

**JAPAN. PROGRESS REPORT ON SMALL CETACEAN RESEARCH  
May 2006 to March 2007, WITH STATISTICAL DATA FOR THE CALENDAR YEAR 2006**

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This report summarizes small cetacean fisheries in 2006 as well as researches conducted during the period from May 2006 to March 2007 by the National Research Institute of Far Seas Fisheries (hereafter NRIFSF) of the Fisheries Research Agency of Japan (hereafter FRA) and the Fisheries Agency of the Ministry of Agriculture, Forestry and Fisheries, the Government of Japan (hereafter FAJ) with the cooperation of other related organizations. This report covers information on small cetaceans which is not included in the "JAPAN PROGRESS REPORT ON CETACEAN RESEARCH, May 2006 TO March 2007, WITH STATISTICAL DATA FOR THE CALENDAR YEAR 2006" (submitted to 59th IWC/SC meeting).

**Species and stocks studied**

The following species and stocks of small cetaceans were studied by NRIFSF and FAJ:

Common name	Scientific name	Area/stock(s)	Items referred to
Dall's porpoise	<i>Phocaenoides dalli</i>	Off Pacific coast, Okhotsk Sea, Sea of Japan	4.2, 6.1, 6.2.1, 10.1
Finless porpoise	<i>Neophocoena phocaenoides</i>	Coastal waters of Japan	2.1.1, 4.2, 4.3, 6.2.1, 6.2.3, 10.1
Pacific white-sided dolphin	<i>Lagenorhynchus obliquidens</i>	Off Pacific coast	3.1.2, 4.1, 6.2.1, 6.2.3
Striped dolphin	<i>Stenella coeruleoalba</i>	Western North Pacific	4.1, 4.2, 4.4, 6.1, 6.2.1, 10.2
Spotted dolphin	<i>Stenella attenuata</i>	Off Pacific coast	4.1, 4.2, 4.4, 6.1, 6.2.1
Bottlenose dolphin	<i>Tursiops truncatus</i>	Off Pacific coast, East China Sea	2.1.1, 4.1, 4.2, 4.3, 6.1, 6.2.1, 6.2.3
Risso's dolphin	<i>Grampus griseus</i>	Western North Pacific	2.1.1, 4.2, 6.1, 6.2.1, 6.2.3
Short-finned pilot whale	<i>Globicephala macrorhynchus</i>	Western North Pacific, East China Sea	2.1.1, 4.2, 4.4, 6.1, 6.2.1, 6.2.3, 10.2
False killer whale	<i>Pseudorca crassidens</i>	Off Pacific coast	4.1, 4.2, 6.1, 6.2.1, 10.2
Baird's beaked whale	<i>Berardius bairdii</i>	Off Pacific coast, Sea of Japan, Okhotsk Sea	2.1.1, 3.1.3, 3.2, 4.2, 4.4, 6.1, 6.2.1, 10.1, 10.2
Additional species taken or sighted during dolphin fisheries or small-type whaling operations	-	Off Pacific coast, Sea of Japan, Okhotsk Sea	2.1.2, 4.2
Additional species sighted during the sighting cruise	-	Western North Pacific, Okhotsk Sea, Sea of Japan	2.1.1
Additional species stranded	-	Around Japan	6.2.1

**2. Sighting data (this section partly overlaps with descriptions of sighting data in SC/59/Japan /Progprep.)**

**2.1 Field work**

**2.1.1 SYSTEMATIC**

The NRIFSF and FAJ conducted a total of eight dedicated shipboard sighting and other related surveys using research vessels and one sighting surveys using airplane in the North Pacific, in cooperation with other scientific organizations such as the Institute of Cetacean Research (ICR) *etc.* All of the vessels are equipped with a top barrel. During these cruises, all sighting information including small cetaceans was recorded.

Target species	Date	Area	No. of sightings	Contact person/institute and references
Fin whale	18-28/06/06	Sea of Japan	14	T. Miyashita (NRIFSF), SC/59/NPM3
	21/07/06-13/10/06	Western North Pacific	1	H. Shimada (NRIFSF)
Bryde's whale	21/07/06-13/10/06	Western North Pacific	3	H. Shimada
Humpback whale	18-28/06/06	Sea of Japan	2	T.Miyashita, SC/59/NPM3
Common minke whale	18-28/06/06	Sea of Japan	59	T.Miyashita, SC/59/NPM3
	21/07/06-13/10/06	Western North Pacific	5	H. Shimada
Sperm whale	21/07/06-13/10/06	Western North Pacific	67	H. Shimada
	18-28/03/07	Western North Pacific	4	H. Shimada
Baird's beaked whale	11/05/06-09/07/06	Sea of Japan	45	S.Minamikawa (NRIFSF)
northern form short-finned pilot whale	14/09/06-13/10/06	Western North Pacific	20	T.Miyashita
southern form short-finned pilot whale	21/07/06-08/09/06	Western North Pacific	29	H.Shimada.
Bottlenose dolphin	21/07/06-08/09/06	Western North Pacific	22	H.Shimada

With cooperation among the NRIFSF, Kochi prefecture government (KPG) and the Whale Watching Association in Tosa Bay (WATB), the sighting surveys on Bryde's whales were conducted in the coastal waters off Kochi in July and August 2006, using a total of 30 whale watching boats belong to the WATB. The boats (5 -10t) were without top barrels and excluded from the above table, but the boats were employed as sighting survey vessels in local coastal waters. The survey lasted five days both in July and August, and T. Kishiro (NRIFSF), nine research assistants and 30 fishermen members of WATB acted as the researchers on board. A total of 20 schools (1,395 animals) of common dolphins and eight schools (64 animals) of Risso's dolphins were sighted.

Aerial sighting surveys for finless porpoises using two small airplanes (CESSNA 172P) were conducted to obtain information on their abundance and distribution in East-Middle part of the Inland Sea. Yoshida and Minamikawa conducted the surveys with Tokyo University of Marine Science and Technology and Nagasaki prefectural office, under collaboration of Miyajima Public Aquarium. In a period of 29 November - 5 December 2006, the survey was conducted for four days with good weather condition, and the 51 schools (84 animals) of finless porpoises with a school (20 animals) of the unidentified species dolphin were sighted, during the flight of 987.6 n.miles (excluded from the above table)

### 2.1.2 OPPORTUNISTIC, PLATFORMS OF OPPORTUNITY

Opportunistic sighting data have been collected during small-type whaling and dolphin fishery operations. They mainly consist of sightings of target species within the fishing grounds (e.g. southern form short-finned pilot and false killer whales, Risso's, bottlenose, striped and spotted dolphins off Taiji).

## 3. Marking data

### 3.1 Field work

#### 3.1.1 NATURAL MARKING DATA

No small cetacean natural marking data were collected during the period from May 2006 to March 2007.

#### 3.1.2 ARTIFICIAL MARKING DATA

S. Noji (FRA) and H.Hiruda (FRA) succeeded in "dart-tag" marking of two Pacific white-sided dolphins in total during the research cruise on *Kurosaki* in the North Pacific.

### 3.1.3 TELEMETRY DATA

Minamikawa (NRIFSF) and Kawashima (FRA) deployed, with an air gun, the data-loggers (depth and temperature) combined with ARGOS PTT on four free-swimming Baird's beaked whales in the Sea of Japan in July 2006. All the deployed tags were released from the whale automatically and recovered. Consequently, the data were obtained from two whales. Each data were recorded for seven days and five days, respectively. All whales moved southbound in Sea of Japan from the waters off east coast of Hokkaido, whaling ground of Baird's beaked whales.

#### 3.2 Analyses/development of techniques

Minamikawa further improved the tagging system of a data-logger using air gun for beaked whales. The tag was made lighter and smaller, and had built-in automatic releaser. It was used to obtain diving behavior data of Baird's beaked whales.

## 4. Tissue/biological samples collected

### 4.1 Biopsy samples

Species	Area/stock	Season - no. collected	Archived (Y/N)	No. analysed	Total holdings	Contact institute
Pacific white-sided dolphin	N. Pacific	3	Y	0	3	NRIFSF
Striped dolphin	N. Pacific	2	Y	0	2	NRIFSF
Pantropical spotted d.	N. Pacific	8	Y	0	8	NRIFSF
Bottlenose dolphin	N. Pacific	3	Y	0	3	NRIFSF
False killer whale	N. Pacific	1	Y	0	1	NRIFSF
unidentified Delphinid species*	N. Pacific	1	Y	0	1	NRIFSF
Killer whale	Antarctic	1	Y	0	1	NRIFSF

\*: Bottlenose dolphin or Melon-headed whale.

### 4.2 Samples from direct catches or bycatch

Species	Area	Tissue type(s)	No. collected	Archived (Y/N)	Contact Institute
Dall's porpoise	dalli-type N.Pacific	tooth(To), Sk, liver(L), M, ovary(O), uterine horn(U) and testis(Te)	99	Y	NRIFSF
	truei-type N.Pacific	tooth(To), Sk, liver(L), M, ovary(O), uterine horn(U) and testis(Te)	18	Y	NRIFSF
Striped dolphin	N.Pacific	To, Sk, M, O, U and Te	467	Y	NRIFSF
Spotted dolphin	N.Pacific	To, S, M, O, U, Te and St	209	Y	NRIFSF
Bottlenose dolphin	N.Pacific	To, Sk, M, O, U, Te and St	460	Y	NRIFSF
Risso's dolphin	N.Pacific	To, Sk, L, M, O, U, Te, epididymis(E) and vertebral epiphysis (V)	309	Y	NRIFSF
False killer whale	N.Pacific	To, Sk, M, O, U, Te and St	30	Y	NRIFSF
Short-finned pilot whale	northern form N.Pacific	To, Sk, L, M, O, U, Te, E and V	7	Y	NRIFSF
	southern form N.Pacific	To, Sk, L, M, O, U, Te, E and V	119	Y	NRIFSF

	E. China Sea	To, Sk and M	8	Y	NRIFSF
Baird's beaked whale	N.Pacific	To, Sk, L, M, O, U, Te, E and V	51	Y	NRIFSF
	Okhotsk Sea	To, Sk, L, M, O, U, Te, E, V and St	2	Y	NRIFSF
	Sea of Japan	To, Sk, L, M, O, U, Te, E and V	10	Y	NRIFSF
Finless dolphin	E. China Sea	Sk	1	Y	NRIFSF

The national quota of Baird's beaked whales was sixty-six animals. Fishing season was from 25 May to 30 June for land station in Hakodate on the Sea of Japan coast, 20 June to 31 August for land station in Ayukawa and Wadaira on the Pacific coast, and 16 to 31 August for land station in Abashiri on the Okhotsk coast. A total of sixty-three whales (ten off Hakodate, two off Abashiri, 51 off the Pacific coast) were taken by five catcher boats (*Seiwa-maru*, *Kohei-maru* #75, *Taisho-maru* #28, *Katsu-maru* #7 and *Sumitomo-maru* #31). Kishiro organized the field data collection from the fishery operations, and all the catches were examined and samples taken by the following five biologists: Kishiro, Y. Morita (FAJ), Y. Toyoda (FAJ), T. Hara (FAJ) and S. Tabata (FAJ). The national quota of northern form short-finned pilot whales for small-type whaling was 36 whales with a fishing season from 11 November to 15 December for two boats (*Kohei-maru* #75 and *Taisho-maru* #28). A total of seven whales were taken by the two vessels from the station in Ayukawa. All the catches were examined and samples taken by H. Sato (FAJ) and M. Kawashima (FAJ). The national quota of southern form short-finned pilot whales for small-type whaling was 36 whales with a fishing season from 1 May to 15 August and 1 to 30 September. A total of ten whales were taken by two catcher boats (*Katsu-maru* #7, and *Seiwa-maru*) operating from one land station (Taiji). All of the catches were examined and samples taken by Hara, K. Nakai (FAJ), Sato, Morita and Kishiro. The FAJ also set a national catch quota of twenty Risso's dolphins for small-type whaling in Taiji from 1 May to 15 August and 1 to 30 September. A total of seven animals were taken by *Seiwa-maru*, and examined by Hara, Nakai, Sato and Morita. In Taiji during May-August 2006, the researchers also collected samples from hand harpoon catches when they had the opportunity, including 59 bottlenose, 51 Risso's, four spotted and one Fraser's dolphins (one Fraser's dolphin was taken by mistake and discarded after examination).

Kishiro and I. Nomura (FRA) collected stomach contents of ten Baird's beaked whales taken by small-type whaling in Hakodate from May to June 2006. Morita recorded prey species and weight of stomach content of seven northern form short-finned pilot whales taken by small-type whaling in Ayukawa from November to December 2006.

Iwasaki and his colleagues, Minamikawa, T. Hara (FRA), and S. Saino (FRA), collected samples for life history and genetic studies from catches of drive and hand harpoon fisheries in Taiji during operations through 1 November to 20 December 2006 and 7 January to 28 February 2007. They examined a total of 1,463 animals composed of 467 striped, 401 bottlenose, 251 Risso's and 205 pantropical spotted dolphins and 109 southern form short-finned pilot and 30 false killer whales. Iwasaki and S. Saino (FRA) collected stomach contents and related biological data and samples from 26 dalli-type Dall's porpoises in October 2006 off the Pacific coast of Hiroo, Hokkaido..

Under contract with FRA and supervised by NRIFSF, sample collection for life history and genetic studies of dolphin fisheries was performed in Iwate prefecture. T.Ohtomo of Iwate Fisheries Technology Center (hereafter IFTC) and his colleagues collected samples from 18 *truei*-type Dall's porpoises (taken off Iwate during 2-9 February 2007). During April through March, Y. Hara (IFTC), T. Sato (IFTC) and T.Ohtomo recorded color type, sex and body length of 1,370 *truei*-type and 393 *dalli*-type Dall's porpoises landed at the Kamaishi Fish Market and collected DNA samples from 73 *dalli*-types.

As a part of the fishery supervision activity, Okinawa Prefectural Government collected samples for age determination and genetic studies from eight southern form short-finned pilot whales which were taken by hand harpoon fishery in Okinawa. These samples were sent to NRIFSF. Skin sample of a finless porpoise from by-caught on December 2006 in Nagasaki was sent to NRIFSF.

#### 4.3 Samples from stranded animals

Skin samples of six finless porpoises (November 2006, March, March 2007 in Nagasaki, October 2006 in Kumamoto, and December 2006 in each of Aichi and Ibaraki) and one bottlenose dolphin (June 2006, Kumamoto) were sent to NRIFSF.

#### 4.4 Analyses/development of techniques

In order to clarify the stock structure of Baird's beaked whales in the Sea of Japan, Kishiro, Toyoda and Ohizumi continued to analyze age, reproductive organs and stomach contents of Baird's beaked whales taken by small-type whaling in Hakodate in 2006.

NRIFSF continued to give research on feeding habits of smaller odontocetes in charge to School of Marine Science and Technology in Tokai University, and continued cooperative research with Ohizumi in the university. Ohizumi and Watanabe (Tokai Univ.) with Kishiro continued cooperative research on feeding habits of northern form short-finned pilot whale, and analyzed stomach contents of a total of 96 pilot whales that were captured by coastal whaling operated during October to December in 1999 and from 2002 to 2005. Ohizumi and Nomura (Tokai Univ.) with Kishiro cooperatively started stomach contents analysis of ten Baird's beaked whales taken by coastal whaling off Hakodate in May and June 2006. Ohizumi

and Majima (Tokai Univ.) with Iwasaki cooperatively started stomach contents analysis of seven spotted and 15 striped dolphins taken by hand-harpoon fishery in May, June, and February of 1999, 2000, 2002 and 2003 off Taiji. Ohizumi, Majima (Tokai Univ.), and Kishiro started cooperative stomach content analysis of 47 Baird's beaked whales taken by coastal whaling in July and August of 2001 and 2002 off Wada.

Yoshida furthered the mtDNA sequence analysis to reveal stock structure of short-finned pilot whales around Japan, by adding tissue samples of 75 individuals taken in 1993-2005 by the small-type whaling and the hand harpoon fishery. Yoshida also carried forward stock structure analysis of striped dolphins, using mtDNA sequences obtained from biopsy samples of 58 animals, collected in 1994-2002.

## 5. Pollution studies

No pollution studies were conducted during the period between May 2006 and March 2007.

## 6. Statistics for small cetaceans

### 6.1 For the calendar year 2006

Species	Type of fishery	Prefecture <sup>1)</sup>	Total landed <sup>2)</sup>
<i>dalli</i> -type Dall's porpoise	Hand harpoon	Hokkaido	719
	Hand harpoon	Iwate <sup>3)</sup>	3,312
	Hand harpoon	Miyagi	181
<i>truei</i> -type Dall's porpoise	Hand harpoon	Hokkaido	44
	Hand harpoon	Iwate	7,758
Striped dolphin	Hand harpoon	Wakayama	36
	Driving	Wakayama	479
Spotted dolphin	Hand harpoon	Wakayama	5
	Driving	Wakayama	400(13)
Bottlenose dolphin	Hand harpoon	Wakayama	75
	Driving	Wakayama	285(80)
	Hand harpoon	Okinawa	12
Risso's dolphin	Small-type whaling	Wakayama	7
	Hand harpoon	Wakayama	105
	Driving	Wakayama	232
northern form short-finned p.w.	Small-type whaling	Miyagi	7
southern form short-finned p.w.	Small-type whaling	Wakayama	10
	Hand harpoon	Okinawa	56
	Driving	Wakayama	198(8)
False killer whale	Hand harpoon	Okinawa	5
	Driving	Wakayama	30(24)
Baird's beaked whale	Small-type whaling	Hokkaido	12
	Small-type whaling	Miyagi	25
	Small-type whaling	Chiba	26

1) Catches by small-type whaling and drive fishery were recorded at the place of landing of products. Catches by hand harpoon fishery were recorded at the place of registration of vessels.

2) Statistics of small-type whaling are based on reports of biologists and gunners. Those of other fisheries are based on reports of prefectural governments to the Fisheries Agency. They are a compilation of landing slips (hand harpoon fisheries in Iwate and Hokkaido) or reports from individual fishermen or fishery cooperative unions (other prefectures). In parenthesis are number of live captured animals which are included into total catch. Small portions of catches by hand harpoon fishery off Hokkaido were reported as meat by fishermen and thus have been converted into the number of *dalli*-type Dall's porpoises at 50kg/porpoise (c.f. Ishikawa et al. 1990) by respective prefectural governments.

Target species, fishing season, quota, catcher boats and actual catches of small-type whaling are the same as shown in 4.2. For dolphin fisheries, as explained in the IWC progress report presented to 52<sup>nd</sup> IWC/SC, FAJ introduced in 1996 a new management season starting on 1 August and closing on 31 July for Dall's porpoise fisheries, and from 1 October to 30 September of the next year for other species. In 2006, FAJ modified above management season from 1 September to August 31 only for fisheries in Wakayama Prefecture because September was added as fishing season for drive fishery. As has been the case in previous years, the statistics, following the modified guideline for IWC national progress report, cover catches from 1 January to 31 December 2006, while FAJ manages dolphin fisheries by their own yearly season aforementioned. Thus, in

some cases, the calendar yearly catch may exceed the seasonal (yearly) catch in appearance, but the actual seasonal catch is well below the allocated catch quota. Direct small cetacean catches are given in table in this section by prefecture and type of fisheries. The data have been collected by the Far Seas Division of the FAJ based on reports from the prefectural governments.

Catch quota for the 2006/2007 season remains the same as the last season: 9,000 *dalli*-type Dall's porpoise, 8,700 *truei*-type Dall's porpoises, 1,300 Risso's dolphins (including twenty for small-type whaling), 1,100 bottlenose dolphins, 950 spotted dolphins, 725 striped dolphins, 450 southern form short-finned pilot whales (including 36 for small-type whaling) and 50 false killer whales. Corresponding operational months by prefecture in 2006 were as follows: Japanese hand harpoon fishery for porpoises was permitted for nine months (1 February to 31 October) in Okinawa prefecture; eight months (1 January to 31 August) in Wakayama; six months (1 January to 30 April and 1 November to 31 December) in Aomori, Miyagi, Iwate and Chiba; and 4.5 months (1 May to 15 June and 1 August to 31 October) in Hokkaido. Drive fishery was permitted for eight months in Wakayama (1 January to 30 April and 1 September to 31 December) and for seven months in Shizuoka (1 January to 31 March and 1 September to 31 December).

## 6.2 Non-natural mortality for the calendar year 2006

### 6.2.1 STRANDINGS OF SMALL CETACEANS

Species and stocks	No. strandings	No. postmortems	Contact person(s)/ Institute(s)	Contact email address(es)
Dall's porpoise ( <i>dalli</i> -type)	5	5	FAJ	-
( <i>truei</i> -type)	11	11	FAJ	-
Harbor porpoise	4	4	FAJ	-
Finless porpoise	114	114	FAJ	-
Spinner dolphin	1	1	FAJ	-
Short-beaked common dolphin	1	1	FAJ	-
Long-beaked common dolphin	3	3	FAJ	-
Pacific white-sided d.	19	15	FAJ	-
Striped dolphin	6	5	FAJ	-
Bottlenose dolphin	4	4	FAJ	-
Risso's dolphin	6	6	FAJ	-
Rough-toothed d.	1	0	FAJ	=
Melon-headed w.	136	136	FAJ	-
Southern form short-finned p.w.	1	1	FAJ	-
False killer whale	3	3	FAJ	-
Killer whale	2	2	FAJ	-
Baird's beaked w.	4	4	FAJ	-
Stejneger's beaked w.	5	5	FAJ	-
Hubb's beaked w.	1	1	FAJ	-
Pygmy sperm w.	6	6	FAJ	-
Dwarf sperm w.	4	4	FAJ	-
Unidentified	21	21	FAJ	-

Species and figures were submitted by prefectural governments to the Fisheries Agency, based on reports from individual fishermen, fishery cooperative unions, and the general public (provisional figures). Four Pacific white-sided, one striped, one pantropical spotted and one rough-toothed dolphins were rescued and sent to aquaria. Apart from the above table, the following cetaceans were stranded or had strayed into harbors but were safely driven back to sea: 27 Melon-headed whales, one rough-toothed dolphin, one dwarf sperm whale and one unidentified dolphin.

### 6.2.2 OBSERVED OR REPORTED SHIP STRIKES

No records of ship strike incidence were obtained during the calendar year 2006.

### 6.2.3 FISHERY BYCATCH

Species	No. of animals <sup>2)</sup>	Location <sup>1)</sup>	Fate	Target fish species	Cause <sup>3)</sup>
Harbor porpoise	1	Hokkaido	R	NA	FPN

Harbor porpoise	1	Kyoto	K	NA	FPN
Finless porpoise	1	Aichi	D or K	NA	GNS
Finless porpoise	2	Yamaguchi	D	NA	GNS
Finless porpoise	2	Fukuoka	K	NA	GNS
Finless porpoise	2	Nagasaki	D or K	NA	GNS
Finless porpoise	3	Oita	K	NA	GNS
Finless porpoise	1	Kagoshima	R	NA	FPN
Long-beaked common d.	3	Oita	R	NA	FPN
Long-beaked common d.	1	Oita	K	NA	FPN
Pacific white-sided d.	1	Niigata	D	NA	GNS
Pacific white-sided d.	10(10)	Ishikawa	K	NA	FPN
Pacific white-sided d.	1(1)	Kyoto	K	NA	FPN
Bottlenose dolphin	1	Tokyo	K	Beryx	LX
Bottlenose dolphin	1	Shimane	K	NA	PS
Bottlenose dolphin	1	Kumamoto	D or K	NA	GNS
Risso's dolphin	1	Kagoshima	R	NA	FPN
Risso's dolphin	1	Kagoshima	K	NA	FPN
Southern form short-finned p.w.	2	Mie	R	NA	FPN
White whale	1	Hokkaido	D	NA	FPN

1) Recorded at the place of fishing gears.

2) In parenthesis are the number live captured animals which are included into total bycatch.

3) Described using "FAO FISHING DESCRIPTION AND CODES", that is, stationary uncovered pound nets (FPN), set gillnets (GNS) and miscellaneous gear (MIS).

4) Apart from the above, the following small cetaceans were incidentally taken but later released alive: one-Harbour porpoise in Hokkaido (FPN) , two-Southern form short-finned pilot whale in Mie (FPN) 3-Long-beaked common dolphin in Oita,(FPN)

Gear: FPN=Stationary uncovered pounds nets, GNS= Set gillnets, MIS= miscellaneous gear

How observed: M = dedicated marine mammal observer, F = Fishery onboard observer, V = vessel logbook, A = anecdotal, DA = documented anecdotal, photos, etc.

Target fish species : NA=not available

Fate of whale: R = released alive, D = discarded dead or seriously injured, K = kept for sale or specimen

<b>FAO FISHING GEAR CATEGORIES:</b>		<b>FALLING GEAR</b>	
<b>SURROUNDING NETS</b>		Cast nets	FCN
With purse lines	PS	Falling gear (not specified)	FG
One-boat operated purse seines	PS1	<b>GILLNETS AND ENTANGLING GEAR</b>	
Two-boat operated purse seines	PS2	Set gillnets (anchored)	GNS
Without purse lines (lampara)	LA	Driftnets	GND
<b>SEINE NETS</b>		Encircling gillnets	GNC
Beach seines	SB	Fixed gillnets (on stakes)	GNF
Boat seines	SV	Trammel nets	GTR
Danish seines	SDN	Combined gillnet-trammel nets	GTN
Scottish seines	SSC	Gillnets and entangling gillnets (not specified)	GEN
Pair seines	SPR	Gillnets (not specified)	GN
Seine nets (not specified)	SX	<b>TRAPS</b>	
<b>TRAWLS</b>		Stationary uncovered pounds nets	FPN
Bottom trawls	TBB	Pots	FPO
Beam trawl	OTB	Fyke nets	FYK
Otter trawls (side or stern)	PTB	Stow nets	FSN
Pair trawls	TBN	Barriers, fences, weirs, etc	FWR
Nephrops trawls	TBS	Aerial traps	FAR
Shrimp trawls (not specified)	TM	Traps (not specified)	FIX
Midwater trawls		<b>HOOKS AND LINES</b>	
Otter trawls (side or stern)	OTM	Handlines and pole-lines (hand operated)	LHP
Pair trawls	PTM	Handlines and pole-lines (mechanised)	LHM
Shrimp trawls	TMS	Set longlines	LLS
Midwater trawls (not specified)	TM	Drifting longlines	LLD
Otter twin trawls	OTT	Longlines (not specified)	LL
Otter trawls (not specified)	OT	Trolling lines	LTL
Pair trawls (not specified)	PT	Hooks and lines (not specified)	LX
Other trawls (not specified)	TX	<b>GRAPPLING AND WOUNDING</b>	
<b>DREDGES</b>		Harpoons	HAR
Boat dredges	DRB	<b>HARVESTING MACHINES</b>	
Hand dredges	DRH	Pumps	HMP
<b>LIFT NETS</b>			

Portable lift nets	LPN	Mechanised dredges	HMD
Boat-operated lift nets	LNB	Harvesting machines (not specified)	HMX
Shore operated stationary lift nets	LNS	<b>MISCELLANEOUS GEAR</b>	MIS
Lift nets (not specified)	LN	<b>RECREATIONAL FISHING GEAR</b>	RG
		<b>GEAR NOT KNOWN OR NOT SPECIFIED</b>	NK
		<b>SHARK CONTROL NETS</b>	NCS
		<b>DERELICT FISHING GEAR</b>	

#### 6.4 Earlier years' statistics

There are no changes in earlier years' statistics.

### 7. Strandings

Information of stranded cetaceans has been officially collected by the Far Seas Division of the FAJ (1-2-1, Kasumigaseki, Tokyo 100-8907, Japan). The data are shown in Table 10. In addition, the Institute of Cetacean Research, (Tokyo Suisan Building, 4-18 Toyomi, Chuo-ku, Tokyo 104-0055, Japan) and Dr. T. Yamada (National Science Museum, Hyakunin-cho, Shinjuku-ku, Tokyo 169-0073, Japan) voluntarily collected relevant information on the strandings.

### 8. Other studies and analyses

No other studies or analyses on small cetaceans were conducted during the period from May 2006 to March 2007.

### 9. Literature cited

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### 10. Publications on small cetaceans

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Iwasaki, T. 2007. Fisheries and research on small cetaceans (review) p144-9. In Muto F (eds.) The Current status of international fishery stocks. Fisheries Agency and Fisheries Research Agency. 229p. (in Japanese)

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Kishiro, T. 2006. For stock management of toothed whales - Stock identification of Baird's beaked whales. *FRA News* (7) p26. (In Japanese)

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#### 10.2 Unpublished literature

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