

Proposed Schedule amendment to permit the catching of minke whales from the Okhotsk Sea-West Pacific Stock

Submitted by Japan

This proposal is to add the following sub-paragraph (f) to existing paragraph 10 of the Schedule.

(f) Notwithstanding the other provisions of paragraph 10, the taking of up to 150 minke whales from the Okhotsk Sea-West Pacific stock of the North Pacific shall be permitted for each year until 2010 or until the quota based on RMS is decided, whichever is earlier.

* Explanatory note: Adoption of this schedule amendment will require amendment to Table 1 of the Schedule.

Community-based Whaling of Minke Whales
in Coastal Waters of the North Western Pacific off Japan

submitted by Japan

Since the imposition of the moratorium on commercial whaling in Japanese coastal waters almost twenty years ago, the Government of Japan has repeatedly requested an interim relief allocation of fifty minke whales in order to alleviate the hardships of small-type coastal whaling communities; Abashiri, Ayukawa, Wada and Taiji. These requests have been continually rejected by the International Whaling Commission even though the Commission has recognized the severe impacts of the moratorium on the four small-type whaling communities and agreed to work expeditiously to alleviate their distress (ref. resolutions IWC-45-51(1993), 1995-3, 1996-1, 2000-1, 2001-6, and 2004-2).

In the meantime, whale abundance has increased, while Japanese coastal fisheries have become impoverished as if in inverse proportion.

The IWC Scientific Committee's Comprehensive Assessment (CA) of the Okhotsk Sea-West Pacific stock of the North Pacific minke whales was completed in 1991, and the stock was shown to be abundant and robust.

The Revised Management Procedure (RMP) was completed in 1992, and accepted by the Commission in 1994. The RMP is designed to calculate a very conservative catch quota, which will ensure that there are no adverse effects on the stock.

Further the IWC work on the development of the Revised Management Scheme (RMS) has continued for more than ten years. Effective monitoring and control measures have been discussed exhaustively and effective and necessary measures are already available and established for implementation. Only unrealistic and excessive demands have delayed completion and implementation of an RMS.

In view of the above, the Government of Japan believes that all the necessary mechanisms and conditions are in place to enable sustainable whaling operations to resume. Therefore, Japan proposes to allow the four small-type coastal whaling communities to resume limited and managed whaling activities in their coastal waters.

All the edible parts of the harvested whales will be used as food, and a substantive part of them will be primarily distributed among the four community-based coastal whaling communities and the neighboring areas, as well as Kushiro, where a land station will be built. The resumption of community-based whaling will promote the local processing industries, and stimulate distribution of whale products and tourism, leading to more employment opportunities, which will help vitalize the local economies. The resumption of community-based whaling will also reinstate traditional practices associated with sales of whale meat, and revitalize traditional festivals and rituals of the regions.

Furthermore, whaling operations under this provision will also demonstrate that management measures to be employed as part of this proposal are satisfactory to achieve effective control of whaling operations. This proposal would thus facilitate the discussion to finalize an RMS.

<Operators of community-based whaling>

Those who will harvest minke whales will be members of the Japan's Community-Based Whaling Association who have ample experience in minke whale hunts.

<Specifics of community-based whaling operation>

1. Whaling grounds

Areas 10 nautical miles or more off the Pacific coast of northern Japan (in so-called subarea 7), excluding the Okhotsk Sea.

2. Whaling seasons

For 2006, the open season will be from October 1 to December 31. For the years 2007 to 2010, the whaling season will be a consecutive six month period within the period of March 1 to November 30, which shall be declared as the term of operation for each land station.

3. Catch quota

The quota will be 150 minke whales per calendar year. This quota together with catches taken under Special Permit in accordance with Article VIII of ICRW and estimated bycatch means that total removals will not exceed that calculated using the RMP's CLA with tuning level and MSYR currently used by Norway (see Appendix 2).

4. Operations

Whaling will be carried out using small-type whaling vessels. Land stations will be set up in the port of Ayukawa, Miyagi Prefecture, and the port of Kushiro, Hokkaido Prefecture.

5. Monitoring and control

(1) National inspectors

One national inspector will be on board each whaling vessel during whaling operations. Another national inspector will be stationed at each land station to oversee the landing and the processing of the harvested whales as well as data collection. The national inspector shall also perform duties as a biological researcher.

(2) International observers¹

If an IWC member country wishes, it may send one international observer, who can communicate in Japanese, to be stationed at each land station to observe the landing and the processing of the harvested whales as well as data collection. The stationing of such international observers shall be in accordance with a bilateral agreement on international observers concluded between the Government of Japan and the country which wishes to send the said observer.

(3) Use of monitoring devices

All whaling vessels shall be equipped with a VMS to monitor whaling operations from land bases so that national inspectors and international observers can check the operations.

(4) Hunting method

Explosive grenades shall be used to take whales.

(5) Data collection

Biological information and materials will be collected and sampled from all harvested whales and the obtained data will be reported to the IWC in accordance with the provisions of the Schedule.

(6) Distribution of whale meat

A substantive part of the whale products shall be primarily distributed among the four community-based coastal whaling communities (Abashiri, Hokkaido Prefecture; Ayukawa, Miyagi Prefecture; Wada, Chiba Prefecture, and Taiji, Wakayama Prefecture) and the neighboring areas, as well as Kushiro, where a land station will be set up.

<Scientific basis for community-based whaling>

1. Completion of the comprehensive assessment (CA)

The CA for the western North Pacific minke whales was completed in 1991.

2. Whale stock

The O stock will be harvested in the designated whaling grounds 10 nautical miles or more off the North Western Pacific coastline (Appendix 1).

3. Catch quota

A catch limit of 424 animals (Appendix 2) was calculated using the same method used by Norway (the CLA program used for the RMP, with a tuning level of 0.62K and average MSYR as 2.5%), employing the 1990 and 2000 abundance estimates, which take $g(0) = 0.427$ into account. Therefore, the catch quota of 150 animals is conservative even taking account of the number sampled in research takes and the estimated bycatch.

4. Impacts of such takes on the stock

In the western North Pacific, 220 minke whales per year are now being taken as part of the JARPN II program from the same stock that will be exploited by community-based whaling. Calculated by the Hitter method, the stock shows an increasing trend except in the least plausible case (i.e. the case where 90% lower limit for the abundance estimate and $MSYR(1+)=1\%$ are used) (Appendix 3). The results indicate that there will be no adverse impact on the stock concerned (O stock) even if community-based whaling and research takes are concurrently carried out.

Catches will have no negative impact on J stock (see Appendix 1).

¹ This arrangement shall not be deemed to prejudice the position of the Government of Japan with regard to the arrangements in other international agreements and the sovereign rights in her EEZ.

Appendix 1

Genetic basis for limiting whaling grounds to areas 10 nautical miles or more off the Pacific coast

The impact of harvests to the J stock in the Pacific area of Japan (sub-area 7) was examined using the analysis of mixing proportion by Bayesian approach (Punt, 2002) employed for the implementation simulation trials (IST) for the North Pacific minke whales.

MATERIALS AND METHODS

Based on mitochondria DNA (mtDNA) haplotype data, the mixing proportion of the J stock in sub-area 7 and its standard deviation have been calculated for the samples from research takes (N=238), from past commercial whaling (N=139) and from by-catches (N=50). In these estimation, the haplotype composition of samples from by-catches in the Japan Sea and that of partial samples from sub-areas 8 and 9 were used as representative samples of J and O stocks.

RESULTS AND DISCUSSION

As is shown Table 1, the mixing proportion of the J stock in samples taken from research take (JARPN and JARPN II) during 1996 to 2002 was 6.9% (SD:1.9%). It was 3.1% (SD: 1.6%) for samples collected from coastal commercial whaling from 1983 to 1987, and 52.2% (SD: 7.3%) for samples of by-catches form 1996 to 2002. The area from which these samples were taken was 5 n.m. off the coast to long. 150°E., 3 to 70 n.m., and within 3 n.m. from the coast, for research takes, commercial whaling, and by-catches, respectively. The mixing proportion of the J stock was high in by-catches, and since they were incidentally caught in the set nets within 3 n.m. from the coast, we examined how it will be affected by the distance from the shore. It was found that the mixing proportion decreased somewhat in waters between 3 to 10 n.m. from the coast, but that it remained at more or less the same level for waters farther than 10 n.m. (Table 2). We therefore estimated that the impact of community-based whaling on the J stock can be kept at a minimum by designating whaling grounds to waters 10 n.m. or more from the coast, since the range of the J stock is thought to be limited to extreme coastal waters.

Table 1

Comparison of the mixing proportion of the J stock in sub-area 7 by the Bayesian approach

Samples	Sampled years	No. of animals	Mixing proportion of J stock	Standard deviation
Research takes	1996-2002	238	0.069	0.019
Commercial whaling	1983-1987	139	0.031	0.016
Bycatches	1996-2002	50	0.522	0.140

Table 2

Comparison of the mixing proportion by distance from the coast using samples from research takes in sub-area 7

Distance from coastal line	No. of animals	Mixing proportion of J stock	Standard deviation
3 n.m. or more	237	0.069	0.019
10 n.m. or more	212	0.047	0.018
20 n.m. or more	135	0.042	0.021
30 n.m. or more	107	0.046	0.025
40 n.m. or more	96	0.054	0.029
50 n.m. or more	83	0.049	0.028

Appendix 2

Catch limits using the CLA for western North Pacific minke whales

Catch limits for western North Pacific minke whales have been calculated using the Catch Limit Algorithm (CLA) program (IWC, 1994).

Scenarios

We have assumed that there is one stock in sub-areas 7, 8, 9, 11, and 12. Bycatches (35 animals per year) are included in the numbers taken.

Abundance estimate

The abundance estimates ($g(0)=1$) for 1990 and 2000 are 25,591 and 25,604, respectively. For the calculation, $g(0)=0.427$ (Schweder *et al.*, 1991) is used. The abundance estimate for 2000 for sub-areas 11 and 12 is based on the 1999-2000 sighting surveys in the Sea of Okhotsk (Miyashita, 2002), but there are no recent abundance estimates nor their coefficient of variation (CV) for sub-areas 7, 8, and 9; therefore, they have been assumed to be the same as those of 1990. See Table 1 for the abundance estimate for each sub-area.

Table 1 Abundance estimate for 2000 used in the calculations

Sub-areas	Abundance estimate	CV
7	2,202 ¹	0.383 ¹
8	1,057 ¹	0.706 ¹
9	8,264 ¹	0.396 ¹
11	1,456 ²	0.565 ²
12	12,625 ²	0.317 ²
Total	25,604	0.209

1: Abundance estimate for 1990 by IWC (1997)

2: Abundance for 1999-2000 estimated by Miyashita (2002).

Tuning levels

Catch limits have been calculated using four different tuning levels: 0.72K, 0.66K, 0.62K, and 0.60K. Tuning parameter estimates in Huseby and Aldrin (2000) were used. Norway's catch limit for north Atlantic minke whales has been calculated using 0.62K as the tuning level (IWC, 2005).

MSYR (1+)

The prior distribution of MSYR (1+) was assumed to be uniformly a) 0-5%, b) 0-10%, and c) 0-15%. Assumption (a) is similar to that used in Norway's catch limit calculations.

Results

The calculation results are shown in Table 2. The catch limits calculated is 424 animals when the range of MSYR (1+) is 0-5% and the tuning level is 0.62K (i.e. when the conditions given are the same as those of Norway's catch limit calculations).

Table 2 Catch limit for minke whales. Figures in *italic* indicate the number of animals calculated with the same conditions as for Norway's catch limit.

Tuning levels	0.72K	0.66K	0.62K	0.60K
MSYR(1+)	(IPL=0.54)			
2.5% in Ave. (0-5%)	272	360	424	460
5% in Ave. (0-10%)	387	515	610	667
7.5% in Ave. (0-15%)	474	636	769	841

Appendix 3

Examination of effects on the minke whale stock in the western North Pacific

The possible effects of an annual take of 370 minke whales (220 sampled in the JARPN II program and another 150 harvested by community-based whaling) on the stock have been examined using the Hitter method.

The same scenario used for the calculation of the catch limit has been used. As for sex ratio of minke whales to be harvested in the future, we have assumed that it will be predominantly male (79.2%) as it was shown from the surveys.

Two assumptions for abundance estimates have been used, one assuming that the 1990 abundance is 25,591 animals (assumed $g(0)=1$; IWC, 1997) and the other that it is 59,932 animals ($g(0)=0.427$; Schweder *et al.*, 1991). In both cases, the case where abundance in 1990 is assumed to be the 90% lower limit for the estimate has been also investigated as in past examinations for impacts on the stock using the Hitter method.

Results

According to Table 1-a, the stock shows an increasing trend in all cases except in the most conservative one (i.e. the case

which the 90% lower limit and MSYR (1+)=1% are assumed). In this conservative case, the stock shows a decreasing trend but this trend become weaker with time and therefore the stock will stabilize at high level. Table 1-b shows a more marked increasing trend. The results indicate that there will be no adverse impact on the stock even if community-based whaling and research takes are concurrently carried out.

Table 1 Effect of an annual take of 370 minke whales in addition to incidental catches on the stock by the Hitter method

a. Assuming $g(0)=1$

i) Hit 1990 total population of 25,591 (best estimate)

Statistic	MSYR (1+) (%)				
	1	2	3	4	5
K (1+)	34,465	31,128	29,174	28,011	27,295
Depletion - 1988	70.3%	75.3%	79.1%	81.9%	84.0%
Depletion - 1994	74.3%	81.5%	86.6%	90.1%	92.5%
Depletion - 2005	78.1%	87.9%	93.5%	96.4%	98.0%
Depletion - 2015	77.7%	88.2%	92.9%	94.8%	95.7%
Depletion - 2025	78.0%	89.6%	94.2%	96.2%	97.4%
Depletion - 2035	78.4%	91.0%	95.5%	97.5%	98.8%
RY - 2005	220	237	210	184	168
MSY (+1)	207	374	525	672	819

ii) Hit 1990 total population of 16,894 (90% lower limit)

Statistic	MSYR (1+) (%)				
	1	2	3	4	5
K (1+)	26,353	23,107	21,038	19,721	18,878
Depletion - 1988	59.9%	64.9%	69.1%	72.6%	75.4%
Depletion - 1994	64.4%	72.4%	78.9%	83.9%	87.6%
Depletion - 2005	68.5%	80.7%	88.9%	93.8%	96.4%
Depletion - 2015	67.4%	81.6%	88.9%	92.2%	93.7%
Depletion - 2025	67.2%	83.7%	91.1%	94.3%	96.2%
Depletion - 2035	67.1%	85.7%	93.1%	96.3%	98.2%
RY - 2005	209	245	225	196	175
MSY (+1)	203	241	223	193	171

b. Assuming $g(0)=0.427$

i) Hit 1990 total population of 59,932 (best estimate)

Statistic	MSYR (1+) (%)				
	1	2	3	4	5
K (1+)	67,937	64,659	62,942	61,975	61,388
Depletion - 1988	85.7%	89.0%	91.0%	92.4%	93.3%
Depletion - 1994	88.1%	92.2%	94.7%	96.2%	97.1%
Depletion - 2005	90.4%	95.2%	97.6%	98.7%	99.2%
Depletion - 2015	90.4%	95.2%	97.0%	97.8%	98.1%
Depletion - 2025	90.7%	95.8%	97.6%	98.4%	98.9%
Depletion - 2035	91.1%	96.3%	98.1%	98.9%	99.5%
RY - 2005	228	223	195	174	162
MSY (+1)	408	776	1133	1487	1842

ii) Hit 1990 total population of 37,658 (90% lower estimate)

Statistic	MSYR (1+) (%)				
	1	2	3	4	5
K (1+)	46,076	42,744	40,910	39,857	39,216
Depletion - 1988	78.4%	82.7%	85.7%	87.8%	89.2%
Depletion - 1994	81.6%	87.5%	91.2%	93.6%	95.2%
Depletion - 2005	84.8%	92.2%	95.9%	97.8%	98.7%
Depletion - 2015	84.7%	92.2%	95.2%	96.5%	97.1%
Depletion - 2025	85.1%	93.1%	96.1%	97.4%	98.2%
Depletion - 2035	85.5%	94.0%	96.9%	98.3%	99.1%
RY - 2005	226	229	201	179	164
MSY (+1)	203	241	223	193	171