

Agenda Item 4.3

Reports

Annual National Reports of ASCOBANS  
Parties

Information Document 4.3.a

**Compilation of Annual National  
Reports for 2012**

**Action Requested**

Take note

Submitted by

Secretariat



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

## Secretariat's Note

Article 2.5 of the Agreement requires that Parties submit a '*brief report*' '*not later than 31 March each year*' to "*cover progress made and difficulties experienced during the past calendar year in implementing the Agreement*". Article 4.2 also places a related obligation on the Secretariat each year to present Parties with a '*summary of the Party reports no later than 30 June*'.

The attached document is a compilation of all responses received from Parties relating to the year 2012. In order to provide an easy overview of the activities relevant for the implementation of the Agreement throughout the ASCOBANS Area, all Parties' answers have been made available under each question.

The individual reports, including any annexes that were provided, are available on <http://www.ascobans.org/en/documents/national-reports>.

# Fifteenth Compilation of Annual National Reports to ASCOBANS

**2012**



**ASCOBANS**

Agreement on the Conservation of Small Cetaceans of the Baltic,  
North East Atlantic, Irish and North Seas

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## GENERAL INFORMATION

### SUMMARY OF PARTY DETAILS

Party	Period covered	Date of Report	Submitted by	Function
BELGIUM	2012		Jan Haelters	Assistant, Royal Belgian Institute of Natural Sciences (RBINS), Department MUMM
DENMARK	2012		Lars Seidelin	Biologist, Fjord&Balt
FINLAND	2012		Penina Blankett	Ministerial Adviser, Ministry of the Environment
FRANCE	2012		Hassani Sami	Delegate, LEMM Oceanopolis
GERMANY	2012		Oliver Schall	National Focal Point, BMU (Federal Ministry for the Environment, Nature Conservation and Nuclear Safety)
LITHUANIA	2012		Vita Šiožinytė	Chief Desk Officer of Biodiversity Division, Nature Protection Department, Ministry of Environment of the Republic of Lithuania
NETHERLANDS	2012		Meike Scheidat & Martine van den Heuvel Greve	Researcher, IMARES
POLAND	2012		Monika Lesz	National Focal Point, Department of Forestry and Nature Conservation Ministry of Environment
SWEDEN	2012		Erland Lettevall and Susanne Viker	National Delegates, The Swedish Agency for Marine and Water and Management (SwAM)
UNITED KINGDOM	2012		James Gray	UK ASCOBANS Coordinator, Department for Environment Food and Rural Affairs (Defra)

<b>Coordinating Authority or Appointed Member of Advisory Committee</b>
<b>BELGIUM</b>
Contact person in the coordinating authority is Sophie Mirgaux
<b>DENMARK</b>
Lars Seidelin will take over from Magnus Wahlberg, Fjord&Balt
<b>FINLAND</b>
No changes
<b>FRANCE</b>
No changes
<b>GERMANY</b>
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.
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Jeroen Vis (Dutch Ministry of Economic Affairs) is taking the place of Folchert v. Dijken
<b>POLAND</b>
No changes
<b>SWEDEN</b>
Sofia Brockmark at SwAM has replaced Susanne Viker
<b>UNITED KINGDOM</b>
No changes

**List of national authorities, organizations, research centres and rescue centres active in the field of study and conservation of cetaceans, including contact details**

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## NEW MEASURES / ACTIONS TOWARDS MEETING THE OBJECTIVES OF THE CONSERVATION AND MANAGEMENT PLAN AND THE RESOLUTIONS OF THE MEETING OF PARTIES

### A. HABITAT CONSERVATION AND MANAGEMENT

#### 1 DIRECT INTERACTION WITH FISHERIES

##### 1.1 Investigations of methods to reduce bycatch

###### BELGIUM

None

###### DENMARK

DTU, AQUA conducted research on Fully Documented Fishery onboard gillnet vessels < 15 m. to test whether electronic monitoring can be used to provide reliable documentation of the fishing operation and the catches onboard gillnet vessels less than 15 m in length.

###### FINLAND

During the observation scheme 2006-2007 no bycatches were detected or porpoises sighted by the observers.

###### FRANCE

A programme named INPECMAM has been funded and agreed between the fishermen, the Iroise sea MPA, University of Brest, the National Natural History Museum and Oceanopolis to work on the by-catch of marine mammals (cetaceans and seals) and the depredation in set net fishery in the Iroise sea. The programme was in course in 2012 and is scheduled to finish at the end of 2013.

The observer programs (Filmancet) dedicated to set nets in the Channel was achieved (<http://archimer.ifremer.fr/doc/00035/14666/>) and the national program OBSMER dedicated to all the observations at sea has taken in its objectives to include observations of the English channel set net fisheries. The results are now included in the national report for regulation 812/2004.

For set net and pelagic trawl fisheries, observers for the EC regulation (n° 812/2004) are deployed for vessels greater than 15 meters and through pilot studies for vessels less than 15 m. However it was not possible to put observers on boats less than 8m for security reason.

###### GERMANY

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 2012 and 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]

#### LITHUANIA

None

#### NETHERLANDS

In December 2012 a study to investigate bycatch in the Dutch setnet fishery was started by IMARES and Marine Science & Communication (see below). Within this project, two vessels take part in a pilot trial to test the effect of Acoustic Deterrent Devices (Bananapinger Fishtek UK). The project is funded by the Dutch Ministry of Economics.

#### POLAND

› In 2011 the Hel Marine Station of the Institute of Oceanography, University of Gdansk, launched a pilot project aimed at testing cod-pots in the Bay of Puck as a possible alternative for gillnets used in catching cods. The current stage of the project is aimed at conducting tests for improvement of fish catch and fishery.

› The Ministry of the Environment in cooperation with the Ministry of Agriculture and Rural Development received funds from the National Fund for Environmental Protection and Water Management (National Fund) for implementation of the project “Testing of alternative catch tools protecting porpoises, seals and birds from by-catch in the Polish marine areas”. It is planned to test under the project whether it is possible to apply: cod pots, gillnets with larger mesh, as well as all aspects of application of at least 2 types of pingers in Poland. In 2012 formal works were conducted over the application and the procedure of determining the contractor. The implementation of the project depends on the closing date of the tendering procedure. The project is planned to be completed in October 2014.

› There is a similar project planned under the HELCOM BALTFIMPA project – “Fisheries management in the Baltic Sea Protected Areas”. One of the main objectives of the BALTFIMPA project is e.g. to answer the question of the impact of various tools and intensity of commercial fish catches on habitats and species in particular Baltic Sea Protected Areas (BSPA). So far, no research on this subject has been conducted in Poland. The research project is aimed at helping the participating countries, including Sweden, Finland, Poland, Denmark and Russia, test the principles of the protection of the environment and living resources in particular Baltic Sea regions without blocking fisheries, and only, if necessary, limiting the intensity of hunting or particular fish species, and replacing catch tools with tools minimising or eliminating bycatch of birds and marine mammals often observed in fish catches, e.g. with the use of gillnets. The HELCOM BALTFIMPA project is planned to include two parts: introductory and preparatory, the so-called Initial phase. Duration: January 2012 – the end of March 2013, and the main part of the project aimed at testing various catch tools, and preparing decision-making scenarios in the field of fisheries management in certain pilot areas in the Baltic Sea. Duration: July 2013 – the end of 2015.

› Poland plans to implement the BALTFIMPA project in the selected Natura 2000 pilot area “Ostoja na Zatoce Pomorskiej” (PLH990002), a special area of conservation (PLB990003), being the „habitat” and „bird” Natura 2000 area at the same time. One of the main tasks will be to test alternative catch tools (cod pots) in terms of the volume of accidental catch of protected fish, bird and mammal species, and the efficiency of catch of target species. It will



be also essential to organise meetings with stakeholders when it is planned to analyse various decision-making scenarios in the field of fisheries management in the Natura 2000 area "Zatoka Pomorska". Poland's involvement in the main part of the project will depend on granting funds for the project by the European Commission under LIFE+.

#### SWEDEN

› Studies investigating alternative fishing gear such as cod pots and traps for species like pike-perch and herring have been carried out by the Swedish Board of Fisheries (SBF). Since July 2011 this research is conducted by the Department of Aquatic Resources of the Swedish University of Agricultural Sciences (SLU). In 2011 new designs of pots has been developed by several fishing gear manufacturers in collaboration with SLU. These pots were in 2012 tested in an implementation project involving several fishermen as well as in a project conducted by the SLU.

› A Swedish fishing gear company Carapax has planned a project with funding for the next year to develop a full-scale cod pot fishing method. The project mainly focuses on how to improve the construction of the pot as well solutions for better handling of the pots on board. The outcome of this project may be of interest to evaluate in terms of bycatch reduction as well as consequences for the fisheries.

#### UNITED KINGDOM

The two main species affected by fishing in UK waters are the harbour porpoise and the short-beaked common dolphin. All Reports to the European Commission on activities conducted by the UK under Regulation 812/2004, and under Article 12(4) of the Habitats Directive, provide details of the monitoring work undertaken and estimates of bycatch.

A dedicated monitoring scheme is operated by the SMRU, while collaborative links with the three fishery research laboratories in the UK also allow selected observations from the Discard Sampling Programmes to be included in our assessment of cetacean bycatch. The observer scheme relies upon good collaborative links with industry. Nevertheless fisheries regulations were enacted in England and Scotland to ensure that there is also a legal obligation for skippers and owners to take observers when asked to do so.

The principle area of concern for cetacean bycatch remains the south-western waters of the Western Channel and Celtic Sea. The situation in the North Sea remains unclear as only limited monitoring has been done since the late 1990s. Monitoring is now being focused on these two areas and as sufficient data is compiled, more robust estimates of current bycatch rates will become available.

The most recent two reports (2012 and 2011) can be found under the project code 'MB5203' at:  
<http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&ProjectID=18535&FromSearch=Y&Publisher=1&SearchText=cetacean%20bycatch&SortString=ProjectCode&SortOrder=Asc&Paging=10#Description>

## 1.2 Implementation of methods to reduce bycatch

#### BELGIUM

No additional concrete measures were taken to reduce bycatch.

#### DENMARK

None

FINLAND
None
FRANCE
Modification of practices in pelagic trawling (headline at 5 m depth)
GERMANY
Pingers in vessels > 12m length according to EU Regulation 812/2004. [Kock, TI]
LITHUANIA
None
NETHERLANDS
<p>› In 2012 the Coastal &amp; Marine Union (EUCC) continued its study on bycatch mitigation within the project funded by the European Fisheries Fund: “bycatch mitigation harbour porpoise”. The main aim is to mitigate bycatch of harbour porpoises in the winter set net fishery on cod, turbot and brill in collaboration with the industry. The workability and efficiency of a new pinger (Bananapinger Fishtek UK) and a DDD acoustic device are investigated using both field trials and a behavioural study on a porpoise in captivity at research facility SEAMARCO. The project also aims to: monitor bycatch, facilitate the landing of bycaught porpoises, exchange knowledge, conduct parallel pinger trials and to explore innovative methods to reduce bycatch. The project is a close collaboration between the Dutch Fisheries Organisation (Nederlandse Vissersbond), the Expert group on set net fishery (Kenniskring Staand want), ten Dutch winter season set net fishermen and the Coastal &amp; Marine Union. The project is funded by the Dutch Ministry of Economics, Agriculture and Innovation (EL&amp;I) and the European Fisheries fund (EFF). In 2012 a short film has been created about the project explaining about the Harbour Porpoise in general, its current threats and highlighting the bycatch. The film further zooms in on the project and explains about set net fisheries, the use of acoustic deterrents and its workability. The film is available on: <a href="http://www.kustenzee.nl/pinger/index.htm">http://www.kustenzee.nl/pinger/index.htm</a> and has been directed by Studio BiB (<a href="http://studiobib.nl">http://studiobib.nl</a>)</p> <p>› IMARES Wageningen UR and Marine Science and Communication started a Remote Electronic Monitoring project in December 2012 to investigate bycatch of harbor porpoises by Dutch gill net fishery. This project lasts till 2016 and includes three full years of monitoring of 12 vessels. The project is funded by the Dutch Ministry of Economics.</p> <p>› Bram Couperus (IMARES Wageningen UR) is serving as chair of ICES expert group Working Group on the Bycatch of Endangered Species (WGBYC).</p>
POLAND
<p>› In 2012 MIR-PIB again implemented the Monitoring Programme for Accidental Catches of Cetaceans (PMPPW, Polish: Program Monitorowania Przypadkowych Połowów Waleni) based on the obligations under the Regulation (EC) 812/2004. In 2012 10 operating vessels in 7 ports were observed. Under the Programme implementation observers stayed in the sea for 129 days, including 70 days on the vessels conducting catches using midwater otter trawls and 59 days on cruises (including 9 days in below 15m vessels) while using gillnets. In 2012 no accidental catch was observed.</p> <p>› No porpoises were also observed - either during the participation of the National Marine Fisheries Research Institute in Gdynia (MIR-PIB, employees in cruises on cutters and fishing boats under various research tasks, also during PMPPW, or during other research cruises in</p>



the entire Polish marine area. Polish fishermen also did not report any case of by-catch porpoise.

#### SWEDEN

› At the Swedish south coast development and testing of new gear has been conducted. The South Coast Fishing Area (Sydkustens fiskeområde) operates experimental fishing project with seal-proof cod cages in collaboration with local fishermen and scientists at SLU. The goal of the South Coast Fishing Area is to develop future coastal fishing industries by initiating and supporting projects and greater integration between fish nutrition and other nutrition in the region. The business is collaboration between the municipalities of Solvesborg, Kristianstad, Simrishamn and Ystad.

› Fishermen in the south of the Kattegat have been offered pingers for free and been successfully using them in the gillnet fisheries for flatfish. Six fishers have been using pingers since March 2011.

› During 2012, only one fisher, Kattegat, was required to use pinger according to EC Regulation 812/2004.

#### UNITED KINGDOM

Monitoring of vessels using pingers (DDD-03L) is being continued under the heading of “scientific studies” as required by Regulation 812/2004, but at a relatively low level in comparison to preceding years. A total of 131 hauls with pingers were monitored in 2012. Dolphin and porpoise bycatches are being recorded using GPS positions, as are the locations of DDDs being used on the same fleets which will allow us to assess if the efficacy of these devices changes over time. Seal damage levels to the commercial fish catch is also being routinely recorded.

The UK's Marine Management Organisation (MMO) and the Marine Scotland Compliance and Enforcement Unit have pinger detection units that are being used to determine compliance at sea.

The most accurate bycatch estimates for 2012, taken from the Annex to the UK annual report to the commission on the implementation of regulation 812/2004 in 2012, were of 821 harbour porpoises (*Phocoena phocoena*: 95% CI 510-1338) and 257 short-beaked common dolphins (*Delphinus delphis*: 95% CI 132-475) from static net fisheries in the Irish Sea, Western English Channel and Celtic Shelf (ICES divisions VIIaefghj). Caveats apply to these estimates. An estimated 492 seals, thought to be predominately grey seals (*Halichoerus grypus*: 95% CI 358-700) were also bycaught in this area.

The MMO is checking for compliance on the use of acoustic deterrent devices, including use of DDD-03Ls, in the over-12m static net fleet fishing in ICES Division VII as specified in Annex I of the Regulation. The MMO has liaised with industry regarding meeting their obligations under the Regulation. A similar device (DDD-03F) is being used on a voluntary basis on vessels participating in the small winter mid-water trawl fishery for bass (see UK Report under Regulation 812/2004).

### 1.3 Other relevant information, including bycatch information from opportunistic sources.

#### BELGIUM

Bycatch in recreational fisheries was the subject of a question to Belgium from the European Commission, DG ENV (15 June 2012; ENV.A.1/MV/ts).

Bycatch in recreational beach fisheries was also the subject of discussions in the Flemish

parliament and in several coastal communities.
DENMARK
Swimming patterns of wild harbour porpoises <i>Phocoena phocoena</i> was investigated. The study showed detection and avoidance of gillnets at very long ranges <50 m. It was unclear whether the porpoise use sonar or other senses to detect the nets on long distances
FINLAND
After the scheme 2006-2007 porpoise bycatches have not been reported/detected or sightings of porpoises reported by the fisherman or by the fisheries authorities.
FRANCE
Since 2012 January 1st, a French ministerial regulation requires fishermen to report marine mammals by catch with the objective of contributing to scientific knowledge. The aims of this regulation don't produce by catch estimates but should involve fishermen through scientific program on knowledge of the species: composition of catches, spatial and temporal distribution, etc.. End of 2012, a pilot program with four fishing ports (Atlantic and English Channel coast) began to assess the possibility of land by-caught animals for biological samples (diet, genetic, age, reproductive status, contaminant). These program is coordinated by PELAGIS/ULR (CRMM). Estimates of by-catch in set net and pelagic trawl fisheries
GERMANY
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]
LITHUANIA
None
NETHERLANDS
None
POLAND
<p>› WWF Poland continued the project financed by the Baltic Sea 2020 Foundation "Collecting ghost nets in the Baltic Sea". In 2012 the project was implemented not only by the Polish but also by the Lithuanian party. Under the project in 2012 22 tons of ghost nets were collected in Poland and Lithuania.</p> <p>› The conference is planned for March 2013 to sum up the results of the project. One of the project results is the interactive database on the locations of ghost nets with the option to report the loss of catch tools. The project has been supported by the Polish and Lithuanian Ministries of the Environment</p>
SWEDEN
In 2010 the SBF bought altogether nine camera systems to place on board fishing boats, to investigate discard as well as marine mammal and bird bycatch. Four of them were placed on trawlers and five on smaller fishing boats fishing with gillnets. A large effort was put into this project but only one fisherman was willing to participate in the project even if they were offered incentives for participating. These systems were later taken over by the SwAM whom is responsible for the task since July 2011.
UNITED KINGDOM

None

**In addition, please attach or provide link to your country's Report under EC Regulation 812/2004.**

BELGIUM

Attached

DENMARK

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0578:FIN:EN:HTML>

FINLAND

None

FRANCE

None

GERMANY

None

LITHUANIA

Attached: LT 2012(2011) Report on implementation of R812-2004.doc - Annual report on the implementation of Council Regulation (EC) No 812/2004 - (2011)

NETHERLANDS

Report EU regulation 812/2004:  
Couperus, A. S. 2012. Annual report on the implementation of Council Regulation (EC) No 812/2004-2010., p. 16. Ijmuiden. Centrum voor Visserijonderzoek (CVO) CVO report 12.008.

POLAND

<http://www.minrol.gov.pl/pol/Rybactwo/Rybolowstwo-morskie/Raporty-opracowania-publikacje> The above-mentioned website presents Polish reports on the implementation of the Council Regulation (EC) 812/2004 in 2010 and 2011. The 2012 report will be uploaded to the website when finished and translated into English. It is planned to complete the report and upload it to the website of the Ministry of Agriculture and Rural Development in May 2013 at the latest.

SWEDEN

See Appendix 1.  
App1\_Fisheries statistics ASCOBANS 2012\_Sweden.docx - Fisheries statistics on bycatch 2012

UNITED KINGDOM

None

## 2 REDUCTION OF DISTURBANCE

### 2.1 Anthropogenic Noise

BELGIUM

To assess the impact of pile driving for the construction of the C-Power offshore wind farm (Thorntonbank, Belgian waters) on the spatial and temporal distribution of harbour porpoises, passive acoustic monitoring (PAM) was combined with aerial surveys. At the end of March 2011, just before construction activities started, aerial surveys yielded an estimate of on average 2.5 harbour porpoises/km<sup>2</sup> in Belgian waters. Density estimates in mid April 2011, after the start of the construction (piling) activities, had fallen to 1.3 animals/km<sup>2</sup>. Although a decreasing density in Belgian waters towards the end of April should be considered as normal (cf. seasonal migration), changes in the spatial distribution between pre-and post-piling suggested harbour porpoise disturbance. PAM showed a clear fine-scale match between acoustic harbour porpoise detections and piling activities. Immediately upon the start of piling activities, harbour porpoise detections at a few km from the piling site fell to virtually zero. After the cessation of piling it took hours to days before new detections were made at this location. Aerial surveys allowed quantifying the distance over which an apparent impact occurred at around 22 km, with a repopulation of part of the area observed after one day with no piling.

The results of the 2011 marine mammal monitoring in the framework of offshore windfarm construction and operation, can be found in:

Degraer, S., Brabant, R. & Rumes, B. (Eds.), 2012. Offshore windfarms in the Belgian part of the North Sea: heading for an understanding of environmental impacts. Royal Belgian Institute of Natural Sciences, Department MUMM.

Haelters, J., Van Roy, W., Vigin, L. & Degraer, S., 2012. The effect of pile driving on harbour porpoises in Belgian waters. In: S. Degraer, R. Brabant & B. Rumes (Eds.). Offshore windfarms in the Belgian part of the North Sea: heading for an understanding of environmental impacts. Royal Belgian Institute of Natural Sciences, Department MUMM, Chapter 9: 127-143.

Norro, A., Rumes, B. & Degraer, S., 2012. Differentiating between underwater construction noise of monopole and jacket foundation wind turbines: a case study from the Belgian part of the North Sea. In: S. Degraer, R. Brabant & B. Rumes (Eds.). Offshore windfarms in the Belgian part of the North Sea: heading for an understanding of environmental impacts. Royal Belgian Institute of Natural Sciences, Department MUMM, Chapter 10: 145-155.

These results are available at [www.mumm.ac.be](http://www.mumm.ac.be), and were presented at different meetings: ICES Annual Science Conference, Bergen, Norway, 17-21 September 2012; the Offshore Wind and Ecology Congress (OWEZ), Amsterdam, 11-12 October 2012; the symposium "Protecting the Dutch whale – crossing boundaries", Amsterdam, 18 October 2012.

Further studies are planned, a.o. of the impact of the piling for another wind farm starting in spring 2013.

#### DENMARK

Effects of underwater noise on harbour porpoises around major shipping lanes. Mortensen, Lars O.; Tougaard, Jakob; Teilmann, Jonas. BaltSeaPlan - [www.baltseaplan.eu](http://www.baltseaplan.eu), 2012. 42 s. (BaltSeaPlan Report; Nr. 21).

#### FINLAND

None

#### FRANCE

IFREMER continues to apply mitigation measures on his seismic surveys, based on the

classical international recommendations. The use of a PAM system is now being considered when high-power seismic sources are to be deployed. The order of a complete passive monitoring system is planned for early 2013.

Study projects are being launched in France (about the monitoring and control of the anthropogenic noise in the sea) in the framework of the DCSMM (Directive Cadre Strategie pour le Milieu Marin). Most noticeably, a synthesis report (Bilan des activites anthropiques generatrices de bruit sous-marin et de leur recente evolution en France Metropolitaine) has been produced by SHOM (the French Hydrography Service). However at this stage these works do not address directly the impact on the cetacean populations.

## GERMANY

### › 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 harbour 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 southwesterly from the offshore wind farm “alpha ventus”, in the area “Borkum Reef Ground” without a clear 2012 ASCOBANS Annual National Reports [Contracting Party: Germany] Page 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 inbetween 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  $\geq 122$  dB re 1  $\mu$ Parms), avoided the seal scarer half the time within 2.1 to 2.4 km (119 to 121 dB re 1  $\mu$ Parms) and never avoided the seal scarer at distances beyond 2.6 km ( $\leq 118$  dB re 1  $\mu$ Parms). The closest observed approach distance of a porpoise to the activated seal scarer was 798 m (132 dB re 1  $\mu$ Parms). 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  $\mu$ Parms), 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/km<sup>2</sup> before to 0.3 porpoises/km<sup>2</sup> during seal scarer operation within the 990 km<sup>2</sup> 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  $\mu$ Pa and the Peak-Level should be less than 190 dB re 1  $\mu$ Pa.s<sup>2</sup>. 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](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](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](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 Lubeck 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]

LITHUANIA

None
NETHERLANDS
<p>› TNO participates in the 3S-project, together with FFI (Norway), SMRU (UK) and WHOI (USA). In 2012 the second of a series of experiments took place near Spitsbergen to perform BRS (Behavioural Response Studies) in order to study the behavioural effects of sonar sound on whales. This study took place from 1 to 30 June; target species are: Northern bottlenose whales, minke whales and humpback whales. The cruise was 2012 ASCOBANS Annual National Reports [ASCOBANS Party: Netherlands] Page 3 of 13 successful, as reported in the cruise report (Kvadsheim et al.2012). Data is being analysed at present, and more data will be gathered in 2013, both for sonar response, as well as baseline data. Analysis and publication of results were still in progress for observations (and descriptions) of previous 3S-experiments (2006-2010). Previous target species were Killer whale, (long-finned) pilot whale and sperm whale.</p> <p>› Within the EDA (European Defence Agency) TNO, together with other partners (GER, NOR, ITA, UK), is developing a marine mammal database. This database should become available for participating nations in order to improve accuracy and efficacy of mitigation measures for naval sonar operations. This EDA-PoMM project (Protection of Marine Mammals) is to be finalized in 2013.</p> <p>› The NL-mitigation software for naval operations SAKAMATA has been introduced to the fleet of the Royal Netherlands Navy (RNLN) in 2010. Currently the software has been upgraded to improve user interface and implement latest research results. This new version of the SAKAMATA software is delivered November 2012. New algorithms for implementing sound exposure calculations and efficacy of ramp-up schemes for sonar transmissions are submitted for publication in 2012 (in press at present, May, 2013).</p> <p>› Drs M. Ainslie and dr. S. von Benda-Beckmann worked on optimisation of ramp-up schemes for moving and stationary sources. The release of Whale FM took place end of 2011 (<a href="http://whale.fm">http://whale.fm</a>). This website, as initiated by TNO (dr. Sander von Benda-Beckmann), is asking volunteers on the internet to help classifying marine mammal sounds ("crowd sourcing"). First publications with classification results are published or submitted, e.g. Sayigh et al.(2012, Marine Mammal Science)</p> <p>› Christ de Jong and Michael Ainslie are members of the ISO Working Group that is developing a standard for measuring sound radiated from ships. A Publically Available Specification (PAS) produced by this Working Group, closely based on ANSI Standard S12.64, was published in February 2012 and is now available from ISO (<a href="http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=59403">http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=59403</a>)</p> <p>› TNO contributes to the hearing threshold shift and behavioural response studies carried led by SEAMARCO. The TNO contribution includes calibration and analysis of underwater sound measurements.</p> <p>› TNO contributes to the ZKO project "Effects of underwater noise on fish and marine mammals in the North Sea".[<a href="http://www.nwo.nl/projecten.nsf/pages/2300168538">http://www.nwo.nl/projecten.nsf/pages/2300168538</a>] The TNO contribution is on 'Composition, distribution and intensity of natural and anthropogenic sounds in the Dutch part of the North Sea'. Dr. Michael Ainslie supervises PhD student at Leiden University, Ozkan Sertlek. The objective of the PhD is to develop the knowledge required for calculating sound maps of biological relevance for the Dutch North Sea. The work is done in collaboration with IMARES and SEAMARCO.</p> <p>› TNO participated in the meeting of Aug-Sep 2011 of the International Quiet Ocean</p>

Experiment (IQOE), and has contributed to the draft Science Plan that is published in 2012. Michael Ainslie represents NL on the EC expert Technical Sub-group Underwater Noise "TSG Noise". The final report of the TSG Noise was published in February 2012 [van de Graaf et al 2012]. This Working Group was set up by the EC to advise Member States on interpretation of Descriptor 11 and its two indicators (11.1.1 and 11.2.1) In collaboration with other projects in Europe, a standard terminology for underwater sound [AHEWGTUS 2011] has been proposed. This terminology has been adopted by TSG Noise. The TSG report recommends the standard be adopted by all MS. The IQOE draft science plan also refers to the standard.

› The PRIMA APPc (Portable Registration and Identification of Marine Animals) is developed by TNO as contracted by the Royal Netherlands Navy (RNLN) and as specified by the NL Hydrographic Office (NLHO). Concept development by TNO, Marine Science & Communication and Sharpener. Biological input is delivered and coordinated by Marine Science & Communication. The Royal Netherlands Navy (RNLN) advertises responsible sonar use. Part of their guidelines is the registration of marine mammals present before, during and after naval sonar operations. In support of this, the PRIMA APPc will be used in order to identify most observed marine mammals easily and reliably. In 2013 a Dutch version of the PRIMA APPc has been developed. TNO and MS&C explore making the PRIMA APPc available for a larger public.

› References:

Sivle, L.D., Petter Helgevd Kvadsheim, M.A. Ainslie, A. Solow, N.O. Handegard, N. Nordlund and F.P.A. Lam (2012) Impact of naval sonar signals on Atlantic herring (*Clupea harengus*) during summer feeding. ICES Journal of Marine Science 69 (6), 1078-1085.

Sivle, L.D., P.H. Kvadsheim, A. Fahlman, F.P.A. Lam, P.L. Tyack and P.J.O. Miller (2012) Changes in dive behaviour during naval sonar exposure in killer whales, long-finned pilot whales, and sperm whales. *Frontiers in Physiology*, doi: 10.3389/fphys.2012.00400

Kvadsheim, P.H., P.J.O. Miller, P.L. Tyack, L.D. Sivle, F.P.A. Lam and A. Fahlman (2012) Estimated tissue and blood N<sub>2</sub> levels and risk of decompression sickness in deep-, intermediate-, and shallow-diving toothed whales during exposure to naval sonar. *Frontiers in Physiology*, doi: 10.3389/fphys.2012.00125

Miller, P.J.O., Kvadsheim, P.H., Lam, F.P.A., Wensveen, P.J., Antunes, R., Alves, A.C., Visser, F., Kleivane, L., Tyack, P.L., Sivle, L.D. (2012). The severity of behavioral changes observed during experimental exposures of killer (*Orcinus orca*), long-finned pilot (*Globicephala melas*), and sperm whales (*Physeter macrocephalus*) to naval sonar. *Aquatic Mammals* 38: 362-401.

Cure, C., Antunes, R., Samarra, F., Alves, A-C., Visser, F., Kvadsheim, PH., Miller, PJO. (2012). Acoustically mediated interspecific interactions in cetaceans. *PlosOne* 7:12.

Reports:

Ad-hoc European Working Group on Terminology for Underwater Sound (AHEWGTUS), Standard for measurement and monitoring of underwater noise, Part I: physical quantities and their units, TNO report TNODV 2011 C235, edited by M A Ainslie, September 2011

C A F de Jong, M A Ainslie, Standard for measurement and monitoring of underwater noise, Part II: procedures for measuring underwater noise in connection with offshore wind farm licensing, TNO report TNO-DV 2011 C251, September 2011.

C A F de Jong, M A Ainslie, J Dreschler, E Jansen, E Heemskerk, W Groen, Underwater

noise of trailing suction hopper dredgers at Maasvlakte 2: Analysis of source levels and background noise, TNO report TNO-DV 2010 C335, November 2010.

J Dreschler, M A Ainslie, W H M Groen, Measurements of underwater background noise Maasvlakte 2, TNO report TNO-DV 2009 C212, May 2009.

H W Jansen, C A F de Jong & F M Middeldorp, Measurement results of the underwater piling noise experiment at Kinderdijk, TNO report TNO-RPT-2011-00546

H W Jansen, P J G van Beek, W H M Groen & M van Spellen, Measurement of the acoustic insertion loss of various configurations of the IHC underwater piling noise mitigation screen, TNO report TNO-DV 2011 C381

M.A. Ainslie, C.A.F. de Jong, J. Janmaat, H.J.M. Heemskerk, TNO 2012 R10818 | Final report Dredger noise during Maasvlakte 2 construction: Noise maps and risk assessment, November 2012.

A M von Benda-Beckmann, M.A. Ainslie, TNO-DV 2012 A099 | Final report SAKAMATA – marine mammal database v2.4: foundations and background, November 2012.

A M von Benda-Beckmann, F P A Benders, L A te Raa, M.A. Ainslie, TNO-DV 2010 A428 | Final report SAKAMATA 3: Risk assessment model, November 2012.

Kvadsheim, P, FP Lam, P Miller, P Wensveen, F Visser, LD Sivle, L Kleivane, C Cure, P Ensor, S van IJsselmuiden and R Dekeling (2012) Behavioural responses of cetaceans to naval sonar signals in Norwegian waters – the 3S-2012 cruise report FFI-report 2012/02058, <http://rapporter.ffi.no/rapporter/2012/02058.pdf> see also: <http://www.creem.st-and.ac.uk/mocha/links>

Van der Graaf AJ, Ainslie MA, Andre M, Brensing K, Dalen J, Dekeling RPA, Robinson S, Tasker ML, Thomsen F, Werner S (2012). European Marine Strategy Framework Directive - Good Environmental Status (MSFD GES): Report of the Technical Subgroup on Underwater noise and other forms of energy, February 2012.

## POLAND

› The Institute of Oceanography (including the Marine Station), University of Gdansk, implement the Polish part of the project (financing under LIFE+, National Fund, FRUG) called BIAS “Baltic Sea Information on Acoustic Soundscape”. The main objective: implementation of descriptor 11 for GES from Annex to the Marine Strategy Framework Directive at the regional level of the Baltic Sea. The planned project duration: September 2012 - August 2016.

› On 1 October 2012 the Polish Navy conducted operation of destroying a torpedo from the time of the World War II. In accordance with the decision of the General Directorate for Environmental Protection the following actions were taken before the explosion:

- disturbances by pincer movements of 2 fast boats, beginning from the operations centre,
- disturbances made by sound-ranging devices,
- disturbances made by 20 g micro explosives directly before detonation of the unexploded bomb.

The power of the explosion and shock wave was lower than expected – probably as a result of the long soaking period. After detonation the region of operation was checked twice: directly after the explosion and the next day. No damages were detected, and no organisms that may have been damaged as a result of the operations were observed. Therefore, it may

be assumed that the operation was effective.
<b>SWEDEN</b>
<p>› TIn the field of the European Marine Strategy Framework Directive, SwAM has participated in the EU Working for Good Environmental Status (GES WG), to develop the indicators for descriptor 11 (energy and noise).</p> <p>› FOI has published the report “Ambient Underwater Noise Levels at Norra Midsjobanken during Construction of the Nord Stream Pipeline” which was funded by the Swedish Environment Protection Agency, SEPA, together with Nord Stream AG. It presents results from measurements of noise during the construction of the North Stream pipeline, which passes about 4 km off Norra Midsjobanken which is a Nature 2000 area. Measures included trenching activities as well as the ambient noise including shipping noise.</p>
<b>UNITED KINGDOM</b>
<p>Marine Licences issued for large construction projects at sea such as wind farms, include instructions to reduce piling noise levels. Marine Mammal Monitoring Protocols (MMMP) include observation, cessation of piling when cetaceans observed in the area and soft start procedures followed by gradual increase in noise levels to minimise negative impact on cetaceans.</p> <p>Scotland Natural Heritage (SNH) Commissioned a Report: The development of a framework to understand dolphin behaviour and from there predict the population consequences of disturbances for the Moray Firth bottlenose dolphin population. Available at: <a href="http://www.snh.gov.uk/publications-data-andresearch/publications/search-the-catalogue/publication-detail/?id=1958">http://www.snh.gov.uk/publications-data-andresearch/publications/search-the-catalogue/publication-detail/?id=1958</a></p> <p>See also:</p> <ul style="list-style-type: none"> <li>- Brown, V. In press. Marine Renewable Energy: A Global Review. A WDC Report.</li> <li>-Dolman et al. In press. Fulfilling EU laws to ensure marine mammal protection during marine renewable piling operations. Poster presentation to the Third International Conference on the Effects of Noise on Aquatic Life , August 11-16, 2013, BUDAPEST, Hungary</li> <li>-Simmonds et al. 2013. Marine noise pollution – signs of progress: a preliminary review. <a href="http://events.iwc.int/index.php/scientific/SC65a/paper/viewFile/267/483">http://events.iwc.int/index.php/scientific/SC65a/paper/viewFile/267/483</a></li> </ul>

## 2.2 Ship Strike Incidents

Date	Species	Type of injury	Fatal injury (Yes / No)	Type of vessel (length, tonnage and speed)	Location (coordinates)	More information: (Name / Email)
<b>BELGIUM</b>						
None						
<b>DENMARK</b>						
None						

FINLAND						
None						
FRANCE						
09/07/2012	Sperm Whale	Ship strike	Yes	unknown	Arcachon	PELAGIS/ULR
18/07/2012	Fin whale	Ship strike	Yes	unknown	Plouhinec	PELAGIS/ULR
02/06/2012	Minke whale	Ship strike	Yes	Container ship	Marseille	PELAGIS/ULR
GERMANY						
12/05/2012	Phocoena phocoena	Caused by ship propeller	Yes	unknown	Elbe river, near Hamburg, at Hoopte, Elbe-km 599	Photos / u.stoef@t-online.de
LITHUANIA						
None						
NETHERLANDS						
15/01/2012	Fin whale	Head trauma, infected peritoneum	Unknown (stranded)	unknown	Unknown – Found stranded in Vlissingen, the Netherlands	<a href="http://www.walvisstrandingen.nl">www.walvisstrandingen.nl</a>
06/07/2012	Fin whale	unknown	Unknown (most likely already dead on impact)	Container ship, length: 210 m, gross tonnage: 26671, speed (max/avg): 16.5/15.1 knots	Unknown - Found on the bulb of the ship in the harbour in Rotterdam, the Netherlands	<a href="http://www.walvisstrandingen.nl">www.walvisstrandingen.nl</a>
POLAND						
None						
SWEDEN						
None						
UNITED KINGDOM						
01/08/13	Fin whale	Excised tail	Unknown-dead on arrival into port, post-	Brought into port dead on front of	Portsmouth harbour	rob.deaville@ioz.ac.uk

			mortem examinati on not possible	cargo vessel		
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### 2.3 Major Incidents Affecting Significant Numbers\* of Cetaceans

Date	Location	Type of incident	Further Information
BELGIUM			
None			
DENMARK			
None			
FINLAND			
None			
FRANCE			
2012	Atlantic and Channel coast	Multiple strandings of harbor porpoise	340 stranded harbor porpoises are recorded in 2012; it is two times more than in 2011. 40 % of fresh /moderate carcasses showed by catch marks
Winter 2012	Atlantic	Multiple strandings of common dolphin and other small cetaceans	Between January and March, 450 carcasses of small cetaceans (67 % of common dolphin) are recorded on the Atlantic coast. Two major peaks appeared in late January and early March, with respectively 80 and 120 strandings during periods less than 10 days, cause of death appears to be the most often by catch.
GERMANY			
None			
LITHUANIA			
None			
NETHERLANDS			
None			
POLAND			
None			
SWEDEN			
None			
UNITED KINGDOM			



14/08/12	Firth of Forth, Scotland	Mass stranding	Two Sowerby's beaked whales live stranded and died in the upper Forth estuary.
23/08/12	Ardesier, Highland, Scotland	Mass stranding	Three white-beaked dolphins found dead stranded at Ardesier. Post-mortems revealed that they had live (mass) stranded.
02/09/12	Pittenweem, Fife, south-east Scotland	Mass stranding	A pod of 31 long finned pilot whales ( <i>Globicephala melas</i> ) stranded at Pittenweem on the morning of 2nd September. Rescue efforts led to the successful refloat of 10 of the stranded animals, but 21 died, with a further dead whale later discovered in the nearby port of Leith in Edinburgh. Necropsies were carried out on all 22 dead animals by CSIP teams from around the UK. A Marine Scotland funded investigation of the mass stranding event has been conducted by Scottish Rural University College (Inverness) and a full report of the investigation will be published at a later date.
09/11/12	Gott Bay, Argyll and Strathclyde, Scotland	Mass stranding	Three white beaked dolphins live stranded, one was refloated and two died.

*\*Two or more animals*

## 2.4 Pollution and Hazardous Substances

<b>BELGIUM</b>
<p>No specific effects on small cetaceans washed ashore at the Belgian coast were investigated, although from selected stranded animals tissue samples were taken for further investigation of pollutant loads.</p> <p>The FOD Public Health, Food Safety and Environment, DG Environment, Marine Environment organises a new fishing for litter project.</p>
<b>DENMARK</b>
None
<b>FINLAND</b>
None
<b>FRANCE</b>
<p>Chemical pollution was evaluated in five species of small cetaceans that frequent the NW Iberian Peninsula waters: the common dolphin, the harbour porpoise, the bottlenose dolphin, the striped dolphins and the longfinned pilot whale. To this aim, 14 trace elements (Ag, As, Cd, Co, Cu, Cr, Fe, Hg, Mn, Ni, Pb, Se, V, Zn), 32 congeners of polychlorinated biphenyl ethers (PCBs) and 9 congeners of polybrominated diphenyl ethers (PBDEs) were analysed in samples of the main storage tissues for these pollutants (i.e. liver, kidney and blubber)</p>



collected from stranded and/or by-caught animals along the NW Iberian Peninsula coast between 2004 and 2008. Fieldwork was conducted by members of the Spanish (Coordinadora para o estudo dos mamíferos marinhos, CEMMA) and Portuguese (Sociedade Portuguesa de Vida Salvagem, SPVS) stranding networks and was part of the PhD project of P. Mendez Fernandez. This project was a collaboration between the university of La Rochelle, the University of Minho, in Braga Portugal, the marine laboratory of Scotland and the Spanish Oceanographic Institute (IEO) from Vigo, Spain.

## GERMANY

### › 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]

## LITHUANIA

None

## NETHERLANDS

Contaminant concentrations (PCBs, organotin, PFOS) were analysed in beached P. phocoena (neonates and juveniles) (2007-2012)(Van den Heuvel-Greve et al., in prep.). Highest median PCB concentrations were found in neonate P. phocoena when compared to juvenile P. phocoena. PFOS concentrations were comparable in livers of neonate and juvenile P. phocoena. Organotin concentrations were highest in juvenile P. phocoena.

Reference:

Van den Heuvel-Greve M, Kotterman M, Kwadijk C (in prep). Chemical profiles in harbour porpoises, Phocoena phocoena, beached in the southern North Sea. IMARES report.

## POLAND

› Amendment to the water legislation aimed at transposition into national law of the Marine Strategy Framework Directive provides for preparation of the marine strategy including: preliminary assessment of the marine environment, set of properties for good environmental status of marine waters, set of environmental objectives for marine waters, marine waters monitoring programme, and the national programme of protection of marine waters. Marine waters monitoring will be continued by the Chief Inspectorate for Environmental Protection.

› While the Chief Inspectorate for Environmental Protection acts as a leader of the flagship project on the collection of dumped chemical weapons (under the Priority Area 3 of the EU Strategy for the Baltic Sea Region – Dangerous Substances), in 2012 Poland participated actively in works on preparing the comprehensive report thereon taking account of e.g. the issue of minimising the impact of dumped chemical weapons on biosphere. Works were conducted under the HELCOM MUNI working group.

› Moreover, the Chief Inspectorate for Environmental Protection (together with the Ministry of Environment of Finland) as one of the coordinators of the Priority Area 1 of the EU Strategy for the Baltic Sea Region aimed at reducing nutrient inputs, monitored the actions under the flagship projects implemented in this area in 2012.

## SWEDEN

The Swedish Museum of Natural History (SMNH) is carrying out a 3-year study on several contaminants in harbour porpoises from Swedish waters. The study was finished in 2012 and a report of the results should have been delivered to SwAM, but the report has been delayed.

## UNITED KINGDOM

During 2012, three peer-reviewed publications arose from collaborative research between the CSIP and the Centre for Environment, Fisheries and Aquaculture Science (Cefas, <http://www.cefas.defra.gov.uk/>). The first incorporated polychlorinated biphenyl (PCB) data for 25 individual chlorobiphenyl congeners (sum25CBs) (n=540), several organochlorine pesticides (n=489) and nine brominated diphenyl ether congeners (BDEs) (n=415) in UK-stranded harbour porpoises stranded between 1990 and 2008 (Law et al 2012a). Results show that concentrations of organochlorine pesticides, HBCD and BDEs were declining consistently over time. In contrast, PCB (sum25CBs) concentrations reached a plateau in 1997-8, following earlier reductions due to regulation of commercial use, and have not declined in UK harbour porpoises since. Blubber PCB concentrations are still at toxicologically significant levels in many stranded harbour porpoises and occur at even higher levels in UK-stranded bottlenose dolphins (*Tursiops truncatus*) and killer whales (*Orcinus orca*) (Law et al 2012a), mainly due to the higher trophic level in marine food chains, size and longevity, of these top predator species. Further reductions in PCB inputs into the marine environment in industrialised parts of European are urgently needed to mitigate risk from PCB exposure in these species (Law et al 2012a). Further reductions in PCB levels in UK and European waters are likely to take many decades even if PCB levels do start to decline in future. Worryingly, there are very few coastal groups of killer whales remaining in Europe outside of the Icelandic-Norwegian population, and those that do remain have stopped reproducing (source: 2012 ECS Workshop on killer whales).

The second study investigated butyltin concentrations (monobutyl, dibutyl and tributyltin (TBT)) in the liver of UK-stranded harbour porpoises (n=410) from 1992–2005 and again in 2009 following a ban on the use of tributyltin-based antifouling paints on ships (Law et al 2012b). The aim was to assess the effectiveness of the regulation, which was implemented during 2003–2008 as large ships are repainted only every five years. Since the ban was implemented, summed butyltin concentrations have declined. The percentage of animals in which TBT was detected had also fallen sharply, indicating the cessation of fresh inputs into the marine environment. In 1992, 1993 and 1995, TBT was detected in 100% of samples analysed. In 2003–2005, once the implementation of the ban had begun, this fell to 61–72%, and in 2009, following the completion of the ban, it had reduced to only 4.3% (i.e. in only 1 of 23 samples analysed). The study therefore concluded that the ban has proved effective in reducing TBT inputs to the seas from vessels.

The third peer-reviewed study found statistical associations between polychlorinated biphenyls (PCBs) exposure and involution of lymphoid tissue and development of epithelial-lined cysts in the thymus of UK stranded harbour porpoises (n=170) (Yap et al 2012). The percentage of thymic lymphoid tissue (%TLT) was histologically quantified using standardised methodology. Multiple regression analyses (n=169) demonstrated a significant and positive correlation between %TLT and two quantitative indices of nutritional status (regression of body weight to body length and mean blubber thickness) and significant negative association between %TLT and onset of sexual maturity. However, in a subgroup of porpoises with total PCB levels (as Arochlor 1254) above a proposed threshold of toxicity (>17 mg/kg lipid weight) (n = 109), the negative association between %TLT (as dependent variable) and summed blubber concentrations of 25 chlorobiphenyl congeners (sum25CBs) remained significant along with both indices of nutritional status and onset of sexual maturity. These results are highly consistent with PCB-induced immunosuppression in harbour porpoises in UK waters, but only at PCB concentrations that exceed proposed thresholds for toxicity in marine mammals. In contrast, development of thymic cysts appeared to be predominantly age-related change. During 2012, Defra funded the analysis of 42 retrospective samples from UK-stranded harbour porpoises (2008-2010) for PCBs. In addition, Defra also agreed to fund further contaminant analyses under a variation to the current CSIP contract. The two small scale projects that were funded are titled “UK-

stranded common dolphin contaminant analyses (supporting EU-funded Marie Curie Fellowship “CETACEAN STRESSORS”) and “Risk assessment of polychlorinated biphenyl (PCB) exposure in marine top predators”. Delivery of final reports to Defra for both projects will occur in mid-2014.

› Refs

Law, R.J., Barry, J., Barber, J.L., Bersuder, P., Deaville, R., Reid, R.J., Brownlow, A., Penrose, R., Barnett, J., Loveridge, J., Smith, B. and Jepson, P.D. (2012a) Contaminants in cetaceans from UK waters: status as assessed within the Cetacean Strandings Investigation Programme from 1990 to 2008. *Marine Pollution Bulletin* 64: 1485-1494.

Law R.J., Bolam T., James D, Barry J, Deaville R, Reid RJ, Penrose R and Jepson PD. (2012b) Butyltin compounds in liver of harbour porpoises (*Phocoena phocoena*) from the UK prior to and following the ban on the use of tributyltin in antifouling paints (1992-2005 & 2009) *Marine Pollution Bulletin* 64(11): 2576-2580.

Yap, X., Deaville, R., Perkins, M.W., Penrose, R., Law, R.J., and Jepson, P.D. (2012) Investigating links between polychlorinated biphenyl (PCB) exposure and thymic involution and thymic cysts in harbour porpoises (*Phocoena phocoena*). *Marine Pollution Bulletin* 64: 2168-2176.

## 2.5 Other Forms of Disturbance

BELGIUM
The impact of military activities on the marine environment, including on marine mammals, was discussed.
Degraer, S., W. Courtens, J. Derweduwen, J. Haelters, K. Hostens, E. Stienen, S. Vandendriessche (2011). Discussienota structureel overleg Dienst Marien Milieu – Defensie. Eindrapport in opdracht van de Federale Overheidsdienst Volksgezondheid, Veiligheid van de Voedselketen en Leefmilieu, Directoraat-generaal Leefmilieu. Brussel, Belgie. 51 pp.
DENMARK
The effect of harbour porpoise distribution was investigated by the restoration of a large reefs at Laso. After the establishment of the reef, the number of harbour porpoises to the area. This is due to an increase in fish stocks around the reef. In the area which was used as a reference, could however see a decline in the number porpoise sightings. It is unclear what this decline is due.
FINLAND
None
FRANCE
None
GERMANY
None
LITHUANIA
None
NETHERLANDS

None
POLAND
None
SWEDEN
None
UNITED KINGDOM
<p>The Marine Management Organisation is the enforcing body in the marine environment for wildlife legislation, and their remit includes disturbance offences. Educational training, focussing on legislation and offences, has been carried out by the MMO around the coast in areas where disturbance activities are an issue. Enforcement action for disturbance offences can be taken by police or MMO where evidence allows.</p> <p>Wildlife licences are issued for certain activities which may cause disturbance to cetaceans in order to control and monitor these activities, and to minimise any disturbance these may cause so as not to be of negative impact. These licences contain conditions that must be adhered to and can be enforced by MMO.</p> <p>The NGO Whale and Dolphin Conservation (WDC) undertook a review of the legal regime for cetaceans in UK waters, and the current threats they face: Green et al., 2012. Looking forward to 'strict protection': A critical review of the current legal regime for cetaceans in UK waters.</p>

### 3 MARINE PROTECTED AREAS FOR SMALL CETACEANS

BELGIUM
Through Royal Decree of 16 October 2012 (Official Journal 5 November 2012) a new Natura 2000 area was designated. Although established not specifically for cetaceans, the Habitats Directives requires protection measures for Annex II species if they occur in relevant numbers in the area (which is the case). At this moment, such measures are yet to be implemented.
DENMARK
In June 2011, Denmark began a monitoring program of the designated SACs (special areas of conservations, Natura2000) for harbour porpoises. Passive acoustic dataloggers, CPODs, have been deployed in two SACs, an acoustic porpoise survey has been conducted in the Inner Danish waters, two aerial surveys have been performed covering SACs: one in the North Sea and one in Skagerrak.
FINLAND
None
FRANCE
Between October 2008 and February 2010, 95 marine Natura 2000 sites have been designated by France. Among all existing Natura 2000 sites in the ASCOBANS area, Bottlenose dolphin is listed in 39 and Harbour porpoise in 37, both on the Channel and Atlantic coast.

The Management Plan of the Marine Protected Area in Iroise Sea (West Brittany) is applicable to the Natura 2000 sites of the Molene archipelago and Ouessant. Creation on a new MPA << Estuaires picards / mer d'Opale (English Channel-North Sea)>> in December 2012.
<b>GERMANY</b>
<p>› Management Plan for harbour porpoises</p> <p>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]</p>
<b>LITHUANIA</b>
There are no protected areas for cetaceans established in Lithuania. No measures were taken to identify such areas because of lack of data on cetaceans in Lithuanian sea zone.
<b>NETHERLANDS</b>
<p>In the Dutch Continental Shelf and Coastal Waters, six sites have been identified as marine protected areas. Three offshore areas; Dogger Bank (Doggersbank), Cleaver Bank (Klaverbank) and Frisian Front (Friese Front), and three in the coastal zone; Noordzeekustzone in the north and Voordelta and Vlakte van de Raan in the south. These areas have been notified to the EU commission as Special Areas of Conservation (SACs) under the European Habitats and Birds Directives. All of these marine protected areas, except the Voordelta and Frisian Front, have been designated as a special protection zone for the harbor porpoise. The coastal areas were designated by the Dutch minister. The offshore areas will follow later, probably by the end of 2013. The areas will also be reported to the OSPAR Secretariat as MPA's according to the OSPAR Convention. These future SACs will also be designated for small cetaceans, but additional measures for their protection are unlikely, because the protection of the harbour porpoise will cover the whole Dutch EEZ. The conservation target will probably be formulated as follows: "Maintain the extent and quality of the habitat in order to maintain the population in a sustainable condition". <a href="http://www.rijksoverheid.nl/onderwerpen/natuur/noordzee">http://www.rijksoverheid.nl/onderwerpen/natuur/noordzee</a></p>
<b>POLAND</b>
For three years there have been 9 marine areas in Poland with the status of Baltic Sea Protected Areas under the Helsinki Convention – HELCOM BSPA, all within the borders of Natura 2000 areas. At least three of them – in the Bay of Pomerania, the Bay of Puck and in Ostoja Słowińska – are crucial from the perspective of protection of porpoises. There are no management plans for these areas at the moment taking account of protection of the species. They are being developed, and they are planned to be completed in 2014.
<b>SWEDEN</b>
None
<b>UNITED KINGDOM</b>
<p>› UK Offshore SAC</p> <p>Feingold, D. and Evans, P.G.H. (2012) Sea Watch Foundation Welsh Bottlenose Dolphin Photo-Identification Catalogue 2011. CCW Marine Monitoring Report No: 97: 1-262.</p> <p>Nuuttila, H.K. (2012) Static Acoustic Monitoring of Cetaceans in Cardigan Bay, Wales. PhD thesis, School of Ocean Sciences, University of Bangor. 201pp.</p>

Croker Carbonate Slabs (harbour porpoise and grey seal, non-qualifying features) and Pisces Reef Complex (harbour porpoise, grey seal, harbour seal, non-qualifying features) in the Irish Sea, and Wight-Barfleur Reef (harbour porpoise and bottlenose dolphin, non-qualifying features) in the English Channel were all submitted on 30th August 2012.

In the most recent tranche Pobie Bank Reef and Solan Bank Reef in the Scottish offshore region were submitted on 31st October 2012. Both list harbour porpoise, harbour seal and grey seal as non-qualifying features.

#### › Wales

Annual monitoring of cetaceans in Cardigan Bay and Pen Llyn a'r Sarnau SACs in Wales is underway (2012 was year two of a three-year contract) and contracted to Sea Watch Foundation (SWF) by Natural Resources Wales (NRW; formerly Countryside Council for Wales, CCW). Final report due 2014. Interim report available from Dr Thomas Stringell, Senior Marine Mammal Ecologist, Natural Resources Wales.  
tom.stringell@naturalresourceswales.gov.uk

SeaWatch Foundation continued to conduct boat-based line-transect surveys of bottlenose dolphins (and harbour porpoise) around Cardigan Bay (Wales) and Pen Llyn a'r Sarnau SAC's and Isle of Anglesey, along with photo-ID studies of the dolphins. The project provides information on the distribution, population structure and abundance of dolphins, porpoises and seals in the region. Winter surveys also took place in the Anglesey area of North Wales to which the species disperses seasonally. Acoustic monitoring has been conducted in Cardigan Bay, using T-PODs and C-PODs (subject of a PhD by H. Nuuttila, based at the School of Ocean Sciences, University of Bangor obtained in early 2013).

An updated bottlenose dolphin photo-identification catalogue comprising 513 individuals spanning the years 1990 to 2011 was published on behalf of the Countryside Council for Wales (Feingold & Evans, 2012).

#### › Scotland

The Marine (Scotland) Act and Marine and Coastal Access Act include new powers for Marine Protected Areas in the seas around Scotland, to recognise features of national importance and meet international commitments for developing a network of MPAs. Scottish Natural Heritage, through their Scottish MPA project, have identified priority search features (marine habitats and species) which may qualify for designation as/in MPAs. For cetaceans, both Risso's dolphin and minke whales are priority marine features that have been identified as an MPA search feature in territorial waters.

Whale and Dolphin Conservation (WDC), Hebridean Whale and Dolphin Trust (HWDT), Cetacean Research and Rescue Unit (CRRU) provided third party proposals to the Scottish MPA project and subsequent submission.

The results of site condition monitoring of the bottlenose dolphin SAC in the Moray Firth was published in the report: SNH Commissioned Report 512: Site Condition Monitoring of bottlenose dolphins within the Moray Firth Special Area of Conservation: 2008-2010. Available at: <http://www.snh.gov.uk/publications-data-and-research/publications/search-the-catalogue/publication-detail/?id=1893>

### **3.1 Sources of GIS data of the boundaries (and zoning, if applicable)**

BELGIUM

[l.vigin@mumm.ac.be](mailto:l.vigin@mumm.ac.be)



DENMARK
Contact: Signe Sveegaard, <a href="mailto:sign@dmu.dk">sign@dmu.dk</a>
FINLAND
None
FRANCE
<p>› Ministère de l'Ecologie, du Développement durable des transports et du Logement Mer Grande Arche Tour Pascal A et B 92055 La Defense CEDEX Natura 2000 network : <a href="mailto:charlotte.de-pins@developpement-durable.gouv.fr">charlotte.de-pins@developpement-durable.gouv.fr</a> Telephone tel : + 33 (01) 40 81 21 22</p> <p>› Agence des aires marines protégées Président : Jérôme Bignon, député de la Somme Directeur : Olivier LAROUSSINIE Adresse du siège et contact : Agence des aires marines protégées 16 quai de la Douane 29229 Brest Cedex 2 standard : +33 (0)2 98 33 87 67 telecopie : +33 (0)2 98 33 87 77</p>
GERMANY
www.HabitatMareNatura2000.de contains the needed information on the protected sites, however with the traditional geographical maps instead of GIS.
LITHUANIA
None
NETHERLANDS
None
POLAND
<p>The General Directorate for Environmental Protection provides the exact borders of Natura 2000 areas (<a href="http://www.gdos.gov.pl/Articles/view/1889/Kontakt">http://www.gdos.gov.pl/Articles/view/1889/Kontakt</a>).</p> <p>The above-mentioned data are also presented at: <a href="http://natura2000.gdos.gov.pl/datafiles">http://natura2000.gdos.gov.pl/datafiles</a></p>
SWEDEN
None
UNITED KINGDOM
<p>Croker Carbonate Slabs: <a href="http://jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?EUCode=UK0030381">http://jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?EUCode=UK0030381</a></p> <p>Dogger Bank: <a href="http://jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?EUCode=UK0030352">http://jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?EUCode=UK0030352</a></p>

Haisborough, Hammond and Winterton:

<http://www.jncc.gov.uk/protectedsites/sacselection/sac.asp?EUCode=UK0030369>

Inner Dowsing, Race Bank and North Ridge:

<http://www.jncc.gov.uk/protectedsites/sacselection/sac.asp?EUCode=UK0030370>

North West Rockall Bank:

<http://www.jncc.gov.uk/protectedsites/sacselection/sac.asp?EUCode=UK0030363>

Pisces Reef Complex:

<http://jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?EUCode=UK0030379>

Pobie Bank Reef:

<http://jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?EUCode=UK0030385>

Solan Bank Reef:

<http://jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?EUCode=UK0030386>

Wight-Barfleur:

<http://jncc.defra.gov.uk/ProtectedSites/SACselection/sac.asp?EUCode=UK0030380>

Wyville Thomson Ridge:

<http://www.jncc.gov.uk/protectedsites/sacselection/sac.asp?EUCode=UK0030355>

Information on the Scottish MPA project:

[http://www.snh.gov.uk/protecting-scotlands-nature/protected-areas/national-designations/marine-protectedareas-\(mpa\)/](http://www.snh.gov.uk/protecting-scotlands-nature/protected-areas/national-designations/marine-protectedareas-(mpa)/)

<http://www.scotland.gov.uk/Topics/marine/marine-environment/mpanetwork>

Risso - <http://www.snh.gov.uk/docs/B989103.pdf>

Minke - <http://www.snh.gov.uk/docs/B988866.pdf>

Information on the WDC contribution available on request

## B. SURVEYS AND RESEARCH

### 4.1 Overview of Research on Abundance, Distribution and Population Structure

#### BELGIUM

The estimate of the average density of harbour porpoise (aerial surveys) in Belgian waters in 2012 was 1.6 animals per km<sup>2</sup> in March and 0.5 animals per km<sup>2</sup> in October.

Besides of harbour porpoises, regular sightings were made of mostly small groups of white-beaked dolphins (3 to 6 animals). Two sightings however (in January 2012) concerned 20 to 30 animals.

A sperm whale washed ashore in February. A piece of plastic was found in its stomach, but this was not considered as having caused the death of the animal (Rumes, B. & Haelters, J., 2012. Een verdwaalde potvis op het strand. Hippocampus 2012 (3-4): 14-15).



<b>DENMARK</b>
<p>The SAMBAH project to estimate abundance and distribution of harbour porpoises in the Baltic Sea by static acoustic monitoring is running in the data collection phase. Analysis of data starts in 2013.</p> <p>› A study showed that the number of harbour porpoise were significant higher from April to October than during winter. It also showed that cod, herring and goby were the common prey during summer and winter.</p> <p>Sveegaard, S., H. Andreasen, K. N. Mouritsen, J. P. Jeppesen, J. Teilmann, C. C. Kinze 2012. Correlation between the seasonal distribution of harbour porpoises and their prey in the Sound, Baltic Sea. <i>Marine Biology</i> 159:1029-1037.</p> <p>› Satellite telemetry data have been used to define high density areas of porpoises. These areas have been helpful in determining the newly established Danish marine Nature2000 areas.</p> <p>Sveegaard, S., Teilmann, J., Tougaard, J., Dietz, R., Mouritsen, K. N., Desportes, G., Siebert, U. 2011. Highdensity areas for harbor porpoises (<i>Phocoena phocoena</i>) identified by satellite tracking. <i>Marine Mammal Science</i> 27(1), 230-246.</p> <p>› Population structure of harbour porpoises.</p> <p>Galatius, A., Kinze, C.C., Teilmann, J. (2012) Population structure of harbour porpoises in the greater Baltic region: Evidence of separation based on geometric morphometric comparisons. <i>Journal of the Marine Biological Association of the United Kingdom</i>. 92: 1669-1676.</p> <p>› Reef establishment and how it influence on the distribution of harbour porpoise.</p> <p>Mikkelsen, L. 2012. Re-established stony reef in Kattegat, Denmark attracts harbour porpoises (<i>Phocoena phocoena</i>).</p>
<b>FINLAND</b>
<p>› Finland is taking part to SAMBAH (Static Acoustic Monitoring of the Baltic Sea Harbour porpoise) project. In the project, 300 SAM units is used over a two years period (V/2011-IV/2013). 46 units is deployed in Finnish waters. More info available on <a href="http://www.sambah.org">http://www.sambah.org</a></p> <p>› "One of the main objectives of project SAMBAH is to raise stakeholder and public awareness about the Baltic Sea harbour porpoise. Dissemination activities have been done widely within the project, e.g. targeted meetings, press releases and media events, poster exhibitions in Sarkanniemi Dolphinarium and Kotka Maretarium and a 20-minutes documentary movie about the project."</p>
<b>FRANCE</b>
<p>› Monitoring of the coastal group of bottlenose dolphins (Oceanopolis Brest in Iroise Sea), photo-identification, home range, population structure (new protocol with the Iroise MPA).</p> <p>Photo identification of bottlenose dolphins of the Bay of Mont Saint Michel and Cotentin (GECC, GMN, Al Lark) Boat surveys on cetaceans in the southern Bay of Biscay (GEFMA); relationship between cetacean populations and climate change (MNHN in the framework of a regional programme on the marine environment). Data collection of opportunistic sightings (PELAGIS/ULR, GECC, GEFMA, Oceanopolis Brest). Systematic vessel survey of</p>

cetaceans in relation to oceanographic, planktonic and pelagic fish spatial patterns in the Bay of Biscay

- PELGAS Program, Ifremer, PELAGIS/ULR : spring survey carried out yearly in May on the continental shelf of the Bay of Biscay (pelagic fish, plankton, physical parameters and top predators are recorded simultaneously);

- IBTS Program, Ifremer, PELAGIS/ULR: winter survey carried out yearly in January across the English Channel:

(pelagic fish, plankton, physical parameters and top predators are recorded simultaneously);

- EVHOE Program, Ifremer, PELAGIS/ULR: autumn demersal fish survey carried out yearly in October-November across the Bay of Biscay (top predators recorded on transit between trawl hauls);

- PELACUS Program Centro Oceanografico de Vigo (Instituto Espanol de Oceanografia, IEO), in co-operation with PELAGIS/ULR: spring survey carried out yearly in April over the continental shelf from southern Bay of Biscay to Galicia (pelagic fish, plankton, physical parameters and top predators are recorded simultaneously). SAMM Program: Two 4-months systematic aerial surveys of cetaceans and other megafauna (mainly seabirds) have been conducted by PELAGIS/ULR and AAMP from November 2011 to August 2012 to identify priority areas for the designation of future Natura 2000 sites in the French EEZ. The survey protocol follows a systematic zig-zag line transect pattern across 4 bathymetric strata: coastal, shelf, slope and oceanic. The survey area encompassed the French EEZ extended to the South of Bay of Biscay (Spanish EEZ) and the British Channel. Overall, 100 000 km of transect have been sampled. In the ASCOBANS area, a total of 922 and 1235 sightings of cetaceans were collected during the winter and the summer survey, respectively.

Concurrently, sightings of seabirds, turtles and elasmobranchs have been recorded, providing an original overview of the annual distribution of the megafauna species.

In order to improve knowledge of harbor porpoise populations, we have started a pilot project to create a passive acoustic monitoring scheme along the French coasts. In the MARSAC project, 4 acoustic devices have been deployed since the beginning of 2013 and will be maintained during at least one year in front of Arcachon basin with the collaboration of local fishermen. They are involved to help the scientists to choose the better mooring sites, to give the logistical support to deploy and retrieve the acoustic device and to avoid loss of devices.

Ferry observer surveys between Roscoff and Cork, Portsmouth and Santander (Orca/Oceanopolis Brest/), using a standardized protocol. Genetic study on harbour porpoise (collaboration between the university of Brest and Oceanopolis Brest). A PHD student is involved (Alfonsi, E., Hassani, S., Carpentier, F.-G., Le Clec'h, J.-Y., Dabin, W., Van Canneyt, O., Fontaine, M.C., & Jung, J.-L. 2012. A European melting pot of harbour porpoise in the French Atlantic coasts inferred from mitochondrial and nuclear data. PlosOne 7(9): e44425. doi:10.1371/journal.pone.0044425.

The ecological niche of five sympatric species of small cetaceans that frequent the waters of the NW Iberian Peninsula was studied in order to determine if there is an habitat and resource partitioning or in opposition a competition among these species in the area (Mendez-Fernandez et al., 2013). This fact is important to determine the main threats at which species will be exposed and therefore have to be taken into account in the future conservational plans that will be carrying out in the area. To this aim, ecological tracers (i.e. stable isotopes of carbon and nitrogen and cadmium concentrations) were analysed in a multi-tracer approach. This study is part of the P. Mendez Fernandez PhD project (presented above) Population structure of common dolphins in the eastern North Atlantic is investigated using a genome-scan approach (RADtag sequencing) (A. Viricel post-doctoral project, PELAGIS/ULR).

Prey preferences among the community of 9 species of deep-diving odontocetes from the

Bay of Biscay were investigated from stranded material showing (Spitz et al. 2011. Deep Sea Research I; PELAGIS/ULR). The study described diets from stomach content analysis and showed resource partitioning within the assemblage. With more than 14,000 identified cephalopods from 39 species, the present study highlighted also the poorly known deep-sea cephalopod community off the Bay of Biscay using top cetaceans as biological samplers. An ECOPATH model of the Bay of Biscay was aimed to model the energy fluxes within the food web of this highly pressured ecosystem. A model comprising 30 living and two non-living compartments was successfully constructed with data from the Bay of Biscay continental shelf. Ecological network analysis provided evidence that bottom-up processes play a significant role in the population dynamics of upper-trophic levels, including cetaceans (Lassalle et al. 2011, Progress in Oceanography).

Monitoring of the coastal group of bottlenose dolphins (Oceanopolis Brest in Iroise Sea), photo-identification, home range, population structure (a new protocol is under work with the Iroise MPA).

## GERMANY

### › 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 sea 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 onboard 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]

LITHUANIA

Coastal Research and Planning Institute of Klaipeda University is a subcontractor in the international project "Static Acoustic Monitoring of the Baltic Sea Harbour Porpoise" (SAMBAH). Static acoustic monitoring devices which detect and log porpoise sonar click activities have been set up in nine sites of Lithuania marine waters. Analysis of collected

data will be accomplished in 2014.

## NETHERLANDS

› In 2012 aerial surveys using distance sampling methods to estimate the abundance of Harbour porpoises *Phocoena phocoena* on the Dutch Continental Shelf were conducted in March and November. These surveys were conducted along predetermined track lines in four areas: A “Dogger Bank”, B “Offshore”, C “Frisian Front” & D “Delta”. In March 2012 the complete Dutch Continental Shelf (DCS) was surveyed. Due to adverse weather conditions it was not possible to find a suitable time window to conduct aerial surveys of the entire Dutch Continental Shelf in summer. Therefore a late autumn survey was conducted in November. In this period surveys could be conducted in three areas (A-C), but abundance estimates could only be made for area B and C.

In total, 260 sightings of 320 individual Harbour Porpoises were collected. The majority of these sightings ( $n = 232$ ) was collected in March. Densities in March varied between 0.70–1.44 animals/km<sup>2</sup> in the areas A-D. The overall density on the entire Dutch Continental Shelf was 1.12 animals/km<sup>2</sup>. In November densities were lower, with densities of 0.50 and 0.64 animals/km<sup>2</sup> in area B and C.

The total numbers of Harbour Porpoise on the Dutch Continental Shelf (areas A-D) in March were estimated at ca. 66 000 animals (C.I.: 37 000-130 000). Though this number seemed lower than the population estimate in March 2011 (85 572 C.I.: 49 000-165 000) the confidence intervals greatly overlap. Therefore these numbers can be considered of comparable size.

Harbour Porpoises were widely distributed in March with higher densities in a broad band from the southern border of the DCS to the southern half of areas B “Offshore” and C “Frisian Front”. In the northern part of the DSC the distribution seemed more patchy, with a high density in area A “Dogger Bank”.

In total 16 sightings of other marine mammal species were made in March. These comprised 4 sightings of in total 11 White-beaked Dolphins *Lagenorhynchus albirostris* in the northern and western part of the DCS. Apart from White-beaked Dolphins 12 single seals were seen, which remained unidentified except 1 Grey Seal *Halichoerus grypus* on 15 March (Geelhoed et al. 2013).

› As part of the 3S-2012 experiment, an area near Spitsbergen has been surveyed (visual and PAM) for Northern Bottlenose whales in June 2012. See cruise report by Kvadsheim et al (2012) for survey effort and 2.1 for description of 3S-project. Previous experiments have been further analyzed.

› The NZG Marine Mammals Database is part of the Dutch Seabird Group (NZG) (established by Kees Camphuysen). Its aim is to collect all sightings of marine mammals in and around the Netherlands. The main number of sightings come from two research programs: seawatching and offshore seabird surveys. In 2012  $n=2354$ . More information is available at: [www.trektellen.nl](http://www.trektellen.nl)

› Strandings (live and dead) are collated in a database presented at the website [www.walvisstrandingen.nl](http://www.walvisstrandingen.nl) (see section C). Records of live sightings as well as dead animals are also found at [www.waarneming.nl](http://www.waarneming.nl) and [telmee.nl](http://telmee.nl).

› The Rugvin foundation is a volunteer based organisation conducting cetacean surveys in the Southern North Sea and Oosterschelde and member of the Atlantic Research Coalition (ARC). In 2011 they continued their monitoring programme for the Stena ferry line platforms between Hoek van Holland and Harwich. In 2011, 267 harbour porpoises and 8 white-beaked dolphins were counted. Furthermore, there were 5 undetermined individuals counted.



› References:

Geelhoed, S., Scheidat, M., van Bemmelen, R. (2013) Marine mammal surveys in Dutch waters in 2012. Report nr. C038/13. IMARES Wageningen UR

POLAND

› Poland participated in the SAMBAH project (Static Acoustic Monitoring of the Baltic Sea Harbour Porpoise). In Poland the project is implemented by the Maritime Branch of the Institute of Meteorology and Water Management, the Hel Marine Station and the Chief Inspectorate for Environmental Protection. The project completion is planned for December 2014.

› Yearlong monitoring of the coast with the involvement of volunteers trained by the Hel Marine Station, the so-called "Blue Patrol" will be continued. The project is implemented by WWF Poland.

SWEDEN

A Life Nature application for the SAMBAH project was approved and the Grant Agreement was signed in November 2009 by the Kolmarden Wildlife Park as the Coordinating Beneficiary. This project is running over five years (2010–2014), and aims at producing an estimate of the total abundance and distribution of harbour porpoises in the Baltic Sea. The project is based upon data from passive acoustic porpoise echolocation loggers (CPODs), which will be kept in operation from May 2011 to May 2012. This data will be used as input to state of the art population density statistics, and subsequently allow for habitat modelling carried out by AquaBiota Water Research, Stockholm.

During 2012 all participating teams have kept the CPODs in operation, by servicing the 300 positions every 3-5 months. There have been losses of CPODs due to trawling, battery exhaustion in acoustic releases, and severe storms, but in total these losses have been within acceptable limits. Some of the losses have subsequently been retrieved, either after being found on the beach or by active grappling. Auxiliary data on the acoustic characteristics at each position due to oceanographic factors have been obtained by performing playback trials with artificial porpoise clicks, transmitted from 0-300m distance from the CPODs. Acquisition of further auxiliary data has been done by the Danish team using acoustic tags, recording the click rate of wild dolphins. All these data are necessary input for the statistical data processing. The end report will be finalized by the end of 2014.

UNITED KINGDOM

› Systematic offshore vessel-based surveys were conducted by SWF in various parts of the UK (Irish Sea, Hebrides, Grampian Region, Shetland, and Eastern England), and regular systematic land-based watches took place in locations all around the British Isles. Most effort was between April and October.

Sightings survey data collected by SWF over the last twenty years contributed to a spatio-temporal analysis of abundance trends by CREEM, University of St Andrews (Paxton et al., 2012). A second edition of an Atlas of marine mammals of the Irish Sea was published (Baines & Evans, 2012).. The atlas results were subsequently modelled using sensitivity indices developed to assess vulnerabilities of different species to different types of fishing activity.

The population structure of the six major marine mammal species occurring in Welsh waters was reviewed for Countryside Council for Wales (Evans, 2012).

WDC conducted land and boat based surveys of Bardsey Island, North Wales, August-September 2012, and the of the Isle of Lewis, Scotland May 2012 and August-October 2012.

- › -Baines, M.E. and Evans, P.G.H. (2009) Atlas of the Marine Mammals of Wales. CCW Monitoring Report No.68. 82pp.
- Baines, M.E. and Evans, P.G.H. (2012) Atlas of the Marine Mammals of Wales. 2nd Edition. CCW Monitoring Report No. 68. 143pp.
- Evans, P.G.H. (2012) Recommended Management Units for Marine Mammals in Welsh Waters. CCW Policy Research Report No. 12/1. 69pp.
- Paxton, C.G.M., Scott-Hayward, L., Mackenzie, M., Rexstad, E., and Thomas, L. (2012) Revised Phase III Data Analysis of Joint Cetacean Protocol Data Resource. Report to Joint Nature Conservation Committee. Centre for Research into Ecological and Environmental Modelling, University of St. Andrews. 175pp.

## 4.2 New Technological Developments

<b>BELGIUM</b>
None
<b>DENMARK</b>
<p>› Enviromental DNA were used to detect the presence of marine mammals. At the same time acoustic dataloggers detected porpoises. In relation to the datalogger with the highest number of acoustic porpoisedetections enviromental DNA were found.</p> <p>Footte, A. D., P. F. Thomsen, S. Sveegaard, M. Wahlberg, J. Kielgast, L. A. Kyhn, A. B. Salling, A. Galatius, L. Orlando, M. T. P. Gilbert 2012. Investigating the potential use of environmental DNA (eDNA) for genetic monitoring of marine mammals. PLOS One 7(8): e41781.</p> <p>› Data from acoustic loggers (POD's) can be used to comment on the frequency of harbour porpoise in a given area.</p> <p>Kyhn, L. A., J. Tougaard, L. Thomas, L. Rosager Duve, J. Stenback, M. Amundin, G. Desportes, J. Teilmann 2012. From echolocation clicks to animal density - Acoustic sampling of harbor porpoises with static dataloggers. Journal of the Acoustical Society of America 131(1):550-560.</p>
<b>FINLAND</b>
None
<b>FRANCE</b>
<p>Trials of a passive acoustic monitoring in the archipelago of Molene on the resident group of bottlenose dolphins (Iroise Sea MPA/ENSIETA/Oceanopolis). The goal is to implement a permanent acoustic monitoring in addition to line transects and photo-identification.</p>
<b>GERMANY</b>
<p>› COSAMM</p> <p>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.</p> <p><a href="http://www.meeresmuseum.de/en/science/forschungsprojekte/cosamm.html">http://www.meeresmuseum.de/en/science/forschungsprojekte/cosamm.html</a> [Gallus, DMM]</p> <p>› Novel tag design for small cetaceans</p>

<p>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]</p>
LITHUANIA
None
NETHERLANDS
<p>TNO has built and tested improvements of the acoustic marine mammal detection array Delphinus. This new configuration was first tested at sea along the Norwegian coast in Feb.2011 in advance of the 3S-2011 BRS experiment. More testing with artificial sources has been performed in 2012, see Kvadsheim et al. 2012. Improvements include a longer baseline of high frequency hydrophones, in order to better estimate direction and range of detected sounds. Also a prototype triplet-hydrophone has been designed to be integrated in the Delphinus towed array. This triplet should be capable to discriminate between the leftward/rightward detection of mammal sounds. Software of the Delphinus system has been upgraded to display detection of marine mammals in a geographical display in real time.</p>
POLAND
<p>The University of Gdansk commenced the construction of the modern research vessel designed e.g. for observation of marine mammals and related hydroacoustic tests. INFO LINK: <a href="http://www.hel.ug.edu.pl/aktu/lastminut/inicjal.html">http://www.hel.ug.edu.pl/aktu/lastminut/inicjal.html</a></p>
SWEDEN
<p>SLU have conducted behavioural studies on cods at the entrance of cod pots. The goal is to produce useful results to develop more catch efficient cod pots. You have attached the following documents to this answer. Verksamhetsberattelse Salar och Fiske SLU 2012.doc - Annual report 2012 Project Seals and Fisheries at SLU</p>
UNITED KINGDOM
None

#### 4.3 Other Relevant Research

BELGIUM
<p>In the implementation of part of the North Sea Conservation Plan, the FOD Public Health, Food Safety and Environment, DG Environment, Marine Environment, funded a short-term project (2011-2012, 3 months) on the investigation of the diet (using stomach contents) of harbour porpoises stranded in Belgium.</p> <p>Haelters, J., Kerckhof, F., Toussaint, E., Jauniaux, T. &amp; Degraer, S., 2012. The diet of harbour porpoises bycaught or washed ashore in Belgium, and relationship with relevant data from the strandings database. Royal Belgian Institute of Natural Sciences (RBINS/MUMM). Report commissioned by the Federal Public Service for Health, Food</p>



Chain Safety and Environment (Marine Environment), Brussels, 45 p.

## DENMARK

› Study on genetic differences of harbour porpoise populations.

de Luna, C. J., S. J. Goodman, O. Thatcher, P. D. Jepson, L. Andersen, K. Tolley, A. R. Hoelzel 2012. Phenotypic and genetic divergence among harbour porpoise populations associated with habitat regions in the North Sea and adjacent seas. *Journal of evolutionary biology* doi: 10.1111/j. 1420 9101.2012.02461.

› Harbour porpoise and climate changes.

Heide-Jorgensen, M. P., M. Iversen, N. Hjort Nielsen, C. Lockyer, H. Stern, M. Hvid Ribergaard 2012. Harbour porpoises respond to climate change. *Ecology and Evolution* 580-586.

› New measurements of the sound beam pattern of porpoises:

Koblitz, J., Wahlberg, M., Stilz, P., Madsen, P., Beedholm, K., Schnitzler, H.-U. 2012. Asymmetry and dynamics of a narrow sonar beam in an echolocating harbour porpoise. *Journal of the Acoustical Society of America*, in press.

› Study on offshore pile driving.

Brandt, M. J., A. Diedrichs, K. Betke, G. Nehls 2012a. Effect of offshore pile driving on harbour porpoise (*Phocoena phocoena*). In: AN Popper & A Hawkins (eds.): *The effects of noise on aquatic life*. Springer-Verlag, NY, pp. 281-284.

Linnenschmidt, M., J. Teilmann, T. Akamatsu, R. Dietz, L. A. Miller 2012c. Biosonar, dive, and foraging activity of satellite tracked harbor porpoises (*Phocoena phocoena*). DOI: 10.1111/j.1748 7692.2012.00592.x

› Thyroid and stress hormones in free-ranging and captive porpoises:

Siebert, U., Pozniak, B., Hansen, Kirstin A., Nordstrom, G., Teilmann, J., van Elk, Niels, Vossen, A., Dietz, R. 2011. Investigations of Thyroid and Stress Hormones in Free-Ranging and Captive Harbor Porpoises (*Phocoena phocoena*): A Pilot Study. *Aquatic Mammals* 37(4), 443-453.

Galatius, A., Bossi, R., Sonne, C., Riget, F.F., Kinze, C.C., Lockyer, C., Teilmann, J., Dietz, R. (in press) Perfluorinated alkylated contaminant profiles of three marine mammal species from the North Sea: a comparative study. *Environmental Science and Pollution Research*.

› Study on growth and reproduction of white-beaked dolphins.

Galatius, A., Jansen, O.E., Kinze, C.C. (in press) Parameters of growth and reproduction of white-beaked dolphins (*Lagenorhynchus albirostris*) from the North Sea. *Marine Mammal Science*.

› Study of how porpoises regulate their hearing during echolocation:

Linnenschmidt, M., Beedholm, K., Wahlberg, M., Kristensen, J. H., Nachtigall, P. E. 2012. Keeping returns optimal: gain control elicited by dynamic hearing thresholds in a harbour porpoise. *Proceedings of the Royal Society B*, doi 10.1098/rspb.2011.2465.

› Electronic monitoring of harbour porpoise:

Lotte Kindt-Larsen, Jorgen Dalskov, Bjarne Stage, Finn Larsen, Observing incidental harbour porpoise *Phocoena phocoena* bycatch by remote electronic monitoring. DOI: 10.3354/esr00455

› Behavioral Reactions of Harbor Porpoise to Pile-Driving Noise.

Tougaard, Jakob; Kyhn, Line Anker; Amundin, Mats; Wennerberg, Daniel; Bordin, Carolina. The Effects of Noise on Aquatic Life. red. / Arthur N. Popper; Anthony Hawkins. Springer Berlin Heidelberg New York, 2012. s. 277-280 (Advances in Experimental Medicine and Biology; Nr. 730).

FINLAND

None

FRANCE

None

GERMANY

› 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.nationalparkattenmeer.de/sites/default/files/media/pdf/schweinswal\\_totfunde\\_201](http://www.nationalparkattenmeer.de/sites/default/files/media/pdf/schweinswal_totfunde_201)

2.pdf The number of harbor porpoises found dead at the coast of Lower Saxony amounts to 83 carcasses in 2012. [Czeck, NP-LS]
LITHUANIA
None
NETHERLANDS
None
POLAND
None
SWEDEN
None
UNITED KINGDOM
<p>› Research on occurrence, distribution, site fidelity, habitat use and behaviour of small cetaceans, with particular emphasis on Risso's dolphin, around Bardsey Island, North Wales. Eisfeld, SM and Lott, R. 2013. Risso's dolphins in North Wales. CCW Contract Science Report No. 1021. 26pp.</p> <p>A review of climate change impacts upon marine mammals in UK and adjacent waters was conducted by Evans &amp; Bjorge (2013). Evans, P.G.H. and Bjorge, A. (2013) Impacts of climate change on marine mammals. Marine Climate Change Impacts Partnership (MCCIP) Annual Report Card 2011-2012 Scientific Review: 1-34.</p> <p>There is a significant amount of research being carried out through Marine Scotland and SNH looking at likely impacts from marine renewable energy projects  <a href="http://www.scotland.gov.uk/Topics/marine/marineenergy/Research">http://www.scotland.gov.uk/Topics/marine/marineenergy/Research</a></p> <p>› Joint Cetacean Protocol (JCP)  The Joint Cetacean Protocol (JCP) was first introduced at the 2007 AC meeting and welcomed again in 2009 as part of improvements in approach to assessments. The JCP aims to deliver information on the distribution, abundance and population trends of cetacean species occurring in NW European waters. It was intended that the project outputs would assist governmental reporting to various Directives (e.g. the Habitats Directive and the Marine Strategy Framework Directive) and would also improve the robustness of marine Environmental Impact Assessments. The JCP brings together effort-related cetacean sightings data from a variety of sources including large scale international surveys such as SCANS &amp; SCANS-II and CODA, surveys based on platforms of opportunity such as ICES International Bottom Trawl Surveys (European Seabirds at Sea (ESAS) cetacean data), as well as more localised non-governmental data (e.g. SeaWatch Foundation and ARC) and industry data (e.g. that collected in relation to potential renewable energy installations). These data, collected between 1979 and 2010, represent the largest NW European cetacean sightings resource ever collated and have been standardised to a common format, checked and cleaned. It should be noted that the JCP is heavily dominated by UK lead survey work. Other sources should be encouraged to join JCP in the future, notably from waters other than UK, similarly collected from dedicated surveys or platforms of opportunity.</p> <p>There have been three major phases of JCP analyses (<a href="http://jncc.defra.gov.uk/page-5657">http://jncc.defra.gov.uk/page-5657</a>).  - For harbour porpoises, bottlenose dolphins and common dolphins in the Irish Sea (Phase</p>

I), Paxton & Thomas (2010) reported that quite small declines in modelled population density (0.3-2.2% per year) over a 6- year reporting period could be detected with power of 0.8, for the latter part of the survey period. For other species and earlier time periods, only very large changes in modelled population density would be detectable.

However, the modelled population densities rely on spatial and temporal smoothing, and hence sudden declines would not necessarily be detectable.

- The models developed were further refined and expanded to include the Scottish west coast (Phase II, Paxton et al, 2011). Density surfaces varying in time were generated for harbour porpoise, minke whale, bottlenose dolphin, short-beaked common dolphin and white-beaked dolphins; with a non-temporal model used for Risso's dolphin. The density surfaces proved complex to model and some bootstrap confidence intervals were very wide especially in areas of low effort and associated with high predictions.

- Phase III of the JCP was recently completed and models were developed to cover the European Atlantic area for seven species. The Phase III analysis produced species specific density surfaces over the whole JCP area and main period of data collection. However, the estimated densities were higher than those previously published in stand-alone analyses of the larger (SCANS-II and CODA) surveys whose data were included in the JCP analysis. In some cases, these differences were substantial and suggested to be implausible, particularly for species that tend to occur in large aggregations. The JCP Steering Group, therefore, asked that the analysis be re-run to address the issues. The draft report from this reanalysis was submitted October 2012 and underwent an international peer review in early 2013. The final version (Paxton et al., 2013) was submitted in July 2013. There are a number of decisions to be made in regard to the JCP Phase III outputs and its publication. The issues have been discussed by the UKs Inter-Agency Marine Mammal Working Group and are now to be considered by the JCP Steering Group/Chief Scientist Group. Updates will be posted on/through the Joint Cetacean Protocol webpage in due course:

<http://jncc.defra.gov.uk/page-5657>

- Paxton, C. & Thomas, L., 2010. Phase One Data Analysis of Joint Cetacean Protocol Data. Available at: [http://jncc.defra.gov.uk/pdf/JCP\\_Phase\\_1\\_Analysis.pdf](http://jncc.defra.gov.uk/pdf/JCP_Phase_1_Analysis.pdf)

- Paxton, C.G.M., M. Mackenzie, M.L Burt, E. Rexstad & L. Thomas. 2011. Phase II Data Analysis of Joint Cetacean Protocol Data Resource. Draft Report to Joint Nature Conservation Committee. Contract number C11-0207-0421. Available at: [http://jncc.defra.gov.uk/pdf/JCP\\_Phase\\_II\\_report.pdf](http://jncc.defra.gov.uk/pdf/JCP_Phase_II_report.pdf)

- Paxton, C.G.M., Scott-Hayward, L., Mackenzie, M., Rexstad, E. & Thomas, L. 2013. Revised Phase III Data Analysis of Joint Cetacean Protocol Data Resource. Final report to The Joint Nature Conservation Committee. Contract number C11-0207-0421 (unpublished).

The JNCC has contracted a further analysis of data to look for persistent, high density areas in UK waters for harbour porpoise and bottlenose dolphins. The Final report for this work is due early 2014.

## C. USE OF BY-CATCHES AND STRANDINGS

### 5 POST-MORTEM RESEARCH SCHEMES

BELGIUM

Contact details of research institutions / focal point
MUMM ULg (see general information)
Methodology used (reference, e.g. publication, protocol)
No new information since 2009
Collection of samples (type, preservation method)
See strandings protocol; references in previous reports.
Database (Number of data sets by species, years covered, software used, online access)
<p>All sightings and strandings are taken up in a database, partly online on <a href="http://www.mumm.ac.be">www.mumm.ac.be</a>. Tissues are recorded in a tissue database (not online yet).</p> <p>The total number of washed ashore (dead) harbour porpoises in 2012 was 97. Detailed data are not available yet, but at least 15 harbour porpoises had died due to bycatch in fishing gear. A large proportion of the stranded animals was in a condition not allowing to draw conclusions about the cause of death. Recreational set net fisheries on the beach were the source of part of the bycatch.</p> <p>The cause of death of a sperm whale was related to the stranding (live stranded).</p>
Additional Information (e.g. website addresses, intellectual property rights, possibility of a central database)
<p>An up to then undocumented cause of death for harbour porpoises was described on the basis of two animals washed ashore in September 2011: predation by grey seals. Haelters, J., Kerckhof, F., Jauniaux, T. &amp; Degraer, S., 2012. The grey seal (<i>Halichoerus grypus</i>) as a predator of harbour porpoises (<i>Phocoena phocoena</i>)? <i>Aquatic Mammals</i> 38(4): 343-353. DOI 10.1578/AM.38.4.2012.343</p> <p>› Necropsy workshop An international necropsy workshop was organized (6th Cetacean Necropsy Workshop: special issue on cetaceans inner ear, including beaked whales) at the university of Liege. A number of harbour porpoises were autopsied. The main issue was the dissection of the inner ear and a demonstration of the skull morphology of cetaceans.</p> <p>› Publications/posters on the results of research: Begeman L., St. Leger J., Blyde D.J., Jauniaux T., Lair S., Lovewell G., Raverty S., Seibel H., Siebert U., Staggs S., Martelli P., Keesler R. Intestinal volvulus in cetaceans, <i>Veterinary Pathology</i>, DOI:10.1177/0300985812465327.</p> <p>Jauniaux T., Brenez C., Fretin D., Godfroid J., Haelters J., Jacques T., Kerckhof F., Mast J., Sarlet M., Coignoul F. <i>Brucella ceti</i> infection in a harbor porpoise (<i>Phocoena phocoena</i>), <i>Proceedings of the 2nd Scientific meeting of the Faculty of Veterinary Medicine, Liege</i>, 19 October 2012, p. 46.</p> <p>Godfroid J., Nymo I., Tryland M., Cloeckaert A., Jauniaux T., Whatmore A., Moreno E., Foster G. <i>Brucella ceti</i> and <i>Brucella pinnipedialis</i> infections in marine mammals, in: <i>New</i></p>

directions in conservation medicine applied cases of ecological health, Aguirre, A., Ostfeld, R., Daszak, P. (Eds.), Oxford University Press, 2012.
DENMARK
Contact details of research institutions / focal point
› Department of Bioscience, Aarhus University, Frederiksborgvej 399, 4000 Roskilde, Denmark. Phone +4528710372, email: <a href="mailto:agj@dmu.dk">agj@dmu.dk</a> › The Fisheries and Maritime Museum, Tarphagevej 2, 6710 Esbjerg V, Denmark. Phone +4576122000, email: <a href="mailto:lfj@fimus.dk">lfj@fimus.dk</a>
Methodology used (reference, e.g. publication, protocol)
None
Collection of samples (type, preservation method)
› Aarhus University: Teeth, muscle, skin, blubber, liver, kidney, stomach contents, urine, blood, spleen, gonads, lung, diaphragm, faeces › The Fisheries and Maritime Museum: some of the above.
Database (Number of data sets by species, years covered, software used, online access)
None
Additional Information (e.g. website addresses, intellectual property rights, possibility of a central database)
› Strandings of marine mammals are reported on an annual basis in a report (in Danish) from the Danish Nature Agency. The latest available report covers 2011: <a href="http://www.naturstyrelsen.dk/Udgivelser/Aarstal/2012/Strandede_havpattedyr_i_Danmark.htm">http://www.naturstyrelsen.dk/Udgivelser/Aarstal/2012/Strandede_havpattedyr_i_Danmark.htm</a> › Future reports will be uploaded at: <a href="http://www.naturstyrelsen.dk/Udgivelser/Aarstal/">http://www.naturstyrelsen.dk/Udgivelser/Aarstal/</a>
FINLAND
Contact details of research institutions / focal point
None
Methodology used (reference, e.g. publication, protocol)
None
Collection of samples (type, preservation method)
None
Database (Number of data sets by species, years covered, software used, online access)

None
Additional Information (e.g. website addresses, intellectual property rights, possibility of a central database)
None
FRANCE
Contact details of research institutions / focal point
<p>French stranding network is nationally coordinated by PELAGIS/ULR under an agreement with the Ministry in charge of the Environment. Local voluntary observers, generally under local supervision by various institutions or NGOs (Oceanopolis, GEFMA, GECC, GMN, OCEAM, CMNS, Picardie Nature, ONCFS...), have been trained to process stranded cetaceans under a common standardized protocol. An annual synthesis of all strandings reported in France is produced by PELAGIS/ULR. Statistics of stranding for the coasts of France in the ASCOBANS region in 2012 indicate more than 1011 cetaceans reported. Stranding data provides information on death causes, demographic structure (age and reproductive status), diet (stomach content), trophic levels (stable isotopes) and subpopulation structure or movement pattern (genetic, stable isotopes, heavy metals and contaminants).</p> <p>Observatoire PELAGIS/ULR, Universite de La Rochelle, La Rochelle PELAGIS/ULR /ULR willy.dabin@univ-lr.fr</p>
Methodology used (reference, e.g. publication, protocol)
Standardized protocol derived from ECS necropsy workshop 2005 (Jauniaux, T. Beans, C; and Dabin W. 2005. Stranding, Necropsy and sampling: Collection data, sampling level end techniques)
Collection of samples (type, preservation method)
<p>Biodemographics samples : gonads (formalin) and teeth (frozen)</p> <p>Diet and feeding ecology: stomach contains (frozen) and blubber fatty acids and stable isotope (frozen)</p> <p>Genetics: skin and kidney (frozen and alcohol)</p> <p>Toxicologic: heavy metal and POP's analysis on muscle, liver and kidney (frozen with specific packaging)</p> <p>Parasitology (alcohol)</p> <p>Histopathology (formalin)</p> <p>Bacteriology and virology (frozen)</p>
Database (Number of data sets by species, years covered, software used, online access)
National stranding data base (1972-2012) contains 14950 records of cetacean strandings in the ASCOBANS area.
Additional Information (e.g. website addresses, intellectual property rights, possibility of a central database)
<a href="http://cmm.univ-lr.fr/">http://cmm.univ-lr.fr/</a> with interactive stranding maps
GERMANY



Contact details of research institutions / focal point
<p>› Schleswig-Holstein (SH): Terrestrial and Aquatic Wildlife Research (ITAW) of University of Veterinary Medicine Hannover (TiHo), Foundation, Werftstr. 6, D-25761 Büsum</p> <p>› Mecklenburg – West Pomerania (MV): German Oceanographic Museum, Katharinenberg 14-20, D-18439 Stralsund</p> <p>› Lower Saxony (LS): National Park Authority, LAVES-Institute for Fish &amp; Fishery Products Cuxhaven (only district of Cuxhaven)</p>
Methodology used (reference, e.g. publication, protocol)
<p>› 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.</p> <p>› MV: Basic biological and anatomical data were collected and registered. Necropsy is performed occasionally.</p> <p>› LS: No necropsies were performed due to the advanced decomposition of the carcasses</p>
Collection of samples (type, preservation method)
<p>› SH: Pathological samples were partly taken on porpoises from the Baltic Sea.</p> <p>› MV: Pathological samples will be collected and examined during necropsy if required.</p> <p>› LS: No samples could be taken from carcasses in 2012 due to decomposition.</p>
Database (Number of data sets by species, years covered, software used, online access)
<p>› SH: MySQL, Postgresql, Access, Excel</p> <p>2012: 187 <i>Phocoena phocoena</i></p> <p>1 <i>Balaenoptera acutorostrata</i></p> <p>Between 1990 and 2012 the following number of data sets has been collected per species (data recorded until 15.01.13):</p> <p><i>Phocoena phocoena</i>: 3169</p> <p><i>Delphinus delphis</i>: 7</p> <p><i>Lagenorhynchus albirostris</i>: 26</p> <p><i>Lagenorhynchus acutus</i>: 2</p> <p><i>Stenella caeruleoalba</i>: 1</p> <p><i>Delphinapterus leucas</i>: 1</p> <p><i>Delphinapterus ampullatus</i>: 1</p> <p><i>Physeter macrocephalus</i>: 7</p> <p><i>Balaenoptera acutorostrata</i>: 7</p> <p><i>Balaenoptera physalus</i>: 6</p> <p><i>Globicephala melaena</i>: 3</p> <p><i>Tursiops truncatus</i>: 1</p> <p><i>Mesoplodon bidens</i>: 1</p> <p>› MV: Data were collected and registered in Access database and Excel.</p> <p>2012: 21 dead harbour porpoises.</p> <p>1990 till 2012: 489 dead harbour porpoises</p> <p>› LS: Data were collected and registered</p>



2012: 83 dead harbour porpoises
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: <a href="http://www.meeresmuseum.de/wissenschaft/schweinswale/totfunde">http://www.meeresmuseum.de/wissenschaft/schweinswale/totfunde</a> and <a href="http://www.meeresmuseum.de/sichtungen">http://www.meeresmuseum.de/sichtungen</a> )
LITHUANIA
Contact details of research institutions / focal point
None
Methodology used (reference, e.g. publication, protocol)
None
Collection of samples (type, preservation method)
None
Database (Number of data sets by species, years covered, software used, online access)
None
Additional Information (e.g. website addresses, intellectual property rights, possibility of a central database)
None
NETHERLANDS
Contact details of research institutions / focal point
Department of Pathobiology, Faculty of Veterinary Medicine, Utrecht University, Yalelaan 1, 3584 CL Utrecht, 030 253 3591
Methodology used (reference, e.g. publication, protocol)
› T. Kuiken, M. Garcia Hartmann M Proceedings of the first ECS workshop on cetacean pathology; dissection techniques and tissue sampling. ECS Newsletter 17, (1991) Special Issue. › T. Kuiken, Diagnosis of By-Catch in Cetaceans, Proceedings of the 2nd BCS Workshop on Cetacean Pathology, Montpellier, France 1994. European Cetacean Society Newsletter, 26:38-43 and protocols provided by Jauniaux and Siebert
Collection of samples (type, preservation method)
Depending on conservation state: 1. A variety of specific organs/tissues or tissues with pathologic changes. Depending on the type of research formalin-fixed, paraffin-embedded, or frozen to -20oC (-80oC for virology

research) 2. Gastric contents (frozen to -20oC handed to IMARES) 3. Liver, fat and muscle (frozen to -20oC handed to IMARES) 4. Skin (ethanol) 5. Teeth (water or frozen to -20oC handed to IMARES) 6. Parasites (70% alcohol) 7. Swabs from the genital openings
Database (Number of data sets by species, years covered, software used, online access)
Excel, Access
Additional Information (e.g. website addresses, intellectual property rights, possibility of a central database)
All strandings are collated in a database and shown on the website of Naturalis ( <a href="http://www.walvisstrandingen.nl">www.walvisstrandingen.nl</a> ). In 2012, 720 harbour porpoises, 2 fin whales, 2 humpback whales (1 stranding, 1 vertebra), 1 sperm whale, 1 common bottlenose dolphin (lower jawbone), 1 white-beaked dolphin were registered. Not yet determined were 2 findings of a lower jaw. In both cases this was possibly from a common bottlenose dolphin, but could also be from a white-beaked dolphin.
POLAND
Contact details of research institutions / focal point
Hel Marine Station, Institute of Oceanography, University of Gdańsk Iwona Pawliczka, iwona.pvp@ug.edu.pl
Methodology used (reference, e.g. publication, protocol)
Post-mortem analyses are being conducted according to procedures described in: Kuiken, T. and Hartmann, M.G. (1993). Dissection techniques and tissue sampling. Proceedings of the ECS Workshop, Leiden.
Collection of samples (type, preservation method)
<p>› The Hel Marine Station, Institute of Oceanography, University of Gdańsk collects, as part of its statutory activity, data on dead porpoises and dolphins from either bycatch or stranded onshore. The dead specimens, upon their arrival at the Station, are being subject to analyses within the scope limited by the status of the remains. The standard scope of sampling covers:</p> <ul style="list-style-type: none"> <li>-Species determination;</li> <li>-Localization of deadly event;</li> <li>-Establishing factual and supposed cause of death;</li> <li>- Ascertaining of the body length and mass;</li> <li>-Sex ascertaining;</li> <li>-Fat tissue sampling for genetic examination;</li> <li>-Teeth sampling for age determination;</li> <li>-A full post-mortem analysis and storage of biological samples according to Kuiken &amp;Hartmann, 1993.</li> </ul>
Database (Number of data sets by species, years covered, software used, online access)
Data have been entered into the standard Access database since 1988. There is no on-line

access to this base.
Additional Information (e.g. website addresses, intellectual property rights, possibility of a central database)
<p>An electronic atlas of mammals distribution in Poland is being prepared under the title "Atlas of Mammals in Poland" (Polish: Atlas ssakow Polski) (prepared by Institute of Nature Conservation of the Polish Academy of Sciences)</p> <p>Link: <a href="http://www.iop.krakow.pl/ssaki/Katalog.aspx">http://www.iop.krakow.pl/ssaki/Katalog.aspx</a></p> <p>The atlas will include also data on cetaceans distribution. (the data are introduced by SMIOUG based on its database). An example concerning the porpoise: link: <a href="http://www.iop.krakow.pl/ssaki/Gatunek.aspx?spID=183">http://www.iop.krakow.pl/ssaki/Gatunek.aspx?spID=183</a></p>
SWEDEN
Contact details of research institutions / focal point
Anna Roos, Department of Contaminant research, Swedish Museum of Natural History, PO Box 50007, SE- 104 05 Stockholm. <a href="mailto:anna.roos@nrm.se">anna.roos@nrm.se</a>
Methodology used (reference, e.g. publication, protocol)
Using a common protocol made for cetaceans.
Collection of samples (type, preservation method)
<p>The Baltic Sea, up to Skanor/Maklappen: Basically samples from all carcasses were collected, and if the carcass was not too rotten SMNH made a full autopsy. Skin, blubber, muscular tissue, kidney, liver, brain, lung, spleen, stomach, intestines teeth etc. are taken and stored deep frozen in SMNH's Environmental Specimen Bank (ESB).</p> <p>Porpoises found in 2011 have autopsied by pathologists at The National Veterinary Institute (SVA) together with personnel from SMNH. All of the carcasses were from the Baltic Sea (including the Kattegat). In addition, eleven stranded porpoises were sampled by GNM. Samples (dorsal fin, blubber, lower jaw) were sent to ESB. Seven of the specimen originated from the Baltic Sea.</p> <p>No report have been delivered by SMNH in 2012.</p>
Database (Number of data sets by species, years covered, software used, online access)
<p>The SMNH has a database of porpoise samples from 1972 until today, and consist of more than 700 specimens.</p> <p>Software: MySQL. No online access yet.</p> <p>Data include: species, location, cause of death, blubber thickness (several places), length, weight, weight of several organs etc.</p> <p>The SMNH also has a database on reported live (and dead) animals, all published on line at <a href="http://www.nrm.se/tumlare">www.nrm.se/tumlare</a>.</p>
Additional Information (e.g. website addresses, intellectual property rights, possibility of a central database)
The SMNH host a web page where the public can report sightings of live porpoises: <a href="http://www.nrm.se/tumlare">www.nrm.se/tumlare</a> .
UNITED KINGDOM

Contact details of research institutions / focal point
<p>› UK Cetacean Strandings Investigation Programme (CSIP). Contact point- Rob Deaville, Institute of Zoology, Regents Park, London, NW1 4RY, ENGLAND. <a href="mailto:rob.deaville@ioz.ac.uk">rob.deaville@ioz.ac.uk</a> <a href="http://www.ukstrandings.org">www.ukstrandings.org</a></p> <p>› Natural Resources Wales - Dr Thomas Stringell, Senior Marine Mammal Ecologist <a href="mailto:tom.stringell@naturalresourceswales.gov.uk">tom.stringell@naturalresourceswales.gov.uk</a></p>
Methodology used (reference, e.g. publication, protocol)
<p>Methodology in Deaville and Jepson et al (2011) followed; Deaville and Jepson (compilers) (2011) CSIP Final Report for the period 1st January 2005-31st December 2010. Pp 1-98 <a href="http://randd.defra.gov.uk/Document.aspx?Document=FinalCSIPReport2005-2010_finalversion061211released[1].pdf">http://randd.defra.gov.uk/Document.aspx?Document=FinalCSIPReport2005-2010_finalversion061211released[1].pdf</a></p>
Collection of samples (type, preservation method)
<p>A range of samples are routinely collected according to the method of Deaville and Jepson et al (2011). A variety of tissues are routinely sampled for any bacteriological, virological and/or histopathological investigations when deemed appropriate. Any non-routine samples are also collected as necessary. A number of preservation methods are employed;</p> <ul style="list-style-type: none"> <li>• stored frozen at -20oC or -80oC;</li> <li>• stored in 70% ethanol (parasites);</li> <li>• or in 10% buffered formalin (fixed samples)</li> </ul> <p>In addition to the strandings co-coordinators funded by Defra, the Welsh Assembly Government continues its funding of the Welsh Strandings Co-ordinator in conjunction with NRW. The cetacean most commonly found stranded on the Welsh coast is the harbour porpoise and the most common cause of death for this species is from attack by bottlenose dolphins.</p>
Database (Number of data sets by species, years covered, software used, online access)
<p>The CSIP holds data on nearly 11000 cetaceans which were reported stranded around the UK between 1990 and 2012. In addition, detailed pathological data is also held on over 3200 UK stranded cetaceans which were necropsied by the CSIP during the same period. Data collected on strandings and during necropsies are routinely recorded in a web-accessed relational database (<a href="http://data.ukstrandings.org">http://data.ukstrandings.org</a>). A proportion of data held on this system is also made available to the public via a Defra funded portal, the NBN gateway (<a href="http://www.nbn.org.uk/">www.nbn.org.uk/</a>).</p>
Additional Information (e.g. website addresses, intellectual property rights, possibility of a central database)
<p>Further information on the CSIP is available at <a href="http://www.ukstrandings.org">www.ukstrandings.org</a>. Intellectual property rights to the data directly generated as a result of CSIP research belong to Defra.</p> <p>At the ASCOBANS AC meeting in Bonn in 2010, the ASCOBANS Secretariat agreed to fund IoZ to co-ordinate a feasibility study into the creation of a centralised point of access for selected data collected by stranding networks within the ASCOBANS region (Project ref: SSFA/ASCOBANS/2010/2). The project report on this feasibility study has been recently submitted to the Secretariat and it is hoped that this will be the first step towards the eventual creation of a central database on strandings and necropsies, encompassing ASCOBANS Parties and Range states.</p>

### 5.1 Number of Necropsies Carried out in Reporting Period:

Species	Recorded cause of death
BELGIUM	
50+ Phocoena phocoena	The total number of washed ashore (dead) harbour porpoises in 2012 was 97. Detailed data are not available yet, but at least 15 harbour porpoises had died due to bycatch in fishing gear. A large proportion of the stranded animals was in a condition not allowing to draw conclusions about the cause of death. Recreational set net fisheries on the beach were the source of part of the bycatch.
1 Physeter macrocephalus	Stranding
DENMARK	
4 Phocoena phocoena	1 bycaught, 3 not yet determined
2 Lagenorhynchus albirostris	Not yet determined
FINLAND	
	None
FRANCE	
10 Phocoena phocoena	
15 Tursiops truncatus	
76 Delphinus delphis	
15 Stenella coeruleoalba	
3 Globicephala melas	
2 Globicephala macrorhynchus	
2 Balaenoptera physalus	
1 Physeter macrocephalus	
1 Kogia breviceps	
1 ziphius cavirostris	
1 Megaptera novaengliae	
GERMANY	
MV:11 / SH:48 / NI: 4 Phocoena phocoena	MV: 2 bycatch

1 Balaenoptera acutorostrata	
LITHUANIA	
None	
NETHERLANDS	
149 Phocoena phocoena	Bycatch, infectious disease (21%), emaciation (19%), starvation (5%), other (5%), trauma (7%) and unknown (13%). The research is on-going, so these numbers are preliminary. (During the research time period two peaks could be seen. In February the main cause of death was by-catch and trauma. In the summer months the main cause of death was emaciation and starvation)
POLAND	
None	
SWEDEN	
9 Phocoena phocoena	at least one of them bycaught
UNITED KINGDOM	
Attached: UK Cetacean Necropsies 2012.doc - UK Cetacean Necropsies 2012	

## 5.2 Other relevant information on post-mortem / strandings schemes

### BELGIUM

None

### DENMARK

None

### FINLAND

None

### FRANCE

Recent developments were aimed at improving the monitoring value of stranding data by constructing a framework for the interpretation of stranding data sets (Peltier et al. 2012 Ecological Indicators; PELAGIS/ULR) and proposing several spatial indicators. By using the drift model MOTHY (Modele Oceanique de Transport d'HYdrocarbures) initially developed by MeteoFrance it was possible to model the drift of cetacean carcasses. Model runs were conducted every 10 days over the period 1990-2009 resulting in maps of stranding probability averaged by months, seasons or the whole year; in addition, prediction of stranding under the null hypothesis were produced (here, H0 means that cetaceans and mortality are uniformly distributed in space and time). Finally, real stranding data sets of harbor porpoise and common dolphin gathered from stranding schemes of Belgium, France, the Netherlands, Germany, Denmark and the United-Kingdom were used to back calculate their origin with MOTHY. Comparisons between the null hypothesis and stranding

<p>observation reveal anomalies that are the difference between expected and observed stranding data sets (Peltier et al., 2013, PlosONE, PELAGIS/ULR). Recent work aimed predicting the origin of common dolphin observed strandings along British and French coasts and correcting them by maps of stranding probability, in order to construct distribution of dead dolphins inferred from strandings. These maps represented the number of dead dolphins at sea, irrespective of drift conditions and according to changes in abundance and/or mortality rate (Peltier et al., in review, Ecological Indicators, PELAGIS/ULR). Current work funded by Fond de Dotation pour la Biodiversité aims improving these indicators for highlighting interactions between small cetaceans and fisheries. Expected results will map mortality origin of small cetaceans with bycatch evidences and will provide estimations of bycaught animals irrespective of drift conditions.</p>
GERMANY
None
LITHUANIA
None
NETHERLANDS
<p>› Between December 2011 and November 2012, 149 harbour porpoises were necropsied at the Department of Pathobiology of the University of Utrecht. Of these animals, the percentage of bycatch was between 2 and 9%. For the whole period of the study (2009-2012) the bycatch percentage is between 10 and 28%. Other causes of death included: trauma (33%), infectious disease (15%), emaciation (13%), starvation (7%), other (2%) and unknown (13%).</p> <p>During the research period 2 peaks could be seen. In wintertime, the main cause of death was bycatch and trauma. In March, there were a surprising high number of strandings with the main cause trauma. Due to this, the pattern of the damage was being recorded from then onwards. Causes for the trauma could include attacks from grey seals, propellers or humans cutting the animals.</p> <p>› Begeman L. Grone A. en Hiemstra S. 2012. Postmortaal onderzoek van Bruinvissen uit Nederlandse wateren van 2009 tot 2012. Rapport 2012, Departement Pathobiologie, Faculteit Diergeneeskunde, Universiteit Utrecht.</p>
POLAND
<p>In 2012, under the Project on "Support for Restoration and Protection of Baltic Mammals" the WWF Poland and the Marine Station IOUG have been patrolling the whole Polish Baltic coast on a temporary basis and gathering the reports. The information on one case of porpoises found onshore has been acquired.</p> <p>Date :09. 09. 2012.</p> <p>Length: Undefined,</p> <p>Sex: Undefined,</p> <p>Place of finding: Beach between Dąbki and Dąbkowice (kw.26 ICES) ,</p> <p>Sample depositing: Hel Marine Station of the Institute of Oceanography of the University of Gdańsk.</p>
SWEDEN
None
UNITED KINGDOM
Further information can be found on the CSIP website: <a href="http://www.ukstrandings.org">www.ukstrandings.org</a>



## D. LEGISLATION

### 6.1 Relevant New Legislation, Regulations and Guidelines

<b>BELGIUM</b>
<p>Implementation of the 2012 obligations under the Marine Strategy Framework Directive (including sections on marine mammals; initial assessment, identification of good environmental status and setting of objectives):</p> <p>Belgische Staat, 2012. Initiele Beoordeling voor de Belgische mariene wateren. Kaderrichtlijn Mariene Strategie – Art 8 lid 1a &amp; 1b. BMM, Federale Overheidsdienst Volksgezondheid, Veiligheid van de Voedselketen en Leefmilieu, Brussel, België, 81 pp.</p> <p>Belgische Staat, 2012. Omschrijving van Goede Milieutoestand en vaststelling van Milieudoelen voor de Belgische mariene wateren. Kaderrichtlijn Mariene Strategie – Art 9 &amp; 10. BMM, Federale Overheidsdienst Volksgezondheid, Veiligheid van de Voedselketen en Leefmilieu, Brussel, België, 34 pp.</p>
<b>DENMARK</b>
<p>The Danish Nature Agency has drafted a new Action plan for stranded cetaceans in Denmark in 2012.</p>
<b>FINLAND</b>
None
<b>FRANCE</b>
<p>A new legislation on marine mammals was released in July 2011 clarifying the disturbance and the harassment. There is also an article on the necessity to declare any by-catch to help the research. There are also provisions for the protection of the habitat of the species.</p>
<b>GERMANY</b>
None
<b>LITHUANIA</b>
<p>The Management plan and the Action plan for harbor porpoise in Lithuanian Baltic Sea area were prepared and adopted by order of Minister of Environment on 29 February 2012. The implementation of the plans started at the beginning of 2013 and will continue until the end of 2014. The main aim of the plans is to improve a state of harbor porpoise in Lithuanian Baltic Sea area by implementation of information actions, e.g. installation of information boards in the coastal area, publishing booklets and creation of a video film about the species, inquiry of fishermen about bycatch, arrangement of lectures for fishermen.</p>
<b>NETHERLANDS</b>
<p>› The Dutch Ministry of Economics, Agriculture and Innovation (EL&amp;I) commissioned the writing of a “Harbour porpoise species conservation plan: towards a favourable conservation status” (Camphuysen &amp; Siemensma 2011). The aim of this conservation plan is to improve or at least maintain the current conservation status of Harbour Porpoises in North Sea waters under Dutch jurisdiction. In 2012 a number of activities were conducted to implement this plan. First of all a national scientific research group was established to deal with aspects such as research needs, research quality and evaluation of the quality and conclusions of reports. In December 2012 a project to investigated bycatch in Dutch setnet fishery was started (see section 1).</p>

› Concerning the Marine Strategy Framework Directive (MSFD), in the Initial Assessment report the currently available information is described on the abundance, distribution and habitat use of harbour porpoises on the Dutch Continental Shelf. In the report on the description of a Good Environmental Status, the present state at species level is described for e.g. harbour porpoises, leading to a definition for Good Environmental Status for Biodiversity. In the Targets & Indicators report the number of harbour porpoises is proposed as one of the indicators for GES 1 Biodiversity - 1.2 Population size. Also the OSPAR EcoQO on by-catch levels is proposed as one of the indicators for GES 4 Food webs - 4.3.1 Abundance trends of functionally important selected groups/species. In the Dutch Marine Strategy a final selection of the proposed targets & indicators has been made. Sea mammals are mentioned under Descriptors 1 (Biodiversity) and 4 (Foodweb). For both descriptors there are no indicators yet for sea mammals. Indicators for harbor porpoises will be developed using the “Harbour porpoise species conservation plan: towards a favourable conservation status” (Camphuysen & Siemensma 2011). For species that are protected under the Habitats Directive, national objectives will be the same as under the Habitats Directive.

#### › References

Boon AR, Prins TC, Slijkerman DME, Schipper CA (2011) Environmental targets and associated indicators. Implementation of the Marine Strategy Framework Directive for the Dutch part of the North Sea: background document 3. Deltares rapport, IMARES rapport C128/11.

Camphuysen CJ & ML Siemensma (2011) Conservation plan for the Harbour Porpoise *Phocoena phocoena* in The Netherlands: towards a favourable conservation status. NIOZ Report 2011-07, Royal Netherlands Institute for Sea Research, Texel.

Prins TC, Slijkerman DME, de Mesel I, Schipper CA, van den Heuvel-Greve MJ (2011) Initial Assessment. Implementation of the Marine Strategy Framework Directive for the Dutch part of the North Sea. Background document 1 (of 3). Deltares-IMARES report.

Prins TC, Slijkerman DME, Schipper CA, van den Heuvel-Greve MJ (2011) Determination of Good Environmental Status. Implementation of the Marine Strategy Framework Directive for the Dutch part of the North Sea. Background document 2 (of 3). Deltares-IMARES report.

Ministerie van Infrastructuur en Milieu ism Ministerie van Economische Zaken, Landbouw en Innovatie (2012) Mariene strategie voor het Nederlandse deel van de Noordzee 2012-2020 Deel 1

#### POLAND

WWF Poland under the project “Support for Restoration and Protection of Baltic Mammals” has conducted research on relevant up-date and development of porpoise and grey seal protection plans. Given the significant difference in the opinions of the fishing and environmental protection sectors the company Mediatorzy.pl has been chosen to chair the meetings as it is not related to any of the abovementioned groups. An unofficial but efficient platform for dialogue between representatives of the local authorities, fishermen, scientists, environmental NGOs and representatives of the central government has been established under the project. The project result in a form of draft protection plans will form grounds for the General Directorate for Environmental Protection to consult and adopt the porpoise and grey seal protection plans.

#### SWEDEN

During 2010 SEPA started developing national guidelines for underwater noise and marine

mammals. This responsibility for the guidelines has now shifted to the SwAM. A background report that SEPA commissioned by AquaBiota Water Research which has been received by the SwAM. The guidelines do not cover noise from vessels, but will be useful during constructions of windparks, pipelines, blastings, etc. SwAM has not approved the report in 2012.

#### UNITED KINGDOM

The Marine Management Organisation (MMO) uses an intelligence led risk based enforcement model to direct enforcement activities and resources. Any intelligence received by the MMO in relation to offences against cetaceans or anthropogenic impacts in MPAs designated for them is considered and appropriate enforcement action taken.

In June 2013 the MMO circulated guidance to industry on the European Council Regulation EC 812/2004 (laying down measures concerning incidental catches of cetaceans in fisheries and amending Regulation (EC) No 88/98) See:

[http://www.marinemanagement.org.uk/fisheries/monitoring/regulations\\_cetaceans.htm](http://www.marinemanagement.org.uk/fisheries/monitoring/regulations_cetaceans.htm)

<http://www.marinemanagement.org.uk/fisheries/monitoring/documents/cetaceansinfopack.pdf>

## E. INFORMATION AND EDUCATION

### 7.1 Public Awareness and Education

#### BELGIUM

Exhibition on whales and dolphins

The exhibit Quand les baleines se trompent de route ran from February 2012 to February 2013 at the Aquarium-Museum of the University of Liege and drew 89.000 visitors.

› General brochures on marine environmental protection:

DG Leefmilieu, 2012. Belgische Noordzee - Levend water! Biodiversiteit en Natura 2000 in het Belgische deel van de Noordzee. Federale Overheidsdienst Volksgezondheid, Veiligheid van de Voedselketen en Leefmilieu, Brussel, Belgie, 40 pp.

DG Leefmilieu, 2012. Een mariene strategie voor de Noordzee. Federale Overheidsdienst Volksgezondheid, Veiligheid van de Voedselketen en Leefmilieu, Brussel, Belgie, 32 pp.

These brochures exist in Dutch and French and can be downloaded from the website

[www.de-noordzee.be](http://www.de-noordzee.be).

› Web based initiatives

Two initiatives towards the public to record, report and distribute marine mammal sightings continue:

[www.waarnemingen.be](http://www.waarnemingen.be) is an initiative of Natuurpunt Studie vzw and Stichting Natuurinformatie that collects from volunteers records of observations of species of different taxonomic groups, including cetaceans.

[www.zeezoogdieren.org](http://www.zeezoogdieren.org) is an ongoing initiative by Frank Wagemans (Natuurpunt vzw) and Jaap van der Hiele (EHBZ Zuidwest) that gives ad hoc information of noteworthy facts of marine mammals from Dutch and Belgian waters.

Besides that, MUMM manages an online database on strandings and selected sighting records: <a href="http://www.mumm.ac.be">www.mumm.ac.be</a> .
<b>DENMARK</b>
<p>› Fjord&amp;Balt in Kerteminde, Denmark, houses four harbour porpoise (3 live-caught and 1 born in the facility) for research and public display. The center is visited by more than 55,000 guests every year, including more than 7,000 school children. A long range of Danish and international media teams (TV, radio, newspapers, home pages) visit the center every year and usually focus their outreach on harbour porpoise research and conservation. Fjord&amp;Balt is hosting the yearly meeting about harbour porpoise conservation by the Danish Nature Agency. The meeting includes government representatives, scientists, legislators, and NGOs and creates local media interest.</p> <p>› In 2012 the center opened a new big exhibition with the theme Oceans of sound. An essential part of these exhibitions are the harbour porpoises behaviour and senses. There is special focus on research and conservation efforts of harbour porpoises during a number of arrangements in Kerteminde, such as the Day of the Baltic Porpoise, two yearly science festivals, and 'special events', scheduled by Fjord&amp;Balt with regular intervals. The outreach for the public is based on the four harbour porpoises at the center. In 2012 actors at Fjord&amp;Balt performed a theatre for young children about harbour porpoise conservation in particular and marine protection in general.</p>
<b>FINLAND</b>
<p>› Finland has continued the harbour porpoise sighting campaign and received information of two possible sightings of 1-3 animals in year 2012.</p> <p>› The Ministry of the Environment and the Ministry of Agriculture and Forestry have established a common practice of recommending fishermen to avoid fishing with nets in coastal areas where harbour porpoises have been sighted.</p>
<b>FRANCE</b>
<p>Public conferences (Oceanopolis-Brest and PELAGIS/ULR)  National stranding network: training for volunteers and national meeting (PELAGIS/ULR)  Observer training in the frame of fishing observation scheme, council regulation 812/04 (PELAGIS/ULR)  Regional stranding network: training for volunteers and annual meeting (LEMM/Oceanopolis)  Educational workshops on cetaceans implemented for schools by the Education Department/ Oceanopolis)  Movie on cetaceans and ferries survey produced by Brittany Ferries and Oceanopolis broadcasted onboard the ferries+ conference on board  New exhibition on cetaceans: National Museum Paris, partnership Oceanopolis. An itinerant version circulates in Europe.</p>
<b>GERMANY</b>
<p>› 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</p>

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 Embassy 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](http://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, NPLS] See: [http://www.nationalpark-wattenmeer.de/nds/service/publikationen/1689\\_themenfaltblattschweinswale](http://www.nationalpark-wattenmeer.de/nds/service/publikationen/1689_themenfaltblattschweinswale)

## LITHUANIA

The International Harbor Porpoise Day was celebrated for the 10th time at the Lithuanian Sea Museum. This year an interactive lecture about harbour porpoise's biology and ecology was given by specialist of the museum and workshop on making the comics “Save the harbour porpoise in the Baltic Sea” was organized for students of Vilnius Academy of Arts and Klaipėdos Vydūno high school. About 15,000 people visited exhibition of painted comics while it was open from May 17 - June 8, 2012.

## NETHERLANDS

› Vereniging Kust & Zee, the Dutch section of the Coastal & Marine Union (EUCC) annually publishes the printed “Kust en Zeegids”. Furthermore the EUCC regularly distributes digital newsletters with relevant information on their projects. It also communicates news through its website [www.kustenzee.nl](http://www.kustenzee.nl) and [www.eucc.nl](http://www.eucc.nl). The EUCC has an exhibition centre on the



Pier of Scheveningen, The Hague (Kust&Zee x- Pierience) which officially opened in March 2011.

› IVN Consulentschap Zeeland, the National Park Oosterschelde in collaboration with Rugvin Foundation and Marine Science & Communication initiated a project on the Harbour Porpoise in the Oosterschelde Estuary. The project “Welcome Porpoise” will continue in 2013 and aims to make visitors of the National Park aware of porpoises in the Oosterschelde (<http://www.np-oosterschelde.nl/>). In September 2012 a brochure as one of the project results has been presented to visitor of the National Park Oosterschelde. Focus of this brochure is to learn visitors where to observe Harbour Porpoises, from either boat or land and how to recognise this small whale. Further more the brochure informs about the Harbour Porpoise in general.

› In 2011, the North Sea Foundation, a Dutch NGO, has initiated two projects to raise awareness on marine litter, MyBeach and Coastwatch. MyBeach is a special area at the beach, next to a beach pavilion, where visitors keep the beach clean. You can recognize this area by information boards, bins and beach flags. Beach cleanups and litter counts are organized here, with use of the ‘Strandscanner’, a special app for the smartphone to count specific litter items. The application also includes an option to record stranded cetaceans, such as harbour porpoises. The number of participating “MyBeaches” increased from 2 in 2011, 6 in 2012 and 24 in 2013. Coastwatch is an education project for high school students, with lectures in the class and on the beach.

## POLAND

› The General Directorate for Environmental Protection under the project “Poland for the Baltic Sea” has organised a series of meetings concerning the Baltic Sea eutrophication, National Programme for municipal wastewater treatment, actions taken as regards weapons dumped in the Baltic Sea and responsible fishing – including on protected species in the Baltic Sea, with special emphasis on protected fish and porpoise species.

› In 2012, the SMIOUG undertook actions aimed at active participation of different social groups in the establishment of protection plans for porpoises and strengthening the social acceptance for these forms of protection and research. This manifested itself e.g. in the organisation of: International Day of the Baltic Sea Harbour Porpoise [<http://www.hel.ug.edu.pl/aktu/2012/mdbm2012.htm>], actions under the Maritime education programme implementation [<http://www.programedukacjimorskiej.pl/pem-subp-ecology-article3.php>] and other different public events, e.g.

- under the Baltic Science Festival [http://www.hel.ug.edu.pl/aktu/2012/BFN\\_2012.html](http://www.hel.ug.edu.pl/aktu/2012/BFN_2012.html);
- street poster campaign under the slogan “Can humans and marine mammals coexist?”;
- Internet campaign for reduction of underwater noise;
- poster campaign for schools targeted at conservation of fish habitats as a condition for the existence of food stocks for predators and consumer needs of people;
- organisation of an exhibition on the SAMBAH project;
- media and event coverage of the Baltic Sea voyage of a German sailboat FRITSJEN promoting the protection of the Baltic Sea Harbour Porpoise and the SAMBAH project;
- production of a new version of the popular science film entitled “Baltic Sea Harbour Porpoises” (Polish: Bałtyckie morświny) and broadcasting it five times in the regional public television (TVP3 - Gdańsk).

› In 2012, SMIOUG along with FRUG and sponsors (e.g. Lotos Group) prepared and disseminated a special calendar on the occasion of the ASCOBANS 20th anniversary, which promotes the Agreement and porpoise protection. SMIOUG continues the works on the construction of a museum named “Porpoise house” on the Hel Peninsula, which will be dedicated to the dissemination of knowledge on the biological and environmental problems of life and protection of the Baltic Sea Harbour Porpoise.

- › SMIOUG also continues to run the website on porpoise: [www.morswin.pl](http://www.morswin.pl)
- › WWF – Poland has organised a cruise on s/y Pogoria for 50 people to promote porpoise conservation (Gdynia Kerteminde).
- › Between 28 and 29 August 2012 WWF Poland together with the Maritime University of Szczecin has organised workshops on the risks and protection of small cetaceans, with special emphasis on bycatch. Thirty experts from Europe, Asia, America (and via the internet also from Australia) had a chance to share with each other knowledge and practical experience. The workshops were organised under the auspices of ASCOBANS.

#### SWEDEN

› The International Day of the Baltic Harbour Porpoise was celebrated 2012 through exhibitions and presentations at the Aquaria Museum in Stockholm and at GNM. The event at the Aquaria Museum attracted over 500 visitors and much interest from the media. The Swedish SAMBAH team was present on this occasion and was able to talk to the visitors as well as to the TV and newspaper journalists. There even was a live interview with the SAMBAH project coordinator Mats Amundin broadcasted on national TV and one clip in the regional news the day after. The Gothenburg event was collaboration between GNM and SwAM. A frozen harbour porpoise was demonstrated for the visitors. The animal had stranded on the west coast of Sweden and had been collected in order to determine the cause of death and test for environmental toxins. A harbour porpoise skull was also presented to the visitors, as well as a slide show of harbour porpoises with click sounds. Some short lectures about the species, its conservation status, the threats it faces, current research and conservation measures for harbour porpoises and their habitats were given during the five hour event.

› The Kolmarden Wildlife Park, in the dolphinarium, has a one-day program “Narkontakt Delfin” (Dolphin Close Encounters), available on demand to the pre-booked groups. It offers an in-depth lecture on dolphin biology in general and also gives updated information on the dire situation of the Baltic harbour porpoise. Prior to the public shows at the dolphinarium an introductory movie about the Baltic harbour porpoise and the SAMBAH project has been shown on a big video screen, hence reaching more than 500 000 people. In addition the staff of Kolmarden has given lectures on SAMBAH for special tour groups at the dolphinarium and during conferences.

› There are two different websites and database systems for reporting of harbour porpoises and cetacean in general: one is the web site of SMNH accessible for the public to report live harbour porpoises, the other is the Species Gateway (Artportalen). The report form of SMNH's web site is relatively simple which make it relatively easy for almost anyone to complete a report ([www.nrm.se/tumlare](http://www.nrm.se/tumlare)). Statistics from 2012 have not been compiled but in 2011 at least 177 reports were submitted. Most of the reports came from the Swedish west coast. All reports are quality controlled before being published on the web. The web page also includes photos, and a couple of very interesting films of porpoises playing around a small boat. Data from the SMNH's database have not been submitted to the HELCOM/ASCOBANS Harbour porpoise database and map service. However, SwAM have asked SMNH to complete that. Species Gateway (Artportalen) is an independent site by the Swedish Species Information Centre at the SLU for collecting sightings of species ([www.artportalen.se/default.asp](http://www.artportalen.se/default.asp)). The site is open to anyone who wishes to contribute their data and is more detailed in data, relative to that one of the SMNH. It also demands relatively more of the observer to be complete the report, than in the SMNH's database. Beside the option to report cetaceans in the reporting system for mammals, Amphibians and Reptiles, there are reporting systems for all organism groups. The data can be used by anyone – the general public, scientists, organisations and authorities. All observations are published first and are verified later by authorized persons within the organisations.



Data of the two databases are not directly exchangeable but information to some extent has been transferred to the SMNH. Booth reporting databases has been developed by support from SEPA. However, the authorities should consider which of the organizations that will have national responsibility for receiving reports. Therefore SwAM initiated a meeting regarding this in 2012, which was held in 2013. Both parties agreed to make a joint interface and the data should be stored in a way to make it easier to execute statistical reports from.

› SAMBAH's web site ([www.sambah.org](http://www.sambah.org)) gives general information about the project's objectives, activities, methodologies etc.

#### UNITED KINGDOM

› During the 7th Meeting of Parties of ASCOBANS in Brighton over 22nd-24th October and Whalefest over 25th-28th October ([www.whale-fest.com/](http://www.whale-fest.com/)), the CSIP in conjunction with colleagues from Whale and Dolphin Conservation, ran a Defra/ASCOBANS funded exhibition on cetaceans found in UK waters, at the main Brighton children's library and then subsequently at Whalefest. The exhibition featured skeletal material and other specimens collected by the CSIP, along with banners and artwork co-funded by the CSIP and WDC.

The eleventh annual National Whale & Dolphin Watch week was organised by Sea Watch Foundation between 27 July and 5 August. 107 watches were conducted around the British Isles from Shetland to the Isle of Scilly and Channel Islands. More than 500 persons participated directly in the event with 435 hours of observation effort, resulting in 533 sightings involving ten cetacean species (in descending order of frequency: harbour porpoise, bottlenose dolphin, minke whale, short-beaked common dolphin, Risso's dolphin, white-beaked dolphin, Atlantic white-sided dolphin, killer whale, humpback whale, and long-finned pilot whale). The event received widespread regional and national media coverage. A full report was published (Gibas, 2012).

Sea Watch continued to run a Dolphin Adoption scheme aimed particularly at children, to encourage them to take on individual responsibility for safeguarding photo-identified dolphins and to follow their fortunes.

Other educational and public awareness programmes were undertaken throughout the UK, with displays, lectures and training courses. Sea Watch also participated in the World Whale Conference held in Brighton on 25-26 October, with talks, species ID demonstrations and exhibits.

› Refs: Gibas, D. (2012) National Whale and Dolphin Watch 2012 Report. Sea Watch Foundation, New Quay. 15pp.

Evans, P. /SeaWatch Foundation kindly provided a number of additional references to papers and publications for the preparation of this report, further details of these can be found at: [www.seawatchfoundation.org.uk](http://www.seawatchfoundation.org.uk)

### POSSIBLE DIFFICULTIES ENCOUNTERED IN IMPLEMENTING THE AGREEMENT

#### BELGIUM

The division of competences in Belgium between the federal government (environment) and the Flemish government (fisheries) makes implementation of some aspects of the ACOBANS commitments a challenge.

DENMARK
None
FINLAND
None
FRANCE
None
GERMANY
None
LITHUANIA
The main problem is insufficient data on presence of cetaceans in the marine waters of Lithuania. Common Bottlenose Dolphin ( <i>Tursiops truncatus</i> ) was recorded two times - one dead individual was found in 1998 and two animals were observed in 2007. According to the information of The IUCN Red List of Threatened Species it may be the best way to consider the Common Bottlenose Dolphin as extralimital in all Baltic Sea. The last records of two Harbour Porpoise findings (as bycatch) were in 2001 and 2003. No Harbour Porpoises were detected during the marine mammals inventory in 2007-2009, which was a part of the LIFE project "Marine Protected Areas in the Eastern Baltic Sea". New data from the international project "Static Acoustic Monitoring of the Baltic Sea Harbour Porpoise" (SAMBAH) will be available only in 2014.
NETHERLANDS
None
POLAND
None
SWEDEN
None
UNITED KINGDOM
None

#### OTHER INFORMATION
