Agenda Item 12.1 National Reporting

Reports from Parties

Information Document 12.1.g

2013 Annual National Report Netherlands

Action Requested

- Take note

Submitted by Netherlands

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

2013 ASCOBANS Annual National Reports

Pre-filled with answers given in 2012 National Report - please update!

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

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

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

General Information

Name of Party
› The Netherlands

Report submitted by

Name	Meike Scheidat
Function	Senior Researcher
Organization	IMARES
Address	Haringkade 1, 1976 CP Ijmuiden, The Netherlands
Telephone/Fax	+31 317487108
Email	meike.scheidat@wur.nl

Changes

Changes in Coordinating Authority or appointed Member of the Advisory Committee
› Jeroen Vis (Dutch Ministry of Economic Affairs) continues.

List of National Institutions

List of national authorities, organizations, research centres and rescue centres active in the field of study and conservation of cetaceans, including contact details
› Ministry of EZ (Dutch Ministry of Economic Affairs); P.O.Box 20401, 2500 EK The Hague, The Netherlands. Email contact: g.a.j.vis@minez.nl

› Ministerie of I&M (Infrastructure and Environment), DG Water. P.O.Box 20901, 2500 EX the Hague, The Netherlands. Email contact: Rene.dekeling@minvenw.nl

› IMARES Wageningen UR (Institute for Marine Resource and Ecosystem Studies), Dept. Fish ecology; P.O. Box 68, 1970AB IJmuiden, The Netherlands. Email contact: mscheidat@wur.nl; www.imares.nl

› NIOZ Royal Netherlands Institute for Sea Research, Landsdiep 4, 1791 SZ ‘t Horntje, The Netherlands. Email contact: Kees.Camphuysen@nioz.nl; www.nioz.nl

› SEAMARCO (Sea Mammal Research Company), Applied research for marine conservation, Julianalaan 46, 3843 CC Harderwijk, The Netherlands. Tel (Office): +31-(0)341-456252; Email contact: researchteam@zonnet.nl

› Stichting Rugvin; Jeruzalem 31a; 6881 JL Velp; the Netherlands; Tel: (+31) (0)26-3635444. Email contact: rugvin@planet.nl; www.rugvin.nl

› TNO, Netherlands Organisation for Applied Scientific Research; P.O. Box 96864, 2509 JG The Hague, The Netherlands. Phone +31 (0)88-8664119.
Email contact: Frans-Peter.Lam@tno.nl

› Stichting de Noordzee. Natuur, Ruimtelijke Ordening. Drieharingstraat 25. 3511 BH Utrecht, The Netherlands. Phone +31 302340016. www.noordzee.nl

› Naturalis Netherlands Centre for Biodiversity Naturalis. Postbus 9517, 2300 RA Leiden, The Netherlands. +31 71 568 76 00. Email contact: guido.keijl@ncbnaturalis.nl; www.naturalis.nl

› Department of Pathobiology, Faculty of Veterinary Medicine, Utrecht University, Yalelaan 1, 3584 CL Utrecht.

› Coastal & Marine Union (EUCC). P.O. Box 11232, 2301 EE Leiden, The Netherlands. Phone +31 71 5122900. Email contact: m.siemensma@kustenzee.nl ; www.eucc.net

› Marine Science & Communication (MS&C). Bosstraat 123, 3971 XC Driebergen, The Netherlands. Phone +31(6)16830430. Email contact: m.siemensma@msandc.nl

› SOSDolfijn. P.O.Box 293, 3840 AG Harderwijk, The Netherlands. Phone +31 341 467438.

Habitat Conservation and Management

Fisheries Interactions

Direct Interaction with Fisheries

1.1 Investigations of methods to reduce bycatch

› IMARES Wageningen UR and Marine Science and Communication (MS&C) started a Remote Electronic Monitoring project in December 2012 to investigate bycatch of harbor porpoises by Dutch gill net fishery. This project will last until 2016 and includes the monitoring of 10 to 12 vessels. The project is funded by the Dutch Ministry of Economic Affairs.

› In 2013 an impact assessment was carried out on the effects of set net fisheries on the conservation objectives for harbour porpoises in the Natura 2000 area Noordzeekustzone. For this assessment, existing data was used regarding bycatch in set nets. Different categories of set nets were analysed; commercial and recreational. To reduce the bycatch in commercial set net fisheries on cod, seabass and mullet, the assessment recommends the use of pingers. For commercial set nets aimed at sole, a reduction in net length and a closed season from April to November are recommended. It is proposed to expand the use of these measures to the entire distribution range of the harbour porpoise and not only in the Noordzeekustzone.

References:
Jongbloed, R.H, N.T. Hintzen, M.A.M. Machiels, A.S. Couperus (2013) Nadere effecten analyse staandwantvisserij – bruinvis in Natura 2000 gebied Noordzeekustzone. IMARES Wageningen UR, report nr. C206/13

1.2 Implementation of methods to reduce bycatch

› In December 2013 the Coastal & Marine Union (EUCC) finished its study on bycatch mitigation within the project funded by the European Fisheries Fund: “bycatch mitigation harbour porpoise”. The main aim is to mitigate bycatch of harbour porpoises in the winter set net fishery on cod, turbot and brill in collaboration with the industry. The workability and efficiency of a new pinger (Bananapinger Fishtek UK) and a DDD acoustic device are investigated using both field trials, a behavioural study on a porpoise at research facility SEAMARCO (‘BananaPinger’ Prototype) and an acoustic evaluation of the BananaPinger by SEAMARCO. The project also aims to: monitor bycatch, facilitate the landing of bycaught porpoises, exchange knowledge, conduct parallel pinger trials and to explore innovative methods to reduce bycatch. The project is a close collaboration between the Dutch Fisheries Organisation (Nederlandse Vissersbond), the Expert group on set net fishery (Kenniskring Staandwant), ten Dutch winter season set net fishermen and the Coastal & Marine Union. The project is funded by the Dutch Ministry of Economic Affairs (EZ) and the European Fisheries fund (EFF).
A short project film has been created about the project explaining about the harbour porpoise in general, its current threats and highlighting the bycatch. The film further zooms in on the project and explains about set net fisheries, the use of acoustic deterrents and its workability. The film is available on: http://www.kustenzee.nl/pinger/index.htm and has been directed by Studio BiB (http://studiobib.nl).
A summary of the project results will follow in 2014. Please contact the EUCC for further questions on this study.

1.3 Other relevant information

Other relevant information, including bycatch information from opportunistic sources
› Bram Couperus (IMARES Wageningen UR) is serving as chair of ICES expert group Working Group on the Bycatch of Endangered Species (WGBYC).

1.4 Report under EC Regulation 812/2004

Please provide the link to your country's report under EC Regulation 812/2004.
› Report EU regulation 812/2004:
Couperus, A. S. 2013. Annual report on the implementation of Council Regulation (EC) No 812/2004 - 2012., p. 16. Ijmuiden. Centrum voor Visserijonderzoek (CVO) CVO report 13.007.

Reduction of Disturbance

2.1 Anthropogenic Noise

Please reference and briefly summarise any studies undertaken
› TNO participates in the 3S-project, together with main partners FFI (Norway), SMRU (UK) and WHOI (USA) and several associate partners (e.g. IMR, Norway). In 2013 the third of a series of experiments took place from 15 June to 15 July, mostly near Jan Mayen, to perform BRS (Behavioural Response Studies) to study the behavioural effects of sonar sound on whales. Target species were northern bottlenose whales and minke whales. One full experiment with a group of N. bottlenose whales showed clear avoidance with the tagged animal diving to maximum depth (beyond 2400m). Some more baseline data will be gathered in 2014, and options for extension of the 3S-program are currently being discussed. Analysis and publication of results are still in progress for previous 3S-experiments (2006-2010), with were Killer whales, (long-finned) pilot whales and sperm whales as target species.

Within the EDA (European Defence Agency) TNO, together with other partners (GER, NOR, ITA, UK), is developing a marine mammal database. This database should become available for participating nations in order to improve accuracy and efficacy of mitigation measures for naval sonar operations. This EDA-PoMM project (Protection of Marine Mammals) has been finalized in 2013.

› The NL-mitigation software for naval operations SAKAMATA has been introduced to the fleet of the Royal Netherlands Navy (RNLN) in 2010. The software has been upgraded to improve user interface and implement latest research results and new algorithms for implementing sound exposure calculations and efficacy of ramp-up schemes for sonar transmissions have been published.

The release of Whale FM took place end of 2011 (http://whale.fm). This website, as initiated by TNO, is asking volunteers on the internet to help classifying marine mammal sounds (“crowd sourcing”). First publications with classification results are published or submitted.

Noise maps for Maasvlakte 2 construction activities were calculated by TNO, including calculations of cumulative sound exposure for porpoises crossing the construction area.

Christ de Jong and Michael Ainslie are part of the ISO Working Group that is developing a standard for measuring sound radiated from ships. A Publically Available Specification (PAS) published in February 2012 is available from ISO (http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=59403)

The ZKO project “Effects of underwater noise on fish and marine mammals in the North Sea” [http://www.nwo.nl/projecten.nsf/pages/2300168538] is done in collaboration of TNO, IMARES and SEAMARCO. The objective of one of the involved PhDs is to develop the knowledge required for calculating sound maps of biological relevance for the Dutch North Sea.

Michael Ainslie represents NL on the EC expert Technical Sub-group Underwater Noise “TSG Noise”. This Working Group was set up by the EC to advise Member States on interpretation of Descriptor 11 and its two indicators (11.1.1 and 11.2.1). The final report of the TSG Noise was published in February 2012. In 2013 the monitoring guidance (parts I, II, III) were published. In collaboration with other projects in Europe, a standard terminology for underwater sound [AHEWGTUS 2011] has been proposed. This terminology has been adopted by TSG Noise. The TSG report recommends the standard be adopted by all MS. The IQOE draft science plan also refers to the standard.

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

› In 2013 TNO has been involved in a large number of national and international meetings concerned with among others: acoustical terminology, noise from ships and pile driving, deep ocean ambient noise, noise reduction. This is done in the framework of an international network of experts.

A number of Behavioural Response Studies with harbour porpoises were conducted under the lead of SEAMARCO and in cooperation with Dotmoth.co.uk, TNO Netherlands and JunoBioacoustics, NL. Aim is to investigate behavioral responses of harbor porpoises to Swedish sonar signals (around 25 kHz) with and without side bands and behavioral responses of harbor porpoises to pile driving sound. Funding comes from Netherlands Ministry of Defense and Netherlands Ministry of Infrastructure and Environment and FOI, Sweden.

› References:
Ainslie, M.A., 2013. Neglect of bandwidth of Odontocetes echo location clicks biases propagation loss and single hydrophone population estimates, J. Acoust. Soc. Am 134, 3506-3512.
Alves, A., Antunes, R., Bird, A., Tyack, P., Miller, P.J.O., Lam, F.P.A. and Kvadsheim, P.H. 2014. Vocal matching of naval sonar signals by long-finned pilot whales (Globicephala melas). Marine Mammal sci (DOI: 10.1111/mms.12099).
Antunes R., Kvadsheim P.H., Lam F.P.A., Tyack, P.L., Thomas, L., Wensveen P.J., Miller P. J. O. 2014, in press. High response thresholds for avoidance of sonar by free-ranging long-finned pilot whales (Globicephala melas). Mar. Poll. Bull.
Kastelein, R.A., Gransier, R. van den Hoogen, Marjan, and Hoek, L. 2013. Brief behavioral response threshold levels of a harbor porpoise (Phocoena phocoena) to five helicopter dipping sonar signals (1.33 to 1.43 kHz), Aquatic Mammals 39: 162-173, DOI 10.1578/AM.39.2.2013.162.
Kastelein, R. A., Gransier, R., and Hoek, L. 2013. Comparative temporary threshold shifts in a harbor porpoise and harbor seal, and severe shift in a seal (L), J. Acoust. Soc. Am. 134(1), 13-16. DOI: http://dx.doi.org/10.1121/1.4808078.
Kastelein, R. A., Gransier, R., Hoek, L. and Rambags, M. 2013. Hearing frequency thresholds of a harbor porpoise (Phocoena phocoena) temporarily affected by a continuous 1.5 kHz tone, J. Acoust. Soc. Am. 134, 2286-2292. DOI: http://dx.doi.org/10.1121/1.4816405.
Kastelein, R.A., Hoek, L., Gransier, R., and de Jong, C.A.F. 2013. Hearing thresholds of a harbor porpoise (Phocoena phocoena) for playbacks of multiple pile driving strike sounds, J. Acoust. Soc. Am. 134, 2302-2306. DOI: http://dx.doi.org/10.1121/1.4817842.
Kastelein, R.A., Hoek, L., Gransier, R., de Jong, C.A.F., and Jennings , N. 2013. Hearing thresholds of two harbor seals (Phoca vitulina) for playbacks of multiple pile driving strike sounds, J. Acoust. Soc. Am. 134, 2307-2312. DOI: http://dx.doi.org/10.1121/1.4817889.
Kastelein, R. A., van Heerden, D., Gransier, R., and Hoek, L 2013. Behavioral responses of a harbor porpoise (Phocoena phocoena) to playbacks of broadband pile driving sounds, Marine Environmental Research 92, 206-214, DOI: 10.1016/j.marenvres.2013.09.020
Kastelein, R.A., Steen, N., Gransier, R., and de Jong, C.A.F. 2013. Brief behavioral response threshold level of a harbor porpoise (Phocoena phocoena) to an impulsive sound, Aquatic Mammals 39, 315-323, DOI 10.1578/AM.39.4.2013.315
Kuningas S., Kvadsheim P.H., Lam F.P.A., Miller P.J.O. 2013. Killer whale presence in relation to naval sonar activity and prey abundance in northern Norway. ICES J. Mar. Sci. (Sept 4. doi:10.1093/icesjms/fst127)
Miller, P.J.O., Antunes, R., Wensveen, P., Samarra, F.I.P., Alves, A.C., Tyack, P., Kvadsheim, P. H., Kleivane, L., Lam, F. P. A., Ainslie, M. and Thomas, L. 2014. Dose-response relationships for the onset of avoidance of sonar by free-ranging killer whales. J. Acoust. Soc Am.135, 975-993
Shamir, L., Yerby, C., Simpson, R., von Benda-Beckmann, A.M., Tyack, P.L, Samarra, FIO, PJO Miller and J Wallin . 2013. Classification of large acoustic datasets using machine learning and crowdsourcing: Application to whale calls. J.Acoustic.Soc.Am.135(2), 953-962.
Visser F, Miller P, Antunes R, Oudejans M, Mackenzie M, Aoki K, Lam FPA, Kvadsheim PH, Huisman J, Tyack P. 2014. The social context of individual foraging behaviour in long finned pilot whales. Behaviour (in press)
von Benda-Beckmann, A. M. , Wensveen, P. J. , Kvadsheim, P. J. , Lam, F. P. A., Miller, P. J. O., Tyack, P. L., Ainslie, M. A. 2013. Modelling effectiveness of gradual increases in source level to mitigate effects of sonar on marine mammals, Conservation Biology, DOI: 10.1111/cobi.12162.

reports:
Kvadsheim, P, FP Lam, P Miller, P Wensveen, F Visser, LD Sivle, M. Oudejans, L Kleivane, C Curé, P Ensor, S van IJsselmuide and R Dekeling (2014, in press) Behavioural responses of cetaceans to naval sonar signals – the 3S-2013 cruise report FFI-report 2014/00752, weblink follows soon, see also: http://www.creem.st-and.ac.uk/mocha/links
Dekeling, R.P.A., Tasker, M.L., Van der Graaf, A.J., Ainslie, M.A, Andersson, M.H., André, M., Borsani, J.F., Brensing, K., Castellote, M., Cronin, D., Dalen, J., Folegot, T., Leaper, R., Pajala, J., Redman, P., Robinson, S.P., Sigray, P., Sutton, G., Thomsen, F., Werner, S., Wittekind, D., Young, J.V. (EU TSG Noise group) (2014) Monitoring Guidance for Underwater Noise in European Seas. Part I: Executive Summary (EUR 26557 EN): http://publications.jrc.ec.europa.eu/repository/handle/111111111/30979, part II: Monitoring Guidance Specifications(EUR 26555 EN): http://publications.jrc.ec.europa.eu/repository/handle/111111111/30973, part III: Background Information and Annexes (EUR 26556 EN): http://publications.jrc.ec.europa.eu/repository/handle/111111111/30980

2.2 Ship Strike Incidents

Please list all known incidents and provide information separately for each

	Incident 1	Incident 2	Incident 3	Incident 4	Incident 5
Date	2 August 2013	16 September 2013			
Species	Fin whale	Fin whale			
Type of Injury	Hematoma	Hematoma			
Fatal Injury (Yes/No)	Yes. Due to the injuries it is expected the fin whale was hit by a ship when it was still alive.	Yes. Due to the injuries it is expected the fin whale was hit by a ship when it was still alive.			
Type of Vessel (length, tonnage, speed)	Container ship, length: 335 m, gross tonnage: 91621, speed (max/avg): 18/15.6 knots	unknown			
Location (coordinates)	Unknown - Found on the bulb of the ship in the harbour in Rotterdam, the Netherlands	Unknown – Found in the water near Rotterdam, stranded the day after near ‘s-Gravezande. It was already dead for a while. It is expected it drifted here, or was transported here on the bulb of a ship from the Bay of Biscay.			
More Information (name, email)	www.walvisstrandingen.nl	www.walvisstrandingen.nl			

2.3 Major Incidents

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

	Incident 1	Incident 2	Incident 3	Incident 4	Incident 5
Date	none				
Location					
Type of Incident					
Further Information					

2.4 Pollution and Hazardous Substances

Please report on main types of pollution and hazardous substances (including source, location and observed effects on cetaceans). Please provide information on any new measures taken to reduce pollution likely to have an impact.
› Contaminant concentrations (PCBs, organotin, PFOS) are analysed in beached P. phocoena (neonates and juveniles) (2007-ongoing) (Van den Heuvel-Greve et al., in prep.). Highest median PCB concentrations were found in neonate P. phocoena when compared to juvenile P. phocoena. PFOS concentrations were comparable in livers of neonate and juvenile P. phocoena. Organotin concentrations were highest in juvenile P. phocoena.

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

2.5 Other Forms of Disturbance

Please provide any other relevant information, e.g. relating to recreational activities affecting cetaceans.
› none

Marine Protected Areas

Marine Protected Areas for Small Cetaceans

3.1 Relevant Information

Please provide any relevant information on measures taken to identify, implement and manage protected areas for cetaceans, including MPAs designated under the Habitats Directive and MPAs planned or established within the framework of OSPAR or HELCOM.
› In the Dutch Continental Shelf and Coastal Waters, six sites have been identified as marine protected areas. Three offshore areas; Dogger Bank (Doggersbank), Cleaver Bank (Klaverbank) and Frisian Front (Friese Front), and three in the coastal zone; Noordzeekustzone in the north and Voordelta and Vlakte van de Raan in the south. These areas have been notified to the EU commission as Special Areas of Conservation (SACs) under the European Habitats and Birds Directives. All of these marine protected areas, except the Voordelta and Frisian Front, have been designated as a special protection zone for the harbor porpoise. The three coastal areas were designated by the Dutch minster. The three offshore areas will follow later, probably by the end of 2014.
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”.

3.2 GIS Data

Please indicate where GIS data of the boundaries (and zoning, if applicable) can be obtained (contact email / website).
› Noordzee
http://www.noordzeeloket.nl/projecten/noordzee-natura-2000/

official GIS shapefiles fr Natura 2000 gebieden:
http://nationaalgeoregister.nl/geonetwork/srv/dut/search#|8829e5dd-c861-4639-a6c8-fdbb6e3440d2

database Natura 2000 species and habitats:
http://www.synbiosys.alterra.nl/natura2000/default.aspx?main=natura2000

general information:
www.natura2000.nl

map of the European Natura 2000 network:
http://natura2000.eea.europa.eu/#
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;

Surveys and Research

4.1 Abundance, Distribution, Population Structure

Overview of Research on Abundance, Distribution and Population Structure
› Aerial surveys to estimate the abundance of Harbour porpoises were conducted on the Dutch Continental Shelf in March/April 2013 (Geelhoed et al., 2014a). 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 18 March and 22 April the entire Dutch Continental Shelf (DCS) was surveyed.
In total, 197 sightings of 223 individual Harbour Porpoises were collected. Porpoise densities varied between 0.47-1.44 animals/km² in the areas A-D. The overall density on the entire Dutch Continental Shelf was 1.07 animals/km². Harbour Porpoises were widely distributed in March with higher densities in area D “Delta”. In the northern part of the DSC the distribution seemed more patchy, with lower densities in the northern part of area B “Offshore” and in area A “Dogger Bank”.
The total numbers of Harbour Porpoises on the Dutch Continental Shelf (areas A-D) in March were estimated at ca. 63 000 animals (C.I.: 32 000-129 000). Even though this number is lower than the population estimate in March 2011 (86 000, C.I.: 49 000-165 000) it is similar to the abundance estimate in March 2012 (66 000, C.I.: 37 000-130 000). However, the confidence intervals of the three estimates greatly overlap and therefore these numbers can be considered of comparable size.
In total 12 sightings of other marine mammal species were made. These comprised 11 sightings of in total 11 single seals, which remained unidentified except 1 Grey Seal Halichoerus grypus on 6 April.
One White-beaked Dolphin was recorded the same day.

In August-September 2013 aerial surveys were conducted in the Dogger Bank and surroundings, covering waters of The Netherlands, the United Kingdom, Denmark and Germany (Geelhoed et al., 2014b). Aim was to investigate the importance of this marine feature as summer habitat for marine mammals. In total 619 harbour porpoises were sighted, of these 21 were calves, which resulted in an estimate of 45,177 (CI 25,105-84,556) harbour porpoises. Highest porpoise density was found in the north-western, southern and south-western parts of the survey area, whereas over the sandbank itself and to the southeast In Dutch and German waters relatively low densities were estimated.

› The Rugvin foundation is a volunteer based organisation conducting cetacean surveys in the Southern North Sea and Oosterschelde and member of the Atlantic Research Coalition (ARC). In 2013 they continued their monitoring programme for the Stena ferry line platforms between Hoek van Holland and Harwich. In 2013, 372 harbour porpoises and 4 white-beaked dolphins were counted. Furthermore, there was 1 undetermined individual counted.

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

› The Rugvin Foundation collected data in the Oosterschelde from the end of 2012 until the end of 2013. This was done using C-PODs (accoustic data loggers), on both sides of the storm surge barrier, that sits between the North Sea and the Oosterschelde. The surge has gates, allowing water to flow in an out of the Oosterschelde. It was unclear whether harbour porpoises can use the gates migrate back and forth. The C-PODs registered all year round clicks for harbour porpoises inside the Oosterschelde. It was also found that harbour porpoises were more frequently active and present during winter and less during spring, suggesting that some individuals might migrate northwards in the North Sea during this season. Porpoises were present more often near the storm surge barrier during slack tide and hence, when the water level differences were minimal. Harbour porpoises did not show echolocation activity differences according to daily, nocturnal or twilight time intervals.

› References:
Geelhoed, S.C.V., Scheidat, M., van Bemmelen, R.S.A. (2014)a Marine mammal surveys in Dutch waters in 2013. Research Report IMARES Wageningen UR - Institute for Marine Resources & Ecosystem Studies, Report C027/14.
Geelhoed S.C.V, van Bemmelen R.S.A. & Verdaat J.P. (2014b). Marine mammal surveys in the wider Dogger Bank area summer 2013. Research Report IMARES Wageningen UR - Institute for Marine Resources & Ecosystem Studies, Report No. C016/14. DEFRA report No. Department for Environment Food and Rural Affairs, London.
Rodrigues, M.G. (2014) Echolocation activity of Harbour Porpoise Phocoena phocoena in the Eastern Scheldt estuary (the Netherlands) and the North Sea. The Rugvin Foundation

› .

4.2 Technological Developments

New Technological Developments
› TNO has built and tested improvements of the acoustic marine mammal detection array Delphinus. This new configuration was first tested at sea along the Norwegian coast in Feb.2011 in advance of the 3S-2011 BRS experiment. More testing with artificial sources has been performed in 2012, see Kvadsheim et al. 2012. Improvements include a longer baseline of high frequency hydrophones, in order to better estimate direction and range of detected sounds. Also a prototype triplet-hydrophone has been designed to be integrated in the Delphinus towed array. This triplet should be capable to discriminate between the leftward/rightward detection of mammal sounds. Software of the Delphinus system has been upgraded to display detection of marine mammals in a geographical display in real time. The triplet system, together with other improvements to the system was proven to work well for detecting and support the tracking of N.bottlenose whales near Jan Mayen (Kvadsheim et al. 2014).

4.3 Other Relevant Research
› none

Use of Bycatches and Strandings

Post-Mortem Research Schemes

5.1 Contact Details

Contact details of research institutions and focal point
› Department of Pathobiology, Faculty of Veterinary Medicine, Utrecht University, Yalelaan 1, 3584 CL Utrecht, 030 253 3591

5.2 Methodology

Methodology used (reference, e.g. publication, protocol)
› T. Kuiken, M. García Hartmann M Proceedings of the first ECS workshop on cetacean pathology; dissection techniques and tissue sampling. ECS Newsletter 17, (1991) Special Issue.

› T. Kuiken, Diagnosis of By-Catch in Cetaceans, Proceedings of the 2nd BCS Workshop on Cetacean Pathology, Montpellier, France 1994. European Cetacean Society Newsletter, 26:38-43 and protocols provided by Jauniaux and Siebert

5.3 Samples

Collection of samples (type, preservation method)
› Depending on conservation state:
1. A variety of specific organs/tissues or tissues with pathologic changes. Depending on the type of research formalin-fixed, paraffin-embedded, or frozen to -20ºC (-80ºC for virology research)
2. Gastric contents (frozen to -20ºC handed to IMARES)
3. Liver, fat and muscle (frozen to -20ºC handed to IMARES)
4. Skin (ethanol)
5. Teeth (water or frozen to -20ºC handed to IMARES)
6. Parasites (70% alcohol)
7. Swabs from the genital openings

5.4 Database

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

5.5 Additional Information

Additional information (e.g. website addresses, intellectual property rights, possibility of a central database)
› All strandings are collated in a database and shown on the website of Naturalis (www.walvisstrandingen.nl). In 2013, 503 harbour porpoises, 2 bottlenose dolphins (one stranding, one vertebra), a Sowerby's beaked whale (Mesoplodon bidens), two fin whales and 1 sperm whale.

Activities and Results

5.6 Necropsies

Number of necropsies carried out in the reporting period

	Number	Recorded cause of death
Phocoena phocoena	240	
Tursiops truncatus		
Delphinus delphis		
Stenella coeruleoalba		

Grampus griseus		
Globicephala melas		
Globicephala macrorhynchus		
Lagenorhynchus albirostris		
Lagenorhynchus acutus		
Orcinus orca		
Hyperoodon ampullatus		
Mesoplodon bidens		
Kogia breviceps		
Other (please specify under number)		
Other (please specify under number)		
Other (please specify under number)		
Other (please specify under number)		
Other (please specify under number)		
Other (please specify under number)		

5.7 Other Relevant Information

Please provide any other relevant information on post-mortem / stranding schemes
› Between January 2013 and December 2013, 240 harbour porpoises were necropsied at the Department of Pathobiology of the University of Utrecht. For 132 porpoises the cause of death was unknown (mostly due to autolysis). Of the remaining animals, the percentage of bycatch was between 9% and 26%. For the period of the study from 2009 to 2012 the bycatch percentage is between 10 and 28%.

› Between April and July 2013 the Electronic Monitoring system had been installed on 4 Dutch set net vessels. During this time two bycaught animals have been called in by fishermen and brought ashore for further pathological research. One of the specimens was used for an experiment to study the appearance and development of pseudo hemorrhages after death. It was collected in the same evening the bycatch occurred and transported to a medical centre for an MRI scan. Immediately after it was transported to the NIOZ harbour on the isle of Texel. The animal stayed for 7 days in the water after which it was transported back to Utrecht for necropsy.
In the studied animal, some pseudo hemorrhages actually did appear after death: a promising result which preferably requires confirmation by carrying out at least five repeated experiments. The study will continue in the summer 2014.

Relevant New Legislation, Regulations and Guidelines

6.1 New Legislation, Regulations and Guidelines

Please provide any relevant information
› The Dutch Ministry of Economic Affairs (EZ) commissioned the writing of a “Harbour porpoise species conservation plan: towards a favourable conservation status” (Camphuysen & Siemensma 2011). The aim of this conservation plan is to improve or at least maintain the current conservation status of Harbour Porpoises in North Sea waters under Dutch jurisdiction.

Concerning the Marine Strategy Framework Directive (MSFD), in the Initial Assessment report the currently available information is described on the abundance, distribution and habitat use of harbour porpoises on the Dutch Continental Shelf. In the report on the description of a Good Environmental Status, the present state at species level is described for e.g. harbour porpoises, leading to a definition for Good Environmental Status for Biodiversity. In the Targets & Indicators report the number of harbour porpoises is proposed as one of the indicators for GES 1 Biodiversity - 1.2 Population size. Also the OSPAR EcoQO on by-catch levels is proposed as one of the indicators for GES 4 Food webs - 4.3.1 Abundance trends of functionally important selected groups/species. In the “Dutch Marine Strategy part 1” a final selection of the proposed targets & indicators has been made. Sea mammals are mentioned under Descriptors 1 (Biodiversity) and 4 (Foodweb). For both descriptors there are no indicators yet for sea mammals. Indicators for harbor porpoises will be developed using the “Harbour porpoise species conservation plan: towards a favourable conservation status” (Camphuysen & Siemensma 2011). In the “Dutch Marine Strategy part 2 - MSFD monitoring programme”, the outlines are given for a monitoring programme necessary to gather information for reporting under the MSFD. For the biodiversity descriptor - harbour porpoise, the Netherlands aim to use international surveys (such as the Small Cetacean Abundance Survey in the North Sea and Adjacent Waters - SCANS). Until then, national surveys will be carried out. Moreover, specific harbour porpoise counts and combined counts (with birds) are being considered. For the food web descriptor, information on quantities of stranded harbour porpoises combined with autopsy data (thickness of blubber and stomach contents) will be used to formulate specific research. Reports on by-catches in gill nets are also included.
For species that are protected under the Habitats Directive, national objectives will be the same as under the Habitats Directive.

› References
Boon AR, Prins TC, Slijkerman DME, Schipper CA (2011) Environmental targets and associated indicators. Implementation of the Marine Strategy Framework Directive for the Dutch part of the North Sea: background document 3. Deltares rapport, IMARES rapport C128/11.
Camphuysen CJ & ML Siemensma (2011) Conservation plan for the Harbour Porpoise Phocoena phocoena in The Netherlands: towards a favourable conservation status. NIOZ Report 2011-07, Royal Netherlands Institute for Sea Research, Texel.
Prins TC, Slijkerman DME, de Mesel I, Schipper CA, van den Heuvel-Greve MJ (2011) Initial Assessment. Implementation of the Marine Strategy Framework Directive for the Dutch part of the North Sea. Background document 1 (of 3). Deltares-IMARES report.
Prins TC, Slijkerman DME, Schipper CA, van den Heuvel-Greve MJ (2011) Determination of Good Environmental Status. Implementation of the Marine Strategy Framework Directive for the Dutch part of the North Sea. Background document 2 (of 3). Deltares-IMARES report.
Ministerie van Infrastructuur en Milieu ism Ministerie van Economische Zaken, Landbouw en Innovatie (2012) Mariene strategie voor het Nederlandse deel van de Noordzee 2012-2020 Deel 1
Ministerie van Infrastructuur en Milieu ism Ministerie van Economische Zaken, Landbouw en Innovatie (2014) Ontwerp Mariene strategie voor het Nederlandse deel van de Noordzee 2012-2020 Deel 2. KRM-Monitoringprogramma

Public Awareness and Education

7.1 Public Awareness and Education

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

› Jeroen Hoekendijk and Marije Siemensma (Marine Science & Communication) organised the first Harbour Porpoise Forum (HPF) on January 30th 2013, at the Royal Netherlands Institute for Sea Research (NIOZ) on Texel. The theme of this day: 'Science driven by curiosity, enthusiasm and engagement'. A full day programme dedicated to harbour porpoise research with speakers from the Netherlands and neighboring countries who voluntarily contributed by presenting their work, methods, results and future perspectives, with ample time for discussion. Topics addressed varied from the biology of this species to the challenges of acoustical monitoring and Grey Seal depredation. The HPF was open to anyone interested. During lunch several interactive activities were scheduled such as a demonstration on locating harbour porpoises from video recording; the analysis of stomach contents and a visit to the porpoises in captivity at Ecomare. Please contact the organisers for more information: harbourporpoiseforum@gmail.com

› Vereniging Kust & Zee, the Dutch section of the Coastal & Marine Union (EUCC) annually publishes the printed "Kust en Zeegids". Furthermore the EUCC regularly distributes digital newsletters with relevant information on their projects. It also communicates news through its website www.kustenzee.nl and www.eucc.nl. The EUCC has an exhibition centre on the Pier of Scheveningen, The Hague (Kust&Zee x-Pierience) which officially opened in March 2011.
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. 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.

› IVN Consulentschap Zeeland, the National Park Oosterschelde in collaboration with Rugvin Foundation and Marine Science & Communication initiated a project on the Harbour Porpoise in the Oosterschelde Estuary. The project "Welcome Porpoise" has continued in 2013 and aims to make visitors of the National Park aware of porpoises in the Oosterschelde (http://www.np-oosterschelde.nl/). In September 2012 a brochure as one of the project results has been presented to visitor of the National Park Oosterschelde. Focus of this brochure is to learn visitors where to observe Harbour Porpoises, from either boat or land and how to recognise this small whale. Further more the brochure informs about the Harbour Porpoise in general.
The Rugvin Foundation also informs the public via posters on the Stena Line ferries about how to observe harbour porpoises (see B, 4.1).

› In 2011, the North Sea Foundation, a Dutch NGO, has initiated two projects to raise awareness on 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 cleanups and litter counts are organized here, with use of the 'Strandscanner', a special app for the smartphone to count specific litter items. The application also includes an option to record stranded cetaceans, such as harbour porpoises. The number of participating "MyBeaches" increased from 2 in 2011, 6 in 2012 and 24 in 2013. Many of the participating "MyBeaches" also organise beach cleaning activities, art expositions and other activities. In 2013, a cleaning tour for volunteers was organised, covering the entire Dutch North Sea coast in 24 days. In this tour 6590 kg waste was collected.
Coastwatch is an education project for high school students, with lectures in the class and on the beach.
Also in 2011, the North Sea Foundation introduced the big 5; harbour porpoise, cod, thornback ray, dead man's fingers (a soft coral) and Northern gannet, to create more awareness and increase protection of these species.
In 2012, the North Sea Foundation together with the Plastic Soup Foundation started the 'Beat the Micro Bead' Campaign to raise awareness on micro plastics in body care products. This generated so much attention via (social) media, that in 2013 the campaign went world-wide. In December 2012, a multinational declared to remove all microbeads in their products by 2015. Other multinationals follow suit.

› On 25 April 2013 the national event Girslday was kicked-off at the TNO research basin in The Hague. Girlsday.nl is addressing school girls (age 10-15) to consider a professional career in technology. As part of this national kick-off, the (new) topic of underwater noise and related research was highlighted. The formal (national) start of the event was initiated by Her Majesty Queen Maxima, together with the minister of Education, Culture and Science, dr. Jet Bussemaker, in presence of a large group of schoolgirls.

Possible difficulties encountered in implementing the Agreement

Difficulties in Implementing the Agreement

Please provide any relevant information
› None