

The 1998 Research Plan for the Japanese Whale Research Program
to under Special Permit in the Northwestern Part of the North Pacific
(JARPN)

Government of Japan
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I. INTRODUCTION

This year's research plan is a continuation of the original research program submitted to the 45th annual meeting of the IWC Scientific Committee in 1994 (Government of Japan, 1994). The full research program started in 1995, after a feasibility study in 1994. The results have been submitted to the Scientific Committee in each year.

The Northwestern Pacific area is divided into 13 sub-areas. The research is covering 2-3 sub areas in each year to examine the following points:

- (1) Whether sub-stocks exist in the Okhotsk Sea-Western Pacific stock (O Stock) of minke whale
- (2) Whether an additional stock (W Stock) of minke whale exist in the central part of the North Pacific. On the assumption that it does, it is necessary to estimate the rate of mixing with the O Stock.

II. OBJECTIVES OF THE RESEARCH

Same as in the previous research plan (Government of Japan, 1996).

III. NUMBER, SEX, SAMPLING SIZE AND AREA

One hundred (100) minke whales will be sampled in the sub-areas mentioned in above section.

Three options are proposed for the research survey in 1998 (outlined below). The choice between them depends on Russian permission to enter sub-area 12 and on the results from the 1997 survey at present in progress in sub-areas 9+8+7E. These results are not available now, but some will be available by the time of the 1997 Scientific Committee meeting and will be reported there.

Option I

Area : Sub-area 12 (Main Okhotsk Sea)
Aims: Stock structure (including the existence of W stock) and mixing rate of O and J stocks in this sub-area

Option II

Area: Sub-areas 9+8+7E (Pacific offshore waters)
Aims: Existence of W-stock

Option III

Area: Sub-areas 7W+11 (excluding sampling in sub-area 11 in April to avoid any take of females from the J stock)
Aims: Elucidation of sub-stock structure and mixing rate of J and O stocks in recent years.

Option I has the highest priority. This is because sub-area 12 has not yet been sampled during the research program. This option depends, however, on permit from Russia to conduct research in this sub-area.

Option II has the second highest priority. The survey in 1996 was carried out between 7 July and 13 September in sub-area 7E, 7W, 8, and 11. Samples collected in sub-area 7E and 8 were 1 and 16 animals, respectively. As for the sub-area 9, the Scientific Committee Working Group on North Pacific Minke Whale Trials last year agreed that "the low proportion of females and smaller males in sub-area 9 was inconsistent with those samples representing a separate population. However, it was noted that the seasonal coverage of the samples from sub-area 9 did not include the period from April to May" (IWC, 1997). In response to this, the JARPN survey in 1997 is being conducted from May in sub-areas 9, 8 and 7E. If results from the 1997 survey are not sufficient to clarify the components of the population in these sub-areas early in the season, it would be desirable to continue the

research in these sub-areas in 1998.

Option III is the third priority. Recent RFLP analyses of the mtDNA control region suggest that the main haplotypes (haplotypes 3 and 5) of the J stock were present in males in the August sample from sub-area 11 (Goto, in prep; Pastene et al., in prep.). However, sample sizes taken during the May-July period are small. Although the estimated J stock proportions in these months are low, they have large confidence intervals so that further samples are desirable to improve this situation. Haplotypes 3 and 5 are present in females from the April sample in this sub-area. Analysis of additional samples from that sub-area could contribute to discriminate the mixing rate of J and O stocks, and may also contribute to detecting the existence of sub-stocks.

Full analysis of the results of the 1997 research will not be available for the 1997 Scientific Committee meeting. It is possible that in the light of these further results, a new option combining features of both options II and III may be selected.

IV. RESEARCH NEEDS AND APPLICABILITY OF NON-LETHAL METHODS

This issue has already been addressed in detail in previous proposals (Government of Japan, 1994; 1996) and considered by the Scientific Committee.

V. POSSIBLE EFFECT ON THE STOCK

This issue has already been addressed in detail in previous proposals (Government of Japan, 1994; 1996) and considered by the Scientific Committee.

VI. OPPORTUNITY FOR PARTICIPATION BY FOREIGN SCIENTISTS

No change from the previous research plan (Government of Japan, 1996).

VII. OUTLINE OF THE 1998 RESEARCH

(i) Research method

Same as in the previous research plan (Government of Japan, 1996).

(ii) Research items

Same as in the previous research plan (Government of Japan, 1996).

The following information will be collected

1) morphometric measurements, 2) data on conception date 3) samples for genetic analysis (skin, liver, muscle, etc. for isozyme and DNA analysis), 4) samples for measurement of heavy metals and pollutants, 5) parasite samples, 6) analysis through stable isotope, 7) materials on length composition, sex ratio, etc., 8) marking experiment, 9) research on feeding habits, 10) sighting survey.

(iii) Research vessels

Same as in the previous research (Government of Japan, 1996); three sampling vessels and one research factory ship.

(iv) Research organizations

Experts and staff from 1) National Research Institute of Far Seas Fisheries, 2) Institute of Cetacean Research, and 3) Scientists from other universities and research institutions will take part in the research:

(v) Humane killing

All whales in the research program will be killed by explosive harpoon.

(vi) Need for joint research with the Russian Federation

As regards research in sub-areas 7E, 8, 9 and 12, it is desirable to cover the Russian waters along the Kurile Islands, off the Kamchatska Peninsula and in the Okhotsk Sea by means of a joint research with the Russian Federation.

(vii) Treatment of whales taken

Any whale taken under this special permit shall be processed in accordance with Article VIII-2 of the Convention. The meat will be consumed exclusively in Japan.

(viii) Report

The preliminary results of this special permit shall be made available for the next meeting of the Scientific Committee as a special report.

VIII. REFERENCES

Goto, M. in prep. RFLP analysis of the mitochondrial DNA control region of the 1996 JARPN minke whale samples.

Government of Japan. 1994. Research program for clarification of minke whale stock structure in the northwestern part of the North Pacific. Paper SC/46/NP1 presented to the IWC Scientific Committee, June 1994 (unpublished) 35pp.

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International Whaling Commission. 1997. Report of the North Pacific minke whale trials working group. Rep. int. Whal. Commn 47:

Pastene, L.A. et al., in prep. An estimate of the mixing proportion of 'J' and 'O' stocks minke whale in sub-area 11 based on mitochondrial DNA haplotype data.