

Agenda Item 4.3

Reports

Annual National Reports of ASCOBANS  
Parties

**Information Document 4.3.d**

**Compilation of Annual National  
Reports for 2015**

**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 2015. 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>.

# Compilation of Annual National Reports to ASCOBANS

## 2015



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

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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
<p>Pingers cause temporary habitat displacement in the harbour porpoise <i>Phocoena phocoena</i>. Kyhn, L. A., Jørgensen, P. B., Carstensen, J., Bech, N. I., Tougaard, J., Dabelsteen, T., &amp; Teilmann, J. (2015). <i>Marine Ecology Progress Series</i>, 526, 253-265.</p> <p>Abstract: Several studies have shown that pingers mitigate porpoise bycatch and thus pinger use is now mandatory in some fisheries—although the long-term effects of pinger exposure on porpoises have not been well studied. The effects of 2 types of pingers (Airmar: 10 kHz tone; Save- Wave Black Saver: 30–160 kHz sweep) on the presence of wild harbour porpoises, <i>Phocoena phocoena</i>, were investigated in 2 areas. Pinger spacing within the areas was similar to that used in commercial fisheries. Two scenarios were tested: (1) pingers were periodically activated and deactivated during 6 periods resembling the deployment and recovery of nets in a gillnet fishery, and (2) pingers were active continuously for 28 d. Acoustic dataloggers (T-PODs) were deployed, 4 within the pinger areas and 3 in control areas, and detected porpoise echolocation activity throughout the entire study. During the periodic-exposure scenario, the porpoise detection rate was reduced by 56% when pingers were active. The reduction was larger for the SaveWave pingers (65%) than for the Airmar pingers (40%). There was a tendency for the encounter rate to increase after the first 2–4 periodic exposures, which could indicate gradual habituation. During the continuous-exposure scenario, the detection rate was reduced by 65% throughout the 28 d with no sign of habituation. In the control areas (2.5, 3 and 5 km distant), neither a decrease nor an increase in detection rate was observed, suggesting that porpoises were displaced either 5 km away. If pingers are used as deterrent devices, the impact of habitat exclusion must therefore be considered concurrently with mitigation of bycatch, especially when regulating fisheries in Marine Protected Areas.</p> <p>Management of fisheries in harbour porpoise (<i>Phocoena phocoena</i>) marine protected areas Ph.D thesis. Author: Kindt-Larsen, Lotte.</p> <p>Summary: The harbour porpoise (<i>Phocoena phocoena</i>) is the focus of a range of conservation efforts and policies aiming at reducing bycatch of the species in gillnet fisheries. In European waters, the harbor porpoise is protected within the Habitats Directive (Annexes II and IV), implying that the population has to be maintained at a favourable conservation status and the deliberate actions of killing and disturbance and habitat deterioration shall be prohibited in accordance with the directive’s aims. A spatial network, Natura2000, will further protect all Annex II species. According to Natura2000, Member States are obliged to nominate candidate protected areas in their waters to the EU Commission and within six years establish legislation to implement them as special areas of conservation and prepare management plans. Up to this point in time, however, no such management plans exist. This Ph.D. thesis focuses on research methods and management tools, which can contribute to a better scientific understanding in the preparation of fisheries management plans for</p>

Natura2000 sites designated for harbour porpoises. Firstly, it investigates the potential use of CCTV cameras to document bycatch of marine mammals. Here it is shown that Remote Electronic Monitoring (REM) systems installed on commercial fishing vessels can provide video footage, time and position of all net hauls and record bycatches of marine mammals. Comparisons between the visual analysis of the REM data and fishers logbooks showed that the REM system gave more reliable results since fishers did not, in many instances, observe the bycatch while working on the deck because it dropped out of the net before coming on board. Furthermore, REM provided high percentage coverage at low cost, compared to on-board observers. Secondly, the suitability of using high resolution spatial and temporal data on porpoise density and fishing effort data from the Danish Skagerrak Sea as a method to predict harbour porpoise bycatches was examined. The results showed that a simple relation between the two could predict bycatch and that the final model can thus be used as a tool to identify areas of porpoise bycatch.

#### FINLAND

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

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

1- Dedicated programme (OBSMER): the national dedicated programme to all the observations on board includes the English Channel set net fisheries, which is not asked by the European regulation. This program is implemented by the Ministère de l'Environnement et de la Mer (Direction des Pêches Maritimes et de l'Aquaculture) and IFREMER. All 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 always possible to put observers on boats less than 8m for safety reason.

The last national report is available for 2013. From the database, observations done in year 2015 have recorded 4 common dolphins (areas VII and VIII) and 3 harbour porpoises (area VIII); all are bycaught in set net.

2- In 2014, a synthesis on interactions between cetaceans and set nets in France will be achieved in order to provide some information to stakeholders in preparing the new European regulation. This synthesis uses all the observation data available since 2008: Analysis of the bycatch of marine mammals in set nets fisheries of France (Morizur et al. 2014 - Ifremer report - <http://archimer.ifremer.fr/doc/00209/32016/>).

Abstract: During the years 2008 to 2013 several observations of catches were planned on board of set netters fishing in the bay of Biscay, in the English Channel and in the North sea. All the observations were done on nets without pingers and they were pooled to provide an average bycatch rate of marine mammals by fleet. Estimates of annual bycatch by using the fishing efforts of the year 2012 were provided by fleet.

Harbour porpoise *Phocoena phocoena* was the most common bycatch in set nets. An average annual estimate of 600 harbour porpoises were obtained for the French fleet; other species recorded in set nets were mainly common dolphin *Delphinus delphis*, striped dolphin *Stenella coeruleoalba* and the two species of seals (*Phoca vitulina*, *Halichoerus grypus*); 80 % of the porpoise bycatch occurred in the trammel net fisheries for monkfish and for sole. Gill nets in area VIII were also responsible of 20 % of the bycatch. Most of the porpoise bycatch occurred in the range of 80-110 meters depth. Some fishing métiers in the area concerned with the regulation on pingers as gill nets for spider crab were found with no

bycatch of porpoises. Bycatch occurred on the eastern and western ends of the English Channel but did not occur in the middle of the Channel. Bycatch rates were calculated by fishing operation and the study describes their variability. Incidental porpoise bycatch seems seasonal and the seasons for bycatch are not the same in all the areas. The results are discussed in relation with the existing European regulation 812/2004 in which trammel nets are not mentioned.

(Need to update with PNMI)

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 bycatch of marine mammals (cetaceans and seals) and the depredation in set net fishery in the Iroise sea with also a social approach on these issues. The low result in observed bycatch don't allow, statistically, an extrapolation to estimate the bycatch of the set net fisheries in Iroise Sea. The final report has been published and is available through this link: <http://www.parc-marin-iroise.fr/Actualites/Interaction-peche-et-mammiferes-marins-lerapport-final-INPECMAM-en-ligne>

The perspective is to continue such research on this topics focusing on areas and period of risk.

## GERMANY

### 'Porpoise ALarm' (PAL)

The Thünen Institute for Baltic Sea Fisheries (Rostock) and F<sup>3</sup>: Forschung.Fakten.Fantasie (Kiel), with financial support from the German Federal Ministry of Food and Agriculture (BMEL), continued their project to develop and test a new type of acoustic deterrent device - a 'Porpoise ALarm' (PAL). The pingers that fishermen are currently using are potentially controversial as they are suspected of driving porpoises away from their natural habitats. In contrast, the PAL generates porpoise communication noises, which in theory warn animals in the vicinity about the presence of nets, which in turn may reduce bycatch rates.

To test their practicability and effectiveness, PAL devices were deployed on a small number of German and Danish commercial gillnet vessels while carrying out their normal fishing activities in the Baltic Sea for several months in 2015. For the trials, specifically those fisheries were selected that are active in areas where higher bycatch rates of harbour porpoises could be expected. During these trials, bycatch of six individuals in German waters was observed. Due to the trials setup, the very limited number of observed fishing vessels and the low number of documented bycatch events, it is not possible to further extrapolate the results. First results concerning practicability and effectiveness of PAL are promising, but further development and trials are necessary until the end of the project in May 2017 [TI; F<sup>3</sup>].

### Alternative fishing gear

NABU (Nature and Biodiversity Conservation Union) runs a research project on alternative gear types commissioned by the Federal Agency for Nature Conservation (BfN). The project aims to run test fisheries with automatic longlines and jigging machines and looks into potential tests with baited pots in order to investigate their application and cost-effectiveness in German waters. Project goals are:

- Run test fisheries with different techniques in German Baltic waters
- Support innovative development of different gear types reconstructions in German waters
- Prepare the ground for other techniques than gillnets
- Investigate catch rates and potential bycatch of seabirds and harbour porpoises, but also of undersized fishes
- Investigate cost-effectiveness of selected gear types

• Support sustainable fishery management in MPAs

Since November 2013, different vessels have been equipped with longline systems and jigging machines. The project is accompanied by an intense monitoring and observer programme comparing new techniques with the established gillnet fishery. Test fisheries were conducted until May 2015. The final report will be presented in 2016.

A close cooperation with fishermen and fisheries science (Thünen Institute) as well as international experts from Sweden and Poland has been established [NABU; BfN].

LITHUANIA

There was no investigation of methods to reduce bycatch.

NETHERLANDS

IMARES Wageningen UR and Marine Science and Communication (MS&C) continued a Remote Electronic Monitoring project that started in December 2012 to investigate bycatch of harbour porpoises by Dutch gill net fishery (targeting sole, seabass, cod, turbot and brill). This project includes the monitoring of 10 to 12 vessels. The project is funded by the Dutch Ministry of Economic Affairs. Bycaught porpoises are collected for pathological research at the Department of Pathobiology, Faculty of Veterinary Medicine, of Utrecht University (see 5.1).

POLAND

Implementation of methods to reduce bycatch

The "Fishery and Sea" Operational Programme for the years 2014-2020 includes the necessity of spending resources for alternative fishing gear.

In 2015, MIR-PIB once again carried out the Monitoring Programme for Incidental Catches of Cetaceans (PMPPW) based on the obligations under the Regulation (EC) 812/2004.

The WWF Poland Foundation carried out the "Baltic Smart Gear. Development and testing of bycatch minimizing fishing gear Technologies" project in cooperation with WWF Germany and WWF Denmark. The objective of the project was to gain information about potential technological solutions aimed at limiting the bycatch of seabirds and sea mammals in the gillnets, while the effectiveness of the net is maintained at the current level. The project also included a list of potential sources of financing for the future actions related to the development of new solutions and testing alternative fishing gear. The Smart Gear project was financed by funds from the Seed Money Facility, within the EU Strategy for the Baltic Sea Region. 194 Polish entities fishing for cod using trawl and hook gear received MSC certificates. 4 producer groups led by the Kolobrzeg Group of Fish Producers supported by the Marine Research Institute participated in the certification process. Entities fishing with gillnets, which are most controversial in the context of porpoise bycatch, did not receive the certificate, although the sole receipt of the certificate should be regarded as a major step in the right direction.

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 Department of Aquatic Resources, the Swedish University of Agriculture Science. Since July 2011 this research is conducted by the Department of Aquatic Resources of the Swedish University of Agricultural Sciences (SLU).

The Department of Aquatic Resources, the Swedish University of Agriculture Science has carried out a project to try and find out why cod pots do work and catch cod in certain areas and do not work in other areas.

Parameters as prey in the area, current, state of the fish might impact.

In the Swedish small-scale and coastal fisheries, alternative fishing gear has been, and is still being, developed. The main reason for the development is the seal inflicted damages to fishing gear and catch that threaten an economically viable gillnet fishery. Studies investigating alternative fishing gear such as cod pots and traps for species like pike-perch and herring have been carried out by the Department of Aquatic Resources, the Swedish University of Agriculture Science. Since July 2011 this research is conducted by the Department of Aquatic Resources of the Swedish University of Agricultural Sciences (SLU).

Traps and pots are types of fishing gear where it is possible to protect the catch from seals. In traps and pots, the catch can be gathered in closed compartments which in turn can be designed using a solid construction and a strong material which ensures a seal-safe fishing gear. Despite several years effort there is still some work to do before there is some commercial alternative as pot or traps for many commercial fish species.

However, a pot or trap fishery could also result in a high bycatch of seals or other species such as certain cetaceans or bird species. In order to prevent bycatches, especially of seals that are attracted to the catch inside the pot, pot entrances were equipped with seal exclusion devices (SEDs) of various sizes and shapes. A field study was conducted to investigate what effect different types of SEDs had on the bycatch of seals as well as on the pots' catchability. Results from the trials show that it is possible to decrease bycatches of seals to low levels without reducing fishing efficiency. (Königson et al., 2015). The development of cod pots are also progressing. Königson et al., (2015b) investigates cod pots as an economically viable alternative to gillnets in the southern Baltic Sea. The seal/fisheries conflict is still increasing in the Baltic and spreading further south.

This leads to an increased need to develop alternative fishing gears in areas around the Baltic. Since 2014 Sweden and Denmark have been cooperating in developing cod pots as an alternative to the gillnet cod fisheries in the southern Baltic. Recent years' research in this area has focused on trying to find out what parameters affect the catch for baited fishing gear in different areas. The behaviour of the species targeted in alternative fishing gears is also a major focus area to identify what characteristics in the fishing gear affect the fish behaviour and thereby the efficiency of the gear.

In the Swedish small-scale coastal fisheries, alternative fishing gear has been, and is still being, developed. Studies investigating alternative fishing gear such as cod pots and traps for species like pike-perch and herring have been carried out by the Department of Aquatic Resources, the Swedish University of Agriculture Science. Since July 2011 this research is conducted by the Department of Aquatic Resources of the Swedish University of Agricultural Sciences (SLU).

Traps and pots are types of fishing gear where it is possible to protect the catch from seals. Fisheries in Northern Baltic and Pontoon traps for fishing salmon, white fish, trout and vendace are now used in commercial fisheries.

The main reason for the fishing gear development is the seal inflicted damages to fishing gear and catch which threatens an economically viable gillnet fishery. Traps and pots are types of fishing gear where it is possible to protect the catch from seals. In traps and pots, the catch can be gathered in closed compartments which in turn can be designed using a solid construction and a strong material which ensures a seal-safe fishing gear. However, a pot or trap fishery could also result in a high bycatch of seals or other protected species such as certain cetaceans or bird species. In order to prevent bycatches, especially of seals that are attracted to the catch inside the pot, pot entrances can be equipped with seal exclusion devices (SEDs) without this affecting the pots catch efficiency. The development of cod pots is still in progress. Since 2014 Sweden and Denmark have been cooperating in developing cod pots as an alternative to the gillnet cod fisheries in the southern Baltic. Recent years' research in this area has focused on trying to find out what parameters affect the catch rates

for baited fishing gear in different areas. The behaviour of the species targeted in alternative fishing gears is also a major focus area to identify what characteristics in the fishing gear affect the fish behaviour and thereby the efficiency of the gear.

[Alternative fishing gear short report Sweden 2014](#)

[Article on alternative fishing gear published in 2013. Describes efforts done by SLU.](#)

[Report to the Proceedings of the conference: Progress of marine conservation in Europe. It describes why and how Sweden are developing alternative fishing gear.](#)

## UNITED KINGDOM

The two main species affected by fishing in UK waters are the harbour porpoise and the short-beaked common dolphin. Reports to the European Commission produced under Regulation 812/2004

(<http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2004:150:0012:0031:EN:PDF>)

, and Article 12(4) of the Habitats Directive, provide details of monitoring and estimates of cetacean bycatch in UK waters. The most recent reports on cetacean bycatch in UK waters submitted to the European Commission under the requirements of EC Regulation 812/2004 can be found on the Department for Environment Food and Rural Affairs (Defra) website:

<http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&ProjectID=18535>

A dedicated protected species bycatch monitoring programme is in place and operated by the Sea Mammal Research Unit (SMRU). Fisheries research laboratories operating discard observer programmes in the UK also provide data which are included in our assessment of cetacean bycatch. Whilst the UK observer scheme relies upon good collaborative links with industry, fisheries regulations have been enacted in England and Scotland to ensure that there is also a legal obligation for skippers and owners to allow observers on board when asked to do so. There is also an obligation under the Data Collection Framework (DCF) (in Northern Ireland) for offshore vessels to accommodate scientific observers when requested to do so and an active observer programme is run by Agri-Food and Biosciences Unit (AFBI). Additionally, DARD (Department of Agriculture, Environment and Rural Affairs – Department of Agriculture, Environment and Rural Affairs (DAERA) as of 9<sup>th</sup> May 2016) Inshore Fisheries Work Programme deploys observers to inshore vessels, though there is no legal obligation, and this is undertaken by AFBI through good relations with the industry. This programme aims to maintain at least 42 observer days annually to report cetacean bycatch from the Northern Ireland static gear fishery.

The principle area of concern for cetacean bycatch remains the South-Western waters of the Western English Channel and Celtic Sea. Monitoring remains focused in the SW to reflect bycatch risk, but has also been carried out to a lesser extent in the North Sea and Irish Sea. As more data are collected and compiled, estimates of bycatch rates will improve.

The latest UK cetacean bycatch report for 2015, as required under EU Regulation 812/2004, estimates that for 2015 bycatch rates were in the region of 1200 to 1500 harbour porpoises. This data indicates that harbour porpoise bycatch rates may have increased slightly in recent years, but the reasons for this are not yet understood (please see the UK Report under Regulation 812/2004 for elaboration). It should be noted that unlike in earlier years where bycatch estimates were only included for those fisheries where sufficient sampling had been undertaken (leading to bycatch estimates of around 700-800 harbour porpoises per year), since 2013 estimates have included extrapolations for all UK gillnet fisheries, whether they have been sampled or not, so as to provide an overall maximum estimate for all UK vessels using gillnets. Estimates produced in this way will be higher than those estimates restricted to core fisheries and areas, and are likely to be overestimates and biased for several reasons,

and should therefore be treated with caution. Work is ongoing to try to refine the estimates by overcoming some of the statistical issues that are evident in the current analysis.

Efforts to reduce bycatch

During 2015, monitoring of vessels using acoustic deterrent devices (ADDs), or ‘pingers’ has continued. The bass pair trawl fishery, which in the past has been a source of concern with respect to common dolphin bycatch, was effectively ended in 2014 due to concerns over bass stocks and no further monitoring of pinger effectiveness in that fishery has been possible. Monitoring of pingers has since been restricted to the offshore gillnet fleet operating in ICES Subarea 7 from the South West UK and to the Spanish owned UK registered fleet when they operate in Subareas 4 and 7 where pingers are required. This monitoring is designed to help assess the longer-term effects of pingers on cetacean bycatch rates and other potentially associated effects (such as seal depredation levels) in these fisheries.

**1.2 Implementation of methods to reduce bycatch**

BELGIUM
See section on new legislation (D – 6.1.)
DENMARK
None
FINLAND
None
FRANCE
None
GERMANY
<p>North sea</p> <p>In the whale sanctuary within the National Park Schleswig-Holstein Wadden Sea all kinds of gillnet fishery are prohibited within the 3 nautical mile zone for German fishermen according to the federal state regulation (“Landesverordnung zur Änderung der Landesverordnung über die Ausübung der Fischerei in den Küstengewässern vom 4. Dezember 2013”).</p> <p>Beyond the 3 nautical mile zone gillnet fishery in the whale sanctuary with nets exceeding a specific height and mesh size (nets with a stretched span between bottom-line and float-line higher than 1.30 m and a mesh size above 150 mm) is prohibited [MELUR].</p> <p>Baltic sea</p> <p>Based on the voluntary agreement for the conservation of harbour porpoises and sea ducks in the Baltic Sea (“Freiwillige Vereinbarung zum Schutz von Schweinswalen und tauchenden Meeressäugern”) between Landesfischereiverband, Fischereischutzverband, Ostsee Info-Center (OIC”) the fishermen voluntarily avoid the areas, where sea ducks actually occur in great numbers between November and March. The OIC announces the areas.</p> <p>The fishermen voluntarily reduce gillnets in the month of July and August in order to reduce cetaceans bycatch [MELUR].</p> <p>For info regarding the voluntary agreement see:  <a href="http://www.ostseeinfocenter.de/Freiwillige_Vereinbarung_Fortschreibung_2015.pdf">http://www.ostseeinfocenter.de/Freiwillige_Vereinbarung_Fortschreibung_2015.pdf</a></p>

LITHUANIA
There was no implementation of methods to reduce bycatch.
NETHERLANDS
None
POLAND
None
SWEDEN
<p>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.</p> <p>During 2012, only one fisher, Kattegatt, was required to use pinger according to EC Regulation 812/2004.</p> <p>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 Sölvesborg, Kristianstad, Simrishamn and Ystad. In 2013 this project started collaborating with the Department of Aquatic Resources, the Swedish University of Agriculture Science to get a more scientific approach on the project. Several different models of pots have been tried out and the results are promising.</p> <p>The pots fish around 2 to 7,7kg cod per emptying.</p>
UNITED KINGDOM
<p>The UK continues to fully implement and enforce Council Regulation (EC) 812/2004 through the use of acoustic deterrent devices attached to fishing nets. Implementation of the regulation in the UK has involved close liaison with the industry and on-going monitoring and support to aid compliance. This has been led primarily by the Marine Management Organisation (MMO). Enforcement of the regulation at the quayside in England is carried out by MMO officers, at sea in English and offshore Welsh waters by the Royal Navy dedicated fisheries patrol vessels in conjunction with MMO officers. In Scotland enforcement is undertaken by the Marine Scotland Compliance and Enforcement Unit. Further information can be found at: <a href="http://www.marinemanagement.org.uk/fisheries/monitoring/regulations_cetaceans.htm">http://www.marinemanagement.org.uk/fisheries/monitoring/regulations_cetaceans.htm</a></p> <p>Within the period covered by this report, routine inspections of the UK over 12m gillnetting fleet in Subareas 4 and 7 resulted in one infringement relating to the incorrect use of pingers, which has subsequently been addressed. The MMO is continuing to look into the use of pinger detectors as part of the implementation of regulation 812/2004 but is currently not using them as standard detection equipment.</p>

**1.3 Other relevant information, including bycatch information from opportunistic sources**

<b>BELGIUM</b>
<p>No bycatches were reported, although the results of the investigations on stranded animals could demonstrate that bycatch takes place. The Belgian report on the Regulation 812/2004 (with data of calendar year 2014) is attached to this report (in Dutch).</p> <p>→ The Annex can be accessed as part of the 2015 Annual National Report of Belgium, <a href="#">available here</a>.</p> <p>During 2015, the Research Institute for Agriculture and Fisheries (ILVO) did not record any bycaught cetaceans during observer trips on fishing vessels, nor during fishery independent surveys. For the observer trips, this is probably because the Data Collection monitoring in Belgium is mainly performed on vessels with active gears, in which cetaceans are very rarely caught.</p> <p>With the implementation of the revised Data Collection Framework and the EU Multi Annual Programs, for all fisheries data on incidental by-catch and state upon release (alive/dead) of all birds, mammals and reptiles and fish protected under Union legislation and international agreements, will be part of the monitoring, where possible. The monitoring will cover observer trips and fishery independent surveys.</p>
<b>DENMARK</b>
None
<b>FINLAND</b>
None
<b>FRANCE</b>
<p>Since 2012 January 1st, a French ministerial regulation requires fishermen to report marine mammals bycatch and contributing to scientific knowledge. The initial aims of this regulation don't produce bycatch estimates but should involve fishermen through scientific program on knowledge of the species (composition of bycatches, spatial and temporal distribution,...)</p> <p>Currently no bycatch was directly reported by fishermen in this framework.</p>
<b>GERMANY</b>
No other relevant information for 2015.
<b>LITHUANIA</b>
None
<b>NETHERLANDS</b>
See 5.1
<b>POLAND</b>
None
<b>SWEDEN</b>
None

UNITED KINGDOM
Additional information on potential incidents of bycatch is also provided through necropsies carried out under the UK Cetacean Strandings Investigation Programme (CSIP).

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

BELGIUM
The Annex can be accessed as part of the 2015 Annual National Report of Belgium, <a href="#">available here</a> .
DENMARK
<a href="http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0578:FIN:EN:HTML">http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0578:FIN:EN:HTML</a>
FINLAND
None
FRANCE
The last national available report is given for 2013 (with limited access on the Ifremer web site).
GERMANY
No further information.
LITHUANIA
The Annex can be accessed as part of the 2015 Annual National Report of Lithuania, <a href="#">available here</a> .
NETHERLANDS
The 2015 report EU regulation 812/2004 is not yet published.
POLAND
<a href="http://www.minrol.gov.pl/pol/Rybactwo/Rybolowstwomorskie/Raporty,opracowania,publikacje">http://www.minrol.gov.pl/pol/Rybactwo/Rybolowstwomorskie/Raporty,opracowania,publikacje</a> The above website presents Polish reports on the implementation of Council Regulation (EC) No 812/2004 in 2010, 2011, 2012 and 2013, 2014. The 2015 report will be uploaded to the website when finished and translated into English.
SWEDEN
See Appendix 1 of the Report from the Working Group on Bycatch: <a href="http://ices.dk/sites/pub/Publication%20Reports/Expert%20Group%20Report/acom/2013/WKBYC/wkbyc_2013.pdf#search=wgbyc">http://ices.dk/sites/pub/Publication%20Reports/Expert%20Group%20Report/acom/2013/WKBYC/wkbyc_2013.pdf#search=wgbyc</a>
UNITED KINGDOM
The report can be found in the link below:

<http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=No ne&ProjectID=18535>

## 2 REDUCTION OF DISTURBANCE

### 2.1 Anthropogenic Noise

#### BELGIUM

In the framework of the monitoring of the effects of offshore windfarms, an activity report was published:

Degraer, S., Vigin, L. & R. Brabant (Eds). WinMon activity report 2013-2014. Royal Belgian Institute of Natural Sciences, MARECO report 15/01, Brussels. It included sections on marine mammals and on underwater noise: Marine mammal monitoring at offshore wind farms in the Belgian part of the North Sea:

basic monitoring (p. 26-30; targeted monitoring (p. 30-31) and Wind farm generated underwater sound (p. 32-35).

Relevant publications

Haelters, J., Duliere, V., Vigin, L. & Degraer, S., 2015. Towards a numerical model to simulate the observed displacement of harbour porpoises *Phocoena phocoena* due to pile driving in Belgian waters.

Hydrobiologia 756(1): 105-116. DOI: 10.1007/s10750-014-2138-4

#### DENMARK

Review: Effects of seal scarers on harbour porpoises. Hermannsen, L., Mikkelsen, L., & Tougaard, J. (2015). Research note from DCE - Danish Centre for Environment and Energy. Roskilde, Denmark: Aarhus University.

Abstract: Seal scarers or seal scrammers are devices designed to deter seals from fishing gear and aquaculture installations to avoid depredation on fish. The deterrence effect towards porpoises is increasingly exploited as a mitigating tool for harbour porpoises in connection with installation of offshore wind turbines.

When evaluating the effectiveness of seal scarers as mitigation devices, it is of particular importance to know the minimum deterrence distance of the device. The minimum deterrence distance is the distance within most or all porpoises can be expected to be deterred and this range is important for assessing the risk of porpoises acquiring hearing damage from the subsequent pile-driving noise. For a seal scarer to be effective as a mitigation tool, it must thus be able to deter porpoises beyond this critical distance, before the pile-driving operation begins.

Based on re-evaluation of the results of a number of field studies where reactions of porpoises to seal scarer sounds were studied, we conclude that the minimum deterrence distance of porpoises within which all harbour porpoises can be expected to be deterred, is about 350 m for the Lofitech seal scarer, and somewhat less, about 200 m for the Airmar seal scarer. If the protocol for mitigation allows for less than total deterrence, the minimum deterrence distance for the Lofitech seal scarer increases to somewhere in the range between 1300 m and 1900 m.

Characteristics and Propagation of Airgun Pulses in Shallow Water with Implications for Effects on Small Marine Mammals. Hermannsen, L., Tougaard, J., Beedholm, K., Nabe-

Nielsen, J., & Madsen, P. T. (2015). PLoS ONE, 10(7), e0133436. doi: 10.1371/journal.pone.0133436

Abstract: Airguns used in seismic surveys are among the most prevalent and powerful anthropogenic noise sources in marine habitats. They are designed to produce most energy below 100 Hz, but the pulses have also been reported to contain medium-to-high frequency components with the potential to affect small marine mammals, which have their best hearing sensitivity at higher frequencies. In shallow water environments, inhabited by many of such species, the impact of airgun noise may be particularly challenging to assess due to complex propagation conditions. To alleviate the current lack of knowledge on the characteristics and propagation of airgun pulses in shallow water with implications for effects on small marine mammals, we recorded pulses from a single airgun with three operating volumes (10 in3, 25 in3 and 40 in3) at six ranges (6, 120, 200, 400, 800 and 1300 m) in a uniform shallow water habitat using two calibrated Reson 4014 hydrophones and four DSG-Ocean acoustic data recorders. We show that airgun pulses in this shallow habitat propagated out to 1300 meters in a way that can be approximated by a  $18\log(r)$  geometric transmission loss model, but with a high pass filter effect from the shallow water depth. Source levels were back-calculated to 192 dB re  $\mu$  Pa<sup>2</sup>s (sound exposure level) and 200 dB re 1  $\mu$  Pa dB Leq-fast (rms over 125 ms duration), and the pulses contained substantial energy up to 10 kHz, even at the furthest recording station at 1300 meters. We conclude that the risk of causing hearing damage when using single airguns in shallow waters is small for both pinnipeds and porpoises. However, there is substantial potential for significant behavioral responses out to several km from the airgun, well beyond the commonly used shut-down zone of 500 meters.

Underwater Noise from a Wave Energy Converter Is Unlikely to Affect Marine Mammals. Tougaard, J. (2015). PLoS ONE, 10(7), e0132391. doi: 10.1371/journal.pone.0132391

Underwater noise was recorded from the Wavestar wave energy converter; a full-scale hydraulic point absorber, placed on a jack-up rig on the Danish North Sea coast. Noise was recorded 25 m from the converter with an autonomous recording unit (10 Hz to 20 kHz bandwidth). Median sound pressure levels (Leq) in third octave bands during operation of the converter were 106–109 dB re. 1  $\mu$  Pa in the range 125–250 Hz, 1–2 dB above ambient noise levels (statistically significant). Outside the range 125–250 Hz the noise from the converter was undetectable above the ambient noise. During start and stop of the converter a more powerful tone at 150 Hz (sound pressure level (Leq) 121–125 dB re 1  $\mu$  Pa) was easily detectable. This tone likely originated from the hydraulic pump which was used to lower the absorbers into the water and lift them out of the water at shutdown. Noise levels from the operating wave converter were so low that they would barely be audible to marine mammals and the likelihood of negative impact from the noise appears minimal. A likely explanation for the low noise emissions is the construction of the converter where all moving parts, except for the absorbers themselves, are placed above water on a jack-up rig. The results may thus not be directly transferable to other wave converter designs but do demonstrate that it is possible to harness wave energy without noise pollution to the marine environment.

Cetacean noise criteria revisited in the light of proposed exposure limits for harbour porpoises. Tougaard, J., Wright, A. J., & Madsen, P. T. (2015).

Marine Pollution Bulletin, 90(1-2), 196-208. doi: 10.1016/j.marpolbul.2014.10.051

Abstract: The impact of underwater noise on marine life calls for identification of exposure criteria to inform mitigation. Here we review recent experimental evidence with focus on the high-frequency cetaceans and discuss scientifically-based initial exposure criteria. A range of new TTS experiments suggest that harbour and finless porpoises are more sensitive to sound than expected from extrapolations based on results from bottlenose dolphins. Furthermore, the results from TTS experiments and field studies of behavioural reactions to noise, suggest that response thresholds and TTS critically depend on stimulus frequency.

Sound exposure levels for pure tones that induce TTS are reasonably consistent at about 100 dB above the hearing threshold for pure tones and sound pressure thresholds for avoidance reactions are in the range of 40–50 dB above the hearing threshold. We propose that frequency weighting with a filter function approximating the inversed audiogram might be appropriate when assessing impact.

Effect of seal scarers on seals. L., Hermannsen, L., & Tougaard, J. (2015). Literature review for the Danish Energy Agency (pp. 19). Roskilde: Aarhus University, DCE.

Abstract: A number of studies have been conducted to test the effectiveness of seal scarers, or acoustic harassment devices. Most studies have focused on the application of seal scarers in fisheries, with the purpose of reducing depredation on catch and damage to fishing gear. Other studies, including a few on captive seals, have addressed the now widespread use of seal scarers as a mitigation tool, intended to keep seals away from potentially harmful noise generated by offshore construction activities, most notably pile driving of foundations for offshore wind turbines.

The different studies are very diverse with respect to methods used and specific questions addressed and are thus difficult to compare directly. Some conclusions relevant for mitigation can nevertheless be drawn across the studies:

- Of the different types of seal scarers tested, the Lofitech device appears consistently more effective at deterring seals than the other commonly used type, the Airmar dB II plus.
- No differences in response between harbour seals and grey seals were evident in the studies, although the sample sizes are too small to draw firm conclusions.
- Minimum deterrence distance for the Lofitech seal scarer is estimated to range between 200 and 600 m and for the Airmar dB II plus around 50 m.

The above distances relate only to use for the purpose of mitigation of hearing injury in connection with pile driving or other loud underwater noise. Within the context of fishery, distances are expected to be much smaller as there is a strong food incentive for the seals to tolerate high noise levels.

Harbour porpoises react to low levels of high frequency vessel noise. Dyndo, Monika; Wisniewska, Danuta Maria; Rojano Doñate, Laia; Madsen, Peter Teglberg.

I: Scientific Reports, Vol. 5, 11083, 2015.

Abstract: Cetaceans rely critically on sound for navigation, foraging and communication and are therefore potentially affected by increasing noise levels from human activities at sea. Shipping is the main contributor of anthropogenic noise underwater, but studies of shipping noise effects have primarily considered baleen whales due to their good hearing at low frequencies, where ships produce most noise power. Conversely, the possible effects of vessel noise on small toothed whales have been largely ignored due to their poor low frequency hearing. Prompted by recent findings of energy at medium- to high-frequencies in vessel noise, we conducted an exposure study where the behaviour of four porpoises (*Phocoena phocoena*) in a net-pen was logged while they were exposed to 133 vessel passages. Using a multivariate generalised linear mixed-effects model, we show that low levels of high frequency components in vessel noise elicit strong, stereotyped behavioural responses in porpoises. Such low levels will routinely be experienced by porpoises in the wild at ranges of more than 1000 meters from vessels, suggesting that vessel noise is a, so far, largely overlooked, but substantial source of disturbance in shallow water areas with high densities of both porpoises and vessels.

Noise exposure criteria for harbour porpoises. Tougaard, Jakob; Wright, Andrew J.; Madsen, Peter Teglberg.

The effects of noise on aquatic life II. red. / Art N. Popper; Anthony Hawkins. Vol. 875 Springer, 2015. s. 1167-1173 (Advances in Experimental Medicine and Biology).

Marine mammals and underwater noise in relation to pile driving – Working Group 2014. P., Maxon, C. M., Tarpgaard, E., Thomsen, F., Schack, H. B., Tougaard, J., Heilskov, N. F., Teilmann, J., Madsen, K. N., Mikaelson, M. Aa. (2015). Report to Energinet.dk 21-1-2015.

Suggested guidelines for estimating impact from pile driving on porpoises and determine the need for additional mitigation measures.

In June 2014 Energinet.dk formed a working group with the task of investigating how underwater noise from the installation of impact driven foundations at the planned offshore wind farms could be regulated in order to take due consideration of protected marine species. It was the wish that the work of the group could be used as basis for setting forth the regulation for Horns Rev 3 as well as being generalised to serve as basis for future regulation of underwater noise.

The group conducted a sequence of seminars and presented the preliminary results to the Danish Nature Agency and the Danish Energy Agency on September 1st 2014. Based on this presentation the agencies prepared and agreed the regulation for Horns Rev 3.

This present memorandum contains a written description of the findings and recommendations of the working group, which include recommendations on future regulation on underwater noise from pile driving.

#### FINLAND

Finland has taken part in BIAS Life+ project. The aim for project is to support a regional assessment of the underwater sound in the Baltic Sea.

#### 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 MSFD (Marine Strategy Framework Directive). Most noticeably, a synthesis report (Bilan des activités anthropiques génératrices de bruit sous-marin et de leur récente évolution en France Métropolitaine) 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

##### “Underwater noise” project

The “underwater noise” project (Cluster 7 “Impacts of underwater noise on marine vertebrates”), funded by the Federal Agency for Nature Conservation (BfN), finalized in February 2015. This project was coordinated by the ITAW and performed in close cooperation with other research institutions (University Aarhus, Denmark, DW-ShipConsult, and University St. Andrews, UK). It covered a broad spectrum of diverse and varied tasks.

The main goal was 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 was investigated. Furthermore, this project had the aim of developing an acoustic tag with GPS positioning that could estimate the effect of anthropogenic noise on harbour porpoises. Subsequently this tag was deployed on wild porpoises and the data evaluated in the context of noise.

In addition, in order to complement the 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. Data were collected at different locations in the Baltic and North Seas [Siebert, Ruser, Unger, Lehnert ITAW; Wittekind, Schuster DWShipConsult; Teilmann, Miller, Madsen, Tougaard Univ. Aarhus, Denmark; Johnson, Univ. St. Andrews, UK].

#### Monitoring of impacts of wind farm construction

In concurrence with the Cluster 7, ITAW and DW-ShipConsult carried out a project in the Sylt Outer Reef to estimate the impact of two ongoing wind farm constructions bordering this Natura 2000 site. In 11-12 positions, around the construction sites Amrumbank West and Butendiek, noise-loggers, which record in the audible range of humans, and C-PODs, which record the echolocation 'click' of harbour porpoise, were deployed. This project ended in 2015 and was funded by the BfN [Rasmussen, Siebert, Wölfling, Ruser ITAW; Wittekind, Schuster DW-ShipConsult].

#### Noise mitigation measures

At the end of 2013 the German Environment Minister decided a "Concept for the Protection of Harbour Porpoises from Sound Exposures during the Construction of Offshore Wind Farms in the German North Sea". At the end of 2015 due to a decision of the German Environment Minister the works were started to elaborate such a concept for the Baltic sea too, which will use the North Sea concept as a first guidance. [BMUB] In 2014 three wind farms conducted installation work, including pile driving in the German EEZ of the North Sea. All three wind farms applied noise mitigation measures according to the incidental provision Nr. 14 of the licences given by BSH (Federal Maritime and Hydrographic Agency).

The noise mitigation measures include both a tight monitoring of the pile driving activities including measures to prevent the presence of marine mammals in the vicinity of the construction location and technical measures to reduce pile driving noise. The technical noise mitigation systems applied in 2014 demonstrate a very successful development compared to technical systems applied in 2013.

One of the construction sites installing monopiles of 6.2 m diameter applied the IHC Noise Mitigation System (NMS-6500) and was able to meet the threshold value of 160 dB re 1  $\mu$ Pa s<sup>2</sup> at 750 m distance to the source.

At another construction site a combination of two systems – the IHC Noise Mitigation System and a Big Bubble Curtain System (BBC) was applied for mitigating the noise of the installation of monopiles with diameter up to 6.2 m. At this case due to the combination of IHC and BBC-System pile driving noise fell far below the threshold value.

At the third construction site a combination of a so called Hydro Sound Damper System (HSD) with a Double Big Bubble Curtain System (DBBC). The threshold values could be met at about 50% of the installations. At this site the liability in offshore installation and the noise reduction potential of the Hydro Sound Damper System was proven for the first time during the consecutive installation of 67 monopiles.

The general schema of the monitoring and prevention measures included following items:

- Hydro-acoustic measurements at 750 m, 1.500 m and in the next conservation site (SCI)
- Passive acoustic measurements of the harbour porpoise activity combined with the hydro-acoustic measurements
- Operation of ADDs (pingers) 40 min before pile driving activities start
- Operation of AHD (seal scarer) 10 min after the deployment of the ADDs – ADDs and AHD are removed at latest five minutes after starting with hammering

- Soft-start procedure with hammer energy increasing smoothly and remaining below 500kJ for 10 to 20 minutes

The technical noise mitigation measures in 2014 included the following main mitigation systems:

- IHC Noise Mitigation System (NMS 6500) – threshold values were met at 90 % of the installations

- IHC Noise Mitigation System (NMS 7000) in combination with a simple big bubble curtain system (660 m hose with two-sided air supply and outer ballast chain) – threshold values were met at more than 95% of the installations

- Hydro Sound Damper System (HSD) in combination with a double bubble curtain system (1.800 m hose with two-sided air supply and inner ballast chain) – threshold values were met at 50 % of the installations

The results of the passive acoustic monitoring revealed that no marine mammals remained in the vicinity of the construction site after the deployment of ADDs and AHD [Boethling, BSH].

#### Monitoring and 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 taken into account for the planning of the use of sonar systems during trials [BMVg].

#### Active Sonar Risk Mitigation

Within a NATO working group on “Active Sonar Risk Mitigation” the participating nations set up a first analysis and working procedure for developing general guidelines to minimize the risk for marine mammals related to naval maritime activities using active sonar [BMVg].

#### Monitoring

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

### LITHUANIA

There are no studies of anthropogenic noise done.

### NETHERLANDS

Several (desktop) studies on the potential effects of underwater noise on harbour porpoises have been conducted or finalized in 2015. IMARES, SEAMARCO and TNO co-operated in several projects and were represented in the Working group underwater noise (Werkgroep onderwatergeluid) that published a review on the cumulative effects of impulsive underwater sound. This study focussed on the population effects of the development of offshore wind farms in the North Sea, and produced a noise threshold for the construction of wind farms. The SORIAN (Sound Risk Analysis Tool) and PCoD model were used to quantify potential effects. A different approach to assess the cumulative effects on porpoises is used in the DEPONS project, led by the University of Aarhus, in which IMARES provided ecological and distribution data.

The above mentioned parties published (part of) the results of a review on the effects of underwater explosions on harbour porpoises. The extent of underwater explosions on the Dutch continental shelf; potential effects on harbour porpoises; and mitigation measures

were described. The proposed mitigation measures were used by the Dutch Navy detonation of a block buster in the vicinity of the Dogger Bank.

<https://www.defensie.nl/english/documents/videos/2015/09/09/navy-saves-marine-mammals-from-explosion>

IMARES and TNO reviewed the potential effects of seismic surveys on harbour porpoises. This review sketched: The extent of seismic surveys on the Dutch continental shelf; potential effects on harbour porpoises; and mitigation measures were described. Furthermore, Ozkan Sertlek (Leiden University) published a paper on the description and application of a new airgun source model, aimed to produce sound maps in the North Sea, which is part of his PhD-Thesis is supported by NWO-ZKO grant 'Effects of underwater noise on fish and marine mammals in the North Sea'.

TNO continued its participation in the 3S-project, together with main partners FFI (Norway), SMRU (UK) and WHOI (USA) and several associate partners. The second phase of the 3S(2)-3S-project finished in 2015 and was closed with a symposium at the University of St Andrews.

The SONIC-project on ship noise on the North Sea (TNO) has been finished. Results can be found at <http://www.sonic-project.eu/page/results.php>

SEAMARCO (and TNO) continued with conducting hearing experiments to measure potential effects of sound on the behaviour of harbour porpoises. The effects of seal scarers on harbour porpoises were measured.

Michael Ainslie (TNO) is convener of an ISO working group that has published a standard on underwater acoustic terminology, including standards for bioacoustics terminology and contributed to ANSI terminology standard for bioacoustics.

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## POLAND

The Institute of Oceanography (including the Sea Station) of the of the University of Gdansk carries out the Polish part of the BIAS: "Baltic Sea Information on Acoustic Soundscape" programme. The main purpose of the project is to implement the 11th descriptor of the GES

from Annex 1 to the Marine Strategy Framework Directive at the Baltic Sea region level. The intended timeframe for the project is between September 2012 and August 2016. Five sets of measuring equipment, aimed at recording underwater noise caused by the ships in the Polish part of Baltic Sea, as well as the assessment of the impact of the noise on living organisms, in particular fish (the projects also carried out by The Foundation for the Development of the University of Gdansk), have been situated at the bottom of the sea.

In 2015, pilot monitoring of underwater noise as regards underwater continuous sounds and underwater impulse sounds was carried out within the scope of the State Environment Monitoring Program. The underwater noise monitoring is run by the Maritime Branch of the Institute of Meteorology and Water Management in Gdynia on behalf of the Chief Inspectorate of Environmental Protection. The monitoring is financed from the NFOŚiGW (National Fund for Environmental Protection and Water Management) funds; it includes Polish marine areas, where 5 hydrophones have been installed. The research will address the noise which is perceived by fish and marine mammals. The monitoring is in accordance with the Marine Strategy Framework Directive and it fills the data gap for the descriptor 11. In 2015 test have been carried out in the sea in order to determine factors, such as the correct location of measuring equipment, correct setting of the measurement parameters, trying out the technological solution of the anchor system and its performance in various marine conditions. The pilot underwater noise monitoring will be a valuable contribution to the development of research methodology for both EC and HELCOM groups.

#### SWEDEN

FOI has published the report "Skydd av marint liv vid användning av aktiv sonar" (Protection of marine life in connection with the use of active sonar; FOI-R--3716--SE, ISSN 1650-1942). It deals with generating knowhow on the effect of such noise and how to minimize these effects.

In 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).

FOI has published the report "Ambient Underwater Noise Levels at Norra Midsjöbanken 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 Midsjöbanken which is a Nature 2000 area.

Measures included trenching activities as well as the ambient noise including shipping noise.

FOI has published the report "Akustiska miljöeffekter av svenska marinens aktiva sonarsystem" (Acoustic environmental effects of the Swedish Navy's active sonar systems; FOI-R--3504--SE, ISSN 1650-1942). It presents a summary of existing systems, the frequencies used and their relation to the audiogram of marine mammals residing Swedish waters. It also gives risk distances for behavioural effects as well as temporary and permanent hearing threshold shifts.

FOI has published the report "Säker användning av militära sonarsystem - nationella handlingsregler och svensk lag" (Safe use of military sonar systems - national handling rules and Swedish law; FOI-R--3656--SE, ISSN 1650-1942). It presents guidelines on how to plan and implement military exercises where active sonar is included.

The 4th Naval warfare flotilla, part of the Swedish Armed Forces, has produced the "Maringeografisk biologikalender" (the Marine geographic biology calendar), a planning tool for the Swedish Navy, with the aim at minimizing the negative effects of military activities on the marine ecosystems. It is presented as an ArcGIS-based map, on which layers with the distribution in time and space of different factors, e.g. protected areas, biological databases

for fish, birds, seals, etc., can be shown. It is still under development, and e.g. the SAMBAH harbour porpoise distribution maps will be included when available.

(Does FOI provide information on the updated version of the Armed Forces' "Maringeografisk biologikalender"? They have not so far but a link to their web-page is attached.) There should be some updated information on the continued underwater noise monitoring at Norra Midsjöbanken and Hönö from FOI.

To this, information should be added on that in conjunction with the underwater noise monitoring, acoustic monitoring of harbor porpoises has been carried out by attaching a C-POD to the noise rig. The C-POD data collection has been carried out in cooperation between FOI and AqB (Julia Carlström). No C-POD analyses have yet been carried out due to lack of funding.

[Marinbiologisk kalender](#)

#### UNITED KINGDOM

Most marine construction or development activities generating noise (e.g. piling) require the developer to apply for consent and carry out the necessary assessments e.g. Environmental Impact Assessments (EIA), Appropriate Assessments (AA) under the Habitats Directive. The Marine Management Organisation (MMO) is responsible for marine licensing in English inshore and offshore waters and in Welsh and Northern Ireland offshore waters. DECC (UK Department of Energy and Climate Change) also has a regulatory responsibility for all UK waters in relation to the oil and gas sector and associated projects. In Scottish offshore and inshore waters Marine Scotland are the licensing body, in Welsh inshore waters it is Natural Resources Wales, and in Northern Ireland inshore waters it is the Department of Environment Northern Ireland (DOENI) (Department of Agriculture, Environment and Rural Affairs DAERA as of 9th May 2016). See: <https://www.gov.uk/guidance/how-marine-licensing-works>

Noise mitigation measures may be required where there is a risk that the activity may disturb or harm cetaceans, including the need for Marine Mammal Observers, soft start, and delay of piling activity when cetaceans are present. Relevant guidance can be found on the UK government website (<https://www.gov.uk/oil-and-gas-offshore-environmental-legislation>).

The MMO also has a voluntary notification system for non-Oil and –Gas geophysical surveys occurring in English waters, so that we have a record of these activities taking place and can make mitigation measures as appropriate. See: <http://www.marinemangement.org.uk/protecting/wildlife/geophysical.htm>

Two Joint Nature Conservation Committee (JNCC) reports based on data from Marine Mammal Observer reports were published in 2015. The data covered 1,196 seismic surveys in UK and adjacent waters between 1994 and 2010. The aim of the analysis covered in JNCC report 463a (<http://jncc.defra.gov.uk/page-6985>) was to identify any effects of seismic operations on marine mammals and any long term trends in compliance with the JNCC guidelines. This report also provides the first evidence for the effectiveness of soft start procedures in minimising the effect of seismic surveys on cetaceans. To accompany this report, a second report (JNCC report 463b; <http://jncc.defra.gov.uk/page-6986>) suggested recommendations for best practice for consideration in any future revision to the guidelines. It highlights items for consideration for when the JNCC seismic guidelines are next revised. However, these suggestions do not represent JNCC's position on recommended revisions and do not constitute any changes to the current guidelines at present. These reports built on earlier analysis of Marine Mammal Observer reports (e.g. Stone and Tasker, 2006), but allowed for longer term analysis of potential effects of seismic activities on cetaceans, as well as general trends in the implementation of the JNCC seismic guidelines throughout this time period.

See: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/341146/msfd-part-2-final.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/341146/msfd-part-2-final.pdf).

The Marine Evidence Group published a report on pile driving and harbour porpoise 'An analysis of potential broad-scale impacts on harbour porpoise from proposed pile driving activities in the North Sea', available at:

<http://randd.defra.gov.uk/Default.aspx?enu=Menu&Module=More&Location=Non e&ProjectID=%2019403&FromSearch=Y&Publisher=1&SearchText=h arbour%20porpoise&SortString=Proje%20ctCode&SortOrder=Asc&Paging= 10%20-%20Description>

Scottish Government funded study on 'Tests of acoustic signals for aversive sound mitigation with harbour seals' was published in 2015. The project focused mainly on harbour seals but it also made reference to mechanisms designed to minimise the risk of disturbing harbour porpoise and other sensitive cetaceans from anthropogenic activities that produce intense sound in the marine environment. The mitigation measures to minimise the risk of causing damage or injury are often a requirement when licences are issued to carry out risky activities in the marine environment. More information on this project can be found online.

The UK is also required to meet obligations on impulsive sounds and ambient noise under the Marine Strategy Framework Directive (MSFD). The UK has been developing a noise registry which will collate and store records of activities that may generate impulsive sounds in the UK marine environment. This will aid regulators and industry in providing a clear picture of the distribution in space and time of impulsive noise generating activities and help the UK to assess whether it is delivering Good Environmental Status (GES). Part two of the UK Marine Strategy outlining UK monitoring programmes was published in July 2014. (<https://www.gov.uk/government/publications/marine-strategy-part-two-uk-marine-monitoring-programmes>).

The final part of the UK Marine Strategy, a programme of measures necessary to achieve GES, was published in December 2015 (<https://www.gov.uk/government/publications/marine-strategy-part-three-uk-programme-of-measures>).

As a framework directive MSFD brings together activities to allow us to establish an overarching understanding of the status of our seas and the impact of any measures taken. In the UK, the programme of measures to achieve GES of UK waters. Which include a number of measures which contribute to the protection of cetaceans:

- EC Habitats Directive 92/43/EEC and the Conservation of Habitats and Species Regulations
- International Whaling Commission (IWC): The Whaling Industry Regulation Act 1934, as amended by the Fisheries Act 1981.
- ASCOBANS (Agreement of the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas) (Daughter Agreement Under the Convention on Migratory Species)
- Convention on the International Trade of Endangered Species (CITES)
- Bycatch Measures: Implementation of EC Regulation 812/2004: South West Territorial Waters (prohibition of pair trawling) order 2004: Domestic legislation banning the seasonal use of pair trawls in English waters within the South West English Channel to prevent the bycatch of dolphin.
- Guidance and codes of conduct: Guidance is also in place in the UK for marine users who are planning to carry out activities in the marine environment which have the potential to kill, injure or disturb a marine European Protected Species (i.e. any cetacean species). The JNCC, Natural England, Scottish Natural Heritage, and the Natural Resources Wales have good practice guidelines and protocols in place for specific activities to minimize the risk of injury and to cetaceans.

• The Marine Licensing System

The UK also continues to actively engage more widely on noise issues within Europe. The UK is currently Vice Chair of OSPAR (Oslo and Paris Conventions for the protection of the marine environment of the North-East Atlantic) and within this Convention is the Chair of the Biodiversity Committee (BDC) which considers cetaceans more generally. The UK also plays an active role in the ICG-MSFD (Intersessional Correspondence Group for MSFD) which helps improve regional MSFD coordination and in the EIHA (Environmental Impacts of Human Activities) Committee which considers the impacts of marine noise. Additionally, The UK Underwater Sound Forum continues to provide an opportunity for industry, government and non-government organisations and other interested stakeholders to engage directly with Defra and Ministry of Defence (MoD) to discuss emerging issues and exchange information on the impacts of noise in the marine environment.

Furthermore, marine plans are being developed across the UK (all areas should be covered by 2021) which are expected to provide guidance on managing noisy activities. The UK also co-chairs the European Union’s Technical Group on Noise.

UK scientists also conducted a study to investigate the effectiveness of Marine Mammal Observers in enabling mitigating measures to be implemented to reduce the risk of injury from loud sound sources. The results provide a simple method for case specific assessment of the extent to which MMOs can contribute to risk reduction (Leaper et al., 2015).

Other relevant work includes:

Graham, I.M., Cheney, B., Hewitt, R.C., Hastie, G.D. and Thompson, P.M. 2015. Strategic Regional Pre-Construction Marine Mammal Monitoring Programme Annual Report 2015. Available at: [http://www.abdn.ac.uk/lighthouse/documents/Project\\_Reports/MMMP\\_Annual\\_Report\\_2015.pdf](http://www.abdn.ac.uk/lighthouse/documents/Project_Reports/MMMP_Annual_Report_2015.pdf)

Leaper, R., S. Calderan and J. Cooke (2015). A simulation framework to evaluate the efficiency of using visual observers to reduce the risk of injury from loud sound sources. *Aquatic Mammals* 41(4): 375-387.

**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)
BELGIUM						
09/11/2015	<i>Balaenoptera physalus</i>	collision	Yes	Cargo, 204m, 20kts	Bay of Biscay?	A juvenile Fin whale ( <i>Balaenoptera physalus</i> ), was brought into the port of Ghent on the bulb of a ship. The animal died of the collision that probably had taken place in the Bay of Biscay or the Western Channel. The

Compilation of Annual National Reports to ASCOBANS 2015

Date	Species	Type of injury	Fatal injury (Yes / No)	Type of vessel (length, tonnage and speed)	Location (coordinates)	More information: (Name / Email)
						case was reported to the IWC.
DENMARK						
None						
FINLAND						
None						
FRANCE						
None						
GERMANY						
None						
LITHUANIA						
None						
NETHERLANDS						
07/11/2015	Minke whale	Blunt injury	Yes	Ro-Ro ship 'Opaline'	British vessel that entered the Port of Rotterdam	<a href="http://www.walvisstrandingen.nl/">http://www.walvisstrandingen.nl/</a>
POLAND						
None						
SWEDEN						
None						
UNITED KINGDOM						
14/06/2015	Fin whale	Distal third of carcass missing.	Unknown	Unknown. Minimal examination and sampling only due to decomposed condition	Harwich Port, England. Dead whale found on prow of a vessel inbound from Egypt	Rob Deaville ( <a href="mailto:rob.deaville@ioz.ac.uk">rob.deaville@ioz.ac.uk</a> )

Compilation of Annual National Reports to ASCOBANS 2015

Date	Species	Type of injury	Fatal injury (Yes / No)	Type of vessel (length, tonnage and speed)	Location (coordinates)	More information: (Name / Email)
14/10/2015	Fin whale	Excised tail flukes. Parallel, diagonal, linear incisions on the right and ventral aspect of the caudal peduncle .	Yes	Unknown (diagnosed from necropsy of stranded animal)	Botany Bay, Kent, England	Rob Deaville ( <a href="mailto:rob.deaville@ioz.ac.uk">rob.deaville@ioz.ac.uk</a> )
12/11/15	Shortbeaked common dolphin	Deep, parallel, diagonal incisions on the dorsal and right side of the body wall. Associated with hemorrhage and fractures of the spine and ribs.	Yes	Unknown (diagnosed from necropsy of stranded animal)	Hope Cove, Devon, England	Rob Deaville ( <a href="mailto:rob.deaville@ioz.ac.uk">rob.deaville@ioz.ac.uk</a> )
13/12/15	Risso's dolphin	Partially excised tail flukes. Parallel, diagonal, linear incisions on the caudal peduncle .	Yes	Unknown (diagnosed from necropsy of stranded animal)	Freshwater West, Pembrokeshire, Wales	Rob Deaville ( <a href="mailto:rob.deaville@ioz.ac.uk">rob.deaville@ioz.ac.uk</a> )

**2.3 Major Incidents Affecting Significant Numbers\* of Cetaceans**

	Date	Location	Type of incident	Further information
BELGIUM				
Incident	None	None	None	None
DENMARK				
Incident	None	None	None	None
FINLAND				
Incident	None	None	None	None
FRANCE				
Incident	March and April 2014	English Channel Coast	Unusual Mortality Events period	75 harbor porpoises recorded in 2 months.
Incident	January to March 2014	Atlantic Coast	Unusual Mortality Events period	280 common dolphins recorded in 3 months.
GERMANY				
Incident	None	None	None	None
LITHUANIA				
Incident	None	None	None	None
NETHERLANDS				
Incident	None	None	None	None
POLAND				
Incident	None	None	None	None
SWEDEN				
Incident	None	None	None	None
UNITED KINGDOM				
Incident	17/01/15	Grimsay, Western Isles, Scotland.	Mass stranding	Two short-beaked common dolphins found dead stranded in close proximity. Potentially mother and dependant calf.
Incident	02/06/15	Brogaig and Staffin Island, Skye, Scotland.	Mass stranding	Twenty-one long-finned pilot whales live stranded. Fourteen refloated by rescue groups (primarily BDMLR). Seven euthanized or died on the beach and were examined at

	Date	Location	Type of incident	Further information
				necropsy. Investigations are ongoing and will be available in next year's report.
Incident	17/07/15	Mylor, Cornwall, England	Mass stranding	Six short-beaked common dolphins involved in mass stranding. All six refloated/moved from shallows. One short-beaked common dolphin found nearby on following day and euthanized due to extensive blistering across dorsal surface (presumed consequential to sunburn after period live stranded).
Incident	08/08/15	Burntisland, Fife, Scotland	Mass stranding	Two short-beaked common dolphins found live stranded in close proximity. Both refloated by rescue groups, one subsequently found dead stranded.
Incident	08/11/15	Redcastle, Highland, Scotland	Mass stranding	Two short-beaked common dolphins found stranded in close proximity (one live and one dead). The live animal was refloated.

#### 2.4 Pollution and Hazardous Substances

<b>BELGIUM</b>
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. Relevant publications Imazaki, P., Brose, F., Jauniaux, T., Das, K., Muller, M. & Scippo, M.-L., 2015. Estrogenic evaluation and organochlorine identification in blubber of North Sea harbour porpoise ( <i>Phocoena phocoena</i> ) stranded on the North Sea coast, BioMed Research International. <a href="http://dx.doi.org/10.1155/2015/438295">http://dx.doi.org/10.1155/2015/438295</a> .
<b>DENMARK</b>
None
<b>FINLAND</b>
None

FRANCE
<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) collected from stranded and/or by-caught animals along the NW Iberian Peninsula coast between 2004 and 2008.</p> <p>Fieldwork was conducted by members of the Spanish (Coordinadora para o Estudo dos Mamíferos Mariños, 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. Differences related to biological factors such as age and sex and /or to ecological factors such as feeding habits or bioavailability of the various elements were observed in the bioaccumulation of the trace elements between the five species. Pilot whale and striped dolphin showed the highest concentrations of renal Cd (<math>30 \pm 26.9</math> and <math>10.3 \pm 11.0 \mu\text{g.g}^{-1}</math> wet weight respectively) and the highest concentrations of hepatic Hg (<math>31.0 \pm 59.5</math> and <math>22.9 \pm 39.1 \mu\text{g.g}^{-1}</math> wet weight respectively) and Se (<math>16.9 \pm 30.1</math> and <math>12.3 \pm 17.2 \mu\text{g.g}^{-1}</math> wet weight respectively). Comparing with other studies worldwide, the element concentrations (mercury and cadmium) found in Iberian toothed whales indicate that these populations are not specially threatened by Hg and Cd exposure in the area Méndez-Fernandez et al, 2014a).</p> <p>Concerning organic pollutants, of the five species studied, bottlenose dolphin and harbour porpoise showed the greatest concentrations of PCBs. Both species exceeded the toxic threshold of <math>17 \mu\text{g.g}^{-1}</math> lipid weight (PCB Aroclor equivalent) for health effects on marine mammals, for 100% and 75% of the individuals analysed, respectively. Overall, the PCB and PBDE levels observed in the North West Iberian Peninsula toothed whales were of the same order of magnitude or lower than those reported by previous studies in the NE Atlantic but higher than studies carried out in the southern Atlantic and Pacific Ocean (Méndez-Fernandez et al, 2014b).</p>
GERMANY
<p>Macro Debris</p> <p>The quantity and quality of marine macro debris found in harbour porpoises were analysed by evaluating necropsy protocols drafted since 1990. Furthermore, a special focus was put on its documented impacts, such as outer and inner injuries [Unger, Siebert, Herr ITAW].</p>
LITHUANIA
<p>No new measurements were taken.</p>
NETHERLANDS
<p>Contaminant concentrations (PCBs, organotin, PFOS) are annually analysed in beached Harbour porpoises (neonates and juveniles) (2007-ongoing). In 2015-2016 the study is focused on the vectors of accumulation of PCBs in neonates and the use of PCBs and PBDEs as contaminant base for chemical profiling.</p> <p>Reference:</p>

Van den Heuvel-Greve M.J., Kwadijk C., Kotterman M. (2016, in prep). Maternal transfer of contaminants and chemical profiles of harbour porpoises stranded along the Dutch coast (in Dutch). IMARES report.

#### POLAND

Monitoring of the depth and seabed sampling will be performed as part of the monitoring described in 2.1. In 2014 marine water monitoring Programme, which included waste monitoring, was prepared. Pilot monitoring of waste in the marine environment has been carried out since 2015. Monitoring of waste on the beach is conducted by the WWF Blue Patrol on behalf of the Institute of Meteorology and Water Management.

This study is performed once a quarter. 3 actions of waste counting on the beach have been carried out in 2015. In November 2015, during a cruise in Polish exclusive economic zone, as part of seawater monitoring, observations of waste occurrence have been conducted in 4 measuring stations and 2 transects. During the MIR-PIB cruise carried out in November 2015 within the WPZDR (multiannual fishery data collection programme) waste trawled from the seabed along 6 transects have been identified.

#### 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.

The report was delivered during 2015 and can be found attached.

In Swedish only.

Porpoises from Swedish waters, from four areas (Skagerrak, Kattegat, Öresund and the Baltic) have been analyzed for a number of environmental contaminants: metals, chlorinated and brominated compounds, tennorganic compounds and perflourinated chemicals (including PFOS). Between 22 and 27 animals were analyzed, and a report was presented to SwAM in 2015 (in Swedish). Also, a poster of some of the results was presented at the 29th Conference of the European Cetacean Society, 23rd to 25th March 2015.

The poster is attached.

[Report contaminant concentrations and health status for harbour porpoise in Swedish waters. In Swedish.](#)

[Abstract from conference in Malta 2015. Contamminant concentrations for harbour porpoise in Swedish waters.](#)

#### UNITED KINGDOM

As a result of the on-going collaboration between the Centre for Environment, Fisheries and Aquaculture Science (CEFAS) and the CSIP, along with additional collaborations with a number of European partner organisations, the Institute of Zoology lead a large pan-European study of polychlorinated biphenyl (PCB) concentrations in over 1,000 cetaceans of four species that was submitted for publication in 2015 and published in 2016 (Jepson et al. 2016). The study included PCB data on harbour porpoises (HPs) (n=706), bottlenose dolphins (BNDs) (n=138), striped dolphins (SDs) (n=220) and killer whales (KWs) (n=24) sampled across Europe between 1990 and 2012. PCBs concentrations in all 4 species were moderately high (harbour porpoises) or excessively high (dolphins). The SDs, BNDs and KWs had mean and median PCB levels that markedly exceeded all known marine mammal PCB toxicity thresholds. Time trend analyses also showed that PCBs stopped declining in 1998 (UK HPs) and around 2002 for SDs in the Mediterranean Sea. The Iberian Peninsula

was a global marine mammal “PCB hotspot” in both North Atlantic and Mediterranean Sea regions.

Despite regulations and mitigation measures to reduce PCB pollution, their bioaccumulation in marine food webs continues to be a cause of concern regarding their potential impacts on some cetacean populations in the ASCOBANS region and beyond. The few remaining coastal KW populations appear close to extinction within the industrialized regions of Europe. Small or declining populations of BNDs and KWs in the NE Atlantic region were associated with low calf recruitment, consistent with PCB-induced reproductive toxicity. Jepson et al (2016) concluded that ‘high and stable PCB exposures are associated with small populations, long-term population declines or contraction of range in several dolphin species in Europe (NE Atlantic and Mediterranean Seas) that were not adequately explained by other factors (e.g. bycatch or other anthropogenic causes of mortality). Bycatch is common in the most abundant cetacean species in Europe, but is comparatively rare in Bottlenose Dolphins and virtually unrecorded in recent years for Killer Whales, suggesting that the on-going population declines in these two species are predominantly driven by other processes, with bioaccumulation of PCBs through marine food chains being the predominant factor’.

Two other toxicological studies on UK-stranded HPs were published in 2015. The first showed PCB exposure in blubber of 329 UK-stranded female HPs (1990-2012) (Murphy et al. 2015). In sexually mature females, 25/127 (19.7%) showed direct evidence of reproductive failure (foetal death, aborting, dystocia or stillbirth). A further 21/127 (16.5%) had infections of the reproductive tract or tumours of reproductive tract tissues that could contribute to reproductive failure. Resting mature females (non-lactating or non-pregnant) had significantly higher mean  $\Sigma$ PCBs (18.5 mg/kg) than both lactating (7.5 mg/kg) and pregnant females (6 mg/kg), though not significantly different to sexually immature females (14.0 mg/kg). Blubber  $\Sigma$ PCBs were found to be a significant predictor of mature female reproductive status, with resting (non-pregnant) females more likely to have a higher PCB burden. HPs that died of infectious disease were significantly less likely to be pregnant than “healthy” trauma cases. Lactating females were also more likely to be in good health status compared to other individuals. Based on PCBs ( $\geq$  11 mg/kg lipid), at least 29/60 (48%) of resting females had not fully offloaded their PCB burden via gestation/lactation - consistent with foetal or newborn mortality. A much lower pregnancy rate of 50% was estimated for “healthy” females that died of traumatic causes of death, compared to other HP populations in more pristine environments that calve annually (e.g. Iceland; Greenland).

The second HP toxicology study published in 2015 analysed a suite of 20 organophosphorus flame retardant compounds in blubber and liver tissue of 20 UK-stranded HPs during 2012 (Papachlimitzou et al. 2015). Fourteen of the twenty compounds were below the limits of quantification in all samples. Six could be quantified at maximum concentrations (in blubber) between 6.7 and 246 lg kg<sup>-1</sup> wet weight. These levels do not suggest a high level of concern regarding potential impacts.

The study of temporal trends of PCBs in UK harbour porpoises was extended to include animals stranded up to the end of 2013 (now 1990-2013). PCB concentrations have shown no significant decline since 1997 following earlier reductions due to regulation of commercial use. However, Scotland is showing the beginning of a decline, which could become significant with more data. Further reductions in PCB levels in UK waters are likely to take decades. Blubber PCB concentrations are still at toxicologically significant levels in many stranded harbour porpoises (Jepson et al 2005). Samples from 2014 have been analysed in early 2016 and results will be discussed in next year’s report.

20 harbour porpoises stranded in 2011 and 2012 have been analysed for levels of dioxins and dioxin-like PCBs in their blubber. Dioxin-like toxicity effect quotients (TEQs) for all samples were well below thresholds calculated to cause effects in marine mammals. The greatest contribution to TEQs came from dioxin-like PCBs, except for some samples from Scotland where polychlorinated dibenzofurans (PCDFs) had a higher contribution, generally

because PCB levels were lower. TEQ values were similar to those found around Scotland and the North Sea around the late 1990s, in support of our studies that show that non-dioxin-like PCBs concentrations are stable in UK harbour porpoises. Submission of a manuscript for publication is anticipated in 2016 (Losada et al, (tbc)).

Finally, during 2015, twenty additional harbour porpoise blubber and liver samples were sent to CEFAS by the CSIP. Temporal trends of two other classes of contaminant are being assessed by analysing their concentrations in UK harbour porpoises. Hexabromocyclododecane (HBCDD) is being analysed in blubber of 20 animals stranded in 2014 and a suite of 15 perfluorinated chemicals, including perfluorooctane sulphonate (PFOS), is being analysed in liver of 51 animals stranded from 2012-2014. These classes of contaminants were last analysed in UK samples in 2006 and 2003, respectively. Results will be available in 2016.

- Gajdosechova, Zuzana, Andrew Brownlow, Nicolas T. Cottin, Mariana Fernandes, Fiona L. Read, Dagmar S. Urgast, Andrea Raab, Jörg Feldmann, Eva M. Krupp. Possible link between Hg and Cd accumulation in the brain of long-finned pilot whales (*Globicephala melas*). *Science of the Total Environment* 545–546 (2016) 407–413. [available online in 2015]

- Jepson, PD, Deaville R, Barber JL, Aguilar À, Borrell A, Murphy S, Barry J, Brownlow A, Barnett J, Berrow S, Cunningham AA, Davison NJ, ten Doeschate M, Esteban R, Ferreira M, Foote AD, Genov T, Giménez J, Loveridge J, Llavana Á, Martin V, Maxwell DL, Papachlimitzou A, Penrose R, Perkins MW, Smith B, de Stephanis R, Tregenza N, Verborgh P, Fernandez A and Law RJ (2016) PCB pollution continues to impact populations of orcas and other dolphins in European waters. *Scientific Reports* 6: 18573 doi:10.1038/srep18573

- Murphy, S., Barber, J.L. Learmonth, J.A., Read, F.L., Deaville, R., Perkins, M.W., Brownlow, A., Davison, N., Penrose, R., Pierce, G.J., Law, R.J. and Jepson, P.D. (2015) Reproductive Failure in UK Harbour Porpoises (*Phocoena phocoena*): Legacy of Pollutant Exposure? *PLoS ONE*, DOI:10.1371/journal.pone.0131085

- Papachlimitzou A., Losada S., Barber J.L., Bersuder P., Deaville R., Brownlow A, Penrose R., Jepson P.D. and Law R.J. (2015) Organophosphorus flame retardants (PFRs) and plasticisers in harbour porpoises (*Phocoena phocoena*) stranded or bycaught in the UK during 2012. *Marine Pollution Bulletin* Available online 19 June 2015, ISSN 0025-326X <http://dx.doi.org/10.1016/j.marpolbul.2015.06.034>

Pending, and expected in 2016:

Sara Losada, Jonathan L. Barber, Philippe Bersuder, Joanna Uzyczak, Malgorzata Wilczynska, Rob Deaville, Andrew Brownlow, Rod Penrose, Paul D. Jepson, Robin J. Law. PCDDs, PCDFs and dioxin-like CBs in harbour porpoises (*Phocoena phocoena*) stranded or bycaught in the UK during 2011-2012. [date and journal tbc]

## 2.5 Other Forms of Disturbance

BELGIUM
No new information
DENMARK
Do larger tag packages alter diving behavior in harbor porpoises?. Berga, Alba Solsona; Wright, Andrew J.; Galatius, Anders; Sveegaard, Signe; Teilmann, Jonas. I: <i>Marine Mammal Science</i> , Vol. 31, Nr. 2, 2015, s. 756-763.

<p>Vertebral column deformities in white-beaked dolphins from the eastern North Atlantic. Bertulli, Chiara G.; Galatius, Anders; Kinze, Carl C.; Rasmussen, Marianne H.; Deaville, Rob; Jepson, Paul; Vedder, Elisabeth J.; Contreras, Guillermo J. Sanchez; Sabin, Richard C.; Watson, Alastair.</p> <p>I: Diseases of Aquatic Organisms (Online), Vol. 116, Nr. 1, 17.09.2015, s. 59-67.</p> <p>Five white-beaked dolphins <i>Lagenorhynchus albirostris</i> with outwardly vertebral kyphosis, kyphoscoliosis or lordosis were identified during a photo-identification survey of over 400 individuals (2002-2013) in Faxafloi and Skjalfandi Bays, Iceland. In addition, 3 stranding reports from Denmark, The Netherlands and the UK were analysed, providing both external observation and post mortem details of axial deviations of the vertebral column in this species. Two of the free-ranging cases and 2 of the stranded specimens appeared to have an acquired disease, either as a direct result of trauma, or indirectly from trauma/wound and subsequent infection and bony proliferation, although we were unable to specifically identify the causes. Our data represent a starting point to understand vertebral column deformations and their implications in white-beaked dolphins from the eastern North Atlantic. We recommend for future necropsy cases to conduct macro- and microscopic evaluation of muscle from both sides of the deformed region, in order to assess chronic or acute conditions related to the vertebral deformations and cause of death.</p>
FINLAND
None
FRANCE
None
GERMANY
<p>Permission offshore constructions</p> <p>For every project (e.g. pile driving, sand extraction) to be conducted within the Schleswig-Holstein Wadden Sea National Park permissions are required. Approval provisions require that underwater noise is below a harmful level for harbour porpoises and that impacts and disturbances are not significant according to Natura 2000 regulations in 2015 (as in former years) [MELUR].</p> <p>Assessment of ship impacts</p> <p>For the assessment of the potential impact of ship strikes on harbour porpoises in the North and Baltic Seas, marks that could be attributed to ship impacts are assessed conducting necropsies on harbour porpoises. The project is funded by the Ministry of Renewable Energies, Agriculture, Environment and Rural Areas of Schleswig-Holstein (MELUR) [Siebert ITAW].</p>
LITHUANIA
None
NETHERLANDS
None
POLAND
<p>The action of ghost net removal from the sea, started by the WWF Poland in 2011, develops. The idea of lost net removal is gaining increasing recognition and more and more entities take these measures.</p>

Between June and October 2015 WWF Poland continued its actions within the “Removal of ghost nets from the Baltic Sea” project. As part of these actions 268 tonnes of ghost net have been removed from the sea. In addition to the measures taken on the sea, numerous initiatives aimed at formal inclusion of the issue in the HELCOM regional action plan have been taken. Preliminary tests including testing the usability of radio technology in marking fishing nets with RFID markers have been carried out.

The project was supported by exhibitions, press and internet publications, as well as the issue of 2 episodes of a film about ghost nets. Screening of the film took place on 20 September 2015 in regional TV station and reached the audience of approximately 100 thousand people.

SWEDEN

None

UNITED KINGDOM

In the UK, wildlife licences are issued to control and monitor certain activities which may cause disturbance to cetaceans. In English and Welsh offshore waters, the Marine Management Organisation (MMO) is the wildlife licensing authority and enforcement body for marine wildlife legislation, including disturbance offences. In Scottish waters, Marine Scotland has this responsibility, in Welsh inshore waters Natural Resources Wales has the responsibility, and in Northern Ireland Inshore Waters this responsibility lies with the Department of the Environment (DEO). As wildlife licensing authorities, the MMO, Marine Scotland, and NRW assess wildlife licence applications to ensure that any activity is permissible under UK law, that it will not impact on the Favourable Conservation Status of a protected species, and that there are no other suitable alternatives. Any wildlife licences issued to permit the disturbance of cetaceans will include conditions which minimise any disturbance to the greatest extent possible, and require ‘end of licence reports’ to be submitted on activities undertaken.

Where enforcement action is necessary under marine wildlife legislation, this will be taken by police, the MMO, or Marine Scotland as appropriate.

Marine Scotland has produced guidance for marine users who are planning to carry out an activity in the marine environment which has the potential to deliberately or recklessly kill, injure or disturb a marine European Protected Species. The guidance can also be used by regulators, nature conservation agencies, enforcement authorities and competent authorities when considering whether an activity will cause or has caused death, injury or disturbance to a marine EPS. It has been prepared by Scottish Government (SG) in partnership with Scottish Natural Heritage (SNH) and can be found at the following link: <http://www.gov.scot/resource/0044/00446679.pdf>

The MMO is also a proactive member of the Cornwall Marine Wildlife Group, which has established a register so disturbance incidents in the South West of England can be reported, recorded, and forwarded to the relevant enforcement authorities as necessary. A coastal code of conduct to reduce disturbance of marine species has also been created (see: [http://www.cornwallwildlifetrust.org.uk/livingseas/cornwall\\_marine\\_and\\_coastal\\_code](http://www.cornwallwildlifetrust.org.uk/livingseas/cornwall_marine_and_coastal_code)). The MMO also chairs the Partnership for Action Against Wildlife Crime (PAW) Marine Wildlife Working Group, which seeks to coordinate enforcement activities to tackle wildlife crime, including disturbance offences, under the relevant wildlife legislation. This group includes enforcement authorities and NGOs. See: <http://www.marinemangement.org.uk/protecting/wildlife/paw.htm>

During 2015, a PhD study (School of Ocean Sciences, University of Bangor) on the possible effects of recreational disturbance upon bottlenose dolphins in Cardigan Bay was started in collaboration with Sea Watch Foundation. The aim of this study is to investigate both short-

and long-term impacts, and, working with the management authorities (NRW, Ceredigion and Gwynedd Councils) and key stakeholders, to develop appropriate measures to minimize possible effects. Studies include measurements of avoidance behaviour, dive patterns, spatial displacement, and changes in vocalizations of the dolphins.

Unexploded ordnance:

The UK has nothing to report on this issue for 2014. The UK's Ministry of Defence (MOD) follows the JNCC guidelines for minimising the risk of disturbance and injury to marine mammals whilst using explosives (2010) (see: <http://jncc.defra.gov.uk/page-4900>). However, the approach taken may differ from these guidelines should the safety of the disposal teams or the public otherwise be at risk.

### 3 MARINE PROTECTED AREAS FOR SMALL CETACEANS

#### 3.1 Relevant Information

BELGIUM
No new information
DENMARK
The Natura 2000 project aims to ensure endangered and valuable species. In this project 16 areas has been selected to protect the Harbour Porpoise. <a href="http://naturerhverv.dk/fiskeri/natura-2000-i-hav/marsvin/">http://naturerhverv.dk/fiskeri/natura-2000-i-hav/marsvin/</a> <a href="http://www.naturstyrelsen.dk/Udgivelser/Aarstal/2013/Vandmiljoe_og_Natur_2012_NOVAN_A.htm">http://www.naturstyrelsen.dk/Udgivelser/Aarstal/2013/Vandmiljoe_og_Natur_2012_NOVAN_A.htm</a>
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
(Observatoire PELAGIS - 2015) According to the European Union Habitats and Birds Directives, EU Member States must extend the Natura 2000 network to marine ecosystems, through the evaluation of existing marine protected areas (MPAs) and eventually the designation of new offshore one. However, the initial status of cetacean and seabird communities across European waters is often poorly understood. It is assumed that an MPA is justified where at least 1% of the "national population" of a species is present during at least part of its biological cycle.  Habitat-based models of cetacean and seabird distribution were used to assess the networks of existing Natura 2000 sites and offshore proposed areas of biological interest. The habitat models used here were Generalised Additive Models computed from SAMM aerial surveys observational data collected during the winter 2011-2012 and the summer 2012 across the English Channel, Bay of Biscay and north-western Mediterranean Sea. Based on these models, a ratio between species relative abundance predicted within each MPA and the total

relative abundance predicted over the French Atlantic or Mediterranean marine regions was computed and compared to the 1% threshold.

This assessment was conducted for winter and summer independently, providing information to assess the relevance of individual MPAs and MPA networks at a seasonal scale. Our results showed that the existing network designed for coastal seabird species was relevant in both marine regions. In contrast, a clear shortfall was identified for offshore seabird species in the Atlantic region and for cetaceans in both regions. Moreover, the size of MPA appeared to be a crucial feature, with larger MPAs being relevant for more species. Finally, we showed that the proposed large offshore areas of interest would constitute a highly relevant network for all pelagic species, with e.g. up to 61% of the *Globicephalinae* population in the Atlantic French waters being present within these areas. These results are being used during the current negotiation process for the implementation of new offshore MPA within French waters.

## GERMANY

### Whale Sanctuary

A whale sanctuary with the size of 1.200 km<sup>2</sup> has been designated in 1999 as part of the Schleswig-Holstein Wadden Sea National Park. It comprises important habitats for harbour porpoises which use the waters west off the islands Sylt and Amrum as a feeding and, especially, as a breeding area.

The National Park is designated as a SAC under the Habitats directive as well as an OSPAR MPA. According to the National Park law, all measures are prohibited that may lead to an unnecessary disturbance of or may have an adverse impact on harbour porpoises. Protection measures see: 1. and 2.5 [MELUR].

Management Plan for harbour porpoises

### Management Plans

The negotiations for the development of national management plans for the 8 designated German Special Areas of Conservation / SACs (pursuant to the Habitats-Directive) including protection measures for harbour porpoises were continued and intensified in 2015 so that a public hearing about the foreseen measures concerning fishery restrictions could be started early in 2016. [BMUB]

The management of fisheries for the protection of harbour porpoises in SAC's can be developed only following the procedures of Article 11 und 18 of the EU-Regulation 1380/2013 on the Common Fisheries Policy. National proposals for such measures have to be presented to the Commission and the other Member States having an interest consisting of either fishing opportunities or a fishery taking place in the area. If the initiating Member State and the other Member States agree on the measures they will be submitted as a "joint recommendation" to the Commission. The Commission shall adopt the measures, taking into account any available scientific advice, within three months from receipt of a complete request.

In addition, for harbour porpoises, as an Annex IV species of the habitats directive, conservation plans are being developed for the whole German North and Baltic Sea.

## LITHUANIA

There are no protected areas for cetaceans established in Lithuania. There are no possibilities to identify such areas because of lack of data on cetaceans in Lithuanian sea zone.

NETHERLANDS

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), 2015 ASCOBANS Annual National Reports [ASCOBANS Party: Netherlands] Page 5 of 14 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 harbour porpoise. The three coastal areas were designated by the Dutch ministry. The three offshore areas will follow later.

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".

POLAND

For five years now, in Poland there are 9 marine areas which have the status of protected areas, under the Helsinki Convention HELCOM MPAs – Marine Protected Areas, all located within the borders of Natura 2000 sites. At least three of them, in the Pomeranian Bay, Puck Bay and Ostoja Słowińska, are considered to be important from the point of view of porpoise protection, according to currently available expertise, justified by, among others, the historical occurrence of bycatch, observations of single individuals as well as data regarding cases of dead porpoises washed ashore. At the end of 2015 and the beginning of 2016, Maritime Authorities submitted draft plans of protection of these areas to the Ministry of Environment. Currently, formal actions including the adaptation of submitted materials to current forms are ongoing. The social and interministerial arrangements are expected to start in 2016.

SWEDEN

The protection of marine areas is an important measure in ensuring that Sweden reaches its national environmental objectives. This action is also key in fulfilling the requirements put forth by a number of EU directives and international conventions.

Today, 6.3 percent of Sweden's marine waters are designated as protected areas. Included are marine nature reserves, marine habitat areas within the Natura 2000 network, and Sweden's marine national park Kosterhavet.

To ensure biodiversity in these areas, conservation goals are needed. According to goals established by the Swedish government to address biodiversity, 10 percent of the country's marine waters are to be protected by 2020, an increase of 570,000 hectares from today.

In a report to the Swedish government, the Swedish Agency for Marine and Water Management, SwAM, has suggested the need for fishing regulations as a first-step measure in reaching conservation goals in the country's marine protected areas.

Partially as Action C5 of the SAMBAH project ([www.sambah.org](http://www.sambah.org)) and partially commissioned by SwAM, AqB has identified high density areas for harbor porpoises in Swedish waters. The identification of high density areas has been based on published kernel densities of satellite tagged animals in Danish waters (Sveegaard et al., 2011, Mar Mamm Sci) and preliminary predictions of probability of detections from the SAMBAH project.

The results have been published in a report (Carlström & Carlén, 2015, AqB report 2015:02, in Swedish).

The identified high density areas serve as a basis for the County Administrative Board in their currently ongoing work of proposing Natura 2000 sites for harbour porpoises in Swedish waters. The deadline for proposals of Natura 2000 sites are June 15, 2016.

#### UNITED KINGDOM

The following Natura sites are in place in the UK for Bottlenose dolphin or Harbour porpoise as either a qualifying or non-qualifying features.

- An excel file can be accessed as part of the 2015 Annual National Report of the United Kingdom, [available here](#).

Other protected areas including other Special Areas of Conservation (SACs), Nature Conservation Marine Protected Areas (NC MPAs), and Marine Conservation Zones (MCZs) in place for other features in the UK (and the management measures associated with them) will also indirectly contribute to the conservation of cetaceans in UK waters. Site Information Centres now exist for all designated offshore sites, detailing site summary information, and regularly updated information on conservation objectives, data and management. See: <http://jncc.defra.gov.uk/page-6895>.

The UK Statutory Nature Conservation Bodies (SNCBs) have continued work to identify potential SACs for harbour porpoise. A formal consultation on five possible SACs for harbour porpoise located in the waters of Wales, England, Northern Ireland and the offshore area was launched in January 2016. Responses to the consultation are currently being considered.

Scotland:

The initial stages of the work to identify a Special Area of Conservation (SAC) for harbour porpoise in the West Scotland Management Unit (MU) (IAMMWG, 2015a) began late 2015. A formal consultation on a possible SAC for harbour porpoise in Scottish waters was launched in March 2016.

Monitoring work is ongoing in the Moray Firth and Firth of Tay for bottlenose dolphin. Aspects of this work have been ongoing for 25 years. See Thompson, P.M. & Hewitt, R. (2015) University of Aberdeen Lighthouse Field Station; 25 years of teaching and research in Cromarty. Available at: [http://www.abdn.ac.uk/lighthouse/documents/25th\\_Anniversary\\_Book.pdf](http://www.abdn.ac.uk/lighthouse/documents/25th_Anniversary_Book.pdf)

From 2013, Marine Scotland Science has deployed an array of Chelonia Ltd CPOD cetacean detectors around the east coast of Scotland (the ECOMMAS project). In addition to the ECOMMAS array, the University of Aberdeen Lighthouse Field Station has also been collecting CPOD data in the Moray Firth since 2008. Together these projects have resulted in an extensive dataset which are currently being analysed and a full report will be made available in due course. See Williamson LD, Brookes KL, Scott BE, Graham IM, Bradbury G, Hammond PS, Thompson PM (2016). Echolocation detections and digital video surveys provide reliable estimates of the relative density of harbour porpoises. *Methods in Ecology and Evolution*, online in advance of print <http://dx.doi.org/10.1111/2041-210X.12538>

In 2014, formal advice was submitted to the Scottish Government advising on three NCMPAs to protect important areas on Scotland's west coast specifically for minke whales and Risso's dolphins. Further information can be found at [http://www.snh.gov.uk/protecting-scotlands-nature/protected-areas/nationaldesignations/marine-protected-areas-\(mpa\)/scottish-mpa-network-advice/](http://www.snh.gov.uk/protecting-scotlands-nature/protected-areas/nationaldesignations/marine-protected-areas-(mpa)/scottish-mpa-network-advice/) A consultation on these sites is expected to be undertaken in 2016. For further information on all NC MPA sites, visit the SNH webpages: <http://www.gov.scot/Topics/marine/marine-environment/mpanetwork>

Whale and Dolphin Conservation (WDC) conducted boat based field surveys off the north-east coast of the Isle of Lewis, in the Eye Peninsula to Butt of Lewis MPA Search Location in the summer of 2015. They produced the following report that is relevant to cetacean issues in the ASCOBANS region: 'The necessity of Management Options for effective harbour porpoise conservation in the UK: Case studies of emerging Areas of Concern. 2015.': [http://uk.whales.org/sites/default/files/wdc\\_harbour\\_porpoise\\_management\\_options\\_rpt\\_2015.pdf](http://uk.whales.org/sites/default/files/wdc_harbour_porpoise_management_options_rpt_2015.pdf)

WDC manages the Shorewatch Programme which supports trained volunteers to collect effort-based sightings of bottlenose dolphins from sites within the Moray Firth SAC (as well as wider species at further sites around Scotland). This citizen science data can be demonstrated to show inter-annual and inter-site variation in bottlenose dolphin sightings within the SAC over time as shown in Embling, C., Walters A.E.M., and Dolman, S.J. (2015). How much effort is enough? The power of citizen science to monitor trends in coastal cetacean species. (*Global Ecology and Conservation*, 3, 867–877).

Wales:

Consideration of Special Areas of Conservation (SACs) for harbour porpoise in the Celtic and Irish Seas Management Unit (MU) (IAMMWG, 2015a) is currently underway. Three sites around Wales have been proposed ([www.naturalresources.wales/mn2k](http://www.naturalresources.wales/mn2k)).

Natural Resources Wales (NRW) commissioned the monitoring of bottlenose dolphin and harbour porpoise in Cardigan Bay and Pen Llŷn a'r Sarnau Special Areas of Conservation in 2015. Boat-based line-transect surveys of bottlenose dolphins and harbour porpoise were undertaken around Cardigan Bay and Pen Llŷn a'r Sarnau SACs 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, and harbour porpoises in the region.

Twenty-one surveys were undertaken between April and October 2015, covering a total of 2,028 km, and yielding 93 bottlenose dolphin sightings and 44 harbour porpoise sightings (Lohrengel & Evans, 2016).

Abundance estimates from line-transects for the wider Cardigan Bay were 277 bottlenose dolphins (CV=35.87%) and 64 (CV=64.6%) within Cardigan Bay SAC (but note the wide confidence limits). The equivalent abundance estimates for harbour porpoise were 291 (CV=42.40%) in the wider Cardigan Bay, and 183 (CV=64.6%) for Cardigan Bay SAC.

Using a closed population model, mark-recapture population estimates from photo-ID yielded 159 (95% CL=130-228) bottlenose dolphins within Cardigan Bay SAC, and 222 (95% CL=184-300) for the wider Cardigan Bay. Bottlenose dolphin birth rates in 2015 using a closed population model were 6.8% in Cardigan Bay SAC and 5.8% in the entire Cardigan Bay. These compare with long-term (2001-15) averages of 5.3% in Cardigan Bay SAC and 6.3% in the wider Cardigan Bay.

Additionally, NRW commissioned WDC to conduct vantage-point and, where possible, boat-based surveys of Risso's dolphins off Bardsey Island (North Wales) (report in preparation).

Northern Ireland:

The Department of Environment for Northern Ireland held a Marine Conservation Zone Workshop in March 2015 that presented proposed boundaries for Special Areas for Conservation for Harbour Porpoises Stakeholders. NGOs were invited to provide feedback. Four new MCZs have been proposed and the formal consultation ran from December 2015 until March 2016.

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

BELGIUM
<a href="mailto:laurence.vigin@naturalsciences.be">laurence.vigin@naturalsciences.be</a>
DENMARK
GIS data in relation to boundaries and Natura2000 areas can be found on the webpage of the Danish Ministry of the Environment: <a href="http://en.mfvm.dk/">http://en.mfvm.dk/</a>
FINLAND
None
FRANCE
Ministere de l'Ecologie, du Developpement durable des transports et du Logement Mer Tour Sequoia 92055 La Defense CEDEX Natura 2000 network: <a href="mailto:camille.campeon@developpement-durable.gouv.fr">camille.campeon@developpement-durable.gouv.fr</a> Phone: + 33 (01) 40 81 21 22  Agence des aires marines protegees President: Paul Giacobbi Directeur: Loïc Laisne  Adresse du siège et contact: Agence des aires marines protegees 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
GERMANY
For the Schleswig-Holstein Wadden Sea National Park: <a href="http://s-h.nokis.org/cadenza/pages/map/default/index.xhtml">http://s-h.nokis.org/cadenza/pages/map/default/index.xhtml</a> Email: <a href="mailto:nationalpark@lkn.landsh.de">nationalpark@lkn.landsh.de</a>  Special Areas of Conservation (SACs): <a href="http://www.HabitatMareNatura2000.de">www.HabitatMareNatura2000.de</a> [BfN]
LITHUANIA
None
NETHERLANDS
Noordzee <a href="https://www.noordzeeloket.nl/projecten/noordzee-natura-2000/">https://www.noordzeeloket.nl/projecten/noordzee-natura-2000/</a>  official GIS shapefiles for Natura 2000 gebieden: <a href="http://nationaalgeoregister.nl/geonetwork/srv/dut/search# 8829e5dd-c861-4639-a6c8-fdbb6e3440d2">http://nationaalgeoregister.nl/geonetwork/srv/dut/search# 8829e5dd-c861-4639-a6c8-fdbb6e3440d2</a>  Database Natura 2000 species and habitats: <a href="http://www.synbiosys.alterra.nl/natura2000/default.aspx?main=natura2000">http://www.synbiosys.alterra.nl/natura2000/default.aspx?main=natura2000</a>

<p>General information:  <a href="http://www.natura2000.nl/">http://www.natura2000.nl/</a></p> <p>Map of the European Natura 2000 network:  <a href="http://natura2000.eea.europa.eu/#">http://natura2000.eea.europa.eu/#</a>  <a href="http://ec.europa.eu/maritimeaffairs/atlas/maritime_atlas/#lang=EN;bkgd=5:1;mode=1;pos=11.754:54.605:4;theme=14:1:1">http://ec.europa.eu/maritimeaffairs/atlas/maritime_atlas/#lang=EN;bkgd=5:1;mode=1;pos=11.754:54.605:4;theme=14:1:1</a></p>
<b>POLAND</b>
<p>The exact boundaries of the Natura 2000 site are in the possession of the General Directorate for Environmental Protection (<a href="http://www.gdos.gov.pl/kontakt-3">http://www.gdos.gov.pl/kontakt-3</a>).</p> <p>These data are also available on the websites: <a href="http://natura2000.gdos.gov.pl/datafiles">http://natura2000.gdos.gov.pl/datafiles</a> and <a href="http://geoserwis.gdos.gov.pl/mapy/">http://geoserwis.gdos.gov.pl/mapy/</a></p>
<b>SWEDEN</b>
<p>GIS layers presented in the report on high density areas of harbor porpoises in Swedish waters (Carlström &amp; Carlén, 2015, AqB report 2015:02, in Swedish) can be obtained by contacting Julia Carlström (NRM) or Ida Carlén (CCB). These include identified high density areas of harbor porpoises as well as a number of anthropogenic threats, such as selected gillnet fisheries, AIS traffic, marine constructions, military activities, and also various types of existing marine protected areas.</p>
<b>UNITED KINGDOM</b>
<p>The boundaries of the harbour porpoise possible SACs currently undergoing consultation can be obtained by emailing JNCC at <a href="mailto:porpoise@jncc.gov.uk">porpoise@jncc.gov.uk</a></p> <p>Details of all UK SACs can be found at <a href="http://jncc.defra.gov.uk/page-23">http://jncc.defra.gov.uk/page-23</a></p> <p>Details of designated NC MPAs and MCZs can be found on the respective lead agency sites. All offshore sites have a Site Information Centre hosted at <a href="http://jncc.defra.gov.uk/page-6895">http://jncc.defra.gov.uk/page-6895</a> , and contain boundary information amongst all other available site information.</p> <p>All inshore MCZs can be found at: <a href="https://www.gov.uk/government/collections/marine-conservation-zone-2013-designations#inshore-sites">https://www.gov.uk/government/collections/marine-conservation-zone-2013-designations#inshore-sites</a></p> <p>All inshore and offshore NC MPAs can be found at: <a href="http://www.gov.scot/Topics/marine/marine-environment/mpanetwork/developing/DesignationOrders/WERDOrder">http://www.gov.scot/Topics/marine/marine-environment/mpanetwork/developing/DesignationOrders/WERDOrder</a></p>

## B. SURVEYS AND RESEARCH

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

<b>BELGIUM</b>
<p>During dedicated seabird counts (2035 km sailing) in 2015, the Research Institute for Nature and Forest (INBO) counted (only) 42 harbour porpoises in Belgian waters (with no clear seasonal pattern), or 2.1 animals per 100 km. Average uncorrected densities amounted to 0.02 animals/km<sup>2</sup>. The number of observed porpoises was much lower than the 8.7 animals/100 km recorded in 2014. No other cetaceans were encountered during the ship based surveys.</p>

In 2015 no live porpoise or other cetacean was recorded in inland waters (database KBIN; [www.waarnemingen.be](http://www.waarnemingen.be)).

Only one observation of white-beaked dolphins was reported to the RBINS (2 animals), but in contrast, there were many (non-effort related) observations of solitary, sociable bottlenose dolphins; their total number was probably low (probably only one or a very low number of animals due to probable multiple sightings of the same animal).

During 2015, the RBINS continuously moored 2 to 3 porpoise detectors (C-PoDs) at selected locations.

Relevant publications, posters, abstracts Haelters, J. & Geelhoed, S., 2015. Minder bruinvissen in de zuidelijke Noordzee. Zoogdier 26(4): 1-3.

#### DENMARK

Defining management units for cetaceans by combining genetics, morphology, acoustics and satellite tracking. Sveegaard, Signe; Galatius, Anders; Dietz, Rune; Kyhn, Line Anker; Koblitz, Jens C.; Amundin, Mats; Nabe-Nielsen, Jacob; Sinding, Mikkel Holger Strander; Andersen, Liselotte Wesley; Teilmann, Jonas. I: Global Ecology and Conservation, Vol. 3, 2015, s. 839-850.

Managing animal units is essential in biological conservation and requires spatial and temporal identification of such units. Since even neighbouring populations often have different conservation status and face different levels of anthropogenic pressure, detailed knowledge of population structure, seasonal range and overlap with animals from neighbouring populations is required to manage each unit separately. Previous studies on genetic structure and morphologic separation suggests three distinct populations of harbour porpoises with limited geographic overlap in the North Sea (NS), the Belt Sea (BS) and the Baltic Proper (BP) region. In this study, we aim to identify a management unit for the BS population of harbour porpoises. We use Argos satellite data and genetics from biopsies of tagged harbour porpoises as well as acoustic data from 40 passive acoustic data loggers to determine management areas with the least overlap between populations and thus the least error when abundance and population status is estimated. Discriminant analysis of the satellite tracking data from the BS and NS populations showed that the best fit of the management unit border during the summer months was an east–west line from Denmark to Sweden at latitude 56.95°N. For the border between BS and BP, satellite tracking data indicate a sharp decline in population density at 13.5°E, with 90% of the locations being west of this line. This was supported by the acoustic data with the average daily detection rate being 27.5 times higher west of 13.5°E as compared to east of 13.5°E. By using this novel multidisciplinary approach, we defined a management unit for the BS harbour porpoise population. We recommend that these boundaries are used for future monitoring efforts of this population under the EU directives. The boundaries may also be used for conservation efforts during the summer months, while seasonal movements of harbour porpoises should be considered during winter.

#### FINLAND

Finland has taken part in SAMBAH (Static Acoustic Monitoring of the Baltic Sea Harbour porpoise) project (<http://www.sambah.org>). The project ended in September 2015.

Dissemination activities have been done widely within the project, e.g. targeted meetings, press releases and media events, magazine articles, poster exhibitions in Särkänniemi Dolphinarium and Kotka Maretarium and a 20-minutes documentary movie about the project. The project and additional info on harbour porpoise have got good media coverage in national and local newspapers and on TV and radio channels.

The acoustic monitoring using C-POD click detectors conducted within the projects SAMBAH and LAMBDAH in 2011-2015 also indicated, that the harbour porpoise is more regular in

some parts of the Northern Baltic Sea than was previously thought, however still very low in numbers. The major part of the visually validated acoustic encounters were recorded from the offshore areas between southwest Finland and central Sweden during the cold water seasons from October to April.

## FRANCE

Systematic ship-based surveys (MEGASCOPE, Observatoire PELAGIS - 2015) were conducted on board the RV "Thalassa" with a top predator-monitoring scheme since 2003. The primary aim of these cruises is to assess fish stocks in the bay of Biscay and English Channel. The area surveyed was restricted to the continental shelf, and incursions on the shelf break were exceptional and only in the middle part of the Bay of Biscay. Sightings of top predators were recorded during daylight by a single and multi-target (cetaceans, others megafauna and marine litters) platform composed of two observers. This scheme is part of the MFSD monitoring programme.

During 2015, 4 campaigns of IFREMER were concerned by the top predator monitoring scheme (PELAGIS/ULR) for a total of 180 days at sea:

- IBTS survey, 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): 15 days of effort in 2015 ;

- PELGAS survey, 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): 90 days in 2015 ;

- CGFS survey, Ifremer, PELAGIS/ULR : autumn survey carried out for the first time in September on the western English Channel (pelagic fish, plankton, physical parameters and top predators are recorded simultaneously): 20 days of effort in 2015 ;

- 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): 60 days of sighting effort.

The recorded sightings on these campaigns accumulated more than 150 sightings of cetaceans (with recorded effort and conditions) in the ASCOBANS area. Concurrently, sightings of seabirds, turtles, elasmobranchs; litters and marine traffic have been recorded, providing an original overview of the annual distribution of the megafauna species and human activities in the ASCOBANS area.

Acoustic monitoring (Observatoire PELAGIS - 2015): C-PODs (Chelonia Ltd., Mousehole, Cornwall, U.K.), were deployed in May 2014 in two sites in the French waters of the eastern English Channel for one year around. The aims were to establish a first assessment of the seasonal presence of harbour porpoises in the area before large expansion work of the commercial port of Calais. First results (2014-2015) show an annual presence of this species around the area, and especially during winter time. This passive acoustic monitoring is ongoing to measure possibly change in the presence of harbour porpoises during the construction phase of the expansion and after.

Aerial survey (Observatoire PELAGIS - 2015): no survey in 2015.

Genetic (Observatoire PELAGIS - 2015): a study used mitochondrial DNA control region sequences to genetically identify to the species level 23 pilot whales (genus *Globicephala*) that stranded on the French coasts between 1996 and 2011 (Sabatier et al. 2015). Genetic analysis complemented morphological diagnoses, often hampered by an overlap in morphological characters between the two species or incomplete measurements. Mitochondrial DNA data allowed identification of 21 long-finned pilot whales (*Globicephala melas*) and two unusual stranding events of the more tropical species (*Globicephala macrorhynchus*). In pilot whales as in most cetaceans, shifts in species range are expected

to occur due to global climate change. In this context, our study contributes to the long-term monitoring of pilot whale stranding events, providing indirect information on species occurrence.

Sabatier et al. 2015. Genetic monitoring of pilot whales, *Globicephala spp.* (Cetacea: Delphinidae), stranded on French coasts, *Mammalia*, 79(1): 111-114.

## GERMANY

### Acoustic monitoring German Wadden Sea:

Within the framework of the monitoring duties (Bund-Länder-Messprogramm) of the coastal federal states in Germany, 3 C-PODs were deployed throughout the waters of Schleswig-Holstein during 2015 in order to monitor acoustic activities of harbour porpoises in the German Wadden Sea. This work is funded by Schleswig-Holstein's Government-owned Company of Coastal Protection and carried out by ITAW [Baltzer, Siebert, Schaffeld, Stuehrk, Ruser ITAW; Eskildsen, Lages LKN-SH; Czeck NP-LS].

Two C-POD stations have been operational since 2014 in National Park Wadden Sea of Lower Saxony. The monitoring results can be obtained from the homepage of the National Park Wadden Sea of Lower Saxony [Czeck, NDS-NLPV].

Please follow this link to 'Akustisches Monitoring 2014' [http://www.nationalpark-wattenmeer.de/nds/service/publikationen/1129\\_schweinswale-imk%C3%BCstenmeer-gis-daten-und-berichte](http://www.nationalpark-wattenmeer.de/nds/service/publikationen/1129_schweinswale-imk%C3%BCstenmeer-gis-daten-und-berichte)

### Static Acoustic Monitoring of Harbour Porpoises in the Baltic Sea

With the financial support from the Federal Agency for Nature Conservation (BfN), the German Oceanographic Museum (DMM) is conducting static acoustic monitoring of harbour porpoises using up to 15 C-PODs (porpoise click detectors) in the Baltic Sea (between Fehmarn and Poland). The long-term monitoring has shown seasonal and geographical patterns of harbour porpoises revealing annually migration behaviour [DMM]. Further Information:

<http://www.deutschesmeeresmuseum.de/dmm/stiftungdeutschesmeeresmuseum/wissenshaft/schweinswale/forschungsprojekte/monitoring/>

Results can be found under:  
Benke, H. et al. 2014: Baltic Sea harbour porpoise populations: Status and conservation needs derived from recent survey results. *Marine Ecology Progress Series* 495:275–290.  
<http://www.int-res.com/abstracts/meps/v495/p275-290/>  
[http://www.bfn.de/0314\\_monitoringberichte.html](http://www.bfn.de/0314_monitoringberichte.html)

### Visual monitoring:

In the framework of the Natura 2000 monitoring program aerial surveys covering the entire EEZ of the German North Sea, parts of Schleswig-Holstein National Park (specially the whale sanctuary) and the western German Baltic Sea (Kiel Bight, Mecklenburg Bight and Rügen) were conducted between June and August 2015 to assess distribution and density of harbour porpoise. In addition, one dedicated aerial surveys was carried out in the south (Borkum Reef Ground) of the German EEZ in the North Sea in May 2015. These surveys are funded by the BfN [Fais, Viquerat, Herr, Siebert ITAW].

Results can be found under:  
[http://www.bfn.de/0314\\_monitoringberichte.html](http://www.bfn.de/0314_monitoringberichte.html)

In Autumn 2015 the German participation and financial help for the international SCANS III project was decided for 2016/2017 by the German Ministry for the Environment. This project will allow a continuation of the visual monitoring in the North Sea as already started by SCANS I (1994) and continued by Scans II (2005).

SCANS is the Acronym, which was created for the first project: "Small Cetacean Abundance in the North Sea and adjacent waters". [BMUB]

Harbour porpoise (*Phocoena phocoena*) Distribution: North Sea coast, rivers Ems, Jade, Weser, Elbe Data from an opportunistic sighting scheme, © Denise Wenger, GRD/ITAW

In 2015 a total of 58 sighting of harbour porpoises were reported for the Ems (2), Jade (4), Weser (11) and Elbe (13) rivers, the eastern Frisian Islands (5), in the North Sea in direction to Helgoland (13), near Amrum (1), near the island Föhr (1) and along the whole western part of the island Sylt (8). Sightings were opportunistic from sailing boats, motor boats, ferries as well as few kayaks or from land.

Group size: Most frequently single animals were observed, followed by pairs or groups of three. In rare occasions (mostly around Sylt) groups of up to 6 whales were seen during mating and calving time from July to August and one sighting in October (group of 5-6).

In 2015 in the Weser and Elbe rivers most sightings occurred in the river mouths and not in the lower stretches near to the cities Brake or Bremen in the Weser or Wedel and Hamburg in the Elbe as in previous years. Also, nearly no sightings occurred during March, but later. It is suspected that this is due the fact that migration of smelt upstream to their spawning grounds occurred some weeks earlier than usually (already January and February) and that harbour porpoises, following the aggregating and migrating smelt shoals upstream, have not yet been close to the coast.

A total of 6 dead harbour porpoises were reported from the different sides.

Elbe river

In 2015, as in the previous year (2014) after a relatively warm winter period just a few (4) sightings were reported in the Hamburg harbour area during spring time (March to May). The other sightings occurred near to or in the river mouth. 13 sightings were reported along the Elbe river either located near to the river mouth or near the cities of Wedel and Hamburg.

The first sighting occurred on March 17, a group of 2-3 harbour porpoises was spotted in the Hahnöfer Nebelbe opposite the city Wedel, a known spawning ground of twaite shad.

Weser river

All reported sightings occurred in an area in the outer estuary near Wremen (north of Bremerhaven) or along the Container terminals of Bremerhaven or south of Bremerhaven at Blexen). No sighting was reported from the lower river stretch [GRD/ITAW].

#### LITHUANIA

No data of harbour porpoise presence in Lithuanian Baltic Sea coastal waters were collect since 2015.

#### NETHERLANDS

Aerial surveys to estimate the abundance of harbour porpoises were conducted on the Dutch Continental Shelf in July 2015. These surveys were conducted along predetermined track lines using distance sampling methods in four areas: A "Dogger Bank", B "Offshore", C "Frisian Front" & D "Delta". Between 11 and 16 July, the entire Dutch Continental Shelf (DCS) was surveyed.

In total, 144 sightings of 172 individual harbour porpoises were collected. Porpoise densities varied between 0.36-1.34 animals/km<sup>2</sup> in the areas A-D. The overall density on the entire Dutch Continental Shelf was 0.70 animals/km<sup>2</sup>.

The total numbers of harbour porpoises on the Dutch Continental Shelf (areas A-D) in July 2015 were estimated at 41 299 (Confidence Interval (CI) = 21 194 - 79 256). This estimate is intermediate between the estimate for July 2010 (25 998, CI = 13 988 – 53 623) and July

2014 (76 773, CI = 43 414-154 265), however, the confidence intervals of the estimates overlap. Therefore, the estimates do not differ statistically.

Land-based observations during systematic sea watches and records of beached animals showed lower numbers in Dutch coastal waters in 2015 (including July) compared to previous years. This caused concern about a potential reduction in abundance of porpoises in Dutch waters. However, the results of the abundance estimates per area show that most porpoises (58.9%) were estimated for the northernmost areas A –Dogger Bank and B – Offshore. This suggests that harbour porpoises had a more offshore distribution in 2015 than in the previous period.

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. More information is available at: <http://www.trektellen.nl/>

Strandings (live and dead) are collated in a database presented at the website <http://www.walvisstrandingen.nl/>

Records of live sightings as well as dead animals are also found at <http://waarneming.nl/> and <http://www.telmee.nl/>

The Rugvin foundation is a volunteer based organisation conducting cetacean surveys in the Southern North Sea and Eastern Scheldt and member of the Atlantic Research Coalition (ARC) European Cetacean Monitoring Coalition (ECMC). In 2015, they continued their monitoring programme for the Stena ferry line platforms between Hoek van Holland and Harwich. Resulting in a total number of 154 harbour porpoises and 8 white beaked dolphins.

Rugvin continued their activities in the Eastern Scheldt. The annual count of porpoises was held in September and resulted in a number of 29 porpoises. The Porpoise Photo ID project received a boost by a new team and database. This project will continue in 2016.

#### References:

Geelhoed SCV, Lagerveld S & Verdaat JP 2015. Marine mammal surveys in Dutch waters in 2015.

Research Report IMARES Wageningen UR - Institute for Marine Resources & Ecosystem Studies, Report No. C189/15.

Haelters J & Geelhoed S, 2015. Minder bruinvissen in de zuidelijke Noordzee? Zoogdier 26(4): 1-3.

#### POLAND

Year-round monitoring of the coast, with the participation of volunteers trained by the Marine Station in Hel, so-called WWF Blue Patrol, is ongoing. The WWF Blue Patrol includes 200 volunteers – the participants monitor and intervene if any of the observed marine mammals or birds needs help. The cooperation between the network of field volunteers and the research entity such as the Hel Marine Station of the Institute of Oceanography of the University of Gdansk (SMIOUG) allows the appropriate response to any reports regarding Baltic mammals (including porpoises) present on the beach.

In December 2015 the implementation of "Pilot monitoring of marine species and habitats in 2015-2018" project started. This project also includes the marine mammals. Observations of porpoises from planes will be carried out and 3 sets of POD – devices used for passive detection of porpoises will be placed. Results of the monitoring will be accessible to the public. Proposals of the geographical location of the PODs will be selected based on the results of the SAMBAH project, in places where, during the project, greater number of

porpoises has been observed. The objective of the project will be to confirm the occurrence, determine the number and breeding sites of marine mammals.

#### SWEDEN

A LIFE+ Nature application for the SAMBAH project was approved and the Grant Agreement was signed in November 2009 by the Kolmården Wildlife Park as the Coordinating Beneficiary. This project is running over five years (January 2010 – September 2015), 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) deployed from 1 May 2011 to 30 April 2013 at approximately 300 positions at 5-80m in the Baltic Sea. All EU countries around the Baltic Sea participate in the project; Germany with separate funding.

Three types of experiments have been carried out for calculation of the CPOD detection function; (1), all partners have carried out playback trials emitting artificial harbour porpoise clicks at 0-300m from the CPODs in conjunction with their servicings, (2) the German Oceanographic Museum has lead an experiment in which a three-dimensional array has been deployed from a boat, drifting in an area where CPODs have been deployed and porpoises have been present, and (3) the Danish team has deployed CPODs on a line outside pound nets with porpoises trapped inside. In addition to these experiments, the Danish team has deployed acoustic tags on harbour porpoises to obtain data on their click rate. These data sets 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.

In 2013 the CPOD data collection and all experiments on supplementary data have been finished. The CPOD data has been quality controlled and a database for future storage of the data has been designed. Due to the delay in the CPOD data collection (originally planned from January 2010 to December 2012) the project end date has been extended from December 2014 to September 2015. All analyses will be finalized in 2014 and the public end-of-project conference will be held at Kolmården Wildlife Park on 8-9 December 2014.

The SAMBAH end-of-project conference was held on 8-9 December 2014 at Kolmarden Wildlife Park. Here, the final results of SAMBAH were presented, including abundance estimates and distribution maps of harbour porpoises in the Baltic Sea, and the use of the results in management were discussed.

On 9-10 December there was a national workshop dedicated to Swedish marine environment managing bodies.

Please visit [www.sambah.org](http://www.sambah.org) for more information.

[SAMBAH news August 2014](#)

#### UNITED KINGDOM

The Joint Cetacean Protocol (JCP) project (see <http://jncc.defra.gov.uk/page-5657>) was initiated in 2006. The JCP assembled disparate effort-related cetacean sightings datasets from all major sources covering north-west European Atlantic waters e.g. SCANS I and II; CODA surveys; ESAS; SWF; Atlantic Research Coalition (ARC). It also included data from non-governmental and marine renewable industry sources. Three analyses of the JCP data resource have been completed to date, with the Phase III analysis producing species specific density layers at the UK scale. The final outputs were modelled density surfaces for seven species averaged over time, with associated uncertainty, The JCP III report has recently been published (<http://jncc.defra.gov.uk/page-7201>).

The UK is supporting the SCANS III survey which is being coordinated by the University of St Andrews. The survey began in June 2016 and aims to cover continental shelf and offshore

waters of northwest Europe. The project will deliver updated abundance estimates for the most frequently seen species and will report in 2017.

Natural Resources Wales (NRW) commissioned the monitoring of bottlenose dolphin in Cardigan Bay and Pen Llŷn a'r Sarnau Special Areas of Conservation in 2015 (Lohrengel & Evans 2016). Additionally, NRW commissioned WDC to conduct vantage-point and, where possible, boat-based surveys of Risso's dolphins off Bardsey Island (North Wales) (report in preparation).

During June 2015, Sea Watch Foundation (SWF) organized a simultaneous cetacean & seabird linetransect survey of the Minch, West Scotland, in collaboration with the RSPB. The aim was to a) determine whether cetaceans and seabirds shared the same hotspots, and to examine environmental drivers of their distributions; and b) compare the at sea distributions of feeding auks (razorbills & guillemots) with those derived from birds from the Shiant Isles GPS tagged by the Royal Society for the Protection of Birds (RSPB). A total of 1,300 km were surveyed using double platform Distance methodology, resulting in 341 sightings/1,103 individuals of nine marine mammal species (seven cetaceans: harbour porpoise, minke whale, short-beaked common dolphin, white-beaked dolphin, Risso's dolphin, bottlenose dolphin, and humpback whale). The survey will enable abundance estimates to be derived for the commoner species, and help inform proposals for protected areas for harbour porpoise, minke whale and Risso's dolphin in the region.

In 2015-16, as part of the NERC funded Marine Ecosystems Research Programme (MERP), SWF observers started to undertake cetacean & seabird surveys aboard Bangor University's research vessel 'Prince Madog' and the Cefas research vessel 'Cefas Endeavour'. These surveys cover mainly areas in the Celtic Sea and Irish Sea, but also off SW and eastern England. More coastal surveys have also been undertaken on a regular basis off the Yorkshire coast using whale watch vessels as platforms of opportunity.

Also, as part of MERP, survey data sets of cetacean sightings, physical oceanographic variables and prey data from the last 30 years are being compiled to examine potential environmental drivers of spatio-temporal patterns in distributions of all regular cetacean species occurring in NW European waters.

The Hebridean Whale and Dolphin Trust (HWDT) continued visual and acoustic line-transect surveys of the west of Scotland from their sailing research vessel *Silurian*. These surveys have been conducted annually between April and October since 2003 amounting to over 48,000 nautical miles of coverage in the study area (from the Mull of Kintyre to Cape Wrath and west of the Outer Hebrides). During 2015, 4,700 nautical miles of visual and acoustic effort was conducted over 790 hours in mostly good sea conditions resulting in 966 cetacean sightings. Since 1992, HWDT has also had a long-standing collaborative research project with Sea Life Surveys (<http://www.sealifesurveys.com>). During 2015, Sea Life Surveys contributed 4,900 nautical miles and 920 hours of survey effort data resulting in 489 cetacean sightings to the HWDT. Using the same methodology as Sea Life surveys a new research collaboration was formed with Elizabeth G, a live-aboard wildlife and scenery cruise boat which carries out cruises throughout the Hebrides. These data are used by SNH, Marine Scotland and JNCC to inform the boundaries of some proposed MPAs and SACs. HWDT uses the data to inform planning application submissions; namely objections to the use of acoustic deterrent devices on finfish aquaculture pens in areas known to support high relative abundances of cetaceans.

In addition to the dedicated surveys carried out by the HWDT research vessel *Silurian*, HWDT also hold an incidental sightings database which is contributed to by members of the public via the HWDT website (<http://www.whaledolphintrust.co.uk>). Between January and December 2015, 1,247 sightings of 11 species of cetacean were reported. These data are particularly useful for monitoring bottlenose dolphins, as due to their coastal distribution they are often under-represented in the HWDT dedicated survey data.

Data on the distribution of human activities known such as creels, acoustic deterrent devices and floating litter are also recorded with a view to assessing risk to cetaceans (e.g. acoustic disturbance and entanglement). A total of 38 minke whales were photo-identified during 2015 which are being added to HWDT's catalogue which has data from each year since 1990 and consists of 223 individuals. In 2014 HWDT was commissioned to write a report on ghost gear and entanglement in cetaceans. The primary finding was that box packing straps are a source of entanglement in minke whales, particularly around the rostrum (Ryan and Froud, 2015). HWDT collaborated widely with researchers in the UK and abroad during 2015:

- Ryan, C., Froud, K., Harries, O., van Geel, N., Calderan, S. (2015). Is the cetacean community of Western Scotland changing? Presentation at the 29th Annual Conference of the European Cetacean Society, Malta, March 2015.
- Ryan, C., MacLeod, G., Dinsdale, C. and Cook, S. (In Review). Long-term association between a solitary shortbeaked common dolphin *Delphinus delphis* and a harbour porpoise *Phocoena phocoena*. Marine Biodiversity Records.
- Cucknell, A-C., Frantzis, A., Boisseau, O., Romagosa, M., Ryan, C., Tonay, A. M., Alexiadou, P., Öztürk, A. A. and Moscrop, A. (In Review). Harbour porpoises in the Aegean Sea, Eastern Mediterranean; the species' presence is confirmed. Marine Biodiversity Records.
- Ryan, C., Whooley, P., Berrow, S.D., Barnes, C., Massett, N., Strietman, W.J., Broms, F., Stevick, P.T., Fernald Jr, T.W. and Schmidt, C. (2015). A longitudinal study of humpback whales in Irish waters. Journal of the Marine Biological Association of the United Kingdom, In Press.
- van Geel, N. (In prep). Bottlenose dolphin (*Tursiops truncatus*) movement patterns on the west coast of Scotland. PhD Thesis. Scottish Association for Marine Science.

WDC conducted photo-ID surveys off the Isle of Lewis in Scotland and from Bardsey Island in North Wales in 2015. The WDC Shorewatch Programme has collected effort-based cetacean sightings from Spey Bay since 2005 and from wider sites around Scotland since 2010 ([www.whales.org/shorewatch](http://www.whales.org/shorewatch)). WDC holds records of more than 30,000 effort-based cetacean watches by trained observers. The Shorewatch database went live during 2015 and is a fully web-accessible for trained volunteers with reduced accessibility for the wider public.

In accordance with SNH funding, all recorded sightings are made fully available to the public through the NBN gateway ([www.nbn.org.uk/](http://www.nbn.org.uk/)).

In 2015 AFBI began collecting photo-ID images for bottlenose dolphins via social media and collated this with data collected by the Department of Environment for Northern Ireland and from the Irish Whale and Dolphin Group sighting scheme. Identifications will be cross-checked and where appropriate individuals will be incorporated into existing catalogues. Results from the work are due to be published in 2016.

## 4.2 New Technological Developments

BELGIUM
None
DENMARK
Developing a new research Tool for use in free-ranging cetaceans: recovering cortisol from harbour porpoise skin. Bechshøft, Thea Østergaard;; Wright, Andrew John; Weisser, Johan J.; Teilmann, Jonas; Dietz, Rune; Hansen, Martin; Björklund,, Erland; Styrihave, Bjarne.

I: Conservation Physiology, Vol. 3, Nr. 1, 2015.

We developed a chemical analytical procedure for sampling, extracting and determining epidermal skin cortisol concentrations (SCCs) in the harbour porpoise (*Phocoena phocoena*) using gas chromatography–tandem mass spectrometry. In brief, this involved a pressurized liquid extraction with a twostep solid-phase clean-up. A derivatization step was conducted prior to detection. To evaluate the new assay, cortisol was analysed in three different sample types obtained from four harbour porpoises: skin plates, dorsal fin skin plugs (with and without lidocaine) and epidermal scrapes. Skin cortisol concentrations could be measured using the new assay in the majority of the tested skin samples down to a minimal sample size of 49 mg dry weight (dw). Water content ranged from 10 to 46% in the plug samples, which had SCCs from 2.1 to 77.7 ng/g dw. Epidermal scrape samples had the highest water content (83–87%) and lower SCCs (0.6–15 ng/g dw), while the skin plates had intermediate water contents (60–66%) and SCCs of 2.6–13.0 ng/g dw. SCC was slightly higher in plugs with lidocaine than without (average values of 41 and 33 ng/g dw, respectively).

Substantial within-individual variations in cortisol concentrations are also common in other matrices such as blood and hair. Some important factors behind this variation could be e.g. the animal's sex, age, body condition, reproductive stage, and the body region sampled, as well as season, moulting cycles and water temperature. Clearly, more research into SCCs is required. The findings described here represent the first critical steps towards using epidermal skin cell samples to assess chronic stress levels in cetaceans and the development of a widely applicable health-assessment tool in these species.

FINLAND

None

FRANCE

(Observatoire PELAGIS - 2015): Recent work aimed at providing a context for the interpretation of marine megafauna stranding data and various indicators, in order to assess the achievement of specific objectives against Good Environmental Status criteria in the context of the EU Marine Strategy Framework Directive or other regional agreements (Peltier and Ridoux, 2015).

The general principle is to set a priori information on spatial distribution of marine megafauna, to determine the stranding probability at any location of the study area and generate predicted stranding data sets by using a drift model over a given period of time and across a given study area. Conversely, the observed stranding data set for the same area and period can be used to define the origin of stranded animals; and to infer the distribution of dead animals at sea, when corrected by stranding probability. Finally, stranding anomalies are defined as the difference between observed and predicted strandings under H<sub>0</sub>, whereas anomalies in distribution and mortality are defined as the difference between the inferred and a priori spatial distributions of dead megafauna. Among twelve indicators dedicated to harbour porpoise conservation proposed in the harbour porpoise conservation plan developed under ASCOBANS, four of them aimed to evaluate the effect of fishery activities on porpoise populations based on data collected on boats and in strandings. These indicators could be further improved by the estimation of the origin of stranded porpoises and the distribution inferred from stranded porpoises with bycatch evidences. Anomalies in distributions would highlight critical areas with a high level of interaction with fisheries. This information is very important to assess small cetacean conservation status and could help in designing better adapted mitigation actions.

Peltier, H. & Ridoux, V., 2015. Marine megavertebrates adrift: A framework for the interpretation of stranding data in perspective of the European Marine Strategy Framework Directive and other regional agreements. Environ. Sci. Policy 54, 240–247.

GERMANY
None
LITHUANIA
None
NETHERLANDS
<p>IMARES reviewed the feasibility of tagging harbour porpoises in Dutch waters. The review describes an overview of the technical status and the different types of tags, 2) how tags have been used in other areas on porpoises, 3) how tags can be attached to porpoises, 4) how porpoises can be obtained for tagging and 5) what the legal framework for tagging in the Netherlands is.</p> <p>A major conclusion of the review is to use a step by step approach to better understand the ecology of the harbour porpoises in Dutch waters through tracking individuals, carefully considering pros and cons in relation to research questions. A first step could be investigating some of the less invasive methods for tagging (small trailing edge tag, detachable tag) and apply them to captive-cared animals, or incidental captures (e.g. weir fishery) prior to trialling any wild capture programs. This would provide an insight into what methods could best work in The Netherlands, whilst also providing the first data on the behaviour of individual harbour porpoises in Dutch waters.</p> <p>References:</p> <p>Scheidat M, Bos O &amp; Geelhoed SCV, 2016. The feasibility of tagging harbour porpoises in Dutch waters.</p> <p>IMARES Report C009/16.</p>
POLAND
None
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. This work has continued in cooperation with a project on cod pots by the South Baltic Flag.</p>
UNITED KINGDOM
<p>A large research project on marine mammals, 'Marine Mammal Scientific Support Research Programme (MMSSRP)', was carried out by the Sea Mammal Research Unit with Scottish Government funding. It began in 2012 and the first phase was completed in 2015. A summary of the major findings is available here:</p> <p><a href="http://www.smru.st-andrews.ac.uk/documents/scotgov/MMiS_scientific_research_supporting_policy.pdf">http://www.smru.st-andrews.ac.uk/documents/scotgov/MMiS_scientific_research_supporting_policy.pdf</a></p> <p>One of the outputs of this research was a comprehensive study of the behaviour of marine mammals in areas of high tidal energy and was jointly funded by Scottish Natural Heritage and Marine Scotland in 2015. The tidal energy in the waters around the Inner and Outer Hebrides and Orkney Islands represents a considerable resource that will necessarily form part of Scotland's offshore renewable energy programme. There is, however, concern over the potential for interaction between marine mammals and tidal turbines. The most obvious, and probably the most important interaction at least in terms of public perception, is the potential for injuries or fatalities resulting from direct contact with moving parts of tidal power</p>

devices. The 'Demonstration strategy: Trialling Methods for Tracking the Fine Scale Underwater Movements of Marine Mammals in Areas of Marine Renewable Energy Development' developed and tested both passive and active acoustic monitoring systems for tracking the fine scale movements of marine mammals around tidal energy devices. These systems will be developed with a view to implementation at the first tidal energy projects to be deployed in Scottish waters to allow an understanding of the risk of direct interactions between marine mammals and tidal turbines. The project is being undertaken by the University of St Andrews and will report in spring 2016. A topic sheet providing more information on this project can be found online; see <http://www.gov.scot/Resource/0045/00458981.pdf> and <http://www.gov.scot/Topics/marine/Publications/TopicSheets/tolist/tracking>

Another relevant study – 'Tests of acoustic signals for aversive sound mitigation with harbour seals' – was carried out under phase one of MMSSRP and its outputs were published in 2015. The project focused mainly on harbour seals but it also make reference to mechanisms designed to minimise the risk of disturbing harbour porpoise and other sensitive cetaceans from anthropogenic activities that produce intense sound in the marine environment. The mitigation measures to minimise the risk of causing damage or injury are often a requirement when licences are issued to carry out risky activities in the marine environment. More information on this project can be found online <http://www.smru.st-andrews.ac.uk/pageset.aspx?psr=152#mr>

A second phase of MMSSRP began in May 2015 and involves a 5 year programme which will be looking at three main issues, one of them being the impacts of Marine Renewable Energy on marine mammals.

During 2015 the SMRU completed a Natural Environment Research Council (NERC) funded 'Knowledge Exchange' project. Designing and building an autonomous device to track harbour porpoise movements in tidal rapids. A report is available here: [http://www.smru.stand.ac.uk/documents/nerc/NERC\\_MRE\\_KEP\\_Tracking\\_Harbour\\_Porpoises\\_in\\_Tidal\\_Rapids.pdf](http://www.smru.stand.ac.uk/documents/nerc/NERC_MRE_KEP_Tracking_Harbour_Porpoises_in_Tidal_Rapids.pdf)

ECOMMAS (East Coast Marine Mammal Acoustic Studies)

Ongoing project delivered by Marine Scotland Science. The array of acoustic loggers to detect harbour porpoises and dolphins along the east coast of Scotland will be deployed again in 2016, for the fourth consecutive year. The results will be used to inform impact assessments for renewables developments and also to provide data for reporting on MSFD Descriptor 11. More info on this can be found here: <http://www.gov.scot/Topics/marine/science/Publications/TopicSheets/ECOMMAS>

A shore-based digiscoping project (funded by Environment Wales) has been in operation within Cardigan Bay SAC, collecting images for the long-term photo-ID monitoring project. See <http://www.seawatchfoundation.org.uk/cardigan-bay-monitoring-project/>

WDC organised a workshop at the International Marine Conservation Committee (IMCC) on noise reduction technologies for pile driving in 2014.

Natural Resources Wales working with SMRU Consulting, Sea Mammal Research Unit and the Scottish Association of Marine Sciences have recently published a new set of guidance on marine mammal surveying requirements at wave and tidal stream energy sites in Wales. This report now provides a framework for assessing risk to marine mammals from wave and tidal stream developments and provides guidance on how to tailor surveys to provide better information for impact assessments (Sparling et al 2015).

Sparling C, Smith K, Benjamins S, Wilson B, Gordon J, Stringell T, Morris C, Hastie G, Thompson D & Pomeroy P (2015) Guidance to inform marine mammal site characterisation requirements at wave and tidal stream energy sites in Wales. NRW Evidence Report Number 82. 87pp. Natural Resources Wales, Bangor.

Available at: <https://naturalresources.wales/our-evidence-and-reports/guidance-to-inform-marine-mammal-and-tidal-stream-energy-sites-in-wales/?lang=en>

### 4.3 Other Relevant Research

BELGIUM
None
DENMARK
None
FINLAND
None
FRANCE
None
GERMANY
<p>Marine Mammal Signatures</p> <p>A study about the detection and classification of marine mammal signatures was continued and finished successfully, with the focus on the improvement of the classification algorithms and processing of signatures in real-time.</p> <p>The automated estimation of the number of individual sperm whales from acoustic recordings was investigated, using clustering and grouping techniques of the click signatures. It was finished successfully and will be continued looking at other species.</p> <p>For the use within the German Navy new acoustic data of marine mammals were analysed to use them for risk mitigation purposes (detection, classification).</p> <p>A pilot study about the detection probability of harbour porpoises at the surface, using automated image processing algorithms from data of a mounted digital video camera at the research platform FINO 3, was continued and finished.</p> <p>The investigation on the possible use of random sightings for improving models on the prediction of marine mammal abundance was initiated in a study [BMVg].</p> <p>Stranding networks</p> <p>In Schleswig-Holstein all stranded cetaceans from the North and Baltic Seas are collected through the local stranding network. Necropsies are conducted to assess the health status and to identify anthropogenic effects on cetaceans in the North and Baltic Seas funded by the Ministry of Renewable Energies, Agriculture, Environment and Rural Areas of Schleswig-Holstein (MELUR). In addition, reproduction biology, age, genetic structure and feeding ecology are studied [Wehrmeister, Lakemeyer, Reckendorf, Grilo, Siebert ITAW].</p> <p>In Lower Saxony the collection of information about harbour porpoises found dead was also continued 2015.</p> <p>The number of harbour porpoises found dead at the coast of Lower Saxony amounts to 56 carcasses in 2015.</p> <p>Additional one white-beaked dolphin (<i>Lagenorhynchus albirostris</i>) was found dead at the coast of the island of Borkum in 12/2015. The data about harbour porpoises found dead since 1983 can be obtained from the link given in 4.1 [NP-LS].</p>

In Mecklenburg – West Pomerania (MV) the stranding networks also continued in 2015 and a total of 44 dead harbour porpoises were found at the coasts of MV [DMM].

#### Stable Isotopes

With the financial support of the Ostseeforschungstiftung, the German Oceanographic Museum is conducting a study to determine food preference, migration patterns and calving grounds of harbour porpoises in the German Baltic Sea on the basis of stable isotopes. The project started on the 1st of May 2015. So far 5 different site samples have been taken (invertebrates and different fish species) as well as tissue and stomach content samples taken during necropsies carried out of stranded animals [DMM].

#### Development of marine mammal health and ecology in different climate conditions

With the financial support of the Volkswagen Foundation, the Institute for Terrestrial and Aquatic Wildlife Research of the University of Veterinary Medicine Hannover, the German Oceanographic Museum in Stralsund, the Zoological Institute and the Zoological Museum of Hamburg University, the Zoological Institute and Museum at the University of Kiel, Hildesheim University and the National History Museum in Denmark and the

Swedish Museum of Natural History are involved in this cooperative project.

Specifically, bone density and bone structure in preparations spanning several decades of harbour porpoises, harbour seals and grey seals will be compared, and bones will be examined for trace elements and heavy metals such as mercury, lead and selenium. In addition, changes in the food spectrum will be analysed and searched for stress markers to see whether environmental conditions have changed over time. It is also foreseen to detect viruses and to categorize parasites within the framework of the project. Aim of the project is to work out parameters suitable for assessing the health of the marine mammals over an extended time period [DMM].

#### LITHUANIA

None

#### NETHERLANDS

Winter 2015 IMARES and University Utrecht conducted field-based experiments to describe fox scavenging marks on carcasses of harbour porpoises. These experiments resulted in two video-taped interactions between foxes and the carcasses. During one of these interactions a fox tried to scavenge on one of the carcasses leaving distinct bite marks. Based on this result and another case study, the appearance of fox induced mutilations was defined as:

‘Multifocal injuries, extremities partly removed, with frayed edges (possible chewing); irregular, and relatively superficial scratches (possible by claws); deeper, focal injury where blubber is penetrated.’

Subsequently a retrospective analysis was conducted of the available post mortem photo database of fresh to moderately fresh necropsied porpoises between 2008-2013 to assess the rate of occurrence of fox induced mutilations on porpoise carcasses. This analysis was conducted to assess the presence of mutilations on stranded porpoises fitting these criteria. Analysis suggests that 12% (N=52) of all carcasses (N=429) was ‘probably fox scavenged’. This was ‘possibly fox scavenged’ for 46% (N=199) and ‘unlikely fox scavenged’ for 22% (N=96). The remaining carcasses (18%, N=81) were qualified as unknown, since they lacked images or were too decomposed making interpretation impossible. The results of this study can aid in identification of causes of the death during necropsies of harbour porpoises.

References:

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POLAND
The University of Gdansk is currently building a ship designed for, among others, the observation of marine mammals and related hydroacoustic tests. At the moment, the ship is equipped with machines handling the measuring and research gear.
SWEDEN
None
UNITED KINGDOM
<p>Barnett, J., Dastjerdi, A., Davison, N., Deaville, R., Everest, D., Peake, J., Finnegan, C., Jepson, P., Steinbach, F. (2015) Identification of Novel Cetacean Poxviruses in Cetaceans Stranded in South West England. PLoS ONE 10(6): e0124315. doi:10.1371/journal.pone.0124315</p> <p>Bertulli, C.G., Galatius, A., Kinze, C.C., Rasmussen, M.H., Deaville, R., Jepson, P., Vedder, E.J., Sánchez Contreras, G.J., Sabin, R.C. and Watson, W. (2015) Vertebral column deformities in white-beaked dolphins from the eastern North Atlantic. Diseases of Aquatic Organisms 116: 59–67</p> <p>Boys, R. (2015) Fatal Interactions between Bottlenose Dolphins (<i>Tursiops truncatus</i>) and Harbour Porpoises (<i>Phocoena phocoena</i>) in Welsh Waters. BSc thesis, University of Bangor. 133pp.</p> <p>Davison, N.J., Brownlow, A., McGovern, B, Dagleish, M.P., Perrett L.L., Dale E-J., Koylass, M, Foster, G. (2015) First report of <i>Brucella ceti</i>-associated meningoencephalitis in a long-finned pilot whale <i>Globicephala melas</i>. Diseases of Aquatic Organisms 116;237-241 doi:10.3354/dao02926 27/10/15</p> <p>Dolman, S.J., Tetley, M.J., Eisfeld-Pierantonio, S.M., Green, M., Read, F., Ritter, F. and Evans, P.G.H. (2015). The necessity of Management Options for effective harbour porpoise conservation in the UK: Case studies of emerging Areas of Concern. A WDC Report.</p> <p>Embling, C., Walters A.E.M., and Dolman, S.J. (2015). How much effort is enough? The power of citizen science to monitor trends in coastal cetacean species. Global Ecology and Conservation. (3), pp. 867–877.</p> <p>Evans, P.G.H. (editor) (2015) Introducing noise into the marine environment – what are the requirements for an impact assessment for marine mammals? Proceedings of an ECS / ASCOBANS / ACCOBAMS Joint Workshop held at the 28th Annual Conference of the European Cetacean Society, Liège, Belgium, 6 April 2014. ECS Special Publication Series No. 58: 1-113.</p> <p>Evans, P.G.H. and Anderwald, P. (2016) Addressing human pressures upon marine mammals: a European and global perspective. Journal of the Marine Biological Association of the United Kingdom, 1-3. doi:10.1017/S0025315416000539.</p> <p>Evans, P.G.H., Pierce, G.J., Veneruso, G., Weir, C.R., Gibas, D., Anderwald, P., and Santos, M.B. (2015) Identification whether persistent areas of harbour porpoise and bottlenose dolphin are supported by available evidence. JNCC Report No. 543. Joint Nature Conservation Committee, Peterborough. 147pp.</p> <p>Evans, P.G.H., Pierce, G.J., Veneruso, G., Weir, C.R., Gibas, D., Anderwald, P., and Santos, M.B. (2015) Analysis of long-term effort-related land-based observations to identify whether</p>

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Heinanen, S. and Skøv, H. (2015) The identification of discrete and persistent areas of relatively high harbour porpoise density in the wider UK marine area. JNCC Report No. 544. Joint Nature Conservation Committee, Peterborough. 108pp.

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Jensen, S-K., Lacaze, J.P., Hermann, G., Kershaw, J., Brownlow, A., Turner, A. and Hall, A. (2015) Detection and effects of harmful algal toxins in Scottish harbour seals and potential links to population decline. *Toxicon* 97: 1–14

Lohrengel, K. and Evans, P.G.H. (2016) Bottlenose dolphin and harbour porpoise monitoring in Cardigan Bay and Pen Llŷn a'r Sarnau Special Areas of Conservation. Interim Report to Natural Resources Wales. Sea Watch Foundation, New Quay, Ceredigion. 85pp.

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Murphy, S., Perrott, M., McVee, J., Read, F., and Stockin, K. A. (2015). Deposition of growth layer groups in dentine tissue of captive common dolphins *Delphinus delphis*. NAMMCO Scientific Publication Volume 10: Age estimation of marine mammals with a focus on monodontids. doi: <http://dx.doi.org/10.7557/3.3017>

Norrman, E., Dussan-Duque, S., and Evans, P.G.H. (2015) Bottlenose Dolphins in Wales: Systematic Mark- Recapture Surveys in Welsh Waters. Natural Resources Wales Evidence Report Series No. Natural Resources Wales, Bangor. 83pp.

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Villar, D., Berthelot, C., Aldridge, S., Rayner, T., Lukk, M., Muffato, M., Park, T., Deaville, R., Erichsen, J., Murchison, E.P., Jasinska, A.J., Turner, J.M.A., Limb, A., Flicek, P. and Odom, D.T. (2015) Enhancer evolution across twenty mammals. *Cell*. 160, 554-566.

## C. USE OF BYCATCHES AND STRANDINGS

### 5 POST-MORTEM RESEARCH SCHEMES

#### 5.1 Contact Details

#### 5.2 Methodology

#### 5.3 Samples

#### 5.4 Database

#### 5.5 Additional Information

BELGIUM
Contact details of research institutions / focal point
RBINS ULg (see general information)
Methodology used (reference, e.g. publication, protocol)
No new information since 2009

Collection of samples (type, preservation method)
Compared to previous years, remarkably few stranded porpoises were recorded: 52, of which 25 were autopsied. Possibly fewer porpoises were present, and they stayed on average further from the coast than in recent years. Among the collected porpoises bycatch (7) and predation by Grey seals (4) was identified as cause of death, in addition to other (natural) causes (causes of death estimated in stranded animals using external characteristics and/or autopsy findings). None of the bycaught animals were reported by fishermen.
Database (Number of data sets by species, years covered, software used, online access)
<a href="http://www.marinemammals.be">www.marinemammals.be</a>
Tissues are recorded in a tissue database (not online yet).
Additional Information (e.g. website addresses, intellectual property rights, possibility of a central database)
No new information.

DENMARK
Contact details of research institutions / focal point
The National Veterinary Institute, Technical University of Denmark, Bülowsvej 27, 1870 Frederiksberg C, Denmark. Phone +4535886719, email: <a href="mailto:mesi@vet.dtu.dk">mesi@vet.dtu.dk</a> The Fisheries and Maritime Museum, Tarpbagevej 2, 6710 Esbjerg V, Denmark. Contact person: Lasse Fast Jensen, phone +45 76122000, email: <a href="mailto:lfi@fimus.dk">lfi@fimus.dk</a>
Methodology used (reference, e.g. publication, protocol)
Standardized post mortem protocols
Collection of samples (type, preservation method)
The National Veterinary Institute, necropsies (contact: Mette Sif Hansen, <a href="mailto:mesi@vet.dtu.dk">mesi@vet.dtu.dk</a> ) Collection of samples for: <ul style="list-style-type: none"> <li>• Parasitology (lung, intestines, diaphragma)</li> <li>• Storage (lung and spleen)</li> <li>• Other tissues on indication</li> </ul> Collection of samples to: Aarhus University (contact: Anders Galatius, <a href="mailto:agj@dmu.dk">agj@dmu.dk</a> ) and The Fisheries and Maritime Museum (contact: Lasse Fast Jensen, <a href="mailto:lfi@fimus.dk">lfi@fimus.dk</a> ): teeth, muscle, skin, blubber, liver, kidney, stomach contents, urine, blood, spleen, gonads/reproductive organs, lung, diaphragma, faeces.
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)
Necropsy findings of marine mammals are reported on an annual basis in a report (in Danish) from DTU-VET for the Danish Nature Agency. The latest available report covers 2014. <a href="http://www.vildtsundhed.dk/Om-Vildtsundhed-dk/Aarsrapporter">http://www.vildtsundhed.dk/Om-Vildtsundhed-dk/Aarsrapporter</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
Stranding monitoring scheme (RNE, Observatoire PELAGIS - 2015) In 2015, data from stranding network are currently being input in the database. Statistics of stranding for the coasts of France in the ASCOBANS region indicate more than 550 cetaceans reported. These strandings concerned 15 species and are composed of 40% of common dolphin, 35 % of harbour porpoise, 8 % of striped dolphin, 5 % of bottlenose dolphin and 10 % other species. In 2014, the stranding monitoring scheme recorded for the English Channel and bay of Biscay coasts two species showing a large proportion of individuals with bycatch marks (Van Canneyt et al. 2015). - Harbor porpoise ( <i>Phocoena phocoena</i> ): the temporal distribution of strandings (n=305, on french coast in 2014) shows a marked seasonality in the spring, peaking in April for the English Channel. Post mortem exams performed on 104 individuals revealed characteristic

marks of bycatch of 61 individuals (58%). In the Atlantic coast, on a sample of 51 individuals examined, 26 showed evidence of bycatch (51%).

- Common dolphins (*Delphinus delphis*): there have been new episodes of multiple strandings on the Atlantic coast between February and March 2014. During this period, more than 220 common dolphins were recorded, representing half of stranding of common dolphins on French coast in 2014. On 138 common dolphins (Decomposition Code less than or equal to 3) examined the Atlantic coast during the winter, the proportion of individuals with bycatch marks amounts to 48.5%. This rate exceeds 70% during the most acute peaks.

Winter peaks observed in recent years have a magnitude, less important than peaks observed in the 1990s, but are recurrent and linked with bycatch. This analyses made on strandings demonstrate that bycatch of Common dolphin exist in some fisheries of the bay of Biscay, fisheries which are not well or enough observed at sea.

Methodology used (reference, e.g. publication, protocol)

Van Canneyt O. et al. (2015). Guide des échouages de mammifères marins. Cahier technique de l'Observatoire PELAGIS sur le suivi de la mégafaune marine. Université de La Rochelle et CNRS, 62 pages.

<http://www.observatoire-pelagis.cnrs.fr/publications/ouvrage/article/le-guide-des-echouages-de>

Collection of samples (type, preservation method)

(Observatoire PELAGIS - 2015) 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). A total exceeds 350 individuals were sampled according 3 levels of exams/sampling.

Database (Number of data sets by species, years covered, software used, online access)

(Observatoire PELAGIS - 2015) National web database (PHP MYADMIN, with restricted access): more than 18000 records for the ASCOBANS area into the 1970-2015 period including 25 species.

Additional Information (e.g. website addresses, intellectual property rights, possibility of a central database)

<http://www.observatoire-pelagis.cnrs.fr/catalogueSI/> (metadata catalogs)

GERMANY

Contact details of research institutions / focal point

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

Schleswig-Holstein (SH): Terrestrial and Aquatic Wildlife Research (ITAW) of the University of Veterinary Medicine Hannover (TiHo), Foundation, Werftstr. 6, D-25761 Büsum

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

[sichtungen@meeresmuseum.de](mailto:sichtungen@meeresmuseum.de)

<p>Phone: +49 (0)3831 2650 333          Fax: +49 (0)3837 2650 209</p>
<p>Methodology used (reference, e.g. publication, protocol)</p>
<p>SH: Measurements were taken in metric system. Necropsies were conducted on porpoises from the Baltic and North Sea.          MV: Basic biological and anatomical data were collected and registered. Necropsy was performed occasionally.          LS: Metric measurements of carcasses in Lower Saxony (District of Cuxhaven) were taken.</p>
<p>Collection of samples (type, preservation method)</p>
<p>MV: Pathological samples will be collected and examined during necropsy if required.          SH: Pathological samples were partly taken on porpoises from the Baltic and North Seas          LS: Due to advanced decomposition of the carcasses no samples could be taken in 2015. Further 2 deep frozen carcasses will be dissected and sampled in 2016 together with Prof. Dr. Ursula Siebert, Institute for Terrestrial and Aquatic Wildlife Research (ITAW), University of Veterinary Medicine Hannover</p>
<p>Database (Number of data sets by species, years covered, software used, online access)</p>
<p>SH: MySQL, Postgresql, Access, Excel          Between 1990 and 2015 the following number of data sets has been collected per species (data recorded until 07.01.16):  <i>Phocoena phocoena</i>: 3.617  <i>Delphinus delphis</i>: 8  <i>Lagenorhynchus albirostris</i>: 26  <i>Lagenorhynchus acutus</i>: 2  <i>Stenella coeruleoalba</i>: 1  <i>Delphinapterus leucas</i>: 1  <i>Delphinapterus ampullatus</i>: 1  <i>Physeter macrocephalus</i>: 7  <i>Balaenoptera acutorostrata</i>: 7  <i>Balaenoptera physalus</i>: 6  <i>Globicephala melas</i>: 3  <i>Tursiops truncatus</i>: 1  <i>Mesoplodon bidens</i>: 1          MV: In 2015 44 dead harbour porpoises were found at the coasts of MV.          LS: The number of dead animals in the district of Cuxhaven amounted to 4 carcasses; one carcass reached the IFF from the Jade-Weser district (total 5 carcasses). Metric data from 2 carcasses were collected and registered in the IFF Cuxhaven. Due to severe decay of one carcass no data could be collected. The further 2 carcasses were deep frozen and will be dissected in 2016 together with the ITAW.</p>

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.deutschesmeeresmuseum.de/dmm/stiftungdeutschesmeeresmuseum/wissenshaft/schweinswale/sichtungen/sichtungsmelden/">http://www.deutschesmeeresmuseum.de/dmm/stiftungdeutschesmeeresmuseum/wissenshaft/schweinswale/sichtungen/sichtungsmelden/</a> )

LITHUANIA
Contact details of research institutions / focal point
No post-mortem researches were performed.
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, The Netherlands. +31 30 253 3591
Methodology used (reference, e.g. publication, protocol)
Adapted from: Kuiken T., García Hartmann M, 1991. Proceedings of the first ECS workshop on cetacean pathology; dissection techniques and tissue sampling. ECS Newsletter 17. Special Issue.  Kuiken T, 1994. Diagnosis of by-catch in cetaceans, Proceedings of the 2nd BCS Workshop on Cetacean Pathology, Montpellier, France. European Cetacean Society Newsletter 26:38-43 and protocols provided by Jauniaux and Siebert.
Collection of samples (type, preservation method)

Depending on conservation state:
<ol style="list-style-type: none"> <li>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 -20°C (-80°C for virology research)</li> <li>2. Gastric contents (frozen to -20°C handed to IMARES)</li> <li>3. Liver, fat and muscle (frozen to -20°C handed to IMARES)</li> <li>4. Skin (ethanol)</li> <li>5. Teeth (water or frozen to -20°C handed to IMARES)</li> <li>6. Parasites (70% alcohol)</li> <li>7. Swabs from the genital openings</li> </ol>
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)
<p>All strandings are collated in a database and shown on the website of Naturalis ().</p> <p>In 2015, more than 300 animals were stranded: 331 harbour porpoises (about half of the number in 2014), fin whale (Nov), two minke whales, two long-finned pilot whales (1 Jan, 1 Dec), and bottlenose dolphins (3 findings of bones) were registered.</p>

POLAND
Contact details of research institutions / focal point
<p>Hel Marine Station, Institute of Oceanography, University of Gdańsk</p> <p>Iwona Pawliczka, <a href="mailto:iwona.pvp@ug.edu.pl">iwona.pvp@ug.edu.pl</a></p>
Methodology used (reference, e.g. publication, protocol)
<p>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.</p>
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.</p> <p>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> </ul>

<ul style="list-style-type: none"> <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 has been prepared and updated, under the title "Atlas of Mammals in Poland" (Polish: Atlas ssakow Polski) (developed by the 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 also includes data on the discoveries of dead or bycaught cetaceans and their 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?splD=183">http://www.iop.krakow.pl/ssaki/Gatunek.aspx?splD=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)
12 porpoises that were found between March-October 2015 were collected for necropsy and sampling for the Environmental Specimen Bank. Two were from the Skagerrak, four from the Kattegat, 4 from Öresund and two from the Baltic. All were found on beaches and at least one of them was bycaught in a fishing gear.
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>

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>
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>Scottish Marine Animal Strandings Scheme (SMASS)                  Contact point - Dr Andrew Brownlow, SRUC, Drummondhill, Stratherrick Road, Inverness, IV2 4JZ</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</p> <p><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> <p>To note: There is an on-going collaboration between CSIP, the RSPCA, others, into the investigation of methods for humane euthanasia of cetaceans.</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. 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>
Database (Number of data sets by species, years covered, software used, online access)
<p>The CSIP holds data on nearly 13000 cetaceans, which were reported, stranded around the UK between 1990 and 2015. In addition, detailed pathological data is also held on over 3600 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</p>

also made available to the public via a Defra funded portal, the NBN gateway ([www.nbn.org.uk](http://www.nbn.org.uk)).

Additional Information (e.g. website addresses, intellectual property rights, possibility of a central database)

The CSIP is co-funded by Defra, Scottish Government and Welsh Government.

Further information on the CSIP is available at [www.ukstrandings.org](http://www.ukstrandings.org)

Intellectual property rights to the data directly generated as a result of CSIP research belong to Defra.

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

Species	Number	Recorded cause of death
BELGIUM		
<i>Phocoena phocoena</i>	25	Bycatch, grey seal predation, starvation, disease
Other (please specify under number)	Balaenoptera physalus: 1	Ship strike
DENMARK		
<i>Phocoena phocoena</i>	4	
<i>Delphinus delphis</i>	1	Short-beaked common dolphin ( <i>Delphinus delphis</i> ) No apparent cause of death Autopsied at DTU-VET
<i>Globicephala melas</i>	1	
<i>Lagenorhynchus albirostris</i>	3	
FINLAND		
None	None	None
FRANCE		
<i>Phocoena phocoena</i>	182	
<i>Tursiops truncatus</i>	19	
<i>Delphinus delphis</i>	223	
<i>Stenella coeruleoalba</i>	26	
<i>Grampus griseus</i>	3	
<i>Globicephala melas</i>	15	
<i>Lagenorhynchus albirostris</i>	2	

Species	Number	Recorded cause of death
<i>Orcinus orca</i>	1	
<i>Kogia breviceps</i>	3	
Other (please specify under number)	1 ( <i>P. macrocephalus</i> )	
Other (please specify under number)	3 ( <i>Z. cavirostris</i> )	
Other (please specify under number)	1 ( <i>K. sima</i> )	
GERMANY		
<i>Phocoena phocoena</i>		<p>MV: 23 necropsies in 2015. Recorded strandings can only partially be necropsied. Part of the dissections will be performed in 2016; recorded cause of death: drowning, bycatch, parasitic diseases, bacterial infections, pneumonia, dystocia</p> <p>SH: Necropsies were carried out on 97 harbour porpoises from the Baltic Sea and on 87 harbour porpoises from the North Sea. For three animals it was not possible to determine the origin.</p> <p>LS: Due to severe decomposition of three carcasses found in the District of Cuxhaven no necropsy examinations could be performed. Only from two carcasses metric measurements could be taken. The further 2, deep freeze carcasses will be dissected in 2016.</p>
Other (please specify under number)		<p>LS: One sperm whale was found dead in the North Sea and was brought to Cuxhaven for disposal. The cause of death could not be recorded due to severe decomposition of the animal.</p>

**Compilation of Annual National Reports to ASCOBANS 2015**

<b>Species</b>	<b>Number</b>	<b>Recorded cause of death</b>
<b>LITHUANIA</b>		
None	None	None
<b>NETHERLANDS</b>		
<i>Phocoena phocoena</i>	34	see section 5.7
<i>Globicephala melas</i>	2	see section 5.7
<i>Other (please specify under number)</i>	minke whalle	see section 5.7
<b>POLAND</b>		
<i>Phocoena phocoena</i>	4	Unrecorded
<i>Other (please specify under number)</i>	1	
<b>SWEDEN</b>		
None	None	None
<b>UNITED KINGDOM</b>		
<i>Phocoena phocoena</i>	55	Bycatch (n=9); Starvation (neonate) (n=7); Physical Trauma (n=4); Live Stranding (n=4); Bottlenose Dolphin Attack (n=3); Grey Seal Attack (n=3); Pneumonia, Parasitic (n=3); Gastritis and/or Enteritis (n=3); Starvation (n=2); Generalised Bacterial Infection (n=2); Others (n=2); Dystocia & Stillborn (n=1); Neoplasia (n=1); Not Established (n=2); Pending (n=9)
<i>Tursiops truncatus</i>	1	Bycatch (n=1)
<i>Delphinus delphis</i>	24	Bycatch (n=5); Live Stranding (n=4); Others (n=4); Starvation (n=2); Physical Trauma (n=2); Generalised Bacterial Infection (n=2); Physical Trauma, Boat/Ship Strike (n=1); Gastritis and/or Enteritis (n=1); Pending (n=3)

Species	Number	Recorded cause of death
<i>Stenella coeruleoalba</i>	7	(Meningo)encephalitis (n=4); Gastritis and/or Enteritis (n=1); Pending (n=2)
<i>Grampus griseus</i>	4	Physical Trauma, Boat/Ship Strike (n=1); Live Stranding (n=1); (Meningo)encephalitis (n=1); Not Established (n=1)
<i>Globicephala melas</i>	11	Live Stranding (n=9); Dystocia & Stillborn (n=1); Bottlenose Dolphin Attack (n=1)
<i>Lagenorhynchus albirostris</i>	4	Live Stranding (n=4)
<i>Mesoplodon bidens</i>	1	(Meningo)encephalitis (n=1)
<i>Kogia breviceps</i>	1	Live Stranding (n=1)
Other (please specify under number)	4 (Balaenoptera acutorostrata)	Entanglement (n=2); Entanglement (known) (n=1); Gastritis and/or Enteritis (n=1)
Other (please specify under number)	2 (Balaenoptera physalus)	Physical Trauma, Boat/Ship Strike (n=1); Starvation (n=1)
Other (please specify under number)	1 (Megaptera novaeangliae)	Entanglement (n=1)
Other (please specify under number)	1 (Ziphius cavirostris)	Live Stranding (n=1)

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

BELGIUM
<p>Publications/posters on the results of research:</p> <p>Marine mammal reports</p> <p>From 2014 onwards, yearly reports on relevant issues concerning marine mammals are published; reports for 2014 and 2015 are available (in Dutch, with English and French summary; Haelters et al., 2016a; 2016b).</p> <p>Necropsy workshop</p> <p>An international necropsy workshop was organized (9th Cetacean Necropsy Workshop) at the university of Liege (15-17 July 2015) by the department of veterinary pathology in collaboration with the Laboratory of Applied Bioacoustics LAB (Universitat Politècnica de Catalunya, Spain) and the UMS Pelagis, Centre de Recherche sur les Mammifères Marins (University of La Rochelle, France). A number of harbour porpoises were autopsied. The main subjects were autopsy techniques, including the dissection of the inner ear of</p>

cetaceans.

There were 15 participants from 6 countries, including Norway and South Africa.

Marine mammal database

A new website, [www.marinemammals.be](http://www.marinemammals.be), is the result of a long collaboration between the Royal Belgian Institute of Natural Sciences (RBINS) and the University of Liege on marine mammals. In the future, the website will provide access to an extensive database on strandings and remarkable observations of marine mammals in Belgium. It will include autopsy results, and will contain information about tissue samples from animals that were autopsied. These samples will be available to scientists for research purposes.

Relevant publications, posters, abstracts

Haelters, J., Kerckhof, F., Jauniaux, T., Potin, M., Rumes, B. & Degraer, S., 2016a. Zeezoogdieren in België in 2014 [Marine mammals in Belgium in 2014]. Koninklijk Belgisch Instituut voor Natuurwetenschappen (KBIN), MARECO rapport 16/01. 29 pp.

Haelters et al., 2016b. Zeezoogdieren in België in 2015 [Marine mammals in Belgium in 2015]. Koninklijk Belgisch Instituut voor Natuurwetenschappen (KBIN), MARECO/BMM rapport 16/xx. xx pp.

Haelters, J., Kerckhof, F., van Neer, A. & Leopold, M., 2015. Exposing grey seals as horses and scientists as human. *Aquatic Mammals* 41(3): 351-353. DOI: 10.1578/AM.41.3.2015.351

Haelters, J., 2015. Een school grienden *Globicephala melas* in de zuidelijke Noordzee [A pod of pilot whales in the southern North Sea]. *De Strandvlo* 35(1): 5-11.

Haelters, J., & Kerckhof, F., 2015. Opduiken van Atlantische ‘megafauna’ in onze wateren in de late zomer, het najaar en de winter van 2013-2015 [Emergence of Atlantic ‘megafauna’ in Belgian waters in late summer, autumn and winter of 2013-2015]. *De Strandvlo* 35(2): 37-45.

Fontaine, M., Roland, K., Calves, I., Austerlitz, F., Palstra, F., Tolley, K., Ryan, S., Ferreira, M., Jauniaux, T., Llavona, A., Oztürk, B., Oztürk, A., Ridoux, V., Rogan, E., Sequeira, M., Siebert, U., Vikingsson, G., Borrell, A., Michaux, J. & Aguilar, A., 2015. Postglacial rise of three ecotypes of harbor porpoises, *Phocoena phocoena*, in western Palearctic waters, 29th annual conference of the European Cetacean Society, Malta, 2015

DENMARK

None

FINLAND

None

FRANCE

None

GERMANY

In the case of the sperm whale the body weight reached 10 t with a length of nearly 13 m (at this length the body weight is normally 25 – 30 tons), this could indicate the severe decomposition of the animal or a bad nutritional condition [LAVES].

LITHUANIA
None
NETHERLANDS
<p>34 harbour porpoises from 2015 were necropsied at the Department of Pathobiology, Faculty of Veterinary Medicine, of Utrecht University. These were 8 adults, 21 juveniles and 5 neonates. 17 were male, 17 were female. Of the eight adults, five females were necropsied of which three were resting, one was lactating and one was pregnant.</p> <p>The cause of death were: bycatch (n=6; 2 certain, 1 highly probable, 3 possible); Grey seal attack (n=4; 1 acute and 3 sub-acute); infectious disease (n=10); lack of food (n=7; 6 emaciation with unknown cause and 1 case of starvation of a young animal) and 1 case of birth problems and two cases of blunt trauma. Four cases remained unknown; which were three putrefied cases and one fresh case.</p> <p>Between January and December 2015 Electronic Monitoring systems have been installed on a number of Dutch set net vessels. During this time, two bycaught animals have been called in by fishermen and brought ashore for further pathological research. Both animals were juvenile; one male and one female. Necropsy findings suggest that asphyxiation as a result of bycatch was the cause of death. Additional findings were a parasitic pneumonia in both cases, and the juvenile female also suffered of a proliferative dermatitis. The effect of these inflammations on the health of these two individuals, and on their cause of death, are uncertain due to the small numbers of investigated 'certain bycatches'.</p> <p>Pilot whales</p> <p>The first pilot whale stranded on the 11th of January, just four weeks after another animals (17th of December 2014). This was a subadult female om almost 4m long and approximately 600 kg in an advanced state of decomposition. Cause of death was similar to the animal stranded in December 2014; asphyxiations from a common sole (<i>Solea solea</i>) stuck in its nasal cavity. Results of these two individuals were published in Plos one:</p> <p>In December 2015, a second pilot whale beached in the Netherlands. This was a subadult male in a severe state of decomposition. The necropsy did not reveal any significant pathological changes, but was hampered severely but the state of autolysis of this individual.</p> <p>Minke whales</p> <p>The first minke whale was found bow-caught and entered the port of Rotterdam in November 2015; this was an very fresh juvenile female. This was an animal in a poor nutritive condition. Necropsy and histopathology revealed haemorrhages where the animal was found touching the ships bulb; confirming the ship strike as the cause of death. The second minke whale stranded on the Razende Bol in December 2015; this was a decomposed adult and pregnant female. The necropsy did not reveal any significant pathological changes, but was hampered severely but the state of autolysis of this individual.</p> <p>References:</p> <p>IJsseldijk LL., Leopold M.F., Bravo Rebolledo E.L., Deaville R., Haelters J., IJzer J., Jepson P.D., Gröne A. (2015) Fatal Asphyxiation in Two Long-Finned Pilot Whales (<i>Globicephala melas</i>) Caused by Common Soles (<i>Solea solea</i>). PLoS ONE 10(11): e0141951. doi:10.1371/journal.pone.0141951</p>
POLAND
<p>On 22 August 2015 at the south coast of the Gulf of Gdansk a fin whale carcass was found. It was a male, length 17.3 m, weight 27 tonnes.</p>

On 12 August 2015 dolphins were observed in the Gulf of Gdansk.
SWEDEN
None
UNITED KINGDOM
<p>NB Causes of death in some individuals are provisional and pending the results of follow up analyses.</p> <p>Finalised causes of death will be given in the CSIP 2015 annual report to Defra and the Devolved Governments of Scotland and Wales, which will be published at:</p> <p><a href="http://randd.defra.gov.uk/Default.aspx?Menu=Menu&amp;Module=More&amp;Location=None&amp;ProjectID%20=17835&amp;FromSearch=Y&amp;Publisher=1&amp;SearchText=strandings&amp;SortString=ProjectCode&amp;%20&amp;SortOrder=Asc&amp;Paging=10#Description">http://randd.defra.gov.uk/Default.aspx?Menu=Menu&amp;Module=More&amp;Location=None&amp;ProjectID%20=17835&amp;FromSearch=Y&amp;Publisher=1&amp;SearchText=strandings&amp;SortString=ProjectCode&amp;%20&amp;SortOrder=Asc&amp;Paging=10#Description</a></p> <p>Other relevant information on post-mortem / stranding schemes:</p> <ul style="list-style-type: none"> <li>• Brownlow, A., Baily, J., Dagleish, M., Deaville, R., Foster, G., Jensen, S-K., Krupp, E., Law, R., Penrose, R., Perkins, M., Read, F. and Jepson, P. (2015) Investigation into the long-finned pilot whale mass stranding event, Kyle of Durness, 22nd July 2011. Report to Defra and Marine Scotland. <a href="http://sciencesearch.defra.gov.uk/Document.aspx?Document=12547_KyleofDurnessmassstrandingeventreport.pdf">http://sciencesearch.defra.gov.uk/Document.aspx?Document=12547_KyleofDurnessmassstrandingeventreport.pdf</a></li> <li>• Deaville, R. (compiler) (2015) UK Cetacean Strandings Investigation Programme annual report, 2014 <a href="http://sciencesearch.defra.gov.uk/Document.aspx?Document=12562_Final_UK_CSIP_Annual_Report_2014.pdf">http://sciencesearch.defra.gov.uk/Document.aspx?Document=12562_Final_UK_CSIP_Annual_Report_2014.pdf</a></li> </ul> <p>The Scottish Marine Animal Strandings Scheme is an on-going project which provides a systematic and coordinated approach to the surveillance of marine animal strandings. It builds on the wider UK Cetacean Strandings Investigation Programme (CSIP) which is supported by Scottish Government. It aims to collate, analyse and report data for all cetacean, marine turtle, seal and basking shark strandings around the Scottish coast; to determine the causes of death; and to undertake surveillance on the incidence of disease in stranded cetaceans in order to identify any substantial new threats to their conservation status. See: <a href="http://www.strandings.org/">http://www.strandings.org/</a></p> <p>Marine Environmental Monitoring – sub-contractors in Wales for the CSIP programme – also produce an annual report. A link to the most recent report is attached. <a href="http://www.strandings.com/Graphics%20active/2014%20Marine%20Mammal%20Strandings%20Annual%20Report.pdf">http://www.strandings.com/Graphics%20active/2014%20Marine%20Mammal%20Strandings%20Annual%20Report.pdf</a></p> <p>The Welsh Government also provides additional funding to Marine Environmental Monitoring for the maintenance of Seal and Turtle strandings databases, and other stranding-related work.</p> <p>The Department of the Environment (DoE) for Northern Ireland Marine Division (Department of Agriculture, Environment and Rural Affairs DAERA as of 9th May 2016) also record cetacean strandings along the Northern Irish coast. Any stranding records submitted directly to the Irish Whale and Dolphin Group are forwarded to the DoE Marine Division and vice versa. In 2015 AFBI opportunistically conducted post-mortem examinations on a juvenile fin whale and common dolphin. Post-mortem reports and samples were forwarded to CSIP.</p>

## D. LEGISLATION

### 6.1 Relevant New Legislation, Regulations and Guidelines

<b>BELGIUM</b>
<p>On 13 March 2015 (Belgian Official Journal of 25 March 2015 – Anonymous, 2015) the Government of Flanders took the decision to prohibit the recreational use of different types of gill and trammel nets on the beach as a protective measure for marine mammals in the intertidal zone. The principle goal of this measure is the protection of the harbour porpoise. This new legislation also forms an answer to the infringement procedure (DG ENV 3801/12/ENVI, procedure 2014/4014) the European Commission introduced against Belgium concerning the adequate protection of harbour porpoises as mentioned in the Habitats Directive.</p> <p>The Nature Inspectorate Division of the Agency for Nature and Forests (Flemish Government) performed two control sessions on the beaches between De Panne and Oostende. The results of these assessments were that recreational beach fisheries was especially popular between Nieuwpoort and Koksijde, where many nets are placed close to each other. Most used types of net were fykes (kartenet) and ‘flat’ nets (carrelet). Gill or tangle nets were not found during these inspections. Discussions with the beach fishermen reveals a major social control exists on the use of gill and tangle nets. Therefore, it is expected that it is unlikely that such nets will be used again.</p> <p>Anonymous, 2015. Besluit van 13 maart 2015 van de Vlaamse Regering houdende een verbod op het gebruik van warrelnetten en kieuwnetten in de Vlaamse strandzone ter bescherming van zeezoogdieren. Belgisch Staatsblad 25 maart 2015: 2015035382</p> <p>Two recreational fishermen were convicted in 2015 for illegal fisheries (in 2014) using static gear at sea; fines amounted to 600€ each, and in total 1700 m of illegal tangle net was confiscated.</p>
<b>DENMARK</b>
<p>The Danish Nature Agency has drafted a new Action plan for stranded cetaceans in Denmark in 2012.</p> <p>Natura 2000 as described in section A</p>
<b>FINLAND</b>
<p>The new fisheries legislation (379/2915, in force 1.1.2016) stipulates in article 62 that fishermen are obliged to immediately inform Natural Resources Institute Finland (Luke) of by-caught seals and harbour porpoises.</p>
<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 bycatch to help the research. There are also provisions for the protection of the habitat of the species.</p>
<b>GERMANY</b>
<p>No changes</p>
<b>LITHUANIA</b>
<p>None</p>

NETHERLANDS
<p>As recommended in the Dutch harbour porpoise conservation plan (Camphuysen &amp; Siemensma, 2011) a scientific advisory committee has been appointed in October: Herman Eijsackers (WUR) Jan Haelters (KBIN) and Jaap van der Meer (NIOZ) are the members.</p> <p>Marine Science and Communication and IMARES provided an internal report on the current status of the implementation of the Dutch harbour porpoise conservation plan (Camphuysen &amp; Siemensma, 2011) for the Ministry of Economic Affairs.</p> <p>Marine Science &amp; Communication organized a national harbour porpoise network day in October 2015 for the Ministry of Economic affairs. Aim of the network day was to inform stakeholders on the current status of the implementation of the Dutch harbour porpoise conservation plan (Camphuysen &amp; Siemensma, 2011) and to discuss with the ministry future policy and research priorities. Over sixty participants representing industry, government, NGO's and research institutes participated. For a report of the network meeting contact <a href="mailto:m.siemensma@msandc.nl">m.siemensma@msandc.nl</a></p> <p>IMARES had the lead for the implementation of the OSPAR MSFD M4-marine mammal indicator on abundance and distribution. Data for the first Intermediate Assessment were collated in cooperation with the University of St Andrews and the Tursiops SEAs project. Two assessments were drafted for a review by the ICES Working Group on Marine Mammal Ecology WGMME) in February 2016: one for coastal species, and one for wide ranging species. Assessments will be finalized after the results of the international SCANS III survey in July 2016 are available.</p> <p>References:</p> <p>Camphuysen CJ &amp; ML Siemensma (2011) Conservation plan for the Harbour Porpoise <i>Phocoena phocoena</i> in The Netherlands: towards a favourable conservation status. NIOZ Report 2011-07, Royal Netherlands Institute for Sea Research, Texel.</p>
POLAND
<p>6 November 2015, the national "Porpoise protection programme" was adopted. The programme includes information on the species, its legal status, recognized risks, socioeconomic conditions of the porpoise protection, as well as objectives and proposed protective actions.</p> <p>Over 100 thousand citizens signed the WWF Poland petition regarding the adoption of the above programme. On 3 June 2015, the Council of Ministers adopted by circulation the seawater monitoring Programme, drawn up on the basis of article 155c of the Water Law, according to article 11 of the Marine Strategy Framework Directive. On 27 June 2015 the programme receive consent of the Council of Ministers to be submitted to the European Commission.</p> <p>The above-mentioned "Fishery and Sea 2014-2020" Operational Programme includes proposals regarding testing and implementing alternative fishing gear aimed at the reduction of bycatch and removal of nets lost in the Baltic Sea. Realisation of the RYBY Operational Programme is intended to contribute to the accomplishment of the objective of decreasing the impact of fishery on the marine environment, including prevention and reduction of unwanted catches to the greatest possible extent.</p>
SWEDEN
None

UNITED KINGDOM

In February 2015 it was announced that the Aberdeen Harbour Board, East Grampian Coastal Partnership, Police Scotland and Scottish Natural Heritage have developed the Code of Practice with advice from WDC in order to protect the resident pod of bottlenose dolphins regularly found around the converging currents at the mouth of the busy harbour. Please refer to the following links:

<http://www.aberdeen-harbour.co.uk/news/news-and-events/new-code-launched-to-protect-dolphins-at-aberdeen-harbour/>

<http://www.marinecode.org/>

<http://uk.whales.org/news/2015/02/new-code-launched-to-protect-dolphins-in-aberdeen>

## E. INFORMATION AND EDUCATION

### 7.1 Public Awareness and Education

BELGIUM

Web based initiatives

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 records of observations of species of different taxonomic groups, including cetaceans, from volunteers. In 2015, 175 observations of in total 289 harbour porpoises were reported to this website, peaking in October with 117 observations (201 animals). No other cetaceans were recorded in 2015.

Natuurpunt raises public awareness by [www.natuurbericht.be](http://www.natuurbericht.be), providing short notes on the occurrence of biodiversity, including cetaceans, in Flanders and the Belgian part of the North Sea. In 2015, an item was published on the juvenile Fin whale that was brought into the port of Ghent on the bulb of a ship.

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

The RBINS manages a new online database on strandings, selected sighting records and the results of autopsies: [www.marinemammals.be](http://www.marinemammals.be). See previous section on this.

World Ocean Day 2015 was celebrated at the Royal Belgian Institute of Natural Sciences on Sunday 7th of June 2015. 600 visitors at the museum were welcomed that day. A number of activities around the marine environment, ocean research and marine mammals were organised. A number of activities were relevant to small cetaceans. In an auditorium a stranded porpoise and seal were autopsied; the autopsy was streamed live to the internet (around 150 people were present); especially this activity drew a lot of attention. It was

also possible to virtually autopsy a porpoise, and guided tours were organised, with special attention to ocean treasures and collection rooms with marine mammals skeletons

Marine mammals in the press

25/02/2015: Dutch television programme on grey seal predation on other marine mammals (seals and harbour porpoises), including an interview with Jan Haelters.

<http://www.npowetenschap.nl/programmas/dekennis-van-nu/tv/uitzendingen/2015/maart/Bruinvissen.html>

2/11/2015: Pilot whales in North of France: News item on national television (VTM and RTBf) (J.Haelters,T.Jauniaux), and on radio.

9/11/2015: numerous press interview, including on MNM radio and local TV, on the fin whale of Ghent (J.Haelters and T.Jauniaux).

Article on marine mammals in Belgium: Le Vif Express (Jan Haelters, Thierry Jauniaux).

(<http://www.levif.be/actualite/environnement/mer-du-nord-le-lent-calvaire-des-mammiferes-marins/articlenormal-440179.html>)

#### DENMARK

Fjord&Bælt in Kerteminde, Denmark, houses three harbour porpoise 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&Bælt works closely together with the University of Southern Denmark, and University of Århus.

#### FINLAND

Finland has continued the harbour porpoise sighting campaign in 2014 and 2015. In 2014, there was verified six sightings of 12 animals and in 2015 two verified sightings of 5 animals.

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.

Tampereen Särkänniemi did continue to keep information about porpoises available for its visitors during the year. International Baltic Harbour Porpoise Day was also celebrated with some activities and an exhibition of Baltic harbour porpoise and SAMBAH-research preliminary results; this was also in some degree shared for the media. Another new activity has been school visits by Kai Mattsson (Meritime Consulting) with lessons of marine life and porpoises in the Baltic and other seas (within ASCOBANS area).

#### FRANCE

Public conferences and exhibitions (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.

GERMANY

Fishing for litter

The youth organization of NABU conducted an action week (19.09. - 03.10.2015) to collect marine litter on the beaches.

Information Panels

At the island of Sylt in close vicinity to the whale sanctuary panels with information on harbour porpoises, their ecology and the sanctuary are under construction (first panels installed at the end of 2015, ongoing in 2016, contact: Kundy National Park Administration) [MELUR].

Incidental Sightings Project

The German Oceanographic Museum is responsible for the "sailor on the lookout for harbour porpoises" project. This project includes registration of sightings of harbour porpoises and the findings of dead porpoises. Through the webpage of the museum and on our flyers on the projects we provide information on sightings of porpoises and dead animals and explain what people should do if they encounter a porpoise or find one dead. It is possible to contact DMM by App OstSeeTiere, post, email or telephone [DMM]. <http://www.deutschesmeeresmuseum.de/dmm/stiftungdeutschesmeeresmuseum/wissenshaft/schweinswale/sichtungen/>

"Plastic School"

Oceanographic Museum Stralsund together with The Leibniz Institute for Baltic Sea Research, Warnemünde and the Ministry for education of the federal state Mecklenburg West Pomerania launched the project "plastic school" in September 2015. The project (18month) seeks to develop education material for schools regarding marine litter [DMM].

WDC Kids website

Kids website: WDC runs a dedicated website for school children. It offers information about the world of whales and dolphins, activities and fun stuff. Surfing around the WDC-Kids website children can learn more about cetaceans, their habitat and the threats they face, they can play around or get active and take a step forward for the protection of whales and dolphins [WDC]. <http://www.wdcs.org/wdcskids/de/kids-wdc-in-action-page.php?c=hp>

"Walheimat"

Public outreach campaign "Walheimat" in Germany: In 2012 a broad public outreach campaign was launched in Germany. Since then, the many activities of the WDC team – like participation in expert rounds, symposia and conferences, writing expert opinions, dialogue with stakeholders and decision makers, etc. – have been communicated through its website, and through other channels [WDC]. <http://de.whales.org/kampagnen/walheimat-sichere-schutzgebiete-jetzt>

"Die letzten 300"

Exhibition "Die letzten 300" in collaboration with NGOs NABU, OceanCare as well as ASCOBANS: From the creative competition described in the previous report a public exhibition evolved which displayed the many works that were received through the competition. The exhibition was successfully displayed at the German Oceanographic Museum in Stralsund from January through April 2015 and was visited by an estimated 30,000 people.

Germany (BMUB) invited the ASCOBANS Jastarnija Group for their 11th Meeting (10-12.3.2015) to Stralsund, so that an international attendance and appreciation of this exhibition by representatives of Baltic harbour porpoise conservation was made possible. The Federal Minister for the Environment, Dr. Barbara Hendricks, is the patron of the

exhibition. She supported this campaign by taking part in the appreciation of the works created for the said competition (cf. previous report and the publication in BMUB "Umwelt" 9/2014) and by her visit of the German Oceanographic Museum in Stralsund in summer 2015, where she dedicated special attention to the highly endangered conservation status of the Baltic harbour porpoise. [BMUB] <http://schweinswal.eu/die-ausstellung/>

A Leaflet on harbour porpoise protection was produced in conjunction with the exhibition mentioned above, to inform people about what they can do personally to save the harbour porpoise [WDC].

#### LITHUANIA

Some information about the Baltic Harbour porpoise were published in "The book of Baltic sea", which was released during implementation of DENOFLIT (Inventory of marine species and habitats for development of Natura 2000 network in the offshore waters of Lithuania) project, in 2015. On a website of Lithuanian Ministry of Environment everyone can find active hyperlink to watch the film about the Baltic Harbour porpoise: <https://www.youtube.com/watch?v=WQYP5T0SCbs>

At the same website, it is possible to find information about harbour porpoise biology, ecology, history of observations in Lithuania, international status of protection and threats (in Lithuanian language: <http://www.am.lt/VI/index.php#a/12443>). In order to inform wider public, have been prepared and published information about the Baltic Harbour porpoise in popular public information web pages.

The International Harbour Porpoise Day was celebrated on 18th May 2015 at the Lithuanian Sea Museum. The event was intended for school children. The first task for children was to learn how to sort waste correctly, after that, they learned about Baltic sea biodiversity and had educative lecture about the Baltic Harbour porpoise. In addition, the movie about the Baltic Harbour porpoise was shown. Using their gained knowledge children were asked to draw posters, colour the pictures and answering questions. Teachers also were involved, they were creating stories about the Baltic Harbour porpoise. After all day, participants were able to see interesting live dolphins' performance.

#### NETHERLANDS

Vereniging Kust & Zee, the Dutch section of the Coastal & Marine Union (EUCC) annually publishes the printed "Kust en Zeegids" (<http://data.axmag.com/data/VIP/201506/U27993/F340660/FLASH/index.html>).

Furthermore the EUCC regularly distributes digital newsletters with relevant information on their projects. It also communicates news through its website <http://www.kustenzee.nl/> and <http://www.eucc.net/>

The EUCC is part of the ECNC group <http://www.ecncgroup.eu/> which is the European Expertise Centre for Biodiversity and Sustainability. In 2013 they established the 'Healthy Seas, a Journey from Waste to Wear' initiative in collaboration with Aquafil and Star Sock, which continued in 2014. The main objective of the Healthy Seas initiative is to remove waste, in particular fishing nets and other marine litter, from the seas for the purpose of recycling these into textile products.

In 2015 Vereniging Kust & Zee organised for the European project Marlisco a national forum on marine litter. In the room, 47 people participated in the forum, while 178 people followed the event online.

([http://www.marlisco.eu/National\\_Fora\\_Outcomes.nl.html](http://www.marlisco.eu/National_Fora_Outcomes.nl.html)).

IVN Consulentenschap 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" has continued in

2015 and aims to make visitors of the National Park aware of porpoises in the Oosterschelde (<http://www.np-oosterschelde.nl/>).

The Rugvin Foundation also informs the public via posters on the Stena Line ferries about how to observe harbour porpoises.

In 2011, the North Sea Foundation has initiated two projects to raise awareness about marine litter, MyBeach <http://www.mybeach.info/> and Coastwatch <http://www.coastwatch.nl> 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 clean ups and litter counts are organized here, using the so-called Strandscanner, a special app for the smartphone to count specific litter items. This project continued in 2015.

## POLAND

On 28 March 2015, the final of the "Earth Hour" organized by WWF Poland took place. This year the motto of the action was "Porpoise Hour". The objective of the action was, among others, to express the support for the porpoise protection programme.

On 2 May 2015 The Marine Station of the Institute of Oceanography of the University of Gdansk was honoured with the "Flag of the Republic of Poland" award for the entire professional achievement by the President of the Republic of Poland.

In accordance with the ongoing, thirteen years old tradition, in May 2015, SMIOUG organized the celebration of the Porpoise Day. The celebration was co-financed by the Ministry of Environment.

In the place where the carcass of the northern bottlenose whale was found, as well as in front of the Porpoise House in Hel, the SMIOUG installed Information boards commemorating this event. The exhibitions were financed by the Ministry of Environment.

As every year, SMIOUG issued a calendar dedicated to marine ecology. The calendar for the year 2016 includes information about all fin whales which have been found and observed at Polish coasts. 5 such events occurred: in 1874, 1899, 1954, 2007 and 2015.

## SWEDEN

Harbour porpoise day in may 2015 at "Naturum Kullaberg"

You can see harbour porpoises from land and from boat and hear their "clicks".

Link is provided, but only in Swedish (Information about Kullaberg in general also available in English).

A project called "Rappen" is an app where you can report harbour porpoise and some other species (some alien species with special focus). It is a pilot-study with focus on public awareness. Web link attached. In Swedish

The Kolmården Wildlife Park, in the dolphinarium, has a one-day program "Närkontakt Delfin" (Dolphin Close Encounters), available on demand to 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. A special SAMBAH exhibition is presented to all visitors to the Lagoon, one of the public display areas of the Dolphinarium. In addition the staff of Kolmården has given lectures on SAMBAH for special tour groups at the dolphinarium and during conferences. The main dolphin show, called LIFE, presents a strong message about the grave effects of pollution on the marine eco systems.

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. Both 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.

[Announcement on web page about harbour porpoise day at Kullaberg](#)

[Pilot study in public awareness and more](#)

## UNITED KINGDOM

CSIP staff from the Zoological Society of London (ZSL) ran a CSIP exhibit at 'Sunset Safari' at ZSL during July 2015 (featuring skeletal and pathological material from the programme). CSIP staff from the Natural History Museum (NHM) and ZSL helped run exhibits on UK strandings/cetaceans at 'Science Uncovered' at the NHM on 25th September. Skeletal material, parasites and fixed material were on display, along with video footage of necropsies carried out at ZSL. The role of ASCOBANS was publicized throughout both events. The work of the CSIP in the UK (and the role of ASCOBANS) has also been publicized during 2015 through numerous presentations, demonstration necropsies and social media activity by CSIP staff e.g. <http://www.facebook.com/pages/Cetacean-Strandings-Investigation-Programme-UKstrandings/142706582438320>

Scottish Marine Animal Strandings Scheme (SMASS) Volunteer Outreach Programme:

Since early 2013, significant effort has been put into increasing the reporting of strandings to the Scheme and increasing the availability of strandings data to both the scientific community and members of the public. In early 2014 a succession of volunteer training courses were undertaken with the aim of providing the Scheme with a network of trained volunteers able to visit strandings and accurately collect photos, data and samples from animals not deemed suitable for collection and necropsy. This citizen science programme has proved very useful and its development is on-going. In 2015 SMASS had a total of 100 trained stranding volunteers with at least one volunteer on North, South, East and West coasts. Courses and equipment are provided free of charge and training sessions are held throughout Scotland. Facebook and Twitter pages were set up in October 2012. The Scheme post regular stranding reports, selected photos and requests for information on strandings on both. Feedback has generally been good and at the end 2015 Facebook had over 3700 likes and

Twitter had 414 followers. Both still prove a valuable resource for the reporting of strandings to the scheme. On 16 June 2015 UK CSIP, SMASS and staff at Edinburgh University met up with the Dutch Stranding scheme with aim of revising the European necropsy procedure and foster closer links between the UK and Dutch Schemes. This resulted in the following paper presented at ICES in Copenhagen, Denmark on 24/09/2015: Mariel ten Doeschate, Andrew Brownlow, Nick Davison, Rob Deaville, Paul Jepson, Graham Pierce, Fiona Read, Paul Thompson. "The pathology of strandings data: methods to improve the ecological value of the strandings record as a monitoring tool".

The fourteenth annual National Whale and Dolphin Watch week was organised by Sea Watch Foundation between 25 July and 2 August 2015. Dedicated effort-based watches were conducted at 113 land sites and onboard 27 vessels around the British Isles from Shetland to the Isle of Scilly and Channel Islands. More than 1,500 persons participated in the event with 1,150 hours of observation effort, resulting in c. 950 sightings (totalling c. 5,000 individuals) involving thirteen cetacean species (in descending order of frequency: harbour porpoise, bottlenose dolphin, short-beaked common dolphin, minke whale, Risso's dolphin, white-beaked dolphin, killer whale, long-finned pilot whale, fin whale, beluga whale, humpback whale, Atlantic white-sided dolphin, and striped dolphin). The event received widespread regional and national media coverage. A full report has been published (see <http://www.seawatchfoundation.org.uk/wpcontent/uploads/2016/02/NWDW2015.pdf> (James, 2015)).

Sea Watch continued to run a Dolphin Adoption scheme aimed particularly at children, to encourage them to get directly involved with the conservation of photo-identified individual dolphins and to follow their fortunes. Other educational and public awareness programmes were undertaken throughout the UK, with displays, lectures, training courses and social media postings, the latter estimated to reach over 10,000 people. More than 3,000 people from all around the British Isles contribute to SWF's national observer network as part of its long-standing citizen science programme, with effort-related shore watches (see Evans et al., 2016), offshore surveys (for which dedicated recording apps have been developed), and the reporting of casual sightings via an on-line recording template that is linked to a database. The latter resulted in a report of the first record of a bowhead whale in Europe, when one was seen and photographed in the Isles of Scilly in February 2015. A bowhead whale was also seen off mainland Cornwall and then Carlingford Lough in Northern Ireland, in May 2016, but it has not been possible to identify the animal(s) to determine whether the sightings are of one or several animals. This may therefore represent a new addition to the UK systematic list of marine mammal species.

Whale and Dolphin Conservation (WDC) reached out to more than 100,000 people through its Wildlife Centres and Shorewatch volunteer programme in Scotland. 5,000 children participated in WDC's education programme, also based in Scotland.

HWDT conducted 28 events and engaged with a minimum of 1323 people in isolated coastal communities during 2015. The events comprised of a variety of workshops and public presentations about cetacean diversity, conservation issues and training on species identification to encourage participation in the Trust's Community Sightings Network. In addition, HWDT's education program delivered workshops to 1171 pupils in 28 schools across the Inner Hebrides (Mull, Islay, Colonsay, Tiree, Coll, Rum, Eigg, Easdale), Outer Hebrides (Barra, the Uists and Harris) and the west coast mainland (Oban, Fort William, Mallaig, Ullapool). The education programme includes land-based school visits, 'floating classroom' workshops on board the research vessel Silurian and collaborative school events. Over 26,000 people passed through HWDT's educational visitor centre in Tobermory, Isle of Mull in 2015. Repairs and improvements were made to the visitor centre during 2015, which aim to strengthen public engagement and increase public awareness of cetaceans.

The Irish Whale and Dolphin Group held its annual Whale Watch Ireland event on the 23rd August 2015 with more than 800 people covering 20 sites around Ireland and Northern

Ireland. This resulted in sightings of four cetacean species; harbour porpoise, minke whale, shortbeaked common dolphin & bottlenose dolphin. To encourage participation in the IWDG ferry survey scheme the IWDG held a training day in the Ulster Folk and Transport Museum on the 11th April 2015 in collaboration with the Centre for Environmental Data and Recording (CEDAR).

ASCOBANS is mentioned in the MSFD Programme of Measures Consultation Document in the Annex on D1, 4, 6 Marine Mammals. It was also mentioned at the related stakeholder events (London 17th Feb and Cardiff 6<sup>th</sup> Mar). Additionally, whilst not ASCOBANS-specific, Celtic Seas Partnership have set up two task groups to support delivery of the MSFD: one on Marine litter, which aims to support the development of Eco-schools and generally raise awareness of the causes and problems of marine litter, and one on underwater noise which aims to develop training resources related to the impacts of underwater noise.

### POSSIBLE DIFFICULTIES ENCOUNTERED IN IMPLEMENTING THE AGREEMENT

BELGIUM
No new information.
DENMARK
None
FINLAND
None
FRANCE
None
GERMANY
None
LITHUANIA
<p>The main difficulties originate that there is no data on presence of cetaceans in the marine waters of Lithuania.</p> <p>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.</p> <p>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".</p> <p>The survey of fisherman which was carried out in 2014 showed that they have never seen harbour porpoises in the waters of the Republic of Lithuania during 2012-2014 years period.</p>
NETHERLANDS
None

Compilation of Annual National Reports to ASCOBANS 2015

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POLAND
None
SWEDEN
None
UNITED KINGDOM
None