

## GERMANY, PROGRESS REPORT ON CETACEAN RESEARCH, MAY 2005 TO APRIL 2006

compiled by

Karl-Hermann Kock<sup>1)</sup>, Ursula Siebert<sup>2)</sup> & Harald Benke<sup>3)</sup>

<sup>1)</sup> Institut für Seefischerei, Bundesforschungsanstalt für Fischerei, Palmaille 9, D-22767 Hamburg,

<sup>2)</sup> Forschungs- und Technologiezentrum Westküste, Werftstraße 6, D-25761 Büsum

<sup>3)</sup> Deutsches Meeresmuseum, Katharinenberg 14-20, D-18439 Stralsund

This report summarizes information on various fields of cetacean research and historical aspects of whaling .

### 1. Species and Stocks Studied

Common name	Scientific name	Area/stock	Items referred to
Harbour porpoise	<i>Phocoena phocoena</i>	Baltic Sea	2., 4.2, 4.3, 4.4, 5., 7.1, 8., 9.
Harbour porpoise	<i>Phocoena phocoena</i>	North Sea	2., 4.2, 4.3, 4.4, 5., 7., 8., 9.
Various species		worldwide	9.

### 2. Sightings data

Line transect surveys on small cetaceans, primarily harbour porpoise, were conducted during late spring and summer 2005 in all parts of the German EEZ of the North Sea and the Baltic

Since summer 2002, a public awareness campaign is addressing yachts people in the Baltic to report opportunistic sightings of harbour porpoise. Most of these sightings were confined to the western Baltic-Baltic Sea. By 2003, the programme was well established in yachting circles. Over 600 sightings were reported in 2005. They were comprised of about 1,500 animals. In addition to scientific data this information will be used in the designation of protected areas for harbour porpoise.

The German Oceanographic Museum in Stralsund deployed up to 42 porpoise detectors (pods) in the German part of the Baltic from Kiel Bight to the Pomeranian Bay in 2005. The purpose of the deployment was to study the habitat use of harbour porpoise more closely. Results suggest geographic differences and seasonal changes in habitat use with a prominent decline in registrations from west to east, and lower registrations in winter than in summer. This indicated geographic differences and seasonal changes in the relative porpoise density. In order to implement the ASCOBANS 'recovery Plan for Harbour Porpoises in the Baltic' (Jastarnia – Plan) a new project was started in April 2005 which focuses on habitat use of harbour porpoise in the Pomeranian Bay.

### 3. Marking data

#### 3.1 Field Work

### 3. 1.1 + 2 NATURAL AND ARTIFICIAL MARKING DATA

No marking using artificial marks was conducted. As a result, no photographs of whales of one of the IWC management area/stocks are currently held which can be utilized in photo ID studies.

### 3. 1. 3 TELEMETRY DATA

No new developments were available

## 4. Tissue/biological samples collected

### 4.1 Biopsy samples

No biopsy samples were collected

### 4.2 Samples from by-catches

Species	Area/stock	2005: total no. of individuals	Archived	Tissue Types(s)	Contact person
Harbour porpoise	Baltic Sea Schleswig-Holstein	1	1	all organs, central nervous system, skeletal system	U. Siebert
Harbour porpoise	North Sea Schleswig-Holstein	0	0		
Harbour porpoise	Baltic Sea Meckl.-Prepom.	2	2	All organs, central nervous system, skeletal system	H. Benke

### 4.3 Samples from stranded animals

Species	Area/stock	2005: total no. of individuals	Archived	Tissue Type(s)	Contact person
Harbour porpoise	North Sea Schleswig-Holstein	153	25	Different tissues for histopathology, toxicology, genetics	U. Siebert
	Lower Saxony	42	42	Lung, liver, different tissues	M. Stede
	Baltic Sea Schleswig-Holstein	47	5	Different tissues for histopathology, toxicology, genetics	U. Siebert

	Baltic Sea Meckl.- Prepomerania	18	18	Skeleton, various tissues	H. Benke
--	------------------------------------	----	----	------------------------------	----------

#### 4.4 Analyses carried out

The Research and Technology Centre Büsum of the University of Kiel continued its investigations on histology, electron microscopy and anatomy of the nasal apparatus of harbour porpoise and its possible means for the production of ultrasound.

An audiometry study has been carried out at the Research and Technology Centre Büsum of the University of Kiel as part of the project MINOSplus funded by the Federal Ministry for the Environment on harbour seals (*Phoca vitulina*) and harbour porpoise (*Phocoena phocoena*). The aim of the study is to obtain data on the auditory sensitivity as well as the auditory capacity of the animal's hearing. The reason why such experiments are conducted is the proposed construction of offshore windmills and their potential noise pollution in German waters of the North Sea and the Baltic.

As part of the national monitoring funded by the State Ministry of Environment, Nature Protection and Agriculture of Schleswig - Holstein cetaceans stranded or by-caught were systematically investigated. These investigations include necropsies, histology, immuno histology, microbiology, serology, parasitology, virology, age determination and more.

### 5. Pollution studies

In cooperation with the GKSS-Geesthacht, cytokines were analyzed by real-time PCR in the blood of harbour porpoise from Danish waters as well as from animals held in captivity. Zell lines were established from organs of freshly dead harbour porpoise. The ribosomale DNS of different lung nematodes of harbour porpoise were analyzed and sequences of different regions were compared.

### 6. Statistics for large cetaceans

#### 6.1 Direct catches

Germany was not engaged in any whaling activity neither commercial, nor aboriginal nor under scientific permits

#### 6.2 Other non-natural mortality for the year 2005

There was no information on other non-natural mortality of large cetaceans

##### 6.2.1 Strandings

Stranding data on large cetaceans are provided in section 8 of the report

##### 6.2.2 Ship strikes

There was no information on ship strikes of large cetaceans

### 6.2.3 Fishery by-catch

No large cetacean has been taken as by-catch in fisheries

### 6.3 Earlier years' statistics (historical)

All information on historical catch data available to us have been provided to the International Whaling Commission in previous years. No further data are stored to our knowledge in Germany.

## 7. Statistics for small cetaceans

### 7.1 For the calendar year 2005

No small cetaceans were taken in a directed fishery in Germany. The 7 removals were incidental takes in gill net fisheries in the Baltic.

Species	Area/stock	Incidental Mortality			Live capture
		Reported	Estim. total	Source	
Harbour porpoise	North Sea	0	unknown		
Harbour porpoise	Baltic Sea Schleswig- Holstein	2	unknown	gill net	none
Harbour porpoise	Baltic Sea Mecklenburg- Prepommerania	2	unknown	gill net	none

### 7.2 Earlier years' statistics

There were no corrections to statistics presented in earlier years

## 8. Strandings in 2005

Species	Total	North Sea Lower Saxony	North Sea Schl.-Holstein	Baltic Schl.- Holstein	Baltic Mec.-Prepomm.
Harbour porpoise	254	42	153	45	14
White-beaked dolphin	1	1			
Common dolphin	1		1		
Fin whale	2		1		1
Minke whale	1				1

## 9. Other studies and analyses

Species	Area/stock	Type of investigation	Contact address <sup>*)</sup>
Harbour porpoise	North Sea/Baltic Sea/Black Sea /North Atlantic	Stock structure, genetics	R. Tiedemann
Harbour porpoise	Belts, Baltic Sea	Stock discrimination	H. Benke
Harbour porpoise	Belt Sea, Baltic Sea	Reproduction, age structure, health status	H. Benke, U. Siebert, S. Bräger, W. Dinter
Harbour porpoise	North Sea/Baltic	Pathology, life history, toxicology, stock identity, habitat use, telemetry, Impact of sounds	U. Siebert
Harbour porpoise	North Sea	Histological, anatomical investigation of the nasal diverticula, ear pathology	S. Prahl
Harbour porpoise, other small cetaceans	North Sea/Baltic	Distribution and abundance, aerial surveys	M. Scheidat
Harbour porpoise	North Sea/Baltic	Habitat use, distribution and abundance	A. Gilles
Harbour porpoise	North Sea/Baltic	Impact of sounds	K. Lucke
Harbour porpoise	North Sea, Baltic Sea	Acoustic surveys, porpoise detectors (PODs)	U. Verfuss, C. Honnef, A. Meding
Harbour porpoise	Baltic	Creation of a management – orientated data base	S. Bräger, U. Westerberg M. Scheidat, U. Siebert
Harbour porpoise	North Sea	Acoustic surveys, porpoise detectors (PODs)	U. Siebert M. Scheidat J. Rye
Harbour porpoise	Baltic, North Sea	Telemetry	U. Siebert
Harbour porpoise	North Sea/Baltic	Pathology, Immunology	S. Fonfara

Harbour porpoise	North Sea/Baltic	Pathology	I. Hasselmeier
Harbour porpoise	North Sea/Baltic	Parasitology	K. Lehnert
Harbour porpoise	North Sea	Recovery Plan	S. Eisfeld K.-H. Kock
Harbour porpoise	North Sea/Baltic	Incidental sightings, data bases	U. Siebert M. Rademaker S. Mueller
Toothed whales	World Ocean	Development, morphology and evolution	S. Huggenberger
Bottlenose dolphin, short-finned pilot whale, Atlantic spotted dolphin, rough-toothed dolphin	La Gomera	Abundance, distribution, behaviour, Photo-ID	F. Ritter
Bottlenose dolphin, short-finned pilot whale, Atlantic spotted dolphin, rough-toothed dolphin	La Gomera	Land-based estimation of abundance and distribution	F. Ritter
Toothed whales, <i>Stenella</i>	worldwide	Morphology, development, evolution	S. Huggenberger
Harbour porpoise	North Sea, Baltic	Feeding ecology	W. Dinter A. Gilles U. Siebert

\*) contact addresses see section 12

## History of Whaling

Studies on the history of whaling were continued under the auspices of the 'Deutsches Schiffahrtsmuseum' and associated researchers and groups and dealt primarily with medieval whaling in northern Europe.

## 10. Literature cited

none

## 11. Publications (including IWC volumes)

Publications

Akineden, Ö., Hassan, A.A., Alber, J., El-Sayed, A., Estoepangestie, A.T.S., Lämmler, C., Weiss, R. and Siebert, U. 2005. Pheno and genotypic properties of *Streptococcus equi* subsp.

Zooepidemicus isolated from harbor seals (*Phoca vitulina*) of the German North Sea during the phocine distemper outbreak in 2002. *Veterinary Microbiology* 110. 147-152.

Beineke, A., Siebert, U., Maclachlan, M., Bruhn, R., Thron, K., Failing, K., Müller, G. and Baumgärtner, W. 2005. Investigations upon the potential influence of environmental contaminants on thymus and spleen of harbour porpoises (*Phocoena phocoena*). *Environm. Sci. Tech.* 39: 3933 – 3938

Beineke, A., Siebert, U. and Baumgärtner, W. 2006. Das Immunsystem der marinen Säugetiere, Teil 1: Immunantwort, Zytokine und Immunotoxizität.

Härkönen, T., Dietz, R., Reijnders, P., Teilmann, J., Harding, K., Hall, A., Brasseur, S., Siebert, U., Goodman, S.J., Jepson, P.D., Rasmussen, T.D. and P. Thompson. 2006. Review of seal epizootics in Europe. *Diseases Aquat. Organ.* 68, 115-130.

Kakuschke, A., Valentine-Thon, E., Griesel, S., Fonfara, S., Siebert, U. and A. Prange. 2005. The immunological impact of metals in harbor seals (*Phoca vitulina*) of the North Sea. *Environmental Science and Technology* 39, 7568-7575.

Kock, K.-H., Purves, M. and Duhamel, G. 2006. Interactions between cetaceans and fisheries in the Southern Ocean. *Polar Biol.* 29(5): 379 – 388

Lehnert, K. Raga, J.A., and Siebert, U. 2005. Macroparasites in stranded and bycaught harbour porpoises from German and Norwegian waters. *Diseases Aquat. Organ.* 64: 265 – 269

Siebert, U., Wünschmann, A., Tolley, K., Vikingsson, G., Olafsdottir, D., Lehnert, K., Weiß, R. and Baumgärtner, 2006. Pathological findings in harbour porpoises (*Phocoena phocoena*) originating from Norwegian and Icelandic waters. *J. Comp. Pathol.* 134 (2-3), 134 – 142

#### Working Papers

Honnef, C.G., Verfuss, U., Meding, K., and Benke, H. 2005. Geographic differences and seasonal changes in the habitat use of harbour porpoise (*Phocoena phocoena*) in the German Baltic. Proc. 19<sup>th</sup> Annual Conf. of the ECS, La Rochelle, France, 2 – 7 April 2005

#### Reports

Prahl, S. 2005. Akustische Belastungen von Schweinswalen. Ber. BMELV 514-33.29/01HS089, 59 pp.

## 12. Contact addresses

Benke, H., Director, Deutsches Meeresmuseum, Katharinenberg 14-20, D-18439 Stralsund, e-mail Harald.Benke@meeresmuseum.de

Stefan Bräger, Bundesamt für Naturschutz, FG I 3.2 Meeres- und Küstennaturschutz, Insel Vilm, 18581 Putbus (Rügen), e-mail: [stefan.braeger@bfv-vilm.de](mailto:stefan.braeger@bfv-vilm.de) and Deutsches Meeresmuseum, Katharinenberg 14 – 20, D-18439 Stralsund, e-mail [stefan.braeger@meeresmuseum.de](mailto:stefan.braeger@meeresmuseum.de)

Czeck, Richard, Nationalparkverwaltung Nds Wattenmeer, Virchowstrasse, D-26382 Wilhelmshaven, e-mail [richard.czeck@br-we.niedersachsen.de](mailto:richard.czeck@br-we.niedersachsen.de)

Deimer, P., Gesellschaft zum Schutz der Meeressäuger, Garstedter Weg 4, Hasloh, e-mail [pdeimer@gsm-ev.de](mailto:pdeimer@gsm-ev.de)

Wolfgang Dinter, Bundesamt für Naturschutz, FG I 3.2 Meeres- und Küstennaturschutz, Insel Vilm, 18581 Putbus (Rügen), e-mail: [wolfgang.dinter@bfv-vilm.de](mailto:wolfgang.dinter@bfv-vilm.de)

Fonfara, S., Forschungs – und Technologiezentrum Westküste der Christian Albrechts Universität Kiel, Werftstrasse 6, D-25761 Büsum, e-mail [Fonfara@ftz-west.uni-kiel.de](mailto:Fonfara@ftz-west.uni-kiel.de)

Gilles, A., Forschungs – und Technologiezentrum Westküste der Christian Albrechts Universität Kiel, Werftstrasse 6, D-25761 Büsum, e-mail [Gilles@ftz-west.uni-kiel.de](mailto:Gilles@ftz-west.uni-kiel.de)

Hasselmeier, I., Forschungs – und Technologiezentrum Westküste der Christian Albrechts Universität Kiel, Werftstrasse 6, D-25761 Büsum, e-mail [IHassel@ftz-west.uni-kiel.de](mailto:IHassel@ftz-west.uni-kiel.de)

Kock, K.-H., Institut für Seefischerei, Bundesforschungsanstalt für Fischerei, Palmaille 9, D-22767 Hamburg, e-mail [karl-hermann.kock@ish.bfa-fisch.de](mailto:karl-hermann.kock@ish.bfa-fisch.de)

Lucke, K., Forschungs – und Technologiezentrum Westküste der Christian Albrechts Universität Kiel, Werftstrasse 6, D-25761 Büsum, e-mail [lucke@ftz-west.uni-kiel.de](mailto:lucke@ftz-west.uni-kiel.de)

Prahl, S., Forschungs – und Technologiezentrum Westküste der Christian Albrechts Universität Kiel, Werftstrasse 6, D-25761 Büsum, e-mail [prahl@ftz-west.uni-kiel.de](mailto:prahl@ftz-west.uni-kiel.de)

Ritter, F., M.E.E.R. e.V., Bundesallee 123, 12161 Berlin, e-mail [meer@infocanarias.com](mailto:meer@infocanarias.com)

Rye Hansen, Jacob, Forschungs – und Technologiezentrum Westküste der Christian Albrechts Universität Kiel, Werftstrasse 6, D-25761 Büsum, e-mail [jacob.rye-hansen@ftz-west.uni-kiel.de](mailto:jacob.rye-hansen@ftz-west.uni-kiel.de)

Scheidat, M., Forschungs – und Technologiezentrum Westküste der Christian Albrechts Universität Kiel, Werftstrasse 6, D-25761 Büsum, e-mail [scheidat@ftz-west.uni-kiel.de](mailto:scheidat@ftz-west.uni-kiel.de)

Siebert, U., Forschungs- und Technologiezentrum Westküste der Christian-Albrecht-Universität Kiel, Werftstraße 6, D-25761 Büsum, e-mail [siebert@ftz-west.uni-kiel.de](mailto:siebert@ftz-west.uni-kiel.de)

Schnall, U., Barthelmess, K., Deutsches Schifffahrtsmuseum. Hans Scharoun Platz 1, D-27568 Bremerhaven.

Tiedemann, R. Universität Potsdam, Institut für Biochemie und Biologie, Evolutionsbiologie/Spezielle Zoologie, Karl-Liebknecht-Strasse 24 – 25, Haus 25, D-14 476 Golm. e-mail [tiedemann@rz.uni-potsdam.de](mailto:tiedemann@rz.uni-potsdam.de)

Verfuss, U. Deutsches Meeresmuseum, Katharinenberg 14-20, D-18439 Stralsund, e-mail [ursula.verfuss@meeresmuseum.de](mailto:ursula.verfuss@meeresmuseum.de)

Westerberg, U. Forschungs – und Technologiezentrum Westküste der Christian Albrechts Universität Kiel, Werftstrasse 6, D-25761 Büsum, e-mail [westerberg@ftz-west.uni-kiel.de](mailto:westerberg@ftz-west.uni-kiel.de)