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**Scientific contribution from  
JARPA/JARPAII/NEWREP-A**

*Institute of Cetacean Research*



## Scientific contribution from JARPA/JARPA II/NEWREP-A

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The Japanese Whale Research Program under Special Permit in the Antarctic (JARPA) was conducted between the austral summer seasons of 1987/88 and 2004/05. The JARPA had four main objectives: a) estimation of biological parameters to improve the stock management of the Southern Hemisphere minke whale; b) elucidate the role of whales in the Antarctic marine ecosystem; c) elucidation of the effect of environmental change on cetaceans; and d) elucidation of the stock structure of Southern Hemisphere minke whales to improve stock management.

The International Whaling Commission Scientific Committee (IWC SC) carried out two review workshops on JARPA, the first in 1997 (mid-term review) and the second on December 2006 (final review). Reports of these workshops can be found in the following web site:

<http://www.icrwhale.org/JARPAReview1.html> (mid-term review)

<http://www.icrwhale.org/pdf/SC59Rep1.pdf> (final review)

JARPA II started with two feasibility surveys in the seasons 2005/06 and 2006/07. The first full survey started in the 2007/08 season. The objectives of the JARPA II are the following: a) monitoring the Antarctic ecosystem (whale abundance trends and biological parameters; krill abundance and the feeding ecology of whales; effects of contaminants on cetaceans; cetacean habitat); b) modeling competition among whale species and future management objectives (constructing a model of competition among whale species; new management objectives including the restoration of the cetacean ecosystem); c) elucidation of temporal and spatial changes in stock structure; and d) improving the management procedure for Antarctic minke whale stocks.

The IWC SC carried out a review of data and results of JARPAII for the first six years (2005/06-2010/11) in February 2014 (which turned out to be the final review of JARPAII). The report of the review workshop can be found in the following web site:

<http://www.icrwhale.org/JARPAReview1.htm>

Since the austral summer season 2015/16 Japan started a 12-year long research program called New Scientific Whale Research Program in the Antarctic Ocean (NEWREP-A), which has two main objectives: a) Improvement in the precision of biological and ecological information for the application of the RMP to the Antarctic minke whales, and b) Investigation of the structure and dynamics of the Antarctic marine ecosystem through building ecosystem models.

A review of NEWREP-A will be carried out after the first six years of surveys are completed.

### Scientific contribution of JARPA/JARPA II/NEWREP-A

Scientific contribution of JARPA/JARPA II/NEWREP-A has been made in different forms, as scientific documents for the IWC SC meetings and other scientific meetings of intergovernmental organizations, as publications in peer reviewed journals, and as oral presentations at scientific symposiums.

The following table shows the number of IWC SC documents, peer-reviewed publications and oral presentations at scientific symposium based on JARPA/JARPA II/NEWREP-A sample/data, by year.

Year	IWC SC and other meetings documents	Peer reviewed publications	Oral presentations at symposia
1988	0	0	2
1989	3	2	6
1990	6	8	5
1991	4	9	5

1992	4	2	6
1993	4	7	7
1994	9	3	7
1995	9	3	11
1996	6	7	7
1997	27	3	4
1998	5	7	2
1999	12	4	6
2000	12	5	10
2001	6	3	15
2002	7	6	15
2003	9	5	22
2004	2	8	14
2005	8	6	21
2006	44	9	12
2007	11	7	6
2008	5	4	8
2009	5	2	8
2010	3	14	1
2011	4	1	3
2012	3	1	3
2013	6	6	0
2014	43	3	6
2015	3	2	1
2016	7	2	2
Total	267	139	215

The list of the IWC SC and other meetings documents, and peer-reviewed papers derived from JARPA/JARPA II/NEWREP-A is shown in the Appendix 1, by year. An asterisk (\*) indicates those papers published in peer-reviewed journals. Documents or peer-reviewed publications having as a first author a foreign scientist commonly followed a data request or collaboration research agreement with ICR. In a few cases foreign scientists have used published data from JARPA or JARPA II or NEWREP-A in their analyses and papers, without a formal agreement with ICR. These cases are indicated by a symbol (&).

*Documents and publications based on lethal and non-lethal sample/data*

In the list there is an indication on whether the document or publication is based on lethal or non-lethal sampling and whether it was carried out by Japanese or foreign scientists as the first author (symbols in red after each document or publication). The category does not include review papers, comments papers, etc. A summary of the information is shown in the table below:

L-J	L-F	NL-J	NL-F	L, NL-J
177	36	98	21	43

Note: **L-J**= document or publication based on lethal sampling by Japanese scientists; **L-F**= lethal, foreign scientist; **NL-J**= non-lethal, Japanese scientist; **NL-F**= non-lethal, foreign scientist; **L,NL-J**= lethal and non-lethal, Japanese scientist. The latter category includes cruise reports and some genetic analyses based on both lethal and biopsy sampling. ‘Japanese’/‘Foreign’ classification is according to the nationality of the first author in the documents, except in the case of one foreign scientist in the ICR who was in the category ‘Japanese’ in this document.

**University theses**

JARPA/JARPA II/NEWREP-A sample/data have been used in pre-graduated, master and doctoral theses. The number of theses by year is indicated in the following table:

Year	Pre-graduated	Master	Doctor
1993	1		
1994		1	1
1995	1	1	

1996	1	1	
1997		3	
1998	1		1
1999	3	4	1
2000		1	
2001		2	
2002	5	1	3
2003	2	2	
2004	2	1	2
2005	1	5	2
2006		1	
2007			2
2008	2		
2009	1	3	
2010	1	1	1
2011	1	1	2
2012	1		1
2013		1	
2014		1	
2015			
2016	1		
Total	24	30	16

**Other scientific contribution**

JARPA/JARPA II/NEWREP-A data/samples have been used also in chapters of books, local bulleting *Geiken Tsushin* and Suisan Shigen Kanri Danwakaihou.

JARPA/JARPA II/NEWREP-A biological material such as whale skeletons has been provided to municipal museums.

**Data access and availability**

All the data and samples obtained by JARPA/JARPA II/NEWREP-A are available to the national and international scientific community through established data access protocols. Appendix 2 shows the data access protocol of ICR, which can also be found at the IWC SC web page.

# Appendix 1

List of scientific papers based on data and samples collected by JARPA, JARPA II and NEWREP-A (peer-reviewed papers and unpublished documents submitted to the IWC/Scientific Committee and other meetings). Asterisks (\*) indicate those papers published in peer reviewed journals. Note: **L-J**= document or publication based on lethal sampling by Japanese scientists; **L-F**= lethal, foreign scientist; **NL-J**= non-lethal, Japanese scientist; **NL-F**= non-lethal, foreign scientist; **L,NL-J**= lethal and non-lethal, Japanese scientist.

Documents or peer-reviewed publications having as a first author a foreign scientist commonly followed a data request or collaboration research agreement with ICR. In a few cases foreign scientists have used published data from JARPA or JARPA II or NEWREP-A in their analyses and papers, without a formal agreement with ICR. These cases are indicated by a symbol (&).

References for documents presented to the IWC Scientific Committee follow the format/style determined by the Scientific Committee. All these documents are available from the IWC Secretariat upon request. Recent documents are also available at the IWC website (<http://iwc.int/sc-documents>).

## [1989] (5)

Kasamatsu, F. and Shigemune, H. 1989. Preliminary report of the second minke whale sighting surveys in low and middle latitudinal waters in the Southern Hemisphere in 1988/89. Paper SC/41/SHMi15 presented to the IWC Scientific Committee, June 1989 (unpublished). 15pp. **NL-J**

\*Kato, H., Hiroyama, H., Fujise, Y. and Ono, K. 1989. Preliminary report of the 1987/88 Japanese feasibility study of the special permit proposal for Southern Hemisphere minke whales. *Rep. int. Whal. Commn* 39: 235-248. **L,NL-J**

Kishino, H., Kato, H., Kasamatsu, F. and Fujise, Y. 1989. Statistical method for the estimation of age composition and biological parameters of the population. Paper SC/41/Mi3 presented to the IWC Scientific Committee, June 1989 (unpublished). 38pp. **L-J**

Naganobu, N., Shimamoto, K. and Kato, H. 1989. Oceanographical analysis on the southern minke whale distribution based on the data during Japanese research take in 1987/88. Paper SC/41/SHMi18 presented to the IWC Scientific Committee, June 1989 (unpublished). 9pp. **L-J**

\*Nakamura, T., Ohnishi, S. and Matsumiya, Y. 1989. A Bayesian cohort model for catch-at-age data obtained from research takes of whales. *Rep. int. Whal. Commn* 39: 375-382. **L-J**

## [1990] (14)

\*Butterworth, D. S. and Punt, A. E. 1990. Some preliminary examinations of the potential information content of age-structure data from Antarctic minke whale research catches. *Rep. int. Whal. Commn* 40: 301-315. **L-F**

Fujise, Y., Kato, H. and Kishino, H. 1990. Reproductive segregation of the minke whale population in high latitudinal waters with some estimations of pregnancy and sexual maturity rates, data from Japanese research takes in 1987/88 and 1988/89. Paper SC/42/SHMi10 presented to the IWC Scientific Committee, June 1990 (unpublished). 20pp. **L-J**

Fujise, Y., Yamamura, K., Zenitani, R., Ishikawa, H., Yamamoto, Y., Kimura, K. and Komaba, M. 1990. Cruise report of the research on southern minke whales in 1989/90 under the Japanese proposal to the scientific permit. Paper SC/42/SHMi25 presented to the IWC Scientific Committee, June 1990 (unpublished). 56pp. **L,NL-J**

\*Ichii, T. 1990. Distribution of Antarctic krill concentrations exploited by Japanese krill trawlers and minke whales. *Proceedings of the NIPR Symposium on Polar Biology* 3: 36-56. **NL-J**

Ichii, T. and Kato, H. 1990. Food of southern minke whales from Japanese research take in 1987/88. Paper SC/42/SHMi14 presented to the IWC Scientific Committee, June 1990 (unpublished). 15pp. **L-J**

\*Itoh, S., Takenaga, F. and Tsuyuki, H. 1990. Studies on lipids of the Antarctic minke whale. I. The fatty acid compositions of the minke whale blubber oils caught on 1987/88 season. *Yukagaku* 39 (7): 486-90. (in Japanese). L-J

\*Kasamatsu, F., Kishino, H. and Hiroshima, H. 1990. Estimation of the number of minke whale (*Balaenoptera acutorostrata*) schools and individuals based on the 1987/88 Japanese feasibility study data. *Rep. int. Whal. Commn* 40: 239-247. NL-J

\*Kato, H., Fujise, Y., Yoshida, H., Nakagawa, S., Ishida, M. and Tanifuji, S. 1990. Cruise report and preliminary analysis of the 1988/89 Japanese feasibility study of the special permit proposal for southern hemisphere minke whales. *Rep. int. Whal. Commn* 40: 289-300. L,NL-J

\*Kato, H., Kishino, H. and Fujise, Y. 1990. Some analyses on age composition and segregation of southern minke whales using samples obtained by the Japanese feasibility study in 1987/88. *Rep. int. Whal. Commn* 40: 249-256. L-J

\*Nagasaki, F. 1990. The Case for Scientific Whaling. *Nature* 334: 189-190.

Sedlak-Weinstein, E. 1990. Preliminary report of parasitic infestation of the minke whale *Balaenoptera acutorostrata* taken during the 1988/89 Antarctic expedition. Unpublished paper. 4pp. L-F

Taga, Y., Kishino, H. and Kasamatsu, F. 1990. Detection probabilities and search half-widths of paired vessels. Paper SC/42/SHMi27 presented to the IWC Scientific Committee, June 1990 (unpublished). 5pp. + Addendum 1pp. NL-J

\*Tanaka, S. 1990. Estimation of natural mortality coefficient of whales from the estimates of abundance and age composition data obtained from research catches. *Rep. int. Whal. Commn* 40: 531-536. L-J

Yoshioka, M., Fujise, Y., Kato, H. and Aida, K. 1990. Serum progesterone levels in southern minke whales by reproductive status. Paper SC/42/SHMi13 presented to the IWC Scientific Committee, June 1990 (unpublished). 10pp. L-J

#### [1991] (13)

\*Bergh, M. O., Butterworth, D. S. and Punt, A. E. 1991. Further examination of the potential information content of age-structure data from Antarctic minke whale research catches. *Rep. int. Whal. Commn* 41: 349-361. L-F

Fujise, Y., Kato, H. and Kishino, H. 1991. Some progress in examination on age distribution and segregation of the southern minke whale population using data from the Japanese research take. Paper SC/43/Mi18 presented to the IWC Scientific Committee, May 1991 (unpublished). 17pp. L-J

\*Ichii, T. and Kato, H. 1991. Food and daily food consumption of southern minke whales in the Antarctic. *Polar Biology* 11: 479-487. L-J

\*Kasamatsu, F., Kishino, H. and Taga, Y. 1991. Estimation of southern minke whale abundance and school size composition based on the 1988/89 Japanese feasibility study data. *Rep. int. Whal. Commn* 41: 293-301. NL-J

\*Kato, H., Fujise, Y. and Kishino, H. 1991. Age structure and segregation of southern minke whales by the data obtained during Japanese research take in 1988/89. *Rep. int. Whal. Commn* 41: 287-292. L-J

\*Kato, H. and Miyashita, T. 1991. Migration strategy of southern minke whales in relation to reproductive cycles estimated from foetal lengths. *Rep. int. Whal. Commn* 41: 363-369. L-J

\*Kato, H., Zenitani, R. and Nakamura, T. 1991. Inter-reader calibration in age readings of earplugs from southern minke whale, with some notes of age readability. *Rep. int. Whal. Commn* 41: 339-343. L-J

\*Kishino, H., Kato, H., Kasamatsu, F. and Fujise, Y. 1991. Detection of heterogeneity and estimation of population characteristics from the field survey data: 1987/88 Japanese feasibility study of the Southern Hemisphere minke whales. *Annals of the Institute of Statistical Mathematics* 43(3): 435-453. L-J

Kishino, H., Fujise, Y., Kato, H. and Taga, Y. 1991. Maximum likelihood procedure for the estimation of the mean age at sexual maturity of minke whales using the data from Japanese research take. Paper SC/43/Mi23 presented to the IWC Scientific Committee, May 1991 (unpublished). 9pp. L-J

Kishino, H., Taga, Y., Nishiwaki, S. and Kasamatsu, F. 1991. Abundance estimate of the Southern Hemisphere minke whales in area IV from the sighting in the 1989/90 Japanese research take. Paper SC/43/Mi22 presented to the IWC Scientific Committee, May 1991 (unpublished). 15pp. NL-J

Matsuishi, T. and Kishino, H. 1991. Precision of the estimated natural mortality coefficient and recruitment rate evaluated by Monte Carlo simulation. Paper SC/43/Mi21 presented to the IWC Scientific Committee, May 1991 (unpublished). 9pp. L-J

\*Nakamura, T. 1991. A new look at a Bayesian cohort model for time-series data obtained from research takes of whales. *Rep. int. Whal. Commn* 41: 345-348. L-J

\*Wada, S., Kobayashi, T. and Numachi, K. 1991. Genetic Variability and Differentiation of Mitochondrial DNA in Minke Whales. *Rep. int. Whal. Commn*(special issue 13): 203-215. L-J

### [1992] (6)

Fujise, Y., Kato, H., Zenitani, R. and Kishino, H. 1992. Seasonal and areal changes in age distribution and segregation of the southern minke whales in Antarctic areas IV and V using data from the Japanese researches. Paper SC/44/SHB10 presented to the IWC Scientific Committee, June 1992 (unpublished). 37pp. L-J

\*Nakamura, T. 1992. Simulation trials of a Bayesian cohort model for time-series data obtained from research takes of whales. *Rep. int. Whal. Commn* 42: 421-427. L-J

Nishiwaki, S., Kawasaki, M., Kishino, H. and Taga, Y. 1992. Abundance estimates of the Southern Hemisphere minke whale in Area V from the sightings in the Japanese research in 1990/91. Paper SC/44/SHB8 presented to the IWC Scientific Committee, June 1992 (unpublished). 12pp. NL-J

\*Tanaka, S., Kasamatsu, F. and Fujise, Y. 1992. Likely precision of estimates of natural mortality rates from Japanese research data for Southern Hemisphere minke whales. *Rep. int. Whal. Commn* 42: 413-420. L-J

Yoshioka, M. and Fujise, Y. 1992. Serum testosterone and progesterone levels in southern minke whales (*Balaenoptera acutorostrata*). Paper SC/44/SHB13 presented to the IWC Scientific Committee, June 1992 (unpublished). 4pp. L-J

Yoshioka, M., Okumura, T., Aida, K. and Fujise, Y. 1992. Development of techniques for quantifying muscle progesterone content in the minke whale (*Balaenoptera acutorostrata*). Paper SC/44/SHB12 presented to the IWC Scientific Committee, June 1992 (unpublished). 4pp. L-J

### [1993] (11)

&Cooke, J. G. and De La Mare, W. K. 1993. A comparative note on demographic parameters of right and minke whales. Paper SC/45/O25 presented to the IWC Scientific Committee, May 1993 (unpublished). 4pp. L-F

\*Fujise, Y., Ishikawa, H., Saino, S., Nagano, M., Ishii, K., Kawaguchi, S., Tanifuji, S., Kawashima, S. and Miyakoshi H. 1993. Cruise report of the 1991/92 Japanese research in Area IV under the special permit for Southern Hemisphere minke whales. *Rep. int. Whal. Commn* 43: 357-371. L,NL-J

Fujise, Y., Zenitani, R., Saino, S., Itoh, S., Kawasaki, M., Matsuoka, K. and Tamura, T. 1993. Cruise report of the 1992/93 Japanese research under the special permit for Southern Hemisphere minke whales. Paper SC/45/SHBa12 presented to the IWC Scientific Committee, April 1993 (unpublished). 39pp. L,NL-J

\*Hasunuma, R., Ogawa, T., Fujise, Y. and Kawanishi, Y. 1993. Analysis of selenium metabolites in urine samples of minke whale (*Balaenoptera acutorostrata*) using ion exchange chromatography. *Comparative Biochemistry and Physiology* 104C (1): 87-89. L-J

\*Itoh, S., Takenaga, F. and Tsuyuki, H. 1993. Studies on lipids of the Antarctic minke whale. II. The fatty acid compositions of the blubber oils of minke whale and dwarf minke whale caught on 1988/89 and 1989/90 seasons. *Yukagaku* 42(12): 1007-1011 (in Japanese). L-J

\*Iwata, H., Tanabe, S., Sakai, N., and Tatsukawa, R. 1993. Distribution of persistent organochlorines in the oceanic air and surface seawater and the role of ocean on their global transport and fate. *Environ. Sci. Technol.* 27: 1080-1098. [NL-J](#)

\*Kasamatsu, F., Yamamoto, Y., Zenitani, R., Ishikawa, H., Ishibashi, T., Sato, H., Takashima, K. and Tanifuji, S. 1993. Report of the 1990/91 southern minke whale research cruise under scientific permit in Area V. *Rep. int. Whal. Commn* 43: 505-522. [L,NL-J](#)

Naganobu, M., Kano, H., Fujise, Y. and Kato, H. 1993. Preliminary oceanographical analyses on the southern minke whale distribution based on the data during Japanese research take in 1988/89. Paper SC/45/SHBa15 presented to the IWC Scientific Committee, May 1993 (unpublished). 13pp. [NL-J](#)

\*Nakamura, T. 1993. Two-stage Bayesian cohort model for time-series data to reduce bias in the estimate of mean natural mortality rate. *Rep. int. Whal. Commn* 43: 343-348. [L-J](#)

\*Pastene, L.A., Kobayashi, T., Fujise, Y. and Numachi, K. 1993b. Mitochondrial DNA differentiation in Antarctic minke whales. *Rep. int. Whal. Commn* 43: 349-355. [L-J](#)

Pastene, L. A., Kobayashi, T., Fujise, Y. and Numachi, K. 1993a. Temporal Variation in Mitochondrial DNA Haplotypes Composition in Minke Whales from Antarctic Area IV. Paper SC/45/SHBa13 presented to the IWC Scientific Committee, April 1993 (unpublished). 16pp. [L-J](#)

#### **[1994] (12)**

Fujise, Y. and Kishino, H. 1994. Patterns of segregation of minke whales in Antarctic Areas IV and V as revealed by a logistic regression model. Paper SC/46/SH11 presented to the IWC Scientific Committee, May 1994 (unpublished). 23pp. [L-J](#)

Fujise, Y., Zenitani, R., Kato, H. and Kishino, H. 1994. Age distributions of minke whales in the Antarctic Areas IV and V in 1991/92 and 1992/93 seasons. Paper SC/46/SH20 presented to the IWC Scientific Committee, May 1994 (unpublished). 22pp. [L-J](#)

Hori, H., Bessho, Y., Kawabata, R., Watanabe, I., Koga, A. and Pastene, L.A. 1994. World-wide population structure of minke whales deduced from mitochondrial DNA control region sequences. Paper SC/46/SH14 presented to the IWC Scientific Committee, May 1994 (unpublished). 11pp. [L-J](#)

\*Kimoto, H., Endo, Y. and Fujimoto, K. 1994. Influence of interesterification on the oxidative stability of marine oil triacylglycerols. *Journal of American Oil Chemists Society* 71(5): 469-473. [L-J](#)

Naganobu, M., Kano, H., Fujise, Y. and Kato, H. 1994. Relationship between oceanographic condition and minke whale density in the Ross Sea based on the data from the 1992/93 cruise of Japanese whale research programme under special permit. Paper SC/46/SH17 presented to the IWC Scientific Committee, May 1994 (unpublished). 21pp. [NL-J](#)

Nishiwaki, S., Ishikawa, H., Itoh, S., Matsuoka, K., Yuzu, S., Nagatome, I., Yamagiwa, D., Murase, H., Tanifuji, S., Miyakoshi, H. and Ono, K. 1994. Report of the 1993/94 cruise of the Japanese whale research programme under special permit in the Antarctic Area IV. Paper SC/46/SH15 presented to the IWC Scientific Committee, May 1994 (unpublished). 42pp. [L,NL-J](#)

Nishiwaki, S., Matsuoka, K. and Kawasaki, M. 1994. Abundance estimates of Southern Hemisphere minke whale in 1991/92 and 1992/93 seasons using data from Japanese whale research programme under special permit in Antarctic. Paper SC/46/SH12 presented to the IWC Scientific Committee, May 1994 (unpublished). 14pp. [NL-J](#)

Ohsumi, S., Kawasaki, M. and Nishiwaki, S. 1994. Biological results of beaked whales surveyed by Japanese whale research programme under special permit in the Antarctic and the need of their research take. Paper SC/46/SM15 presented to the IWC Scientific Committee, May 1994 (unpublished). 24pp. [NL-J](#)

\*Pastene, L.A., Fujise, Y. and Numachi, K. 1994. Differentiation of mitochondrial DNA between ordinary and dwarf forms of southern minke whale. *Rep. int. Whal. Commn* 44: 277-281. [L-J](#)



Pastene, L.A. and Fujise, Y. 1994. An outline, with a progress report, of the photo-identification experiments on southern baleen whales conducted during the Japanese Whale Research Programme Under Special Permit in the Antarctic. Paper SC/46/SH21 presented to the IWC Scientific Committee, May 1994 (unpublished). 14pp. NL-J

Pastene, L.A., Goto, M., Fujise, Y. and Numachi, K. 1994. Further analysis on the spatial and temporal heterogeneity in mitochondrial DNA haplotype distribution in minke whales from Antarctic Areas IV and V. Paper SC/46/SH13 presented to the IWC Scientific Committee, May 1994 (unpublished). 25pp. L-J

\*Yoshioka, M., Okumura, T., Aida, K. and Fujise, Y. 1994. A proposed technique for quantifying muscle progesterone content in the minke whales (*Balaenoptera acutorostrata*). *Canadian Journal of Zoology* 72: 368-370. L-J

#### [1995] (12)

Butterworth, D. S., Thomson, R. and Kato, H. 1995. An Initial Analysis of Updated Transition Phase Data for Minke Whales in Antarctic Area IV. Paper SC/47/SH24 presented to the IWC Scientific Committee, May 1995 (unpublished), and Paper SC/47/SH24 (Rev) presented to the IWC Scientific Committee, June 1996 (unpublished). 18pp. L-F

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. L-J

\*Fukui, Y., Mogoe, T., Terawaki, Y., Ishikawa, H., Fujise, Y. and Ohsumi, S. 1995. Relationship between physiological status and serum constituent values in minke whales (*Balaenoptera acutorostrata*). *Journal of Reproduction and Development* 41(3): 203-208. L-J

\*Ishikawa, H. and Amasaki, H. 1995. Development and Physiological Degradation of Tooth Buds and Development of Rudiment of Baleen Plate in Southern Minke Whale, *Balaenoptera acutorostrata*: *The Journal of Veterinary Medical Science*: 665-670. L-J

\*Kasamatsu, F., Nishiwaki, S. and Ishikawa, H. 1995. Breeding areas and southbound migrations of southern minke whales *Balaenoptera acutorostrata*. *Mar.Ecol.Preg.Ser.* 119:1-10. NL-J

Matsuoka, K. 1995. Finding of blue whales by JARPA in the Antarctic. Paper SC/M95/BW3 presented to the Steering Committee Meeting for Research Related to Conservation of Large Whales in the Southern Oceans, Tokyo, 1995 (unpublished). 10pp. NL-J

Matsuoka, K. and Ohsumi, S. 1995. Yearly trend in population density of large baleen whales in the Antarctic Areas IV and V in recent years. Paper SC/47/SH9 presented to the IWC Scientific Committee, May 1995 (unpublished). 25pp. NL-J

Naganobu, M., Kano, H., Fujise, Y., Nishiwaki, S. and Kato, H. 1995. Relationship between oceanographic condition and minke whale density in the Antarctic Ocean based on the data from the Japanese scientific permit cruise in 1989/90, 1991/92 and 1993/94. Paper SC/47/SH11 presented to the IWC Scientific Committee, May 1995 (unpublished). 21pp. NL-J

Nishiwaki, S., Ishikawa, H., Itoh, S., Shimamoto, K., Mogoe, T., Kawazu, H., Machida, S., Yamane, T., Ono, K. and Ohkoshi, C. 1995. Report of the 1994/95 cruise of the Japanese whale research programme under special permit (JARPA) in the Antarctic Area V. Paper SC/47/SH5 presented to the IWC Scientific Committee, May 1995 (unpublished). 38pp. L,NL-J

Nishiwaki, S., Matsuoka, K. and Kawasaki, M. 1995. Comparison of parameters to obtain abundance estimates in the Japanese whale research programme under special permit in the Antarctic (JARPA) and the International Decade of Cetacean Research (IDCR). Paper SC/47/SH10 presented to the IWC Scientific Committee, May 1995 (unpublished). 17pp. NL-J

Tanabe, S., Aono, S., Fujise, Y., Kato, H. and Tatsukawa, R. 1995. Persistent organochlorine residues in the Antarctic minke whale, *Balaenoptera acutorostrata*. Paper SC/M95/P13 presented to the Workshop on Chemical Pollution and Cetaceans, Bergen, 1995 (unpublished). 6pp. L-J

Tanaka, E. and Nakamura, T. 1995. Preliminary estimation of average natural mortality coefficient of southern minke whales using JARPA data. Paper SC/47/SH8 presented to the IWC Scientific Committee, May 1995 (unpublished). 10pp. **L-J**

**[1996] (13)**

Aono, S., Tanabe, S., Fujise, Y. and Tatsukawa, R. 1996. Specific accumulation of persistent organochlorines in minke whale (*Balaenoptera acutorostrata*) and their prey species from the Antarctic and the North Pacific. Paper SC/48/O22 presented to the IWC Scientific Committee, June 1996 (unpublished). 10pp. **L-J**

\*Bakke, I. Johansen, S., Bakke, O. and El-Gewely, M.R. 1996. Lack of population subdivision among the minke whales (*Balaenoptera acutorostrata*) from Icelandic and Norwegian waters based on mitochondrial DNA sequences. *Marine Biology* 125: 1-9. **L-F**

\*Butterworth, D. S. and Geromont, H. F. 1996. On the provision of advice on the effect on stock(s) of scientific permit catches, with particular reference to proposed research catches of minke whales from Antarctic Area IV. *Rep. int. Whal. Commn* 46: 653-655. **L-F**

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## Appendix 2

# Draft Protocol for access to samples/data from the Institute of Cetacean Research (ICR), Tokyo, Japan under Procedure B (JCRM 6 (suppl.): 56-7)

### INTRODUCTION

This protocol has been developed in the context of Procedure B of the IWC Scientific Committee's rules for data availability adopted at the 55th Annual Meeting (*Journal of Cetacean Research and Management* 6 (suppl.): in press). Procedure B applies to data required for analyses deemed important in providing advice to the Committee other than catch limits. Conditions for data recipients (repeated below) as specified in the rules for data availability are applicable.

It was agreed that the Committee shall specify the nature of the work and the data required during the meeting at which the recommendation is made, to the fullest extent possible in the time available at the meeting and in accord with the published protocol. Requests to the ICR for data under Procedure B of the Scientific Committee's rules for data availability shall be submitted by the Data Availability Group assisted by a nominated member of ICR.

It was also agreed that if the correct process is followed, the data owners will normally approve the applications within a 'specified time period'; in this case ICR agrees that it will respond within 2 weeks of receiving an application.

### FORMAT OF THE APPLICATION

The format for the application is based on the revised application for catch-at-age analyses agreed by all members of the Scientific Committee at the end of the Scientific Committee meeting in 2003 (Annex G, Appendix 11).

- (a) *Title* of the proposal, giving the broad subject of the proposed analyses.
- (b) *Investigators*: the full name and affiliation of the principal investigator(s) and co-investigator(s) should be provided. This should include at least one scientist from ICR.
- (c) *Objectives and rationale of the study* as specified by the by the Scientific Committee along with the appropriate reference to the report(s) of the Scientific Committee. This will include the reasons why the proposed analyses are important and how they fit into previous work.
- (d) *Data to be used* will include a general description of all data to be used as well as data held by ICR. For the ICR-held data, the precise requirements will be given, including the level of disaggregation.
- (e) *Description of the methods* likely to be used. The level of detail must be in accordance with the level of novelty of the proposed methods and the particular research questions they will address. References to similar analyses should be included where available.
- (f) *Schedule of the work*: this should include estimated times for the various analyses to be carried out and an indication of which investigators will collaborate on individual components. If the project is a long-term project, annual progress reports will be required by ICR and the Scientific Committee.
- (g) *Output of the research*: this will follow the rules for publication agreed at the Scientific Committee meeting and given below. ICR may consider requests for less stringent conditions (e.g. presentations at non-IWC scientific meetings, publications, etc.). Such requests should be detailed here.

## CONSIDERATION OF THE PROPOSAL

If an application has been approved by the whole Scientific Committee at an annual meeting, it will normally be approved by ICR. However, the final decision will always remain the prerogative of ICR. ICR may request reviews by an internal review group and/or external experts. The following factors will be taken in to account by ICR when considering applications.

- (a) *Priority*: highest priority for analysis/research of samples/data produced by Japan's Whale Research Programs under Special Permit, will be for the scientists that collected and obtained the data in any particular field.
- (b) *Suitability of the requested data in the context of the proposed methods and the objectives of the research.*
- (c) *Level of co-operation with ICR scientists.*

The response to an application for data will be communicated by the ICR's Director General to the Data Availability Group and may include requests for further information. If the research proposal is accepted, ICR will nominate a scientist, (normally one of the co-investigators) who shall be responsible for making the necessary arrangements to provide the required samples/data.

### **Agreed Scientific Committee conditions for data recipients**

Applications deemed suitable under Procedure A or Procedure B below are granted under the following conditions:

- (1) Data shall not be transmitted to third parties.
- (2) Papers may only be submitted to a Committee meeting in accordance with the time restrictions given below. Such papers must not include the raw data or the data in a form in more detail than is necessary to understand the analysis.
- (3) Papers must carry a restriction on citation except in the context of IWC meetings.
- (4) Data owners are offered co-authorship.
- (5) Publication rights remain strictly with the data owner.
- (6) Data shall be returned, to the Secretariat or the data owner as appropriate, immediately after the meeting at which the paper is submitted and any copies destroyed, unless an extension is granted.
- (7) Data requesters sign a form agreeing to the above conditions. Such forms will be held by the data owner and the Secretariat. In the case of Procedure B, the Data Availability Group will sign the agreement on the Committee's behalf and ensure that the conditions of any agreement are met by any individual scientists involved in the analysis.
- (8) In the event of a breach of the conditions in (6), serious sanctions [to be determined] will apply.