

**Japan. Progress report on small cetacean research  
April 2009 to March 2010, with statistical data for the calendar year 2009**

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This report summarizes small cetacean fisheries in 2009 as well as researches conducted during the period from April 2009 to March 2010 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, April 2009 to March 200, with statistical data for the calendar year 2009” (submitted to 62nd IWC/SC meeting).

### 1. 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>Phocoenoides dalli</i>	Off Pacific coast, Okhotsk Sea	2.1.1, 4.2, 5.1, 5.2.1, 5.3, 8.,9.1
Harbor porpoise	<i>Phocoena phocoena</i>	Coastal waters of Japan	5.2.1, 5.2.3
Finless porpoise	<i>Neophocaena phocaenoides</i>	Coastal waters of Japan	4.3, 4.4, 5.2.1, 5.2.3, 9.1, 9.2
Short-beaked common dolphin	<i>Delphinus delphis</i>	Coastal waters of Japan	5.2.1
Long-beaked common dolphin	<i>Delphinus capensis</i>	Coastal waters of Japan	2.1.1
Pacific white-sided dolphin	<i>Lagenorhynchus obliquidens</i>	Off Pacific coast	2.1.1, 2.1.2, 4.2, 4.4, 5.1, 5.2.1, 5.2.3,
Striped dolphin	<i>Stenella coeruleoalba</i>	Western North Pacific	2.1.1, 2.1.2, 4.2, 5.1, 5.2.1, 9.2
Pantropical spotted dolphin	<i>Stenella attenuata</i>	Off Pacific coast	2.1.1, 2.1.2,4.1, 5.1
Bottlenose dolphin	<i>Tursiops truncatus</i>	Off Pacific coast, Okhotsk Sea and East China Sea	2.1.1, 2.1.2, 4.1, 4.2, 4.4, 5.1, 5.2.1, 9.2
Risso's dolphin	<i>Grampus griseus</i>	Western North Pacific	2.1.1, 2.1.2, 5.2.1, 5.2.3
Short-finned pilot whale	<i>Globicephala macrorhynchus</i>	Western North Pacific, Okhotsk Sea and East China Sea	2.1.1, 2.1.2, 2.2, 4.2, 4.4, 5.1, 5.2.1, 9.2
False killer whale	<i>Pseudorca crassidens</i>	Off Pacific coast and East China Sea	2.1.1, 2.1.2, 3.2, 4.2, 4.4, 5.1, 5.2.1
Killer whale	<i>Orcinus orca</i>	Coastal waters of Japan and Okhotsk Sea	2.1.1, 4.1, 5.2.1, 9.1
Baird's beaked whale	<i>Berardius bairdii</i>	Off Pacific coast, Sea of Japan and Okhotsk Sea	2.1.1, 3.1.3, 3.2,4.2, 4.4, 5.1, 5.2.1, 9.1, 9.2

Additional species sighted during dolphin fisheries or small-type whaling operations	-	Off Pacific coast, Sea of Japan and Okhotsk Sea	2.1.2
Additional species sighted during the sighting cruise	-	Western North Pacific, Sea of Japan	2.1.1
Additional species stranded	-	Around Japan	5.2.1

## 2.Sighting data (this section partly overlaps with descriptions of sighting data in SC/62/Japan /Progprep.)

### 2.1 Field work

#### 2.1.1 SYSTEMATIC

The NRIFSF and FAJ conducted a total of fives dedicated shipboard sighting and other related surveys using research vessels in the North Pacific. All of the vessels are equipped with a top barrel. During these cruises, all sighting information including small cetaceans was recorded.

Table 1. Sightings of small cetaceans obtained through dedicated shipboard surveys during the period from April 2009 to March 2010.

Target species	Date	Area	No. of sightings	Contact institute
<i>dalli</i> -type Dall's porpoise	06/06/09-15/07/09	Western North Pacific	2	NRIFSF
	18/07/09-31/08/09	Okhotsk Sea	44	NRIFSF
	03/09/09-17/09/09	Okhotsk Sea	53	NRIFSF
<i>truei</i> -type Dall's porpoise	06/06/09-15/07/09	Western North Pacific	24	NRIFSF
	18/07/09-31/08/09	Okhotsk Sea	53	NRIFSF
Pacific white-sided dolphin	06/06/09-15/07/09	Western North Pacific	1	NRIFSF
	18/07/09-31/08/09	Okhotsk Sea	1	NRIFSF
	03/09/09-17/09/09	Okhotsk Sea	11	NRIFSF
Striped dolphin	06/06/09-15/07/09	Western North Pacific	3	NRIFSF
	30/08/09-28/09/09	Western North Pacific	2	NRIFSF
Pantropical spotted dolphin	06/06/09-15/07/09	Western North Pacific	1	NRIFSF
Bottlenose dolphin	03/09/09-17/09/09	Okhotsk Sea	1	NRIFSF
	30/08/09-28/09/09	Western North Pacific	2	NRIFSF
Short-finned pilot whale	06/06/09-15/07/09	Western North Pacific	5	NRIFSF
	03/09/09-17/09/09	Okhotsk Sea	4	NRIFSF
Risso's dolphin	06/06/09-15/07/09	Western North Pacific	39	NRIFSF
	30/08/09-28/09/09	Western North Pacific	22	NRIFSF
Killer whale	06/06/09-15/07/09	Western North Pacific	2	NRIFSF
	18/07/09-31/08/09	Okhotsk Sea	6	NRIFSF
Baird's beaked whale	06/06/09-15/07/09	Western North Pacific	37	NRIFSF
	03/09/09-17/09/09	Okhotsk Sea	14	NRIFSF

	30/08/09-28/09/09	Western North Pacific	2	NRIFSF
	09/07/09-17/08/09	Sea of Japan	55	NRIFSF

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 2009, using a total of 24 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 six days both in July and August, and T. Kishiro (NRIFSF), eight research assistants and 24 fishermen members of WATB acted as the researchers on board. Besides Bryde's whales, a total of ten schools (675 animals) of long beaked common dolphins, two schools (35 animals) of Risso's dolphins, one school (15 animals) of bottlenose dolphins, and one school (60 animals) of false killer whales were sighted.

### 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, spotted and pacific white-sided dolphins off Taiji).

#### 2.2 Analyses/development of techniques

Kanaji analyzed school size and distribution patterns of short-finned pilot whale with the aim of improving accuracy of abundance estimates by taking school size variability into account for survey design and method for abundance estimation.

### 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 April 2009 to March 2010.

##### 3.1.2 ARTIFICIAL MARKING DATA

No artificial marking was conducted during the period from April 2009 to March 2010.

##### 3.1.3 TELEMETRY DATA

Minamikawa (NRIFSF) and Kishiro, M (FRA) tried to deploy, with an air gun, the data-loggers (depth and temperature) combined with ARGOS PTT on free-swimming Baird's beaked whales in the Pacific in July and August 2009. As a result, successful deployment was made on seven whales and four data-loggers were retrieved. The length of the data retrieved were 191.2h, 41.5h, 130.2h and 36.9h, respectively.

#### 3.2 Analyses/development of techniques

Minamikawa further carried out an analysis of dive duration and surface interval by adding the time-series depth data which had been collected. Minamikawa performed an analysis of dive data of a false killer whale which was obtained in 2005 to reveal a foraging behavior of this species.

### 4. Tissue/biological samples collected

#### 4.1 Biopsy samples

Table 2. Biopsy samples of small cetaceans collected during the period from April 2009 to March 2010.

Species	Area/stock	Season - no. collected	Archived (Y/N)	No. analyzed	Total holdings	Contact institute
Bottlenose dolphin	Western N. Pacific	4	Y	0	4	NRIFSF

#### 4.2 Samples from direct catches or bycatch

Table 3. Samples of small cetaceans from direct catches or bycatch collected during the period from April 2009 to March 2010.

Species	Area	Tissue type(s)	No. collected	Archived (Y/N)	Contact Institute
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<i>dalli</i> -type Dall's porpoise	Western N.Pacific	Sk and Mu	28	Y	NRIFSF
Striped dolphin	Western N.Pacific	To, Ma, O, U, Te, Sk and Mu	384	Y	NRIFSF
Bottlenose dolphin	Western N.Pacific	To, Ma, O, U, Te, Sk and Mu	174	Y	NRIFSF
	E.China Sea	To, Sk and Mu	2	Y	NRIFSF
Risso's dolphin	N.Pacific	To, Ma, O, U, Te, E, V, Sk, Mu and L	284	Y	NRIFSF
southern form short-finned pilot whale	Western N.Pacific	To, Ma, O, U, Te, E, V, Sk, Mu and L	127	Y	NRIFSF
	E. China Sea	To, Sk and Mu	43	Y	NRIFSF
False killer whale	E.China Sea	To, Sk and Mu	1	Y	NRIFSF
Pacific white-sided dolphin	Western N.Pacific	To, Ma, O, U, Sk and Mu	26	Y	NRIFSF
Baird's beaked whale	Western N.Pacific	To, Ma, O, U, Te, E, V, Sk, Mu and L	53	Y	NRIFSF
	Okhotsk Sea	To, Ma, O, U, Te, E, V, Sk, Mu and L	4	Y	NRIFSF
	Sea of Japan	To, Ma, O, U, Te, E, V, Sk, Mu, L and St	10	Y	NRIFSF

E: epididymis, L: liver, Ma: mammary gland, Mu: muscle, O: ovaries, Sk: skin, St: stomach content, Te: testis, To: tooth, U: uterine horn, V: vertebral epiphysis.

The national quota of Baird's beaked whales was sixty-seven 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 stations in Ayukawa and Wadoura on the Pacific coast, and 20 to 31 August for land station in Abashiri on the Okhotsk coast. A total of 67 whales (ten off Hakodate, four off Abashiri, 53 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 were taken by the following three biologists: M. Iioka (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. Fishing season was set for two boats (*Kohei-maru* #75 and *Taisho-maru* #28) from the station in Ayukawa in the same periods of the operations for Baird's beaked whales (20 June to 31 August), but no whales were taken. 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 30 September. A total of 22 whales were taken by three catcher boats (*Katsu-maru* #7, *Sumitomo-maru* #31, and *Seiwa-maru*) operating from one land station (Taiji). All of the catches were examined and samples were taken by T. Sumiya (FAJ), Hara, and M. Kishiro (FAJ). The FAJ also set a national catch quota of twenty False killer whales for small-type whaling in Taiji from 1 May to 30 September, but no whales were taken. In Taiji during May-August 2009, the researchers also collected samples from hand harpoon catches when they had the opportunity, including 55 bottlenose, 70 Risso's, 15 striped, and three spotted dolphins.

Iioka, Y. Kimura (Tokai University) and Kishiro recorded and sampled prey species of stomach contents of ten Baird's beaked whales taken by small-type whaling in Hakodate from May to June 2009.

T. Hara (FRA) and T. Sumiya (FRA) collected samples for life history and genetic studies from catches of drive and hand harpoon fisheries in Taiji during operations through 1-30 September 2009 and 7 January to 28 February 2010. They examined a total of 745 animals composed of 369 striped, 119 bottlenose, 107 Risso's dolphins, 105 southern form short-finned pilot whales, 26 Pacific white-sided and 19 Pantropical spotted dolphins.

Under contract with FRA and supervised by NRIFSF, sample collection for life history and genetic studies of dolphin fisheries was performed in Iwate prefecture. K. Niisato of Iwate Fisheries Technology Center (hereafter IFTC) and his colleagues, T. Goto (IFTC), Y. Hara (IFTC) and T. Sato (IFTC) recorded color type, sex and body length of 595 *truei*-type and 199 *dalli*-type Dall's porpoises landed at the Kamaishi Fish Market and collected DNA samples from 28 *dalli*-types during April 2009 through March 2010.

In January 2010, Okinawa Prefectural Government sent to NRIFSF samples for age determination and genetic studies from 43 southern form short-finned pilot whales, two bottlenose dolphins and one false killer whale which were

taken by hand harpoon fishery in Okinawa during October 2008 to September 2009. Okinawa Prefectural government collected those samples as a part of supervision of the fishery.

#### 4.3 Samples from stranded animals

Skin samples of a finless porpoises collected in Shimane was sent to NRIFS.

#### 4.4 Analyses/development of techniques

In order to examine the biological parameters of Baird's beaked whales in the coastal waters off Japan, Kishiro and Iioka (Tokyo University of Marine Science and Technology, hereafter TUMST) started to examine the body length at physical maturity of Baird's beaked whales taken by small-type whaling in the Sea of Japan, Okhotsk Sea, and off the Pacific coast of Japan in 1999 to 2008, based on the ossification pattern of the vertebral epiphyses.

Yoshida continued analyses for abundance estimation of finless porpoises in Japanese coastal waters, from aerial sighting data.

Iwasaki determined ages of 232 southern form short-finned pilot and 25 false killer whales and 12 Pacific white-sided dolphins, which were taken in Taiji or Okinawa. Y. Kita (Tokai University School of Medicine) and Iwasaki examined age, sex, sexual maturity and genetic relatedness of two schools of southern form short-finned pilot whales (29 and 105 animals) taken in Taiji in 2009 and a school of bottlenose dolphins (180 animals) taken in Taiji in 2005. They suggested that former species forms matrilineal school and latter forms aggregation of nuclear families. Iwasaki examined age, sex and maturity of a school of false killer whales (17 animals) taken in Taiji in 2003 and suggested the species forms matrilineal school.

Ohizumi and Kimura compared the results of stomach content analyses based on fully sampled contents and on observation record at dissection site for Baird's beaked whale taken in Hakodate. Based on this result, they developed simplified recording method for monitoring of stomach contents of Baird's beaked whales that are taken by small type whaling in Hakodate.

### 5. Statistics for small cetaceans

#### 5.1 For the calendar year 2009

Table 4. Direct catch of small cetacean in 2009.

Species	Type of fishery	Prefecture <sup>1)</sup>	Total landed <sup>2)</sup>
<i>dalli</i> -type Dall's porpoise	Hand harpoon	Hokkaido <sup>3)</sup>	308
		Iwate <sup>3)</sup>	1,362
		Miyagi	103
<i>truei</i> -type Dall's porpoise	Hand harpoon	Iwate	7,767
Striped dolphin	Hand harpoon	Wakayama	98
	Driving	Wakayama	321
Pantropical spotted d.	Hand harpoon	Wakayama	3
Bottlenose dolphin	Hand harpoon	Wakayama	77
	Driving	Wakayama	352(98)
	Hand harpoon	Okinawa	4
Risso's dolphin	Hand harpoon	Wakayama	94
	Driving	Wakayama	336(8)
southern form short-finned p.w.	Small-type whaling	Wakayama	22
	Hand harpoon	Okinawa	54
	Driving	Wakayama	219(1)
False killer whale	Hand harpoon	Okinawa	1
Pacific white-sided d.	Hand harpoon	Wakayama	7
	Driving	Wakayama	14(13)
Baird's beaked whale	Small-type whaling	Hokkaido	14
		Miyagi	27
		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 parentheses are numbers of live captured animals which are included into total catch.

3) 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 2008, 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 dolphin fisheries for the 2009/2010 season was revised from the last season, that is, 8,084 *dalli*-type Dall's porpoise, 7,664 *truei*-type Dall's porpoises, 523 Risso's dolphins, 903 bottlenose dolphins, 788 spotted dolphins, 655 striped dolphins, 307 southern form short-finned pilot and 100 false killer whales and 360 Pacific white-sided dolphins (quota of false killer whales and Pacific white-sided dolphins remained constant since 2007/2008 season).

Corresponding operational months by prefecture in 2009 were as follows: Japanese hand harpoon fishery for porpoises was permitted for nine months (1 February to 30 September and 1-31 December) 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).

## 5.2 Non-natural mortality for the calendar year 2009

### 5.2.1 OBSERVED OR REPORTED SHIP STRIKES

We have no data collecting system for ship strike incidence of small cetaceans.

### 5.2.2 FISHERY BYCATCH

Table 5. Fishery bycatch of small cetaceans in 2009.

Species	No. of animals	Location <sup>1)</sup>	Fate	Target fish species	Cause <sup>2)</sup>
Harbor porpoise	2	Hokkaido	R	NA	FPN
Harbor porpoise	7	Hokkaido	K	NA	FPN
Harbor porpoise	10	Hokkaido	K	NA	GNS
Finless porpoise	2	Yamaguchi	K	NA	GNS
Finless porpoise	1	Yamaguchi	K	NA	MIS
Finless porpoise	1	Fukuoka	K(alive)	NA	FPN
Finless porpoise	2	Nagasaki	D	NA	MIS
Finless porpoise	2	Kumamoto	K	NA	GNS
Pacific white-sided d.	2	Aomori	K(alive)	NA	FPN
Pacific white-sided d.	3	Ishikawa	K(alive)	NA	FPN
Pacific white-sided d.	2	Hyogo	K(alive)	NA	FPN
Risso's dolphin	1	Nagasaki	K(consumed)	NA	FPN
Unidentified cetaceans	1	Kanagawa	K(consumed)	NA	GNS

1) Recorded at the place of fishing gears.

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

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		
Otter twin trawls	OTT	Drifting longlines	LLD
Otter trawls (not specified)	OT	Longlines (not specified)	LL
Pair trawls (not specified)	PT	Trolling lines	LTL
Other trawls (not specified)	TX	Hooks and lines (not specified)	LX
<b>DREDGES</b>		<b>GRAPPLING AND WOUNDING</b>	
Boat dredges	DRB	Harpoons	HAR
Hand dredges	DRH	<b>HARVESTING MACHINES</b>	
<b>LIFT NETS</b>		Pumps	HMP
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>	NSC
		<b>DERELICT FISHING GEAR</b>	

### 5.3 Strandings of small cetaceans

Table 6. Strandings of small cetaceans in 2009.

Species and stocks	No. strandings	No. postmortems	Contact person(s)/ Institute(s)

Dall's porpoise( <i>dalli</i> -type)	6	6	FAJ
Harbor porpoise	9	9	FAJ
Finless porpoise	123	123	FAJ
Short-beaked common d.	1	1	FAJ
Pacific white-sided d.	16	16	FAJ
Striped dolphin	4	4	FAJ
Bottlenose dolphin	6	6	FAJ
Risso's dolphin	12	12	FAJ
Rough-toothed dolphin	1	1	FAJ
northern form short-finned p.w.	1	1	FAJ
False killer whale	1	1	FAJ
Killer whale	1	1	FAJ
Pantropical spotted d.	2	2	FAJ
Pygmy killer whale	1	1	FAJ
Melon-headed whale	1	1	FAJ
Fraser's dolphin	1	1	FAJ
Baird's beaked w.	4	4	FAJ
Cuvier's beaked w.	3	3	FAJ
Stejneger's beaked w.	4	4	FAJ
Hubbs' beaked whale	2	2	FAJ
Pygmy sperm whale	9	9	FAJ
Dwarf sperm whale	5	5	FAJ
Unidentified cetaceans	26	26	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 (Table 6). In addition, the Institute of Cetacean Research, (4-5 Toyomi-cho, 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.

#### 5.4 Earlier years' statistics

There are no changes in earlier years' statistics.

### 6. Other studies and analyses

No other studies or analyses on small cetaceans were conducted during the period from April 2009 to March 2010.

### 7. Literature cited

Ishikawa, H., Fujise, Y., Saino, S. and Zenitani, R. 1990. III. Report on onboard biological research on the dolphin hand harpoon boats in the Okhotsk Sea and waters off the Pacific coast of northern Honshu Island.53-78. In: Report on dolphin research around Japan (1989 fiscal year). Institute of Cetacean Research

### 8. Publications on small cetaceans

#### 8.1 Published or In Press'papers only

Iwasaki, T. 2010. Fisheries and research on small cetaceans (review) In Hashimoto, Y. (ed) The Current status of international fishery stocks. Fisheries Agency and Fisheries Research Agency. [http://kokushi.job.affrc.go.jp/H21/H21\\_45.pdf](http://kokushi.job.affrc.go.jp/H21/H21_45.pdf) (in Japanese)

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