Agenda Item 13 National Reporting

Document 13.e

2012 Annual National Report Germany

Action Requested

- Take note
- Comment

Submitted by Germany

NOTE:
DELEGATES ARE KINDLY REMINDED TO BRING THEIR OWN COPIES OF DOCUMENTS TO THE MEETING

2012 ASCOBANS Annual National Reports

This format for the ASCOBANS Annual National Reports was endorsed by the 6th Meeting of the Parties in 2009. Reports are due to be submitted to the Secretariat by 31 March of each year.

Parties are requested to use this report to provide NEW information on measures taken or actions towards meeting the objectives of the Conservation and Management Plan and the Resolutions of the Meeting of the Parties.

The 7th Meeting of the Parties in 2012 agreed to move to online reporting with immediate effect. In order to benefit fully from the opportunities for synergies among CMS Family treaties afforded by this tool, Parties decided that a revised national report format be developed by a small working group assisted by the Secretariat for consideration by the Advisory Committee in preparation for the 8th Meeting of the Parties. While retaining the questions related only to ASCOBANS, it should align more closely to the format used in CMS, AEWA and EUROBATS.

General Information

Name of Party
› Germany

Report submitted by

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Changes

Changes in Coordinating Authority or appointed Member of the Advisory Committee
› Patricia Brtnik (German Oceanographic Museum (DMM)) is on behalf of the Federal Agency for Nature Conservation (BfN) since 2012 as a kind of successor of Stefan Bräger technically consulting the German delegation within the ASCOBANS advisory committee. This report was compiled with her support help.

List of National Institutions

List of national authorities, organizations, research centres and rescue centres active in the field of study and conservation of cetaceans, including contact details
› Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), Division N I 3 (Species Protection) , Robert-Schuman-Platz 3, D-53175 Bonn

› Federal Ministry for Food, Agriculture and Consumer Protection (BMELV) , Rochusstr. 1, D-53123 Bonn

› Federal Ministry of Defence (BMVg), Kurt-Schumacher-Damm 41, D-13405 Berlin

› Federal Agency for Nature Conservation (BfN), AST Vilm, D-18581 Putbus

› Federal Environment Agency (UBA), Wörlitzer Platz 1, D-06844 Dessau – Roßlau

› Federal Maritime and Hydrographic Agency (BSH), Bernhard-Nocht-Str. 78, D-20359 Hamburg

› Johann Heinrich von Thünen Institute for Sea Fisheries (TI), Palmaille 9, D-22767 Hamburg

› Projektträger Jülich (PTJ), Department for Wind Energy, Forschungszentrum Jülich GmbH, Wilhelm-Johnen-Straße, D-52425 Jülich

› National Park Administration Wadden Sea of Lower Saxony (NP-LS), Virchowstr. 1, D-26382 Wilhelmshaven

› Lower Saxony State Office for Consumer Protection and Food Safety, Institute for Fish and Fischery Products, (LAVES), Schleusenstr. 1, D-27472 Cuxhaven

› Schleswig-Holstein’s Government- Owned Company for Coastal Protection, National Parks and Ocean Protection, Schlossgarten 1, D-25832 Tönning (LKN)

› Schleswig-Holstein’s Ministry of Energy, Agriculture, the Environment and Rural Areas, Mercatorstrasse 3, D-24106 Kiel (MELUR)

› Institute of Terrestrial and Aquatic Wildlife Research (ITAW) of University of Veterinary Medicine Hannover (TiHo), Foundation, Werftstr. 6, D-25761 Büsum

› German Oceanographic Museum (DMM), Katharinenberg 14-20, D-18439 Stralsund

› BioConsult SH GmbH & Co. KG, Brinckmannstr. 31, D-25813 Husum

› Society for Dolphin Conservation (GRD), Kornweger Str. 37, D-81375 München

› Biola, Gotenstraße 4, D-20097 Hamburg

› Christian-Albrechts-Universität Kiel (CAU), Olshausenstr. 40, D-24098 Kiel

Habitat Conservation and Management

Fisheries Interactions

Direct Interaction with Fisheries

1.1 Investigations of methods to reduce bycatch

› PAL (Porpoise ALarm)

PAL (Porpoise ALarm) is a newly developed acoustic warning system for porpoises which imitates the communication sound of porpoises in order to protect the animals from fishing nets. The alarm system was developed by Prof.Dr. B. Culik (F3Forschung. Fakten.Fantasie.,Heikendorf) together with the L-3 EALC Nautik (Kiel). The testing phase is carried out together with the Thünen Institute of Baltic Sea Fisheries.
Harbour porpoises communicate by clicks and click-trains. Certain click-trains (“upsweep chirp”) have been identified to be used and understood by the animals as a warning sound. The PAL device, a click generator is configured in such a way that it generates corresponding warning clicks with increasing frequency. Initial tests have shown that the animals understand the signal correctly and react with intensive acoustic inspection.
In order to test the effectiveness of the device in a field study a project, funded by the BMELV (Federal Ministry of Food, Agriculture and Consumer Protection) is carried out by the Thünen Institute of Baltic Sea Fisheries. The project started in Juli 2012and runs till December 2013. For the field study the Thünen Institute cooperates with local fishermen and has equipped gillnets with the PAL system over the time period of one year. Based on those results, the study is also aiming at further optimizing the warning system and to enable in a first step, the small-scale production of a prototype. [BMELV/TI]

1.2 Implementation of methods to reduce bycatch

› Pingers in vessels > 12m length according to EU Regulation 812/2004. [Kock, TI]

1.3 Other relevant information

Other relevant information, including bycatch information from opportunistic sources

› Monitoring of marine mammal bycatch in commercial fisheries in the North and Baltic Sea through marine mammal observers (sampling) in accordance with EU Regulation 812/2004 [Kock, v. Dorrien, TI]

1.4 Report under EC Regulation 812/2004

Please provide the link to your country's report under EC Regulation 812/2004.

› no further information

Reduction of Disturbance

2.1 Anthropogenic Noise

Please reference and briefly summarise any studies undertaken

› Marine Mammal Database

Following the instructions for the German Navy on the protection of marine mammals and maritime habitats, marine mammal sightings are collected continuously by the German fleet and recorded in a database to improve knowledge about the distribution and habitat use of abundant species. This information is taking into account for the planning of the use of sonar systems during trials. [Ludwig, BMVg]

› PoMM-Protection of Marine Mammals

An international, 3 years project “PoMM” within the European Defence Agency (EDA) to establish a common marine mammal database for risk assessment was continued, it will contain sighting records, probabilities of occurrence, habitat use and species’ characteristics. It will include a shared data base web access for the partners. - It started in August 2010 and aims to protect marine mammals against the impact of active sonar and maintain the ability to operate active sonar at the same time. [Ludwig, BMVg]
The project consists of 2 work packages:
In work package 1 (WP 1) a comprehensive marine mammal database, being essential for risk mitigation tools, will be established.

In WP2 special investigations on marine mammal acoustics will be carried out. The database will provide knowledge on marine mammals with focus on abundance, seasonal distribution and density of different species in areas of operational interest for European Navies. The database will be used in the planning as well as operational phases, to avoid negative impact on marine mammals by military active sonars.
The database consists of four parts:
• Encyclopedia: species' characteristics, dictionary of methods and units, position and time of object, information on data source
• Observations: information on sightings, cetacean groups and individuals, examination results, sighting effort
• Distribution maps: gridded and polygon maps of abundance, seasonal distribution and density of different species
• Acoustics: information on vocalization and recording
WP 1 consists of the work elements (WE) 1.1 Definition of Database Characteristics, WE 2.1 Collection and Description of Basis Data Sets, WE 1.3 Development of In- and Output Tools and WE 1.4 Construction of Common Database
The aims of WP 2 are to develop tools and concepts for acoustic detection (WE2.1) and to provide a tool for the acoustic classification of marine mammals considering particularly the most critical groups and species. Participating institutions are from following countries: Germany, Norway, United Kingdom, Netherlands, Italy and Sweden. [Siebert, Lorenzen ITAW]

› Temporary threshold shift level
An auditory study on harbour porpoises was continued to validate the temporary threshold shift (TTS) level for impulsive noise funded by the BMU/PTJ. This project is conducted by the ITAW in cooperation with the Institute of Bioscience, University Aarhus (Denmark) and Fjord&Baelt (Denmark) and SOS Dolfijn, Harderwijk (The Netherlands). It aims at testing the acoustic tolerance of another harbour porpoise in human care as well as free-ranging animals. Investigations were included in 2012 within the Cluster 7 “Underwater noise”, funded by the BfN (see below). [Siebert, Ruser ITAW]

› “Cluster 7: Underwater noise”
The “underwater noise”- project (Cluster 7 “Impacts of underwater noise on marine vertebrates”, funded by the BfN) was continued, coordinated by the ITAW, in close cooperation with the BfN and other research institutions (University Aarhus, Denmark, DWShipConsult, University Liege, Belgium). It covers a broad spectrum of diverse and varied tasks. The main goal is to develop verifiable norms for the estimation of the impact of underwater noise on marine organisms. In distinct subprojects the hearing sensitivity of harbor porpoises (see above) and seals is investigated as well as study approaches about possible damage of fish by impulsive acoustic stimuli (literature research) are developed. Moreover, the acoustic tolerance limit of harbour porpoises for impulsive noise from pile driving and possible stress reactions caused by anthropogenic underwater noise are investigated. A baseline for stress hormones and mRNA expression levels of cytokines and acute phase proteins in blood samples of harbor porpoises in different stress levels was established. In addition, seals and porpoises in the natural environment will be equipped with D-tags capable to record the current sonic load in the water. The goal of such research is to gain improved knowledge about possible behavioral changes (escape reactions, changes in diving behavior or emigration from noisy areas) after noisy underwater events. Two porpoises were already tagged successfully. Furthermore, in order to complement information about noise in the ocean, acoustic noise mapping in Natura 2000 protected areas of the North and Baltic Seas using stationary noise recording systems is carried out. First data were collected at different locations in the Baltic Sea. [Siebert, Seibel ITAW].

› Acoustic activity recording FINO 3
As part of a joint project of measuring underwater noise in the German North Sea, click detectors (C-PODs) were deployed in the area of the research platform FINO 3 to record harbour porpoise activity. [Ludwig, BMVg]

› Environmental Monitoring
StUk3
Since 2008, BioConsult SH collected data on marine mammals following the Standard Investigation Programme (StUk3, BSH 2007) in the area of the first German offshore wind farm „alpha ventus“, which is located approximately 45 km north of the island of Borkum, North Sea, in 30m water depth, on behalf of the “Stiftung Offshore Windenergie” (DOTI).
For the “alpha ventus” project the environmental monitoring of the baseline was conducted in 2008. Construction phase took place in 2009, and the monitoring in 2010 and 2011 was carried out during the first and second year of operation of the wind farm. Four different methods were used: aerial surveys together with bird observation in a flight altitude of 76 m; aerial surveys especially for marine mammals in a flight altitude of 183 m; ship-based surveys and passive acoustic monitoring using T-PODs and (since 2011) C-PODs. These acoustic data loggers record harbour porpoise echolocation signals and were deployed at different distances to the wind farm. The closest POD-Station was ca. 500 m away from the next turbine outside the wind farm. Results from C-POD recordings showed a continuous presence of harbour porpoises in the area “alpha ventus” during the last four years. The seasonal pattern in detection rates was consistent over the four study years for the wind farm area and its close surroundings. The seasonal pattern revealed high detection rates in spring (March and April), followed by low detection rates in early summer (May to July) and again high detection in autumn/winter. In contrast, continuously high detection rates were registered in the area ca. 15 km south-westerly from the offshore wind farm “alpha ventus”, in the area “Borkum Reef Ground” without a clear

seasonal pattern. The only consistent pattern was highest detection rates during June in all four years. This pattern fits well to the seasonal pattern derived from aerial surveys. Aerial surveys showed a consistent spatial pattern with most sightings over all in the area Borkum Reefground. Due to this pattern, the calculated absolute density for the whole area was determined by this particular hot spot area.
Differences in habitat use of porpoises can be explained by various biological/ecosystem functions of the investigated subareas. The Borkum Reef Ground known as fish rich area seems to serve as a feeding ground year round for porpoises, whereas areas such as the area around and easterly of “alpha ventus” might function only at certain times of a year as important (feeding) habitat or may serve as a transition area in-between areas of high concentration of porpoises like Sylter Outer Reef and Borkum Reef Ground.
Effects of the construction work at the wind farm Borkum West II, located ca. 8 km north west of “alpha ventus” were not considered yet, as construction work was continued during 2012. Data will be analysed for the final report in 2013. [Höschle, Diederichs, Wollheim, BioConsult SH]
Reports on the different monitoring phases can be downloaded at:
http://www.bsh.de/de/Meeresnutzung/Wirtschaft/Windparks/StUK3/index.jsp

› [Environmental monitoring “alpha ventus”
In 2010 started the environmental monitoring of the operational phase at the first German offshore wind farm the test site “alpha ventus” with a total of 12 offshore wind energy plants approximately 45 km north of the island of Borkum (water depth ca. 30 m). In 2011 monitoring was carried out in the second year of operation phase. Aerial surveys and POD investigations were conducted in 2012 to survey the operation of the turbines for “alpha ventus” [Siebert, Dähne, Gilles ITAW]]

› Monitoring Pomeranian Bight / Nord Stream Pipeline Project
Under water constructions works like pile driving or dredging, and even shipping go along with considerable noise emissions that potentially affect harbour porpoises (Phocoena phocoena) in different ways. The construction of Nord Stream’s gas pipeline through the German part of the Baltic Sea (Pomeranian Bight) was carried out in autumn 2010 and 2011. The pipeline crosses a number of Natura 2000 sites (both SPA and SCI). Therefore the potential disturbance / displacement effects on harbour porpoises caused by construction activities were monitored by BioConsult SH with the use of stationary acoustic monitoring devices. C-PODs were deployed from July 2010 until December 2012 at 13 sampling stations. Six stations were located in close vicinity (<1 km) of the pipeline route.
Overall porpoise abundance was low with only 14 % porpoise positive days per month on average throughout the study period. A distinct seasonal pattern was observed with most detections during autumn of each year, exactly during pipe-lay activities in 2010 and 2011. The final report will discuss possible effects of the construction activities on harbour porpoises by means of analysing increased vessel traffic (AIS data) in the area of the pipe-lay. Due to the low overall abundance of porpoises in the Pomeranian Bight it will also be determined whether multiple groups of animals used the area at the same time. [Höschle, Diederichs, Wollheim, BioConsult SH]

› Project: seal scarers as a tool to deter harbor porpoises from offshore construction sites
Offshore pile driving, e.g. during wind farm construction, produces substantial noise emissions into the water column, which may harm marine mammals. Therefore, it is common practice to attempt to deter the mammals out of potential danger zones beforehand. Seal scarers are commonly used as a deterrent for harbour porpoises in spite of a lack of clear evidence in support of their effectiveness. We investigated the responses of harbour porpoises to a Lofitech seal scarer by conducting visual observations in conjunction with sound measurements. Porpoise sighting rates within 1 km of the seal scarer significantly decreased to only 1% during seal scarer activity. During 22 trials, when the seal scarer was deployed between 300 m and 3.3 km distance, all observed porpoises always avoided the seal scarer within 1.9 km (translating to sound levels of ≥122 dB re 1 µParms), avoided the seal scarer half the time within 2.1 to 2.4 km (119 to 121 dB re 1 µParms) and never avoided the seal scarer at distances beyond 2.6 km (≤118 dB re 1 µParms). The closest observed approach distance of a porpoise to the activated seal scarer was 798 m (132 dB re 1 µParms). Thus, the deployment of a Lofitech seal scarer during offshore pile driving activities can greatly reduce the risk of acoustic traumata to harbour porpoises. However, danger zones and thus the necessary deterrence zones have to be calculated specifically for each project based on measurements of sound transmission in the area. [Höschle, Diederichs, Wollheim,, BioConsult SH]
Published in: Mar Ecol Prog Ser. Vol. 475: 291–302, 2013. doi: 10.3354/meps10100

› Project: Far-reaching effects of a seal scarer on harbor porpoises
The project was funded by BMU; FKZ: 0325141
1. Although seal scarers are widely used both to reduce economic losses at fish farms caused by seal predation and to reduce risks posed to marine mammals by offshore pile driving activities, the spatial extent of their deterrent effect on harbour porpoises is still largely unclear. However, this information is crucial to understanding the effects these devices have on the marine environment and to judge their potential as a mitigation measure.
2. A study was conducted in the German North Sea, using passive acoustic monitoring and to some extent simultaneous aerial surveying to specifically study the spatial extent of the deterrence effects of a seal scarer on harbour porpoises. In order to link porpoise detections at various distances to actual sound levels, sound measurements of the seal scarer signal were carried out at several distances from the source.
3. C-POD recordings revealed a significant deterrence effect on harbour porpoises up to 7.5 km away (at

about 113 dB re 1 µParms), much further than previously reported. During seal scarer operation the number of porpoise detections within 750 m of the C-PODs decreased by between 52 and 95% of the value before the seal scarer was activated.
4. An aerial survey revealed a significant decrease in porpoise density from 2.4 porpoises/km2 before to 0.3 porpoises/km2 during seal scarer operation within the 990 km2 study area, showing that the decrease in porpoise detections by passive acoustic monitoring was probably indeed the result of a decrease in porpoise abundance.
5. These results may raise serious concerns about unwanted disturbance effects on harbour porpoises in the context of seal scarer use at fish farms and also highlight the need for caution when applied as a mitigation measure during offshore construction. [Höschle, Diederichs, Wollheim, BioConsult SH]
Published in: Aquatic Conserv: Mar. Freshw. Ecosyst. (2012). Published online in Wiley Online Library (wileyonlinelibrary.com). DOI: 10.1002/aqc.2311.

› Bubble curtain
In March 2012 the pile driving work for the wind farm “Borkum West II” in the German EEZ was finished. A total of 120 piles were driven in the time between September 2011 and March 2012. For the first time a bubble curtain was applied regularly for all pile driving events to fulfill the license conditions of BSH. Following the advice given by the Environmental Protection Agency (UBA) at 750m distance to the pile the Sound Exposure Level should not exceed 160 dB re 1 µPa and the Peak-Level should be less than 190 dB re 1µPa.s2. According to the license conditions of BSH operators of wind farms are obliged to comply with the advice on sound emissions through application of appropriate noise mitigation measures and marine mammal monitoring according to the Standard for the Environmental Impact Assessment (StUK) during pile driving. Noise measurements were conducted according to the measuring instruction of BSH, under: http://www.bsh.de/de/Produkte/Buecher/Standard/Measuring_instruction.pdf
In 2012 the environmental monitoring of the operation phase according to StUK (http://www.bsh.de/en/Products/Books/Standard/index.jsp) was conducted for the third year at the first German offshore wind farm, the test site “alpha ventus” with a total of 12 offshore wind energy plants. First results of the mammal monitoring in the operation phase are available (in German) under: http://www.bsh.de/de/Meeresnutzung/Wirtschaft/Windparks/StUK3/Betriebsphase/AV_STUK3_Saeuger_Erstes_Betriebjahr_2010.pdf
The first results of operation noise measurements at alpha ventus are available (in German) under: http://www.bsh.de/de/Meeresnutzung/Wirtschaft/Windparks/StUK3/Betriebsphase/alpha_ventus_betriebsschall_20120507.pdf
In 2012, the field investigations of the accompanying research project at alpha ventus (StUKplus-project) were finished. [Boethling, BSH]
Furthermore a technical conference concerning noise protection issues took place: cf. chapter 7.1 of this report.

› Project: development, deployment and evaluation of a big bubble curtain for mitigating underwater noise associated with pile-driving activities
The project is funded by the Federal Ministry for the Environment, Nature Conservation and Nuclear safety (BMU) under the project ref. no. 0325309A/B/C; project coordinator: BioConsult-SH GmbH & Co KG, Husum; project partners: Hydrotechnik Lübeck GmbH, Lübeck; Itap GmbH, Oldenburg; duration: 01.04.2011 - 31.12.2012.
In the last years a number of offshore wind farms were constructed along European coastal waters. Most turbines are built on steel foundations rammed into the sea floor, which creates considerable underwater noise during construction. Several studies demonstrated clear avoidance behaviour of harbour porpoises in quite extended areas around such construction sites due to underwater noise.
During the construction phase of the offshore wind farm "Borkum West II", located in the German North Sea, a Big Bubble Curtain was regularly used in order to reduce noise levels during pile driving and thereby minimise negative effects on marine mammals.
In addition the lead of the whole project, BioConsult SH was responsible for the investigation of effects of pile driving exercises during different conditions of the bubble curtain on harbour porpoises.
The behaviour of harbour porpoises was investigated by use of 26 passive acoustic data loggers (C-PODs) placed at different distances from the construction area. These devices recorded porpoise echolocation clicks and thus give information on the presence of these animals on a high temporal resolution. Data were analysed with respect to whether the spatial and temporal scale of porpoise avoidance behaviour differed when the bubble curtain was applied as compared to pile driving events without a bubble curtain. Noise measurements were conducted at several distances and behavioural effects were linked to the recorded noise levels. Results show that the application of the bubble curtain clearly reduced the temporal and spatial scale of porpoise avoidance behaviour. Minimising impact zones of sound emission during pile driving may be the most successful way to mitigate negative effects of offshore construction on marine mammals. This is particularly relevant with respect to plans of building several wind farms simultaneously in the same area. [Höschle, Diederichs, Wollheim, BioConsult SH]

The effects of an air bubble curtain for the attenuation of shock waves to reduce the risk for marine mammals during explosions (disposal of old ammunition in the Baltic Sea) were further investigated. [Ludwig, BMVg]

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2.2 Ship Strike Incidents

Please list all known incidents and provide information separately for each

	Incident 1	**Incident 2**	**Incident 3**	**Incident 4**	**Incident 5**
Date	12th of May 2012				
Species	Phocoena phocoena				
Type of Injury	Caused by ship propeller				
Fatal Injury (Yes/No)	yes				
Type of Vessel (length, tonnage, speed)	unknown				
Location (coordinates)	Elbe river, near Hamburg, at Hoopte, Elbe-km 599				
More Information (name, email)	Photos / u.stoef@t-online.de				

2.3 Major Incidents

Major Incidents Affecting Significant Numbers of Cetaceans (two or more animals)

	Incident 1	**Incident 2**	**Incident 3**	**Incident 4**	**Incident 5**
Date	-				
Location					
Type of Incident					
Further Information					

2.4 Pollution and Hazardous Substances

Please report on main types of pollution and hazardous substances (including source, location and observed effects on cetaceans). Please provide information on any new measures taken to reduce pollution likely to have an impact.
› Chemical Pollutant Levels
Within a project funded by the Federal German Agency of Environment (UBA) the current status of knowledge on chemical pollutant levels in marine mammals and effects of pollutants on the health of marine mammals is investigated and a research plan will be developed [Siebert, Wehrmeister, ITAW]

2.5 Other Forms of Disturbance

Please provide any other relevant information, e.g. relating to recreational activities affecting cetaceans.
› No further relevant information

Marine Protected Areas

Marine Protected Areas for Small Cetaceans

3.1 Relevant Information

Please provide any relevant information on measures taken to identify, implement and manage protected areas for cetaceans, including MPAs designated under the Habitats Directive and MPAs planned or established within the framework of OSPAR or HELCOM.
› Management Plan for harbour porpoises
Within the process of developing national management plans for the 8 designated German Special Areas of Conservation / SACs (pursuant to the Habitats-Directive), protection measures for marine mammals/harbour porpoises are being designed and proposed to authorities. For harbour porpoises, as an Annex IV species of the habitats directive, in addition conservation plans are being developed for the whole German North and Baltic Sea (BfN, ITAW). [Siebert, Herr, ITAW]

3.2 GIS Data

Please indicate where GIS data of the boundaries (and zoning, if applicable) can be obtained (contact email / website).
› www.HabitatMareNatura2000.de contains the needed information on the protected sites, however with the traditional geographical maps instead of GIS.

Surveys and Research

4.1 Abundance, Distribution, Population Structure

Overview of Research on Abundance, Distribution and Population Structure

› Acoustic Monitoring of Harbour Porpoises in the Baltic Sea

The DMM (German Oceanographic Museum) in Stralsund continued with the static acoustic monitoring of harbour porpoises in the Baltic see in 2012 with up to 6 recording positions in the German Exclusive Economic Zone / EEZ. This is part of the scientific cluster "Monitoring and assessment of marine vertebrates" of the Federal Agency for Nature Conservation (BfN) in cooperation with the FTZ University of Kiel and the ITAW Hannover.

Furthermore, the DMM is involved in a study of the harbour porpoise population in the central Baltic using stationary acoustic methods. Harbour porpoises in the central Baltic have declined to the extent that common methods to estimate stock size such as line transect methods can no longer be used. Estimation of stock size has to rely on new methods currently being developed.

More information is available at: http://www.meeresmuseum.de/en/science/forschungsprojekte.html [Gallus, DMM]

›

SAMBAH

In the EU – co-funded study ‘SAMBAH’ (Static Acoustic Monitoring of BAltic Harbour porpoise) eight countries bordering the Baltic have deployed 300 passive acoustic monitoring devices in 2011. They record the occurrence of harbour porpoise in various parts of the Baltic till end of May 2013. The results from the study will be density estimates, information on the spatial and seasonal distribution of harbour porpoises and identification of important habitats in the Baltic proper.

More information is available at: http://www.meeresmuseum.de/en/science/forschungsprojekte.html [Gallus, DMM]

› Visual surveys:

The following dedicated visual surveys to assess abundance and distribution of harbour porpoises were conducted by the ITAW:

In 2012, three dedicated aerial surveys were carried out in the south-western German North Sea and in parts of neighbouring Dutch waters as part of the research around the offshore wind test field “Alpha Ventus”. This research is funded by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and coordinated by the German Maritime and Hydrographic Agency (BSH) within the “StUKplus-Project”. [Siebert, Gilles, Peschko ITAW]

Aerial surveys covering the entire EEZ of the German North Sea were conducted in spring, summer and autumn 2012 to assess distribution and density of harbour porpoise. These surveys are part of the German monitoring programme of Natura 2000 sites, funded by the Federal Agency for Nature Conservation (BfN). [Siebert, Gilles, Peschko ITAW]

In July 2012 a vessel-based survey for estimating harbour porpoise density and abundance in the GAP area was conducted in the Western Baltic, Kattegat and Belt Sea, in cooperation between Denmark, Sweden and Germany. This survey is part of a project funded by the Federal Office for Agriculture and Food (BLE). [Siebert, Vsop, Herr, Peschko ITAW]

› Acoustic monitoring in the Wadden Sea

In autumn 2011 a monitoring scheme with four C-POD-stations in the German Wadden Sea was established by the Nationalpark Wattenmeer. The ITAW is carrying out the work. Three positions are in the Schleswig-Holstein Wadden Sea and one in the Lower Saxony Wadden Sea. [Siebert, Dähne ITAW, Eskensen LKN, Czeck, NP-LS]

› Acoustic Monitoring Wadden Sea Coastal Waters

The C-POD station in the vicinity of the island Minsener Oog was successfully operational in 2012. First results back up former findings that harbour porpoises enter coastal waters of Lower Saxony mainly in spring (March / April). [Czeck, NP-LS]

› Harbour Porpoises in the rivers Weser and Elbe

In 2007 an opportunistic sighting scheme was implemented by GRD (Society for Dolphin Conservation Germany). Since then sighting reports by sailors, boaters, ferry staff or passengers, pedestrians, staff on-board vessels from the Waterways and Shipping Administration, on the appearance of harbour porpoises in the German rivers Weser and Elbe were collected. The aim of this study is to document the abundance, distribution, habitat use and prey of harbour porpoises in the rivers and causes of death there.

The data indicate that the rivers are nowadays regularly frequented by harbour porpoises in spring time mainly during the month of March to June. Mostly single animals or groups of two are seen but also large groups of 8-10 and once up to 30 individuals were reported.

Results covering the sighting scheme from 2007 to 2010 and of two acoustic click detectors (C-PODs) installed in the Weser river at Strohauser Plate and Harriersand in 2010 can be found at: Wenger and Koschinski, 2012:

“Harbour Porpoise (Phocoena phocoena Linnaeus 1758) entering the Weser river after decades of absence”. Marine Biology Research, 2012; 8: 737-745.
For both rivers over 10 reports which indicate that there were newborn calves were received during the study period. In 2012 that was confirmed by findings of two dead ones, which measured only 60 cm in length so they are certain to be calves from the same year, and they were probably even born in the estuary or lower course of the river.
Based on the data analysis harbor porpoises must be considered as part of the biocenosis of these rivers. They enter the rivers each year during a certain period of time and do not longer represent vagrant individuals as previously stated.
Further field studies with systematic surveys and the installation of four C-PODs in the Elbe are planned for 2013. Also examinations of dead animals regarding prey, causes of death and contaminants are planned.
Strandings/dead animals: In the Weser river four dead animals were reported to GRD, one was taken to LAVES Cuxhaven for further examination.
Strandings/dead animals: In the Elbe river, nine dead animals were reported to GRD. One carcass was found south of Hamburg near Hoopte at Elbe-RKM 599. [Wenger, GSM]

› Database:
New data for a marine mammal data base (containing sightings, strandings, worldwide maps of occurrence and characteristics of 126 species) were integrated from freely available and provided sources.
A prototype of an html-based atlas of marine mammals was completed, containing information on species characteristics, behaviour, abundance, distribution and secondary information. It is planned to be used as a tool within the German Navy. [Ludwig, BMVg]

4.2 Technological Developments

New Technological Developments
› COSAMM
The COSAMM project (DMM) is an investigation of the comparability of the various static passive acoustic monitoring methods used for detection of harbour porpoises and other tooth whales. All available click detectors for harbour porpoises are compared in this project. This is done in order to make representative and comparable statements on the abundance of harbour porpoise, despite the deployment of different devices. http://www.meeresmuseum.de/en/science/forschungsprojekte/cosamm.html [Gallus, DMM]

› Novel tag design for small cetaceans
The impact of devices attached to animals remains a challenge in telemetry studies of dolphins. A concept of novel tag design for small cetaceans was elaborated and tested using computer aided design and computer fluid dynamics methods. It was anticipated that the hydrodynamic design of a tag could provide stable attachment to the dorsal fin by means of resultant hydrodynamic force appearing when a dolphin is swimming. It was shown that in 33 of 35 CFD scenarios the streamlined shape of a tag generates the lift force that facilitates keeping a tag attached to the fin. Throughout the set of calculations the tag-associated drag coefficient does not exceed 4%, which indicates low impact. Data obtained present a baseline for the further development of non-invasive dolphin telemetry tags. [Siebert, Pavlov, ITAW]

4.3 Other Relevant Research

› POD-net – monitoring of gradients in habitat use and activity of harbour porpoises
Since January 2010 a net of POD-stations, each consisting of four marking buoys and three POD-devices was established by offshore wind farm operating companies to fulfil the licencing conditions of BSH and StUK according to which acoustic monitoring of the activity and habitat use of harbour porpoises is required for all EIAs and monitoring activities for Offshore wind farms (http://www.bsh.de/en/Products/Books/Standard/index.jsp). The main objective of the POD-net is the continuous monitoring of gradients in the habitat use and activity of harbour porpoises. By the end of 2011 the POD-net was extended to 22 stations. Up to now positive experiences could be gathered with the POD-net. The data evaluation and analysis will follow. [Boethling, BSH]

› Study of the potential drag-reducing properties of dolphin skin
The project “DFG SI 1542/1” is part of the “DFG-SPP-1207” research program: „Strömungsbeeinflussung in Natur und Technik“. Morphology of dolphin skin and its potential role in drag reduction of swimming dolphin was studied. Computer aided design models of common dolphin and harbour porpoise were constructed to study hydrodynamics of fast- and slow swimming small cetaceans. Flow parameters were calculated for the species-specific range of swimming velocities. Correlation between skin structure and stream-wise distribution of friction coefficient was found. The data obtained can be used in further development of compliant walls to

reduce friction drag in transport. [Siebert, Pavlov, ITAW]

› Classification of marine mammal signature with speech recognition
A study about the classification of marine mammal signatures with methods of speech recognition was continued. This on-going study within the European Defence Agency (EDA) project shall improve detection and classification methods for marine mammals. Further results for the automatic classification of sound characteristics were achieved. [Ludwig, BMVg]

› Opportunistic sightings in the Wadden Sea Lower Saxony
Collection of information about incidental strandings and opportunistic sightings is continued. [Czeck, NP-LS]
Results are available at:
http://www.nationalpark-wattenmeer.de/sites/default/files/media/pdf/ schweinswal_totfunde_2012.pdf
The number of harbor porpoises found dead at the coast of Lower Saxony amounts to 83 carcasses in 2012. [Czeck, NP-LS]

Use of Bycatches and Strandings

Post-Mortem Research Schemes

5.1 Contact Details

Contact details of research institutions and focal point
› Schleswig-Holstein (SH): Terrestrial and Aquatic Wildlife Research (ITAW) of University of Veterinary Medicine Hannover (TiHo), Foundation, Werftstr. 6, D-25761 Büsum

› Mecklenburg – West Pomerania (MV): German Oceanographic Museum, Katharinenberg 14-20, D-18439 Stralsund

› Lower Saxony (LS): National Park Authority, LAVES-Institute for Fish & Fishery Products Cuxhaven (only district of Cuxhaven)

5.2 Methodology

Methodology used (reference, e.g. publication, protocol)
› SH: Measurements were taken in metric system [Siebert, ITAW, Schwarz-Kaack, MELUR]. Necropsies were only conducted on porpoises from the Baltic Sea funded by the Foundation of Baltic Sea.

› MV: Basic biological and anatomical data were collected and registered. Necropsy is performed occasionally.

› LS: No necropsies were performed due to the advanced decomposition of the carcasses

5.3 Samples

Collection of samples (type, preservation method)
› SH: Pathological samples were partly taken on porpoises from the Baltic Sea.

› MV: Pathological samples will be collected and examined during necropsy if required.

› LS: No samples could be taken from carcasses in 2012 due to decomposition.

5.4 Database

Database (number of data sets by species, years covered, software used, online access)
› SH: MySql, Postgresql, Access, Excel

2012: 187 Phocoena phocoena
1 Balaenoptera acutorostrata

Between 1990 and 2012 the following number of data sets has been collected per species (data recorded until 15.01.13):

Phocoena phocoena: 3169
Delphinus delphis: 7
Lagenorhynchus albirostris: 26
Lagenorhynchus acutus: 2
Stenella caeruleoalba: 1
Delphinapterus leucas: 1
Delphinapterus ampullatus: 1
Physeter macrocephalus: 7
Balaenoptera acutorostrata: 7
Balaenoptera physalus:6
Globicephala melaena: 3
Tursiops truncatus: 1
Mesoplodon bidens: 1

› MV: Data were collected and registered in Access database and Excel.

2012: 21 dead harbour porpoises.

1990 till 2012: 489 dead harbour porpoises

› LS: Data were collected and registered

2012: 83 dead harbour porpoises

5.5 Additional Information

Additional information (e.g. website addresses, intellectual property rights, possibility of a central database)
› MV: The German Oceanographic Museum is collecting information about incidental strandings and sightings see at:
http://www.meeresmuseum.de/wissenschaft/schweinswale/totfunde and
http://www.meeresmuseum.de/sichtungen)

Activities and Results

5.6 Necropsies

Number of necropsies carried out in the reporting period

	Number	**Recorded cause of death**
Phocoena phocoena	MV:11 / SH:48 / NI: 4	MV: 2 bycatch
Tursiops truncatus		
Delphinus delphis		
Stenella coeruleoalba		
Grampus griseus		
Globicephala melas		
Globicephala macrorhynchus		
Lagenorhynchus albirostris		
Lagenorhynchus acutus		
Orcinus orca		
Hyperoodon ampullatus		
Mesoplodon bidens		
Kogia breviceps		
Other (please specify under number)	Balaenoptera acutorostrata:1	
Other (please specify under number)		
Other (please specify under number)		
Other (please specify under number)		
Other (please specify under number)		
Other (please specify under number)		

5.7 Other Relevant Information

Please provide any other relevant information on post-mortem / stranding schemes
› No other relevant information

Relevant New Legislation, Regulations and Guidelines

6.1 New Legislation, Regulations and Guidelines

Please provide any relevant information
› No new developments.

Public Awareness and Education

7.1 Public Awareness and Education

Please report on any public awareness and education activities to implement or promote the Agreement to the general public and to fishermen.

› Publication of the ASCOBANS “MOP 7” results

The 7th Meeting of the Ascobans parties (MOP 7) took place 22.-24.10.2012 in Brighton. A report about the results - in German language - was published in the magazine “Umwelt” of the Federal Ministry for the Environment - cf, the issue of December 2012 / page 46-49. [BMU]

German support of public awareness activities of ASCOBANS

Germany funded in 2012 in the frame of the annual voluntary contribution of 25,600,- € :

- the production of information material and other promotional items, incl. the ASCOBANS Award;
- Activities related to the commemoration of the 20th anniversary of ASCOBANS

Furthermore this contribution was dedicated to support travel expenses of ASCOBANS experts and consultants to attend ASCOBANS and fishery meetings. [BMU]

› Technical Conference “Challenge noise protection”

Between 25. and 26. September 2012 a technical conference took place in the British Ambassy in Berlin, which was focused on the issue, how the best possible noise protection could be reached during the construction of offshore windparks (“Zwischen Naturschutz und Energiewende: Herausforderung Schallschutz beim Bau von Offshore Windparks”). This event was organized by the “Deutscher Umwelthilfe e.V.” with support of the Federal Agency for Nature Protection.

Cf.: www.duh.de/schallschutz-tagung 2012.html [BMU]

› Sailors on the lookout for harbour porpoises

In 2012 the German Oceanographic Museum DMM continued with the project “Sailors on the lookout for harbour porpoises in the Baltic Sea at large” (taken over from the Society for the Conservation of Marine Mammals in 2011). This project includes registration of sightings of harbour porpoises and the findings of dead porpoises. Through the webpage of the museum as well as flyers on the project, information is provided on:

sightings of porpoises: (http://www.meeresmuseum.de/sichtungen)

dead animals: http://www.meeresmuseum.de/wissenschaft/schweinswale/totfunde)

It further explains what people should do if they encounter a porpoise or find one dead. Contact is possible by post, email or telephone.

The sightings data are posted on-line and the Federal Agency for Nature Conservation (BfN) is regularly publishing the corresponding map showing all sighting data of the current year, see:

http://www.bfn.de/habitatmare/en/spezielle-projekte-schweinswalsichtungen.php

A total of 785 incidental sightings were reported in 2012 [Gallus, DMM]

› Tourism-Human-Nature

In the frame of the bilateral (Danish-German) INTERREG IVa project "Tourism-Human-Nature", several exhibition modules are being developed. The project is funded by the European regional development fund and modules will be placed in the project partner's different science centers around Southern Denmark and Northern Germany. Thematically, the modules will focus on research and protection of marine mammals and domesticated terrestrial animals as well as on the management of invasive marine species. Teaching programs and expedition boxes for schools are developed to train children and teachers in marine sciences [Knickmeier, Witte CAU, Siebert ITAW].

› Leaflet about harbour porpoises

A new leaflet was produced and published by NP-LS to inform the public about harbour porpoises. [Czeck, NP-LS]

See: http://www.nationalpark-wattenmeer.de/nds/service/publikationen/1689_themenfaltblattschweinswale

Possible difficulties encountered in implementing the Agreement

Difficulties in Implementing the Agreement

Please provide any relevant information

› No difficulities to report