

**ICELAND. PROGRESS REPORT ON CETACEAN RESEARCH, APRIL 2004 TO MAY 2005 WITH
STATISTICAL DATA FOR THE CALENDAR YEAR 2004.**

COMPILED BY

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This report summarises information obtained from: the Marine Research Institute (MRI), Reykjavík, Iceland and cooperating institutes.

1. Species and stocks studied

Common name	Scientific name	Area/stock(s)	Items referred to
Fin whale	<i>Balaenoptera physalus</i>	Icelandic and adjacent waters	9
Blue whale	<i>Balaenopteramusculus</i>	Icelandic and adjacent waters	3.1.1
Common minke whale	<i>Balaenoptera acutorostrata</i>	Icelandic and adjacent waters	2.2, 3.1.3, 4.1, 4.2, 4.4, 5, 6.1, 6.2.1
Humpback whale	<i>Megaptera novaeangliae</i>	Icelandic and adjacent waters	3.1.1, 6.2, 6.2.3
Sperm whale	<i>Physeter macrocephalus</i>	Icelandic and adjacent waters	4.3, 6.2.1
Killer whale	<i>Orcinus orca</i>	Icelandic and adjacent waters	3.1.1
Northern Bottlenose whale	<i>Hyperoodon ampullatus</i>	Icelandic and adjacent waters	4.3, 6.2.1

2. Sightings data

2.1 Field work

2.1.1 SYSTEMATIC

A part of the programme for increased whale research introduced in the Scientific Committee of the IWC in 2003 (MRI 2003) is a series of aerial cetacean sighting surveys primarily designed to investigate seasonal distribution of minke whales in nearshore Icelandic waters. These surveys are conducted by one aircraft and the design implemented in the NASS-2001 survey (Pike and Víkingsson 2002) is adopted using the cue-counting procedure and minke whale as a target species. In 2004 surveys were conducted in the periods June 10th to July 21 and September 14th to 23. Roughly half the flying time used in the 2001 survey was available for each survey. Preliminary results are given in SC/57/O8 and SC/57/O14.

2.1.2 OPPORTUNISTIC, PLATFORMS OF OPPORTUNITY

MRI and a whale watching company operating in SW Iceland co-operated in reporting and compiling sightings data during whale watching excursions.

2.2 Analyses/development of techniques

A preliminary comparison of the density of minke and some other cetaceans by season, based on aerial surveys is given in SC/57/O8.

Trends in the distribution and abundance of cetaceans in Icelandic coastal waters was analysed from sighting data from the aerial NASS surveys 1986 to 2001 (SC/57/For Information 7)

Abundance estimates of minke whales from all the Icelandic and Faroese NASS vessel surveys (1987, 1989, 1995 and 2001) have been recalculated using re-stratified blocks and similar methodology for facilitating comparability of the results (SC/57/For Information 6).

3. Marking data

3.1 Field work

3.1.1 NATURAL MARKING DATA

The MRI continues its long-term research projects based on photo-identification of cetaceans, notably blue, humpback and killer whales. No designated cruise for collection of natural marking data was conducted in 2004.

3.1.2 ARTIFICIAL MARKING DATA

3.1.3 TELEMETRY DATA

Seven common minke whales were instrumented with satellite tags in the period 23 August 2004 to 27 September 2004. Positive signals were received from four animals. The last position was received 5 December about 1000km northwest of the Cape Verde Islands. This area is 3700km from Faxaflói Bay where the tag was put on more than three months previously (SC/57/09, SC/57/O14).

3.2 Analyses/development of techniques

A new type of tag for satellite tracking, developed by M. V. Jensen and M.P Heide Jørgensen was applied for the first time on a cetacean in Icelandic waters in August and September 2004.

4. Tissue/biological samples collected

4.1 Biopsy samples(April 2004-March 2005)

A single skin biopsy from a common minke whale was collected in connection with satellite tracking experiments.

4.2 Samples from directed catches or bycatches (2004)

Extensive sampling took place from 25 minke whales taken under scientific permit in June – July 2004. The sample list is detailed in SC/57/O14.

*4.3 Samples from stranded animals (2004)**

Species	Area	Calendar year/ season no. collected	Archived (Y/N)	Tissue types**	Contact institute
Sperm whales	S and N-Iceland	2004/Jan/two	Y	te	MRI
N-bottlenose whales	E-Iceland	2004/Feb/one	Y	te, mu, bl, sk	MRI

* large cetaceans

** te=teeth, mu=muscle, bl=blubber, sk=skin

4.4 Analyses/development of techniques

The analyses for the different subprojects of the minke whale research programme (Marine Research Institute 2003) are in progress (see SC/57/O14). Results from new genetic analyses on North Atlantic fin whales are given in SC/57/PFI4.

5. Pollution studies

Various tissue samples for pollution studies have been routinely collected during dissections of stranded or by-caught cetaceans in recent years. These are stored frozen at the MRI.

Ongoing study on pollutants in minke whale as a part of a research program under a special permit includes samples from 36 and 25 animals taken in 2003 and 2004 respectively (SC/57/O14). The pollution studies focus on analyses on contaminant levels (trace elements and organochlorines) in muscle, blubber and various internal organs with reference to i) biological parameters, ii) trophic level, iii) body condition and health status, iv) geographical variation on a small and large scale and v) the applicability of biopsy sampling for estimation of pollutant burden. The status of the analyses is discussed in SC/57/O14.

6. Statistics for large cetaceans

6.1 Direct catches (commercial, aboriginal and scientific permits) for the calendar year 2004*

Species	Type of catch	Area/stock	Males	Females	Total landed	Struck and lost
Minke whale	Special permit	CIC	10	15	25	

*Detailed list in SC/57/O14

6.2 None-natural mortality for the calendar year 2004

Species	Area	Males	Females	Total	Cause	Methodology
Humpback whale	NE Iceland			1	Entanglement	Post mortem

6.2.1 STRANDINGS OR DEAD WHALES ENCOUNTERED AT SEA

Whale species	Sex	Location Lat N- Lon W	Cause of death	Det.	Contact inst
Sperm whale	male	63°39'97-20°31'95	U		MRI
Sperm whale	male	66°02'95-21°28'27	U		MRI
N - bottlenose whale	male	63°31'70-20°05'70	U		MRI
Unid large whale	U	63°56'11-22°40'57	U		MRI
Minke whale	U	65°31'13-13°47'35	U		MRI

Minke whale	U	66°44'53-23°52'45	U		MRI
N- bottlenose whale	U	66°07'25-16°55'22	U		MRI

6.2.2 OBSERVED OR REPORTED SHIP STRIKES

No ship strikes were reported.

6.2.3 FISHERY BYCATCH

Whale species	Sex	Date	Location	Fate	Targeted fish species	Gear	How observed?	Source or contact
Humpback whale	U	January	NW Iceland	D / K	Capelin	3	DA	MRI

7. Statistics for small cetaceans

8. Strandings

Information on stranded cetaceans in Iceland is compiled by the Marine Research Institute in cooperation with the Institute of Natural History.

9. Other studies and analysis

As a part of the research programme on common minke whales and In relation with the initiation of RMP pre-implementation assessment of North Atlantic fin whales research concerning stock structure of this species was enhanced.

Minke whales:

Samples of skin and muscle from 25 minke whales were collected for genetic analysis under the scientific permit in 2004 (see SC/57/O14). Iceland is constructing a database of the DNA profile of Icelandic minke whales according to the Norwegian DNA database (Olaisen 1997; Dupuy & Olaisen 2002. IWC 1998). The database will consist of every legally obtained minke whale in Iceland. The purpose is to establish a control system to detect illegal trades of the meat. The DNA database will, however, also be used to study population genetic structure of Icelandic minke whales as has been done for the Norwegian minke whales (Skaug & Oien 2004; Skaug *et al.* 2002; 2003; Martien, *et al.* 2003; Andersen 2004). The DNA profile of each individual entered into the database is composed of microsatellite DNA genotypes (allele sizes), Y chromosome DNA genotypes (allele sizes for sex determination) and mtDNA sequence data. The genetic analysis has been optimized at The Division of Population Genetics, Marine Research Institute, Iceland (DPG, MRI-IS) and the genetic analysis is ongoing for the samples collected in 2003 and 2004.

Fin whales:

Samples of fin whales from Iceland 1981-1989 (n=1069), Spain 1985 (n=46), Norway (n=57), West Greenland (n=10) and East Canada (n=38) were analysed for 9 microsatellite loci in order to study the temporal and micro- & macrogeographical structure of Northeast Atlantic fin whales. In the study, we tried to use the same loci as used in the fin whale study by Bérubé *et al.* 1998 and 2002. The statistical analysis of the data is ongoing and the results will be presented in SC/57/PFI4.

A review of non-genetic data concerning stock structure of North Atlantic fin whales is given in SC/57/PFI3. This includes evidence and indications from mark-recapture studies, satellite telemetry, photo-identification, morphometry and concentrations of pollutants and stable isotopes.

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