

Appendix 2

REPORT OF THE SMALL GROUP FOR FUTURE SOWER PLANNING, INCLUDING THE 2007/08 CRUISE

Members: Bannister (Chairman), Baba (I), Branch, Bravington, Burt, Butterworth, Childerhouse, Chilvers, Cook, Donovan, Ensor (Rapporteur), Fujise, Gales, Gedamke, Hakamada, Hedley, Hughes, Kato, Kitakado, Leaper, Leaper, Okamura, Palka, Polacheck, Murase, Miyashita, Morishita, Nishiwaki, Ohsumi, Shimada and Yamakage (I). (I – interpreter)

1. Bannister welcomed the participants. Ensor acted as rapporteur.

2. Terms of Reference

The following term of reference had been agreed by the Sub-committee:

- to plan for a joint exercise in 2007-2008 between the SOWER Cruise and the 'within ice' minke whale aerial survey detailed in SC/59/IA2

3. ADOPTION OF AGENDA

The adopted agenda is shown below.

4. Aerial Survey

4.1 Timing

The timing of the aerial survey will be restricted by a combination of factors including the availability of the aircraft and transport of observers and equipment from Australia to the research base in Antarctica. Currently it is anticipated the aircraft will be available for two weeks from 1 January, 2008, but the precise logistics have yet to be finalized.

4.2 Area

The operational base for the aerial survey will be Casey Station (Australian Antarctic Station, longitude 110°E). During the development phase of this programme by the Australian Antarctic Division, various other locations further west (including Bunge Hills and Davis Station) had been evaluated. They offer more options for aerial survey; they are geographically closer to more extensive areas of sea ice as well as to potentially higher densities of minke whales in the marginal ice zone (as determined from previous shipboard surveys). But there is no option to change the area of main operation from Casey Station as the decision has already been made for logistical reasons by the Australian Antarctic Division. While the aircraft have considerable endurance (8 hours) their activities are to be concentrated on the Casey Station area. Nevertheless, given the possibility of only limited sea ice in the vicinity of Casey Station, some flexibility in the aerial survey plans will be required.

5. SOWER CRUISE

5.1 Availability of vessel.

Kato announced that the Government of Japan will be able to offer the research vessel *Shonan Maru No.2*.

5.2 Timing

On the understanding that that the aircraft will be available during the first two weeks of January 2008, the SOWER vessel survey will be required to span that period.

5.3 Area

To coincide with the aerial survey the SOWER vessel research area will be centred on approximately the same longitude (110°E).

5.4 Length of cruise

A cruise duration of 60 days (southern home port to southern home port) was indicated. With a 10 day each way transit from the closest country (Australia) this would give approximately 40 days available in the research area.

5.5 Target species

Target species and general order of priority would be as in previous cruises, i.e.

1. Antarctic minke and blue whales
2. fin whales
3. humpback whales
4. sei and right whales
5. sperm whales

5.5 Priority items for research, including biopsy, photo-id, telemetry, acoustics, special experiments

In addition to collaboration with the aircraft (see Item 6 below), it was recommended that biopsy sampling, photo-id and acoustics studies on the target species should be undertaken by the SOWER vessel as on recent cruises.

Telemetric methods to investigate the use of the pack ice habitat by minke whales were discussed as they would be particularly relevant this year considering the collaborative research with the aerial survey. However, the group concluded that currently there were no reliable systems available for long-term attachment of transmitters to minke whales from the type of vessel used.

5.6 Methodology

A systematic sighting survey by the SOWER vessel was proposed using established standard protocols. Survey mode should include IO mode, however as an alternative to standard Closing mode it may be informative instead to conduct abeam closure procedures such as SS-III (or SS-II) as during SOWER 2006-2007. A final decision on survey design and research modes was deferred to the Planning meeting.

It was also noted that it could be desirable to undertake additional trials of the potential new survey method, BT-Option 2, as evaluated on the 2006-2007 cruise to increase the sample size. Furthermore it was **recommended** that the 2006-2007 BT-Option 2 data be analyzed prior to the Tokyo Planning meeting prior to making a decision on this matter.

With respect to the continuing concerns related to SOWER distance and angle estimates, it was **recommended** that more data related to distance and angle measurements should be obtained on the forthcoming cruise using at least some components of the SCANS recording system. It was **agreed** that additional distance measurements using the video system attached to the 7x50 binoculars in the Top platform were required, as well as bearing measurements. It was noted that modification of the equipment would facilitate SCANS data recording on the SOWER vessel. This would have a financial implication, but as various options for modification were identified the funds required would depend on the upgrade option selected.

It was **recommended** that acoustic studies should also be undertaken. A supply of sonobuoys will be required.

5.7 Participants, including Cruise Leader

Four researchers will be required for the cruise including Cruise Leader.

5.8 Planning meeting

It was **agreed** that logistic details of the cruise would be decided at a Planning Meeting in Tokyo during four days in the last week of September 2007. Kato agreed to act as convenor and indicated that a venue at Tokyo University of Marine Sciences and Technology will be available.

Participants at the Planning Meeting should also include representatives from the aerial survey component.

5.9 Home port and responsible persons

Fremantle, Western Australia was selected as the home port and Bannister kindly offered to act as home port organiser.

6. Collaboration with the aircraft

6.1 Collaborative research

Collaborative research between the SOWER vessel and the aerial survey will be the priority research item for the cruise.

The overall strategy is as follows:

1. the aircraft will survey inside the ice to obtain a density estimate of minke whales there.
2. the aircraft will also survey outside the ice to obtain a density estimate of minke whales there.
3. The results of 1 and 2 will then be compared to provide information on the relative proportions of animals inside and outside the ice.
4. The SOWER vessel will obtain an abundance estimate of minke whales in an area outside the ice, i.e. within the southern stratum, to include the area surveyed by the aircraft.
5. Comparison of the results of 2 and 4 will permit 'calibration' of the aircraft operation against the vessel operation.
6. The vessel will also survey an area further north, i.e. in the northern stratum, possibly as far north as 60°S. Comparison between the results of that operation with the results of 4, combined with the calibration results of 5, will allow comparison between minke whale densities in the more extensive area, i.e. in the southern and northern strata combined, with those in the ice.

6.2 Coordination with the aerial survey

It was noted that several avenues of communication would be available for the ship and aircraft and the operational base for the aircraft (including email and telephone via satellite); coordination of the two components of the research program was not anticipated to be a problem. It was **agreed** that consideration should be given to the inclusion of a Japanese observer in the aerial survey team.

7. Relevant recommendations from the 2006-2007 cruise

The Group considered the recommendations from the 2006-2007 cruise particularly those with financial implication and/or those with a temporal element that required attention prior to the time of the Planning meeting. These included: purchase of a computer and software for acoustics; modification of acoustics receivers; re-supply of sonobuoys and re-supply of biopsy darts and ammunition.

8. Budget

A preliminary budget is presented below.

9. Contingency plans should the aerial survey not take place

In the case that the aerial survey does not take place, it was **agreed** in principle for the shipboard research to be conducted within the same region of the Antarctic (Area IV). In that event a systematic sighting survey for abundance estimation would be undertaken. Detailed plans would be developed during the Planning Meeting.

