The Fisheries Minister of Denmark had recently replied that the information had been passed on to the Danish Institute for Fisheries Research, which is currently in the process of planning research activities for 1995.

Sigurjónsson stated that due to the lack of participation from North America, the extension of existing surveys further west should be considered.

Donovan (IWC) stated that it would have been better to have known that the plans were not yet fixed and that the survey area was open for further extension.

Stenson (Canada) pointed out that Canada was not in principle opposed to the survey, but that it was more a question of funding priorities. There may be, however, ways of obtaining manpower for some cetacean surveying which could be conducted in the course of other fisheries-related operations.

10. Cooperation with other projects

10.1 Whale abundance in relation to environmental factors

Smith (USA) reported on US plans for major survey effort, in cooperation with Canada, concentrated on the US harbour porpoise population. The estimates were over national areas. The survey would be conducted in July/August in the Gulf of Maine and would hopefully be extended east to Sable Island and to the area of the shelf break and out to the Gulf Stream wall, although sightings effort would be concentrated west of here.

The Chairman thanked Smith for the information. The Working Group took note of the level of US survey effort planned for 1995.

10.2 SCANS

The Working Group was pleased to be able to draw on the considerable experience gained during the SCANS survey in 1994. No additional survey effort is planned by SCANS for 1995, but it was noted that SCANS effort in 1994 and the planned NASS-95 effort complement each other to contribute to a very high coverage of the Eastern North Atlantic.

11. Funding

The Working Group noted the funding implications of the use of the suggested special equipment discussed at the meeting such as model planes and kites for recording data on group size.

12. Other business

The Chairman stated that a draft report would be prepared as soon as possible and distributed to all participants for their comments. After this process of review, the final Working Group report was completed on xxxxx.

References:

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| NAMMCO/4 - Report | Report of the Fourth meeting of the Council of NAMMCO, Tromsø, 24-25 February 1994, 142 pp. |
| IWC/46/4 - Annex M1 | C.W. Clarke, <i>Application of US Navy underwater hydrophone arrays for scientific research on whales</i> |

Appendices:

1. List of Participants
2. Agenda

3. Report of the NASS-95 Working Group, Tromsø, 25 Feb. 1994
4. Map of planned coverage in relation to known species distribution

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