National Reporting Format for ASCOBANS

2016

As outlined in ASCOBANS Resolution 8.1 on National Reporting, the national reports covering the year 2016 will cover the following Sections of the Annex to the Resolution:

- Section I
- Section II B3, B4, C8 and D15
- Section VII

The reports submitted will inform discussions at the 23rd Meeting of the Advisory Committee (5-7 September 2017, Le Conquet, France) and will tailor its agenda to focus on the topics selected for this national report.

Section I: General Information

Party Information

Name of Party

Denmark

National Coordinator (Focal Point) for ASCOBANS

Camilla Uldahl, biologist in the Ministry of Environment and Food of Denmark, Haraldsgade 53, 2100 Copenhagen Ø, Denmark. Telephone +45 72544000. Email: cakis@mst.dk

Contributors to the report

Jakob Højer Kristensen, on behalf of the in the Ministry of Environment and Food of Denmark. Chief biologist, Fjord&Bælt, Margrethes Plads 1, 5300 Kerteminde, Denmark. Telephone: +45 65324200. Email: jakob@fjord-baelt.dk.

List of relevant national institutions

The Ministry of Environment and Food of Denmark, The Danish Environmental Protection Agency. Haraldsgade 53, 2100 København Ø, Denmark. Phone +45 72544000.

The Danish Energy Agency. Amaliegade 44, 1256 København K, Denmark. Phone: +45 33926700

The Danish Coastal Authority. Højbovej 1, 7620 Lemvig, Denmark. Phone: +45 99636363.

Fjord&Bælt, Margrethes Plads 1, 5300 Kerteminde, Denmark. Contact person: Jakob Højer Kristensen. Telephone: +45 42131550. Email: jakob@fjord-baelt.dk

Marine Biological Research Center, University of Southern Denmark, Hindsholmvej 11, 5300 Kerteminde, Denmark. Contact person: Magnus Wahlberg, phone +45 22163950, email: magnus@biology.sdu.dk

The National Veterinary Institute, DTU-VET, Bülowsvej 27, 1870 Frederiksberg C, Denmark. Contact: Mette Sif Hansen, phone +45 35886719, email: mesi@vet.dtu.dk

DTU AQUA, National Institute of Aquatic Resources, Section for Ecosystem Based Marine Management, Technical University of Denmark. Kemitorvet, Bygning 201, 2800 Kgs. Lyngby, Denmark. Contact: Finn Larsen, phone: +45 35883496, email: fl@aqua.dtu.dk.

DCE- Danish Centre for Environment and Energy, Department of Bioscience, Aarhus University. Frederiksborgsvej 399, 4000 Roskilde, Denmark. Contact: Jakob Tougaard, phone: +45 87158706

The Fisheries and Maritime Museum, Tarphagevej 2, 6710 Esbjerg V, Denmark. Contact: Charlotte Bie Thøstesen, phone: +45 76122000, email: cbt@fimus.dk

Natural History Museum of Denmark, University of Copenhagen. Østervoldgade 5-7, 1350 København K. Contact: Morten Tange Olsen, phone: +45 42661525, email: morten.olsen@snm.ku.dk.

Section II: Habitat Conservation and Management (threats and pressures on cetaceans)

B. Disturbance (including potential physical impacts)

3. Noise (impulsive and continuous/ambient)

3.1) To which noise registers/databases has your country contributed to date?

- ICES Impulsive Noise Register *(for HELCOM and OSPAR Parties): yes/no*

Yes, Denmark reports impulsive noise to the ICES register.

3.2) The perceived level of risk that underwater noise is posing to the favourable conservation status (FCS) of small cetaceans, i.e. is the pressure increasing, decreasing, staying the same or unknown:

Unknown. Monitoring underwater noise is a new field, and hence it's not possible to evaluate pressure trends.

3.3) Any notable instances/issues in the reporting period including providing information on planned or completed significant developments/activities, including the details of EIAs and monitoring in place before, during and after the project:

The report "Impulse noise sources, (D11.1) "Presents the data reported by Denmark to the ICES impulsive noise registry for the calendar year 2016. Full reference is in section 3.5.

Development/ activity (e.g. windfarm)	***Status (planned/ completed)***	***Environmental Impact Assessment (EIA)***	***Strategic Environmental Assessment (SEA)***	***Monitoring conducted***	***Further information on noise management***	***Latitude WGS 84***	***Longitude WGS 84***
	Planned/complete/Not Applicable	*Done/foreseen/not required/Not Applicable*	*Done/foreseen/not required/Not Applicable*			*Degree decimal to 4 places*	*Degree decimal to 4 places*

3.4) How is the pressure being managed, including a list of relevant regulations / guidelines and the year of implementation (current and planned):

In general noise and other disturbances caused by developmental activities and construction work is regulated by the Danish State.

Large national infrastructure projects are handled by project specific legislation often under the jurisdiction of Ministry of Transport Building and Housing.

Projects regarding offshore windfarms, offshore oil and gas production and wave energy are regulated by the Danish Energy Agency.

Larger industrial harbour constructions are governed by the Ministry of Transport Building and Housing.

Fixed installations and geotechnical investigations within Danish territorial waters are governed by the Danish Coastal Authority.

Projects where and environmental impact is to be foreseen are generally required to produce an Environmental Impact Assessment study of the given project is a prerequisite for acquiring the necessary permits.

The Danish Marine Strategy from 2012, which is the Danish implementation of EU's Marine Strategy Framework Directive 2008/56/EF from 17 of June 2008, was in 2014 followed by a monitoring programme "Danmarks Havstrategi Overvågningsprogram, Rev.26/9-2014".

http://mst.dk/media/118263/samlet_overv_gningsprogram_for_hsd.pdf

The purpose of the programme is to ensure a continuous monitoring of the environmental state relative to the goals set by the Danish Marine Strategy, this includes monitoring of underwater noise, descriptor 11 in the EU Marine Strategy Framework Directive.

The Danish monitoring programme incorporates data from the BIAS project (Baltic Information on the Acoustic Soundscape). BIAS project was established in September 2012 to support a regional assessment of the underwater sound in the Baltic Sea. The project has five objectives. The first is to raise awareness among authorities and managers. The second is to establish a regional implementation. The third objective is to assess the level of underwater noise and to present the results as soundscape maps. The fourth objective is to establish regional standards and methodologies that will allow for cross-border handling of data and results and finally to implement regional tools for handling of underwater sound. BIAS was funded by EU-LIFE with support from the Ministry of Environment and Food of Denmark. Additional data has been collected in 2016 on a location that was part of the BIAS project with support of the Ministry of Environment and Food of Denmark, as part of the ongoing noise monitoring effort.

The report " Undervandsstøj i Indre Danske Farvande 2014-2016, Havstrategidirektivets Indikator 11.2" (Underwater Noise in the Inner Danish Waters 2014-2016) describes the results from the above mentioned noise monitoring programme. The focus is to monitor the underwater noise levels with center frequencies of 63 and 125 Hz. For full reference see section 3.5.

The report "*Impulse noise sources, (D11.1) "*Presents the data reported by Denmark to the ICES impulsive noise registry for the calendar year 2016. This reporting is also part of the obligations of the EU Marine Strategy Framework Directive. This report covers the indicator 11.1, impulsive noise. Full reference under section 3.5.

3.5) List relevant new research/work/collaboration:

Tougaard, J. & Schack, H.B. 2018. Impulsive noise sources (D11.1). Activities in the Danish EEZ reported for 2016 to the ICES impulsive noise register. Aarhus University, DCE – Danish Centre for Environment and Energy, 24 pp. Technical Report from DCE – Danish Centre for Environment and Energy No. 113. http://dce2.au.dk/pub/TR113.pdf

Tougaard, J., Hermannsen, L., Elmegaard, S. & Wahlberg, M. 2017. Undervandsstøj i Indre Danske Farvande 2014-2016. Havstrategidirektivets Indikator 11.2l. Aarhus Universitet, DCE – Nationalt Center for Miljø og Energi, 48 s. - Teknisk rapport fra DCE - Nationalt Center for Miljø og Energi nr. 109. http://dce2.au.dk/pub/TR109.pdf

Tougaard, J. 2016. Input to revision of guidelines regarding underwater noise from oil and gas activities - effects on marine mammals and mitigation measures. Aarhus University, DCE – Danish Centre for Environment and Energy, 52 pp. Scientific Report from DCE – Danish Centre for Environment and Energy No. 202. http://dce2.au.dk/pub/SR202.pdf

Sarnocinska J., Tougaard J., Johnson M., Madsen P.T. & Wahlberg M. (2016) Comparing the performance of C-PODs and SoundTrap/PAMGUARD in detecting the acoustic activity of harbor porpoises (Phocoena phocoena). Proceedings of Meetings on Acoustics 27, 070013.

BIAS: A Regional Management of Underwater Sound in the Baltic Sea. Sigray, P., Andersson, M., Pajala, J., Laanearu, J., Klauson, A., Tegowski, J., Boethling, M., Fisher, J., Tougaard, J., Wahlberg, M., Nikolopoulos, A., Folegot, T., Matuschek, R. & Verfuss, U. 2016 The Effects of Noise on Aquatic Life II. Popper, A. N. & Hawkins, A. (red.). Springer, s. 1015-1023 9 s. (Advances in Experimental Medicine and Biology, Bind 875).

Impacts of underwater noise on marine vertebrates: Project introduction and first results. Liebschner, A., Seibel, H., Teilmann, J., Wittekind, D., Parmentier, E., Dähne, M., Dietz, R., Driver, J., van Elk, C., Everaarts, E., Findeisen, H., Højer-Kristensen, J., Lehnert, K., Lucke, K., Merck, T., Müller, S., Pawliczka, I., Ronnenberg, K., Rosenberger, T., Ruser, A., Tougaard, J., Schuster, M., Sundermeyer, J., Sveegaard, S. & Siebert, U. 2016 The effects of noise on aquatic life II. Popper, A. & Hawkins, A. (red.). Springer Science+Business Media B.V., s. 631-636 (Advances in Experimental Medicine and Biology, Bind 875).

Noise exposure criteria for harbour porpoises. Tougaard, J., Wright, A. J. & Madsen, P. T. 2016 The effects of noise on aquatic life II. Popper, A. N. & Hawkins, A. (red.). Springer, Bind 875, s. 1167-1173 (Advances in Experimental Medicine and Biology).

Skjellerup P. & Tougaard J. (2016) Marine mammals and underwater noise in relation to pile driving - Revision of assessment. Fredericia, Denmark.

3.6) Report on noise management for cumulative impact, including assessment of associated or coincidental activities, regulations and guidelines, seismic shot point densities and level of impact that was assessed and deemed acceptable:

4. Ocean Energy

Wind Energy

Detailed information about the wind farms in Denmark can be found on the webpage of the Danish Energy Agency: https://ens.dk/en/our-responsibilities/wind-power

Overview of the existing wind farms (in Danish), including detailed information: https://ens.dk/ansvarsomraader/vindenergi/eksisterende-havvindmoelleparker-og-aktuelle-projekter. Here detailed information can be found regarding many of the wind farms, including permits and EIA's.

Above the positions of the operational Danish wind farms.

4.1) Please enter one table per wind farm.

Name of wind farm	*Vindeby*
First operational on (if in planning, then please enter foreseen grid connection date)	1991
Output in megawatts per turbine	*Total output 4,95 MW*
Number of turbines	*11*
How were the individual wind turbines installed in the seabed?	
Was scour protection added?	
Noise mitigation during construction used (multiple ticks possible)	

If the wind farm is floating, how was it anchored?	
Additional information (optional):	

Name of wind farm	*Tunø Knob*
First operational on (if in planning, then please enter foreseen grid connection date)	*1995*
Output in megawatts per turbine	*Total output 5 MW*
Number of turbines	*10*
How were the individual wind turbines installed in the seabed?	
Was scour protection added?	
Noise mitigation during construction used (multiple ticks possible)	
If the wind farm is floating, how was it anchored?	
Additional information (optional):	

Name of wind farm	*Middelgrunden*
First operational on (if in planning, then please enter foreseen grid connection date)	*2000*
Output in megawatts per turbine	*Total output 40 MW*
Number of turbines	*20*
How were the individual wind turbines installed in the seabed?	
Was scour protection added?	

Noise mitigation during construction used (multiple ticks possible)	
If the wind farm is floating, how was it anchored?	
Additional information (optional):	

Name of wind farm	*Horns Rev 1*
First operational on (if in planning, then please enter foreseen grid connection date)	*2002*
Output in megawatts per turbine	*Total output 160 MW*
Number of turbines	*80*
How were the individual wind turbines installed in the seabed?	
Was scour protection added?	
Noise mitigation during construction used (multiple ticks possible)	
If the wind farm is floating, how was it anchored?	
Additional information (optional):	

Name of wind farm	*Rønland*
First operational on (if in planning, then please enter foreseen grid connection date)	*2003*
Output in megawatts per turbine	*Total output 17,2 MW*
Number of turbines	*8*
How were the individual wind turbines installed in the seabed?	

Was scour protection added?	
Noise mitigation during construction used (multiple ticks possible)	
If the wind farm is floating, how was it anchored?	
Additional information (optional):	

Name of wind farm	*Nysted*
First operational on (if in planning, then please enter foreseen grid connection date)	*2003*
Output in megawatts per turbine	*Total output 160 MW*
Number of turbines	*72*
How were the individual wind turbines installed in the seabed?	
Was scour protection added?	
Noise mitigation during construction used (multiple ticks possible)	
If the wind farm is floating, how was it anchored?	
Additional information (optional):	

Name of wind farm	*Samsø*
First operational on (if in planning, then please enter foreseen grid connection date)	*2003*
Output in megawatts per turbine	*Total output 23 MW*
Number of turbines	*10*

How were the individual wind turbines installed in the seabed?	
Was scour protection added?	
Noise mitigation during construction used (multiple ticks possible)	
If the wind farm is floating, how was it anchored?	
Additional information (optional):	

Name of wind farm	*Frederikshavn*
First operational on (if in planning, then please enter foreseen grid connection date)	*2003*
Output in megawatts per turbine	*Total output 7,3 MW*
Number of turbines	*3*
How were the individual wind turbines installed in the seabed?	
Was scour protection added?	
Noise mitigation during construction used (multiple ticks possible)	
If the wind farm is floating, how was it anchored?	
Additional information (optional):	

Name of wind farm	*Horns Rev 2*
First operational on (if in planning, then please enter foreseen grid connection date)	*2009*
Output in megawatts per turbine	*Total output 209 MW*

Number of turbines	*94*
How were the individual wind turbines installed in the seabed?	
Was scour protection added?	
Noise mitigation during construction used (multiple ticks possible)	
If the wind farm is floating, how was it anchored?	
Additional information (optional):	

Name of wind farm	*Avedøre Holme*
First operational on (if in planning, then please enter foreseen grid connection date)	*2009/2011*
Output in megawatts per turbine	
Number of turbines	*3*
How were the individual wind turbines installed in the seabed?	
Was scour protection added?	
Noise mitigation during construction used (multiple ticks possible)	
If the wind farm is floating, how was it anchored?	
Additional information (optional):	

Name of wind farm	*Sprogø*
First operational on (if in planning, then please enter foreseen grid connection date)	*2009*

Output in megawatts per turbine	*Total output 21 MW*
Number of turbines	*7*
How were the individual wind turbines installed in the seabed?	
Was scour protection added?	
Noise mitigation during construction used (multiple ticks possible)	
If the wind farm is floating, how was it anchored?	
Additional information (optional):	

Name of wind farm	*Rødsand 2*
First operational on (if in planning, then please enter foreseen grid connection date)	*2010*
Output in megawatts per turbine	*Total output 207 MW*
Number of turbines	*90*
How were the individual wind turbines installed in the seabed?	
Was scour protection added?	
Noise mitigation during construction used (multiple ticks possible)	
If the wind farm is floating, how was it anchored?	
Additional information (optional):	

Name of wind farm	*Anholt*

First operational on (if in planning, then please enter foreseen grid connection date)	*2013*
Output in megawatts per turbine	*Total output 399,6 MW*
Number of turbines	*111*
How were the individual wind turbines installed in the seabed?	
Was scour protection added?	
Noise mitigation during construction used (multiple ticks possible)	
If the wind farm is floating, how was it anchored?	
Additional information (optional):	

Wave Power

Detailed information about wawe power projects in Denmark can be found on the webpage of the Danish Energy Agency: https://ens.dk/en/our-responsibilities/wave-hydropower/current-wave-power-projects

Per 2015 there was three wave power plants with permissions to test in Danish seas and one developer with permission to do pre-investigations to prepare an area for future wave energy plants. There are no full scale operational wave power plants in Danish seas.

4.2) Please enter one table per wave power installation.

Name of installation	
Fist operational on (if in planning, then please enter foreseen grid connection date)	dd/mm/yy
Location	
Output in megawatts per turbine	
Number of turbines	
How is the installation anchored?	
Was scour protection added?	*Yes/No/Not Applicable*

Tidal Energy

There are no full scale operational tidal energy plants in Danish waters.

4.3) Please enter one table per tidal energy installation.

Name of installation	
First operational on (if in planning, then please enter foreseen grid connection date)	dd/mm/yy
Location	
Output in megawatts per turbine	
Number of turbines	
Type	*Floating/gravity/other, please specify:*
Collision mitigation	*No/ Yes, please specify:*

Tidal lagoon/barrage

There are no full scale operational tidal lagoon energy plants in Danish waters.

4.4) Please enter one table per tidal lagoon/barrage.

Name of installation	
First operational on (if in planning, then please enter foreseen grid connection date)	dd/mm/yy
Location	
Output in megawatts per turbine	
Number of turbines	
Collision mitigation	*No/ Yes, please specify:*

4.5) The perceived level of risk to favourable conservation status (FCS), i.e. is the pressure increasing, decreasing, staying the same or unknown:

Energy type	***Status 2016 relative to previous years***
Wind energy	Unknown.
Wave power	Unknown
Tidal energy	Not applicable
Tidal lagoon/barrage	Not applicable

4.6) Any notable instances/issues in the reporting period

4.7) How the pressure is being managed, incl. relevant regulations / guidelines and the year of implementation (current and planned)

The conditions for offshore wind farms are defined in the Promotion of Renewable Energy Act In chapter 3 it is stated that the right to exploit energy from water and wind within the territorial waters and the exclusive economic zone (up to 200 nautical miles) around Denmark belongs to the Danish State.
Thus, three licenses are required to establish an offshore wind farm in Denmark. The three licenses are granted by the Danish Energy Agency, which serves as a "one-stop-shop" for the project developer. The three licenses are stated below:

1) License to carry out preliminary investigations

2) License to establish the offshore wind turbines (only given if preliminary investigations show that the project is compatible with the relevant interests at sea)

3) License to exploit wind power for a certain number of years, and an approval for electricity production (given if conditions in license to establish project are kept).

The three licenses are given successively for a specific project. Furthermore, it is necessary to perform an Environmental Impact Assessment (EIA) if the project is expected to have an environmental impact. So far, it has been necessary to perform an EIA for all of the existing Danish offshore wind farms.
The specific procedure for the EIA regarding offshore wind farms is described in Executive Order no. 68 of January 26th 2012 . Furthermore, the Danish Energy Agency has guidelines developed for the elaboration of EIA for offshore wind proposals. The guidelines only cover issues related to the environment at sea.

The conditions for Wavepower facilities are defined in the Promotion of Renewable Energy Act under the jurisdiction of the Danish Energy Agency. If the agency concludes that the project

will have a significant negative impact on the environment, the applying company will have to perform and EIA.

When a company applies to the DEA for approval of a production plan for oil and gas fields or the installation of pipelines, the application must be accompanied by an environmental impact assessment (EIA) and an account of the measures taken to reduce such impact. In some cases this type of application does not require an environmental impact assessment. The criteria appear from the DEA's Executive Order No. 1419 of 3 December 2015 on EIA. Information about the submission of an application for a new offshore installation project must be published, and the associated EIA report must be subjected to public consultation for at least eight weeks. EIA reports are subject to public consultation. Once a decision on environmental issues has been made, information about the decision must be published. An appeal can be lodged against the decision.

Executive Order No. 1419 of 3 December 2015 on EIA (in Danish)

4.8) Relevant new research/work/collaboration

C. Habitat Change and Degradation (incl. potential physical impacts)

8. Unexploded Ordnance

8.1) To which registers/databases covering conventional and chemical munitions has your country contributed to date?

OSPAR

Other, please state:

None.

Unknown.

8.2) Please fill in table 8.2 (below) on unexploded ordnance, which except for the last four additional columns is the same as the OSPAR one. For explanation of terms see http://www.ascobans.org/sites/default/files/document/AC22_Inf_4.6.c_OSPAR_MunitionsRec 2010.pdf

8.3) The perceived level of risk that unexploded ordnance and the management thereof is posing to the favourable conservation status (FCS) of small cetaceans, i.e. is the pressure increasing, decreasing, staying the same or unknown.

Unknown.

8.4) Any notable instances/issues in the reporting period.

Unknown. No information about explosions was supplied by the Danish Navy or other relevant bodies. It is very likely that numerous underwater explosions occurred in 2016 in connection with UXO (unexploded ordnance) clearance, navy traning and civilian construction activities.

8.5) How is the pressure being managed, incl. relevant regulations/guidelines and the year of implementation (current and planned)

8.6) Relevant new research/work/collaboration

D. Management of Cumulative Impacts

15. Marine Spatial Planning

Plan(s) in force	
Plan(s) in preparation	
Further information, including links to online resources and maps where available	

Section VII: Other Matters

A. Other information or comments important for the Agreement

B. Difficulties in implementing the Agreement

Table 8.2 on Unexploded Ordnance (taken from OSPAR reporting format, with additional four columns at the end)

OSPAR Ref. No	**Latitude WGS 84**	**Longitude WGS 84**	**Nature of Encounter**	**Date**	**Type of munition**	**Action taken**	**State of munition (corrosion)**	**Release, Destruction Latitude WGS 84**	**Release, Destruction Longitude WGS 84**	**Remarks**	**Depth of explosion**	**Estimated net weight of explosive material of demolished UXO**	**Demolition charge: net weight of explosive material added**	**Observations during explosion**
If available, otherwise leave blank	*Degree decimal to 4 places*	*Degree decimal to 4 places. Negative for west of Greenwich*	*Diving, Dredging, Entanglement in Nets, Found on shore, Laying pipelines or cables, mine hunting, other*	*dd/mm/yy*	*Chemical, Firebomb, Conventional, unknown*	*Destroyed/blasted, Destroyed/other method, Released at Sea, Disposed of on land, Unknown, other*	*Heavily corroded, Partly corroded, Good condition, Unknown*	*Degree decimal to 4 places*	*Degree decimal to 4 places. Negative for west of Greenwich*	*Text*	*Meters* *On Seafloor/raised*	*TNT equivalent in kg*	*TNT equivalent in kg*	*high order/low order/ deflagration/unknown*