

Strictly confidential until after the discussion in the Scientific Committee of the 49th IWC Annual Meeting

The 1997/98 Research Plan for the Japanese Whale Research Program under Special Permit in the Antarctic (JARPA)

Government of Japan
July 1997

I. INTRODUCTION

The Japanese Whale Research Program under Special Permit in the Antarctic (JARPA) has been conducted every year since the 1987/88 season in compliance with Article VIII of the International Convention for the Regulation of Whaling. After two seasons of feasibility research in 1987/88 and 1988/89, the full-scale research started in the 1989/90 season (Government of Japan, 1989).

JARPA is designed to repeat surveys in the Antarctic Areas IV and V in every alternate year during the sixteen year research period. "Estimation of biological parameters of minke whale stock" and "elucidation of the role of whales in the Antarctic ecosystem", which are the major objectives of JARPA, reasonably require a long-term continuous survey (Government of Japan, 1987).

In this survey areas, a sample size of 300 (+-10%) has been maintained to achieve a long-term consistency of survey in this area. From the 1995/96 season, the survey area was expanded for a limited period of stock structure study using sample of 100 (+-10%) minke whales (see SC/47/SH3: Government of Japan, 1995).

The research plan and its results were fully reviewed by the Scientific Committee of the International Whaling Commission (IWC). Research papers derived from JARPA and annual research plan have been annually reported to the IWC. In addition to its regular annual review of these report, the Scientific Committee of the IWC carried out a comprehensive review of the data and results obtained from JARPA.

II. OBJECTIVES OF JARPA

No change from the previous research plan (see SC/48/SH3: Government of Japan, 1996).

III. NUMBER, SEX, SAMPLING SIZE AND AREA

In Area IV, three hundred (300) ordinary form minke whales with 10% allowances (+-10%) will be sampled. Sampling design within the Area IV remains unchanged to obtain data compatible to the past JARPA surveys, and the sample size is also retained to ensure maintenance of present levels of precision. All samples will be randomly sampled, using the same methodology as employed in the past.

In addition to this, 100 animals (+-10%) of the ordinary form minke whale will be sampled in the eastern half of Area III (35-70 E). Although this study was initially announced as "one year only at this stage" in the previous plan for 1995/96 research season presented at the 47th Annual Meeting of the IWC Scientific Committee (see SC/47/SH3), it is clear from the results obtained that the continuation of this study is necessary, for reasons explained below.

The original objective of the expansion to Area III E was a feasibility study on stock identity to examine the hypothesis of the occurrence of more than one stock in Areas IV and V (see SC/47/SH3) and to attempt to determine the distribution pattern of these hypothesised two stocks (W and C Stocks). Initial study using commercial samples showed that the W stock occurred in the eastern part of Area III in the early season (Pastene, et al 1996). However, the analyses using the 1995/96 samples based on the mitochondrial DNA showed that C Stock (Core Stock) occurred in the eastern part of Area III in the early season (Pastene and Goto, in prep). Also the previous pattern of presence of the W stock in Area IV W early in the season completely reversed, with results showing it to be in this region only late in the 1995/96 season.

Also, the initial findings based on DNA analyses was supported by the preliminary analyses of body proportion of minke whales (Fujise, 1995), but so far this information has yet to be confirmed.

These new results show that not only is there a temporal component to the presence of the W and C stocks in Areas III and IV, but further that this pattern can vary extremely from one season to the next. It is noted that the temporal component of W and C stocks presence in the Antarctic waters needs to be taken into account when RMP implementation trials for the Southern Hemisphere minke whales trials are next reviewed. The inter-year variability in this component will also need to be incorporated in these revised trials, so that more samples from the Area III E and Area IV regions are needed to better determine the nature

of this variability.

In addition to the continuation of the expanded research, it is planned to examine the extent of the yearly variation of stock distribution patterns using other available sources. Hence analyses will be made on the ice edge conditions, prey species availability, and nutritional condition of sampled whales.

IV. RESEARCH NEEDS AND APPLICABILITY OF NON-LETHAL METHODS

No change from the previous research plan (see SC/47/SH3 and SC/48/SH3), including the research needs on toothed whales (see section IV(4) of SC/48/SH3.)

V. POSSIBLE EFFECT ON THE STOCK

No change from the previous research plan (see SC/47/SH3.)

VI. OPPORTUNITY FOR PARTICIPATION BY FOREIGN SCIENTISTS

No change from the previous research plan (see SC/48/SH3.)

VII. OUTLINE OF 1997/98 RESEARCH

(1) Number of research vessels: No change from the previous research plan (see SC/47/SH3 and SC/48/SH3.)

(2) Research period: No change from the previous research plan (see SC/47/SH3 and SC/48/SH3.)

(3) Research area: No change from the previous research plan (see SC/47/SH3.)

(4) Sighting method: No change from the previous research plan (see SC/47/SH3 and SC/48/SH3.)

(5) Sampling method: No change from the previous research plan (see SC/47/SH3 and SC/48/SH3.)

VIII. REFERENCES

- Fujise, Y. 1995. A preliminary morphometric study in minke whales from Antarctic Area IV using data from the 1989/90 JARPA survey. Paper SC/47/SH7 presented to the IWC Scientific Committee, May 1995 (unpublished). 15pp.
- Government of Japan. 1987. The programme for research on the Southern Hemisphere minke whale and for preliminary research on the marine ecosystem in the Antarctic. Paper SC/39/O4 presented to the IWC Scientific Committee, June 1987 (unpublished). 60pp.
- Government of Japan 1989. The research plan in 1989/90 in conjunction with "The programme for research on the Southern Hemisphere minke whale and for preliminary research on the marine ecosystem in the Antarctic (SC/39/O4)". Paper SC/41/SHMi13 presented to the IWC Scientific Committee, May 1989 (unpublished). 21pp.
- Government of Japan. 1995. The 1995/96 research plan for the Japanese Whale Research Program under Special Permit in the Antarctic. Paper SC/47/SH3 presented to the IWC Scientific Committee, May 1995 (unpublished). 9pp.
- Government of Japan. 1996. The 1996/97 research plan for the Japanese Whale Research Program under Special Permit in the Antarctic. Paper SC/48/SH3 presented to the IWC Scientific Committee, April 1996 (unpublished). 10pp.
- Pastene, L.A., and Goto, M. (in prep). Further RFLP analysis of mitochondrial DNA in the Antarctic minke whales from Area III and IV.
- Pastene, L.A., Kishino, H. and Goto, M. Preliminary RFLP analysis of mitochondrial DNA in the Antarctic minke whale from Areas III and VI. Paper SC/48/SH13 presented to the IWC Scientific Committee, May 1996 (unpublished). 19pp.