

## Annex I

### A summary of samples/data collected by JARPN II (2000-2014)

Some samples and data obtained by JARPN II are not related to the main research objectives of JARPN II or to other main research need, and these items are not listed here but they are available for research collaboration with ICR under data access protocols of ICR (<http://www.icrwhale.org/pdf/appendix2.pdf>), outside the context of the IWC SC review workshop.

The tables below show the research items and sample sizes by each item for the period 2000-2014.

#### I-1. SIGHTING DATA-Offshore components (SV+SSV)

Data	Sample size
Weather data (no. observations)	85,219
Effort data (Searching distance (n. miles))	202,403
Sighting data (no. of school)	15,594
Angle and distance experiments	6,031
Photo-ID blue whales (no. of schools photographed)	107
Photo-ID humpback whales (no. of schools photographed)	65
Photo-ID North Pacific right whales (no. of schools photographed)	50

#### I-2. SIGHTING DATA-Coastal components (Sanriku)(SV)

Data	Sample size
Weather data (no. observations)	1,008
Effort data (Searching distance (n. miles))	3,048
Sighting data (no. of school)	110
Angle and distance experiments	88

#### I-3. SIGHTING DATA-Coastal component (Kushiro SV)

Data	Sample size
Weather data (no. observations)	2,150
Effort data (Searching distance (n. miles))	5,155
Sighting data (no. of school)	353
Angle and distance experiments	112

#### I-4. SIGHTING DATA-Coastal component (Sanriku)(SSV)

Data	Sample size
Weather data (no. observations)	4,769
Effort data (n. miles)	32,665
Sighting data (no. of school)	642

#### I-5. SIGHTING DATA-Coastal components (Kushiro)(SSV)

Data	Sample size
Weather data (no. observations)	4,847
Effort data (n. miles)	33,378
Sighting data (no. of school)	985

Note 1=Sighting data (no. of school) are on baleen, sperm, and killer whales.

Note 2=Sighting data of the coastal components surveyed by SSVs were not obtained by strict line transect surveys.

Note 3=Sighting data on sei and Bryde's whales obtained during IWC/POWER would be available depending on progress of data validation by the IWC Secretariat.

#### II-1. BIOLOGICAL DATA - Common minke whale (Offshore component)

Data and sample	Sample size		
	Male	Female	Total

Sampling date	861	121	982
Sampling location	861	121	982
Body length	861	121	982
Body proportion (19 measurements)	861	121	982
Skull (length and width)	847	119	966
Body scar record	861	121	982
Record of external body characters	861	121	982
Sex	861	121	982
Body weight	861	121	982
Organ weight	180	29	209
Blubber thickness (5 points)	861	121	982
Girth	861	121	982
Maturity stage	861	121	982
Corpora albicantia and lutea (presence/absence only)	-	15	15
Corpora albicantia and lutea (presence/absence and number)	-	106	106
Lactation condition	-	121	121
Testis weight	861	-	861
Stomach contents (IWS format)	861	121	982
Stomach contents weight	861	121	982
Main prey species in stomach contents	861	121	982
Freshness of stomach contents	861	121	982
Energy contents of prey species	-	-	16
Foetus number, sex, body length, body weight	-	-	51
Aspartic acid isomers ratios (lens of fetus)*			13
Age (from Ear plug)**	409	55	464
Total PCB concentrations (blubber)	546	0	546
Total Hg concentrations (muscle)	680	0	680
PCBs, DDTs, HCB, HCHs and CHLs concentrations (blubber)	5	0	5
I-131, Cs-134 and Cs-137 concentrations (muscle)	8	2	10
Mitochondrial DNA control region sequences	855	121	976
Nuclear DNA microsatellite (16 loci)	855	121	976

\*: Analysis of samples is ongoing.

\*\* : 2000-2013.

## II-2. BIOLOGICAL DATA - Sei whale (Offshore component)

Data and sample	Sample size		
	Male	Female	Total
Sampling date	551	623	1,174
Sampling location	551	623	1,174
Body length	551	623	1,174
Body proportion (19 measurements)	551	623	1,174
Skull (length and width)	534	603	1,137
Sex	551	623	1,174
Body weight	551	623	1,174
Organ weight	77	104	181
Blubber thickness (5 points)	551	623	1,174
Girth	551	623	1,174
Maturity stage	551	623	1,174
Corpora albicantia and lutea (presence/absence only)	-	205	205
Corpora albicantia and lutea (presence/absence and number)	-	418	418
Lactation condition	-	623	623
Testis weight	551	-	551
Stomach contents (IWS format)	551	623	1,174
Stomach contents weight	551	623	1,174
Main prey species in stomach contents	551	623	1,174
Freshness of stomach contents	551	623	1,174
Energy contents of prey species	-	-	20
Prey species estimating by next generation sequencing (NGS)	8	2	10
Behavioral data using acoustic tags			2
Foetus number, sex, body length, body weight	-	-	366
Age (from Ear plug)*	335	348	683
Total Hg concentrations (muscle)	160	-	160
PCBs, DDTs, HCB, HCHs and CHLs concentrations (blubber)	5	0	5
I-131, Cs-134 and Cs-137 concentrations (muscle)	12	13	25
Mitochondrial DNA control region sequences	551	622	1,173
Nuclear DNA microsatellite (16 loci)	551	623	1,174

\*: 2002-2013.

## II-3. BIOLOGICAL DATA - Bryde's whale (Offshore component)

Data and sample	Sample size
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	Male	Female	Total
Sampling date	289	391	680
Sampling location	289	391	680
Body length	289	391	680
Body proportion (19 measurements)	289	391	680
Skull (length and width)	278	375	653
Sex	289	391	680
Body weight	289	391	680
Organ weight	60	77	137
Blubber thickness (5 points)	289	391	680
Girth	289	391	680
Maturity stage	289	391	680
Corpora albicantia and lutea (presence/absence only)	-	87	87
Corpora albicantia and lutea (presence/absence and number)	-	304	304
Lactation condition	-	391	391
Testis weight	289	-	289
Stomach contents (IWS format)	289	391	680
Stomach contents weight	289	391	680
Main prey species in stomach contents	289	391	680
Freshness of stomach contents	289	391	680
Energy contents of prey species	-	-	13
Prey species estimating by next generation sequencing (NGS)	2	4	6
Foetus number, sex, body length, body weight	-	-	169
Total Hg concentrations (muscle)	49	0	49
PCBs, DDTs, HCB, HCHs and CHLs concentrations (blubber)	5	0	5
I-131, Cs-134 and Cs-137 concentrations (muscle)	6	7	13
Mitochondrial DNA control region sequences	284	387	671
Nuclear DNA microsatellite (16 loci)	289	391	680

#### II-4. BIOLOGICAL DATA - Sperm whale (Offshore component)

Data and sample	Sample size		
	Male	Female	Total
Sampling date	16	40	56
Sampling location	16	40	56
Body length	16	40	56
Body proportion (18 measurements)	16	40	56
Skull (length and width)	16	38	54
Sex	16	40	56
Body weight	16	40	56
Organ weight	10	26	36
Blubber thickness (11 points)	16	40	56
Girth	16	40	56
Maturity stage	13	40	53
Corpora albicantia and lutea (number)	-	40	40
Lactation condition	-	40	40
Testis weight	16	-	16
Stomach contents (IWS format)	16	40	56
Stomach contents weight	16	40	56
Main prey species in stomach contents	16	40	56
Freshness of stomach contents	16	40	56
Energy contents of prey species	-	-	10
Foetus number, sex, body length, body weight	-	-	10
Age (from tooth)*	4	19	23
Total Hg concentrations (muscle)	1	4	5
PCBs, DDTs, HCB, HCHs and CHLs concentrations (blubber)	1	2	3
I-131, Cs-134 and Cs-137 concentrations (muscle)	1	2	3
Mitochondrial DNA control region sequences	16	40	56
Nuclear DNA microsatellite (15 loci)	16	40	56

\*: 2000-2013.

#### II-5. BIOLOGICAL DATA - Common minke whale (Coastal component-Sanriku)

Data and sample	Sample size		
	Male	Female	Total
Sampling date	221	295	516
Sampling location	221	295	516
Body length	221	295	516
Body proportion (19 measurements)	221	295	516
Skull (length and width)	215	286	501
Body scar record	221	295	516
Sex	221	295	516

Body weight	221	295	516
Organ weight	7	10	17
Blubber thickness (5 points)	221	295	516
Girth	221	295	516
Maturity stage	221	295	516
Corpora albicantia and lutea (number)	-	295	295
Lactation condition	-	295	295
Testis weight	219	-	219
Stomach contents (IWS format)	221	295	516
Stomach contents weight*	205	281	486
Main prey species in stomach contents	221	295	516
Freshness of stomach contents	221	295	516
Energy contents of prey species	-	-	3
Prey species estimating by next generation sequencing (NGS)	1	2	3
Foetus number, sex, body length, body weight	-	-	44
Age (from Ear plug)**	94	123	217
Aspartic acid isomers ratios (lens)***	46	48	94
Total Hg concentrations (muscle)	195	48	280
Total Hg concentrations (liver)	46	48	94
PCBs, DDTs, HCB, HCHs and CHLs concentrations (blubber)	5	0	5
I-131, Cs-134 and Cs-137 concentrations (muscle)	7	6	13
Mitochondrial DNA control region sequences	221	295	516
Nuclear DNA microsatellite (16 loci)	221	295	516

\* : 2003-2013. Analysis of 2014 samples is ongoing.

\*\* : 2003-2013.

\*\*\*: Analysis of samples is ongoing.

## II-6. BIOLOGICAL DATA - Common minke whale (Coastal component-Kushiro)

Data and sample	Sample size		
	Male	Female	Total
Sampling date	438	219	657
Sampling location	438	219	657
Body length	438	219	657
Body proportion (19 measurements)	438	219	657
Skull (length and width)	430	215	645
Body scar record	438	219	657
Sex	438	219	657
Body weight	438	219	657
Organ weight	17	8	25
Blubber thickness (5 points)	438	219	657
Girth	438	219	657
Maturity stage	438	219	657
Corpora albicantia and lutea (number)	-	219	211
Lactation condition	-	219	211
Testis weight	438	-	429
Stomach contents (IWS format)	438	219	657
Stomach contents weight*	403	203	606
Main prey species in stomach contents	438	219	657
Freshness of stomach contents	438	219	657
Energy contents of prey species	-	-	3
Prey species estimating by next generation sequencing (NGS)	3	3	6
Foetus number, sex, body length, body weight	-	-	14
Age (from Ear plug)**	172	78	250
Total Hg concentrations (muscle)	377	0	377
PCBs, DDTs, HCB, HCHs and CHLs concentrations (blubber)	5	0	5
I-131, Cs-134 and Cs-137 concentrations (muscle)	12	13	25
Mitochondrial DNA control region sequences	438	219	657
Nuclear DNA microsatellite (16 loci)	438	218	656

\* : 2002-2013. Analysis of 2014 samples is ongoing.

\*\* : 2002-2013.

## III. POLLUTANT DATA (Environmental and prey species samples)-Offshore components

Data and sample	Sample size
Total Hg concentrations (krill)	8
Total Hg concentrations (fishes)	19

## IV-1. OCEANOGRAPHIC DATA- Offshore components

Data and sample	Sample size
Temperature & salinity (XCTD survey)	47
Temperature & salinity (CTD survey)	761
Midwater trawl (# of hauls)	262
MOTH trawl (# of hauls)	16
MOCNESS (# of hauls)	36
IKMT (# of hauls)	34
NORPAC (# of hauls)	254
Other nets (VMPS, Ring, BONGO) (# of hauls)	36
Echo sounder (2002-2007: km)	12,838
Echo sounder (2008-2013: n.miles)	8,098

Others nets: VMPS 12, ring net 8, BONGO net 16

Note 4=2008 cruise: *Shunyo-Maru* and *Kaiko-Maru*; 2009, 2012, 2013 cruises: *Shunyo-Maru*; 2010, 2011 cruises: *Hokko-Maru*.

#### IV-2. OCEANOGRAPHIC DATA- Coastal components (Sanriku)

Data and sample	Sample size
Temperature & salinity (XCTD survey)	11
Temperature & salinity (CTD survey)	325
Midwater trawl (no. of hauls)	109
Bongo net (no. of hauls)	5
IKMT (no. of hauls)	17
Sampling by fishing (no. of stations)	2
Echo sounder (2005 and 2006 seasons: km)	277.5
Echo sounder (2008 and 2009 seasons: n.miles)	354.3

#### IV-3. OCEANOGRAPHIC DATA- Coastal components (Kushiro)

Data and sample	Sample size
Temperature & salinity (CTD survey)	109
Midwater trawl (no. of hauls)	133
IKMT (no. of hauls)	6

#### V-1. GENETIC DATA- North Pacific right whale

Data and sample	Sample size
Mitochondrial DNA sequences	20

Note 5= Data of some items for common minke whales are also available for the JARPN period (1994-1999), which were reviewed by the IWC SC in 2000 (IWC, 2001).

Note 6= Genetic data from other sources have been used to complement the previous genetic analyses on stock structure of baleen whales. These data would be also available for the review.