

Agenda Item 2

Review of New Information on Threats and
Other Issues Relevant to Small Cetaceans

Document NR 2/Rev.2

**2020 National Report
Denmark**

Action Requested

- Take note
- Comment

Submitted by

Denmark



2020 ASCOBANS National Report

1 January – 31 December 2020

As outlined in ASCOBANS [Resolution 8.1 \(Rev.MOP9\)](#) *National Reporting*, this form will cover the year 2020 (Year 1), and the following topics included in the Annex to the Resolution, in addition to the standard Sections I (General Information) and VII (Other Matters):

- Noise (impulsive i.e. piling and continuous/ambient i.e. shipping) (Section II B3)
- Ocean Energy (Section II B4)
- Unexploded Ordnance (Section II C8)
- Marine Spatial Planning (Section II D15)

The national reports submitted will inform discussions at the 26th Meeting of the ASCOBANS Advisory Committee (8-12 November 2021).

- All questions apply to the reporting period of 1 January - 31 December 2020.
- Region in the tables refers to the sub-regions as defined by the HELCOM and OSPAR, and Areas refers to the sub-areas as defined by ICES. An overview and maps of these can be found in Annex A. Species can be chosen from the drop-down list provided, based on ASCOBANS species list, see Annex B.
- Throughout the form, please include relevant web links and add rows where applicable.

Where possible, National Coordinators should consult with, or delegate to, experts for particular topics so as to ease the reporting burden. The Secretariat has provided a list of potential country contacts as a starting point. Once the baseline information is in place, it should become easier to update in the future.

For any questions, please do not hesitate to contact the Secretariat:

ascobans.secretariat@ascobans.org.

High-level Summary of Key Messages

In your country, for 2020 (Year 1), what does this report reveal about:

1. The most successful aspects of implementation of the Agreement?

- A significant amount of both national and international research, collaboration and debate on underwater noise is ongoing. This includes both noise impact on harbour porpoises and general noise management and mitigation.
- The first Danish Marine Spatial Plan will be sent out for consultation on the 31th of March 2021.

The greatest challenges in implementing the Agreement?

- The rate of construction of offshore wind farms has been relatively constant, but the individual projects and turbine foundations are increasing. As such ensuring space and high quality habitat is a challenge.
- The lack of sufficient information on bycatch covering both the Baltic and the Belt Sea population makes it impossible to assess the treat level and decide on mitigations (not covered by subjects in this report)

2. The main priorities for future implementation of the Agreement?

- With the increasing use of marine territory for offshore installation, shipping ect, a larger focus on cumulative impacts and how to assess these would be relevant.
- Ensuring funding for participation in SAMBAH-II (not covered by subjects in this report)

Section I: General Information

A. Country Information

1. Name of Party / Non-Party Range State: Denmark

2. Details of the Report Compiler

Name: Signe Sveegaard
Function: Senior advisor, PhD
Organization: Department of Bioscience, Aarhus University
Postal Address: Frederiksborgvej 399, 4000 Roskilde
Telephone: +45 28951664
Email: ssv@bios.au.dk
 Does the Report Compiler act as ASCOBANS National Coordinator (i.e. focal point)?
☐ No ☒ Yes

3. Details of contributor(s)

Topic(s) contributed to: Underwater noise
Name: Jakob Tougaard
Function: Senior Scientist, PhD
Organization: Aarhus University
Postal Address: Ny Munkegade 114-116, 8000 Aarhus C, Denmark
Telephone:
Email: jat@bios.au.dk

Topic(s) contributed to:
Name: Anders Boe-Hansen
Function: clerk
Organization: Danish Maritime Authority

Postal Address: Caspar Brands Plads 9, 4220 Korsør, Denmark

Telephone:

Email: abh@dma.dk

Copy box if needed.

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

B. Disturbance (incl. potential physical impacts)

3. Noise (impulsive i.e. piling and continuous/ambient i.e. shipping)

AIM: to illustrate progress on understanding, monitoring and mitigating negative effects on small cetaceans from underwater noise during the reporting period.

Relevant Resolutions: 9.2, 9.1, **8.11 (Rev.MOP9)**, 8.9, 8.6, 8.4 (Rev.MOP9), 8.3, 7.1, **6.2**, 6.1

Small cetaceans are especially susceptible to underwater noise due to their high responsiveness to sound and wide hearing range. Good environmental status, as defined by the European Union, suggests that the introduction of energy, including underwater noise, is at levels that do not adversely affect the marine environment. Anthropogenic noise pollution has generally increased in recent times and generates a broad range of frequencies due to a wide variety of human activities. Impulsive and continuous noise present different impacts on small cetaceans, which include communicative masking, behavioural response and physiological injury. Noise in marine environments potentially impedes communication, affects distribution and hence feeding and reproduction of small cetaceans. Studies show that not only cetaceans but also fish and other marine life may be negatively impacted by anthropogenic noise.

Parties to ASCOBANS have agreed on implementation of measures through a number of resolutions that (1) highlight the potential impact that noise pollution may have on small cetaceans in the Agreement Area and (2) commit to reduce the pressure presented by underwater noise. The Agreement Area requires improved monitoring, collation of data, and consideration of appropriate mitigation measures.

To better understand the extent to which noise negatively impacts the health of small cetaceans, and to learn about new work relevant to the topic, countries are requested to provide related information.

Questions:**3.1. To which noise registers/databases has your country contributed to date?**

ICES Impulsive Noise Register (for HELCOM and OSPAR Parties)	National registry	Other
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable Specify (e.g. JNCC noise registry): Continuous noise monitoring database	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Specify:

3.2. Any instances/issues in the reporting period including information on planned or completed significant developments/activities, including the details of monitoring in place before, during and after the project: DK Comment: All Danish information available in the ICES impulsive noise register; <https://www.ices.dk/data/data-portals/Pages/impulsive-noise.aspx>. The two largest activities in 2019 listed below.

Development/ Individual Activity of impulsive noise (e.g. construction, seismic, sonar)	Status	Environmental Impact Assessment (EIA)	Strategic Environmental Assessment (SEA)	Information on noise management and monitoring			Region
				Regulations/ guidelines exist	Monitoring conducted	Mitigation in place	
4D Seismic survey Tyra oil field	Complete	<input type="checkbox"/> No. <input checked="" type="checkbox"/> Yes. Weblinks: https://ens.dk/sites/ens.dk/files/OlieGas/vvm-redegoerelse_tyra_september_2017.pdf	<input checked="" type="checkbox"/> No. <input type="checkbox"/> Yes. Weblinks:	Yes	Not Required	Choose an item.	Oil Southern North Sea
Geophysical survey Thor offshore wind farm	Complete	<input type="checkbox"/> No. <input checked="" type="checkbox"/> Yes. Weblinks: https://ens.dk/ansvarsomraader/vindenergi/udbud-paa-havvindmoelleomraadet/thor-havvindmoellepark-0	<input type="checkbox"/> No. <input checked="" type="checkbox"/> Yes. Weblinks: https://ens.dk/ansvarsomraader/vindenergi/udbud-paa-havvindmoelleomraadet/thor-havvindmoellepark-0	Yes	Not Required	Choose an item.	Oil Southern North Sea
	Choose an item.	<input type="checkbox"/> No. <input type="checkbox"/> Yes. Weblinks:	<input type="checkbox"/> No. <input type="checkbox"/> Yes. Weblinks:	Choose an item.	Choose an item.	Choose an item.	Choose an item.

3.3. Relevant new research/work/collaboration on underwater noise in your country.

Joint Monitoring of Underwater Noise in the North Sea (JOMOPANS). Monitoring and mapping of continuous underwater noise in the North Sea. https://northsearegion.eu/jomopans/
UNDERWATER NOISE EFFECTS FROM OFFSHORE WIND ENERGY (UWE). Siebert, Teilmann ect. https://www.natur-und-erneuerbare.de/en/project-database/underwater-noise-effects-from-offshore-wind-energy-uwe/
Rerouting shipping and effects on the acoustic soundscape (TANGO): https://www.iqoe.org/projects/tango-rerouting-shipping-lanes-kattegat-%E2%80%93-effects-soundscape-and-ecosystem
Solutions to underwater radiated noise (SATURN). Effects of ship noise on individuals and populations of marine mammals, fish and invertebrates and mitigation measures. https://www.marei.ie/project/saturn-solutions-at-underwater-radiated-noise/
Nielsen, M. L. K., Sørensen, P. M. and Tougaard, J. 2019. Undervandsstøj i Indre danske Farvande 2018. Havstrategidirektivets kriterium D11C2. Teknisk rapport nr. 141. D. N. C. F. M. O. E. Aarhus Universitet, Roskilde. 46 pp.
Sørensen, P. M. T., J. . 2019. Undervandsstøj i Indre danske Farvande 2017. Havstrategidirektivets indikator 11.2. Teknisk rapport nr. 138. D. N. C. F. M. O. E. Aarhus Universitet, Roskilde. 22 pp.
Tougaard, J. 2019. Kontinuerlig undervandsstøj. Teknisk anvisning M32. Roskilde. pp.
Tougaard, J. 2019. Dataanalyser af overvågningsdata for undervandsstøj. Notat. Roskilde. pp.

- Tougaard, J. 2019. Impulsive noise sources. Activities in the Danish EEZ reported for 2017 to the ICES impulsive noise register. Aarhus University. pp.
- Tougaard, J., Jong, C. D., Benda-Beckmann, S. V. D., Andersson, M., Merchant, N., Fisher, J. G., Kühnel, D., Norro, A. and Kinneging, N. 2019. Report from GES-tool scoping workshop, Roskilde, Denmark 2-3 April 2019. D. A. Bioscience, Roskilde, Denmark. pp.
- Hermannsen, L., Nielsen, M. L. K. and Tougaard, J. 2020. Undervandsstøj i danske Farvande 2019. Havstrategidirektivets kriterium D11C2. Teknisk rapport fra DCE - Nationalt Center for Miljø og Energi. D. N. C. F. M. O. E. Aarhus University, Roskilde, Denmark. pp.
- Tougaard, J. 2020. TA M33 Indrapportering af impulsstøj. D. A. University, Roskilde. pp.
- Tougaard, J. and Mikaelson, M. 2020. Effects of larger turbines for the offshore wind farm at Krieger's Flak, Sweden. Addendum with revised and extended assessment of impact on marine mammals. Aarhus University, DCE – Danish Centre for Environment and Energy, 32 pp. Scientific Report No. 366. pp.
- Tougaard, J., Sveegaard, S. and Galatius, A. 2020. Marine mammal species of relevance for assessment of impact from pile driving in Danish waters. Background note to revision of guidelines from the Danish Energy Agency. Draft. D. A. Bioscience, Roskilde. pp.
- Tougaard, J. 2021. Thresholds for noise induced hearing loss in marine mammals. Background note to revision of guidelines from the Danish Energy Agency. D. N. C. F. M. O. E. Aarhus University, Roskilde, Denmark. pp.
- Hermannsen, L., Mikkelsen, L., Tougaard, J., Beedholm, K., Johnson, M. and Madsen, P. T. 2019. Recreational vessels without Automatic Identification System (AIS) dominate anthropogenic noise contributions to a shallow water soundscape. *Scientific Reports* 9:15477.
- Kyhn, L. A., Wisniewska, D. M., Beedholm, K., Tougaard, J., Simon, M., Mosbech, A. and Madsen, P. T. 2019. Basin-wide contributions to the underwater soundscape by multiple seismic surveys with implications for marine mammals in Baffin Bay, Greenland. *Marine Pollution Bulletin* 138:474-490.
- Mustonen, M., Klauson, A., Andersson, M., Clouvenec, D., Folegot, T., Koza, R., Pajala, J., Persson, L., Tegowski, J., Tougaard, J., Wahlberg, M. and Sigra, P. 2019. Spatial and Temporal Variability of Ambient Underwater Sound in the Baltic Sea. *Scientific Reports* 9:13237.
- Tougaard, J. and Beedholm, K. 2019. Practical implementation of auditory time and frequency weighting in marine bioacoustics. *Applied Acoustics* 145:137-143.
- Wright, A. J., Araújo-Wang, C., Wang, J. Y., Ross, P. S., Tougaard, J., Winkler, R., Márquez, M. C., Robertson, F. C., Williams, K. F. and Reeves, R. R. 2019. How 'Blue' Is 'Green' Energy? *Trends in Ecology & Evolution* 35:235 - 244
- Merchant, N. D., Andersson, M. H., Box, T., Le Courtois, F., Cronin, D., Holdsworth, N., Kinneging, N., Mendes, S., Merck, T., Mouat, J., Norro, A. M. J., Ollivier, B., Pinto, C., Stamp, P. and Tougaard, J. 2020. Impulsive noise pollution in the Northeast Atlantic: Reported activity during 2015–2017. *Marine Pollution Bulletin* 152:110951.
- Sarnocińska, J., Teilmann, J., Balle, J. D., Van Beest, F. M., Delefosse, M. and Tougaard, J. 2020. Harbor Porpoise (*Phocoena phocoena*) Reaction to a 3D Seismic Airgun Survey in the North Sea. *Frontiers in Marine Science* 6:824. <https://doi.org/10.3389/fmars.2019.00824>
- Tougaard, J., Hermannsen, L. and Madsen, P. T. 2020. How loud is the underwater noise from operating offshore wind turbines? *J Acoust Soc Am* 148:2885. <https://doi.org/10.1121/10.0002453>
- Kyhn, L. A., Wisniewska, D., Boertmann, D. M., Tougaard, J., Beedholm, K., Madsen, P. P. T. and Mosbech, A. 2019. Seismic surveys and the Greenland regulation. *North Water Polynya Conference*:126-133 Aarhus University, Roskilde.
- Laborie, J., Christiansen, F., Beedholm, K., Madsen, P. T. and Heerah, K. (2021), "Behavioural impact assessment of unmanned aerial vehicles on Weddell seals (*Leptonychotes weddellii*)", *J. Exp. Mar. Biol. Ecol.*, 536, 151509, doi.org/10.1016/j.jembe.2020.151509
- Sprogis, K. R., Videsen, S. and Madsen, P. T. (2020), "Vessel noise levels drive behavioural responses of humpback whales with implications for whale-watching", *eLife*, 9, e56760, doi.org/10.7554/eLife.56760
- Christiansen, F., Nielsen, M. L. K., Charlton, C., Bejder, L., and Madsen, P. T. (2020), "Southern right whales show no behavioral response to low noise levels from a nearby unmanned aerial vehicle", *Marine Mammal Science*, 36(3), 953-963, doi.org/10.1111/mms.12699
- Kassamali-Fox, A., Christiansen, F., May-Collado, L. J., Ramos, E. A., and Kaplin, B. A. (2020), "Tour boats affect the activity patterns of bottlenose dolphins (*Tursiops truncatus*) in Bocas del Toro, Panama", *PeerJ*, 8, e8804, doi.org/10.7717/peerj.8804
- Clarkson, J., Christiansen, F., Awbery, T., Abbiss, L., Nikpaljevic, N., and Akkaya, A. (2020), "Non-targeted tourism affects the behavioural budgets of bottlenose dolphins *Tursiops truncatus* in the South Adriatic (Montenegro)", *Mar. Ecol. Prog. Ser.*, 638, 165–176, doi.org/10.3354/meps13257

Mikkelsen L., Johnson M., Wisniewska D.M., van Neer A., Siebert U., Madsen P.T., Teilmann J. (2019), "Long-term sound and movement recording tags to study natural behavior and reaction to ship noise of seals", *Ecology and Evolution*, 9 (5), 1–14, doi: 10.1002/ece3.4923

3.4. Report on noise management for cumulative impacts, including relevant regulations and guidelines, seismic shot point densities and level of impact deemed acceptable.

Cumulative impacts are assessed through the periodic assessments of the Regional Seas Conventions, HELCOM and OSPAR; HOLASIII and Quality Status Report. Assessment of Good Environmental Status (GES) in Danish waters awaits guidance on methodologies and thresholds from EU (TG-Noise).

3.5. Is the perceived level of pressure from underwater noise in your country increasing, decreasing, staying the same or unknown?

To be done per species basis where applicable.

Species	Increasing	Decreasing	Staying the same	Unknown	Nature of the evidence
HP Harbour porpoise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	ICES impulsive noise register. Merchant, N. D., M. H. Andersson, T. Box, F. Le Courtois, D. Cronin, N. Holdsworth, N. Kinneging, S. Mendes, T. Merck, J. Mouat, A. M. J. Norro, B. Ollivier, C. Pinto, P. Stamp, and J. Tougaard. 2020. Impulsive noise pollution in the Northeast Atlantic: Reported activity during 2015–2017. <i>Marine Pollution Bulletin</i> 152 .
Choose an item.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Choose an item.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

☐ **Not applicable.** Comments:

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

B. Disturbance (incl. potential physical impacts)

4. Ocean Energy

AIM: to understand the extent and development of current and planned ocean energy projects, and progress in monitoring and mitigation of their negative effects on small cetaceans during the reporting period.

Relevant Resolutions: 8.11 (Rev.MOP9), 8.9, **8.6**, 8.3, 6.2

Renewable energy is a necessary component of the efforts to supply the energy needs of human populations while combatting climate change. Efforts to harness renewable energy sources, however, should be conducted in a way that does not have a harmful impact on biological diversity and the marine environment. There are potential adverse effects of ocean energy on small cetaceans from such energy projects. In regard to small cetaceans, this can include potential lethal interactions or injury, negative behavioural impacts from displacement and changes in fecundity, calf survival and juvenile and adult mortality. There remains uncertainty regarding quantifying the (magnitude of the) pressure from ocean energy production on small cetaceans.

Parties to ASCOBANS have agreed to introduce precautionary measures and procedures for activities surrounding the development of renewable energy in marine environments in order to minimise and mitigate possible effects on small cetaceans, by following best practices. Parties have committed to investigating such pressures and robustly monitoring and mitigating them through environmental impact assessments. Addressing all aspects relevant to the conservation of protected species in regard to ocean energy and collaboration with other organizations working on or potentially interested in the issue is to the benefit of small cetaceans in the Agreement Area.

It is of particular interest to ASCOBANS to understand current and ongoing renewable energy projects in the Agreement Area, mitigation measures and procedures in use and other work relevant to the topic. Countries are requested to provide information relevant to their activities.

Questions:**4.1. Please enter wind energy farm data into the table below.**

Name of wind farm	Operational date (or foreseen grid connection date)	Area	Output (megawatts per turbine)	Number of turbines	How were the individual wind turbines installed in the seabed?	Was scour protection used?	Noise mitigation during construction used? (multiple ticks possible)	If the wind farm is floating, how was it anchored?	Other mitigation used in pre-/post-construction	Additional information
Kriegers Flak Offshore Wind Farm	By the end of 2021	27.3.d.24	8,4 MW	72	Pile-driving	Yes	<input checked="" type="checkbox"/> Single bubble curtains <input type="checkbox"/> Double bubble curtains <input type="checkbox"/> Acoustic deterrent devices <input type="checkbox"/> Time/area closures <input type="checkbox"/> Other, please specify:			Pile driving of the 72 turbines took place from May to August 2020.
	dd/mm/yy	Choose an item.			Choose an item.	Choose an item.	<input type="checkbox"/> Single bubble curtains <input type="checkbox"/> Double bubble curtains <input type="checkbox"/> Acoustic deterrent devices <input type="checkbox"/> Time/area closures <input type="checkbox"/> Other, please specify:			

4.2. Please enter wave power installation data into the table below.

DK comment: According to the Denmark have conducted several testprojects with regard to wave and tidal power, but according to the Danish Energy Agency, no projects are currently running: <https://ens.dk/en/our-responsibilities/wave-hydropower/current-wave-power-projects>

Name of installation	Operational date (or foreseen grid connection date)	Area	Output (megawatts per turbine)	Number of turbines	How is the installation anchored?	Was scour protection used?	Mitigation used in pre-/during/post-construction	Additional information
	dd/mm/yy	Choose an item.				Choose an item.		
	dd/mm/yy	Choose an item.				Choose an item.		

4.3. Please enter tidal energy installation data into the table below.

DK comment: According to the Denmark have conducted several testprojects with regard to wave and tidal power, but according to the Danish Energy Agency, no projects are currently running: <https://ens.dk/en/our-responsibilities/wave-hydropower/current-wave-power-projects>

Name of installation	Operational date (or foreseen grid connection date)	Area	Output (megawatts per turbine)	Number of turbines	Type	Collision mitigation	Other mitigation used in pre-/during/post-construction	Additional information
	dd/mm/yy	Choose an item.			Choose an item.	Choose an item.		
	dd/mm/yy	Choose an item.			Choose an item.	Choose an item.		

4.4. Please enter tidal lagoon/barrage installation data into the table below.

DK comment: Not relevant in DK.

Name of installation	Operational date (or foreseen grid connection date)	Area	Output (megawatts per turbine)	Number of turbines	Type	Collision mitigation	Other mitigation used in pre- /during/post-construction	Additional information
	dd/mm/yy	Choose an item.			Choose an item.	Choose an item.		
	dd/mm/yy	Choose an item.			Choose an item.	Choose an item.		

4.5. Has there been any other instances/issues related to ocean energy during the reporting period in your country?☒ **No.**☐ **Yes.**

Please provide details:

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

Guidelines for assessment and mitigation of impulsive noise from pile driving is currently under revision by the Energy Authority. Two background reports are currently available, written in preparation for revision of guidelines:

Tougaard, J., Sveegaard, S. and Galatius, A. 2020. Marine mammal species of relevance for assessment of impact from pile driving in Danish waters. Background note to revision of guidelines from the Danish Energy Agency. Bioscience, Roskilde. pp.

Tougaard, J. 2021. Thresholds for noise induced hearing loss in marine mammals. Background note to revision of guidelines from the Danish Energy Agency. Aarhus Universitet, Roskilde, Denmark. pp.

Until the revised guidelines are presented pile driving is regulated by guidelines based on the following background reports:

Tougaard J, Skjellerup P. 2015. Marine mammals and underwater noise in relation to pile driving - Revision of assessment. 8 p.

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>

4.7. Relevant new research/work/collaboration on ocean energy in your country.

(List initiatives/ projects (incl. PhD, MSc); publications (reports, theses, papers in journals, books) from any study; web links to other relevant information)

4.8. Mark the perceived level of pressure from ocean energy in your country to the table below.

For example, active construction of new developments could increase the pressure, while decommissioning or addition of mitigation measures to pre-existing projects could decrease the pressure.

Energy type	Status in 2020 relative to previous years	Nature of the evidence
Wind energy	Increasing	The rate of construction of offshore wind farms has been relatively constant, but the individual projects and turbine foundations are increasing.
Wave power	Not Applicable	
Tidal energy	Not Applicable	
Tidal lagoon/barrage	Not Applicable	

Comments:

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

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

8. Unexploded Ordnance

AIM: to provide information on the mitigation, management and potential negative impacts of unexploded ordnance on small cetaceans during the reporting period.
Relevant Resolutions: 8.11 (Rev.MOP9), 8.9, 8.8, 8.3

Unexploded chemical and conventional munitions present a threat to small cetaceans. Hazards exist from unexploded munitions, which release chronic contaminants, and upon detonation, which is physically hazardous from extreme underwater noise and a sudden release of toxic substances. Unexploded ordnance is a notable threat in many areas, such as the Baltic Sea, where the quantity is unknown, though estimates are high. Information on disposal, state of corrosion and quantities of dumped munition is limited, as are meaningful data on the measured environmental impacts. The significance of this pressure's impact on small cetaceans requires further quantification. However, it is clear that mitigation measures are necessary to support alternatives to detonations, and when no alternative is feasible, to reduce negative impacts on small cetaceans.

In the ASCOBANS Area, millions of tons of unexploded ordnance are present in the marine environment and thousands of sea users, such as fishermen, encounter such munitions every year. Parties have agreed on resolutions to support (1) research investigating the pressure on marine animals and habitat and (2) mitigation measures regarding effects of disintegrating submerged munitions on the marine environment. Parties are to strive towards providing relevant information to required bodies and supporting efforts to address the negative implications from this pressure in other regional and international organizations and waters.

Questions:

DK comment: all impulsive noise registrations (incl. UXOs) are collected and has to go through a quality assurance process (data is validated and reviewed). Due to this process the data is not registered in ICES or accessible until approx. 1 year later. As such the data reported in this report is from 2019.

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

<input checked="" type="checkbox"/> OSPAR	<input type="checkbox"/> None	<input type="checkbox"/> Unknown
<input checked="" type="checkbox"/> HELCOM	<input type="checkbox"/> Other, please state:	

8.2. How many UXOs were detonated / released at sea?

- ☐ 1-9
☒ 10-49 (Reported number for 2019)
☐ 50-99
☐ 100+

Provide link to database if available: <https://www.ices.dk/data/data-portals/Pages/impulsive-noise.aspx>

8.3. Have there been any other instances/issues related to the issue of unexploded ordnance during the reporting period in your country?

- ☐ **No.**
☐ **Yes.**

Please provide details:

Unknown. No incidents have been reported, but we cannot conclude that they have not happened.

8.4. How is the issue of unexploded ordnances being managed?

Regulated by the Environmental Department of the Danish Ministry of Defence estate agency.

8.5. Relevant new research/work/collaboration on the issue of unexploded ordnance in your country.

None in open sources in 2019 and 2020.

8.6. Is the perceived level of pressure from unexploded ordnance in your country:

<input type="checkbox"/> Increasing	<input type="checkbox"/> Decreasing	<input checked="" type="checkbox"/> Staying the same	<input type="checkbox"/> Unknown
Please provide the nature of the evidence where applicable: There has been what is perceived as a steady level of activity over the last decade, limited by the capacity of the Navy for clearing UXOs. No actual numbers are available prior to 2019.			

☐ **Not applicable.** Comments:

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

D. Management of Cumulative Impacts

15. Marine Spatial Planning

AIM: to provide information on existing and proposed marine spatial plans and processes during the reporting period that may impact small cetaceans.
Relevant Resolutions 9.1, 8.9, 8.6, 8.3

A growing demand for use of maritime space increases pressure on ecosystems and marine resources. Marine ecosystems with good environmental status provide notable benefits to a number of economic outputs. Implementation of an integrated spatial planning and management approach can better mitigate negative impacts from maritime activities on marine environments. Spatial planning can support sustainable marine development through coordinated, coherent and transparent decision-making and the encouragement and identification of multi-purpose uses in relevant projects. Marine spatial planning is essential when selecting the most appropriate siting for marine-based projects. Particular attention should be given to critical habitat and relevant species, such as small cetaceans, in order to achieve good environmental status.

ASCOBANS Parties have agreed on a number of resolutions that support the integration of marine spatial planning into development processes. Small cetaceans benefit from good marine spatial planning and this is highlighted in the resolutions. Countries are requested to provide information relevant to their country in this regard.

Questions:

15.1. Please provide information in regard to current and foreseen marine spatial planning.

National plans(s) and processes in force:	The first Danish MSP will be sent out for consultation on the 31 th of March 2021.
National plan(s) and processes in preparation:	See above.
Further information, including links to online resources and maps where available:	The consultation of the maritime spatial plan starts on the 31 th of March 2021. It will then be possible to access the full Danish MSP via following link: www.havplan.dk/en . DMAs website will furthermore be updated with relevant information, links and event dates.
Transboundary plans(s) and processes in force:	No official transboundary MSP plans has been conducted, though international collaborations is broadly used for intra-national sparring concerning our ongoing MSP work.
Transboundary plan(s) and processes in preparation:	See above.
Further information, including links to online resources and maps where available:	Relevant information will be available on DMAs webpage from the 31 th of March 2021. See link below: https://www.soefartsstyrelsen.dk/vaekst-and-rammevilkaar/havplan

15.2. Have there been any other instances/issues in your country regarding marine spatial planning during the reporting period?

☒ **No.**

☐ **Yes.**

Please provide details:

DMA is participating in the following MSP groups: NorthSEE, North Sea MSP Collaboration Group, HELCOM/VASAB, capacity4MSP, Planners forum, Member States Expert Group (MSEG)

15.3. Relevant new research/work/collaboration on marine spatial planning in your country.

(List initiatives/ projects (incl. PhD, MSc); publications (reports, theses, papers in journals, books) from any study; web links to other relevant information):

Andersen, J. H., Bendtsen, J., Hammer, K. J., Harvey, T., Knudsen, S. W., Murray, C. J., Carstensen, J., Petersen, I. K., Sveegaard, S., Tougaard, J., Edelvang, K., Egekvist, J., Olsen, J., Vinther, M., Al-Hamdani, Z., Jensen, J. B., Leth, J. O., Kaae, B. C., Olafsson, A. S., ... Yocum, D. (2020). ECOMAR: A data-driven framework for ecosystem-based Maritime Spatial Planning in Danish marine waters. NIVA. NIVA Report No. 7562-2020

Riemann B, Al-Hamdani Z, Olafsson AS, Hasler B, Kaae BC, Murray C, Göke C, Kallenbach E, Olesen HJ, Nabe-Nielsen J, Tougaard J, Andersen JH, Egekvist J, Leth JO, Dahl K, Christoffersen M, Zandersen M, Termansen M, Sveegaard S, Harvey T, red. 2019. Maritim arealplanlægning i Øresund: Scenarier for udvikling af erhvervs-, samfunds- og miljømæssige forhold. Aarhus: Aarhus Universitetsforlag. 174 s. (Miljøbiblioteket; Nr. 6).

Göke C, Christensen A, Tonetta D, Petersen IK, Olsen J, Dahl K, Sveegaard S 2019. Identifikation af mulige beskyttede havområder i Nordsøen, Skagerrak og Østersøen omkring Bornholm. Aarhus: Aarhus Universitet, DCE Nationalt Center for Miljø og Energi. 78 s. (Videnskabelig rapport fra DCE - Nationalt Center for Miljø og Energi; Nr. 362).

Gee K, Blazauskas N, Cormier R, Dahl K, Göke C, Kannen A, Leposa N, Morf A, Plug D, Ross A, Schultz-Zehden A, Strand H, Weig B 2018. BONUS BALTSPEACE Deliverable 3.3: Addressing MSP integration challenges: The role of tools and approaches. 202 s.

Edelvang K, Gislason H, Bastardie F, Christensen A, Egekvist J, Dahl K, Göke C, Petersen IK, Sveegaard S, Heinänen S, Middelboe AL, Al-Hamdani Z, Jensen JB, Leth JO 2017. Analysis of marine protected areas - in the Danish part of the North Sea and the Central Baltic around Bornholm: Part 1: The coherence of the present network of MPAs. National Institute for Aquatic Resources. 106 s. (DTU Aqua-rapport; Nr. 325-2017).

Edelvang K, Gislason H, Bastardie F, Christensen A, Egekvist J, Dahl K, Göke C, Petersen IK, Sveegaard S, Heinänen S, Middelboe AL, Al-Hamdani Z, Jensen JB, Leth JO 2017. Analysis of marine protected areas - in the Danish part of the North Sea and the Central Baltic around Bornholm: Part 2: Ecological and economic value, human pressures, and MPA selection. National Institute for Aquatic Resources. 122 s. (DTU Aqua-rapport; Nr. 325-2017).

Section VII: Other Matters

A. Other information or comments important for the Agreement:¹

B. Difficulties in implementing the Agreement:

It is a slow process to develop and implement indicators of the EU MSFD. Once implemented, these will hopefully provide a framework, that will ensure progress in protecting this species.

The lack of sufficient information on bycatch covering both the Baltic and the Belt Sea population makes it impossible to assess the treat level and decide on mitigations (not covered by subjects in this report)

C. Burning issues:

¹ Opportunity to include other information relevant to the topics covered in this form but which are missing.

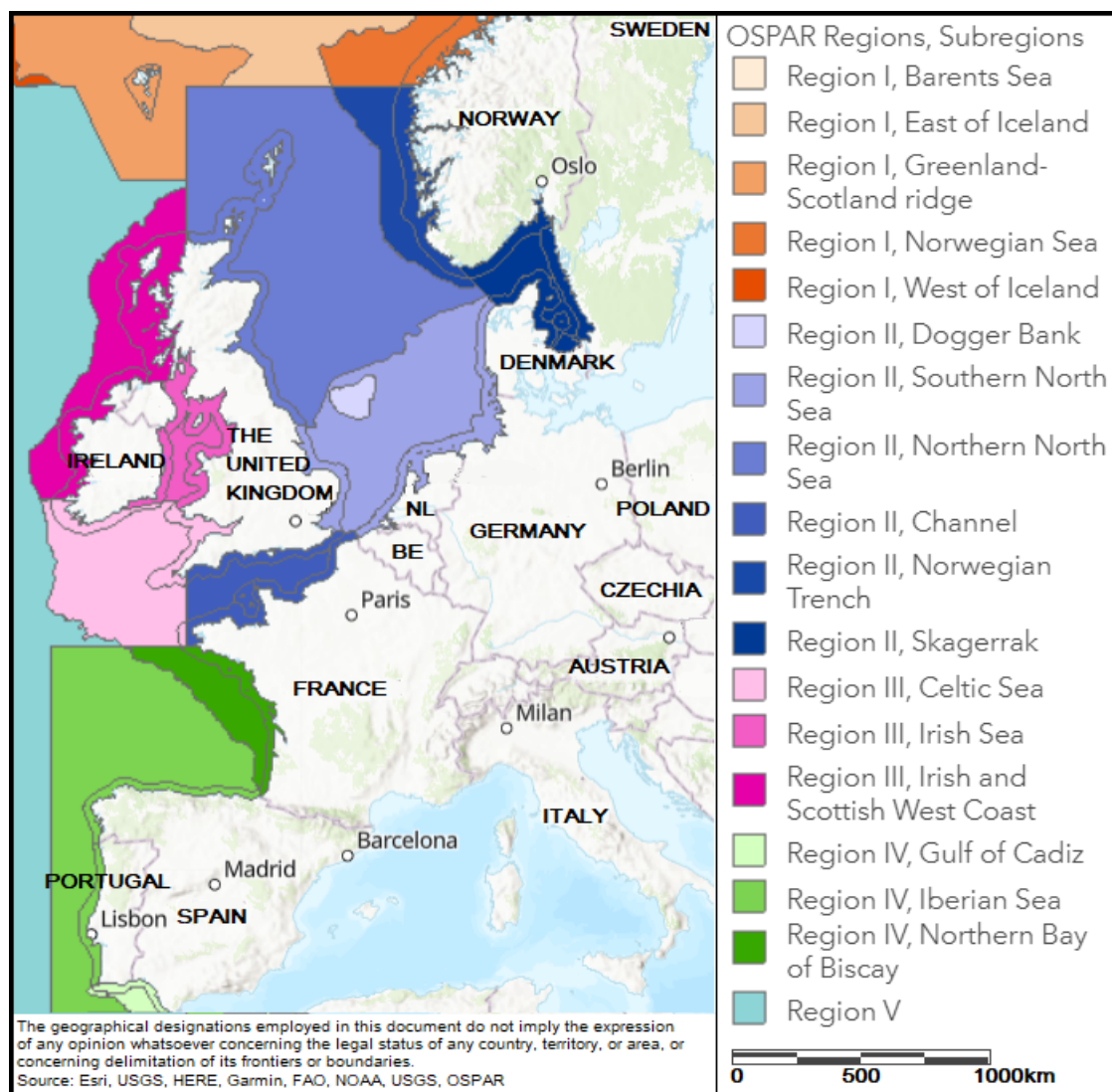
Ensuring funding for SAMBAH-II, since it is of key importance to monitor the Baltic Proper population and to ensure that key sites for this population are stable and that protection is applied where needed.

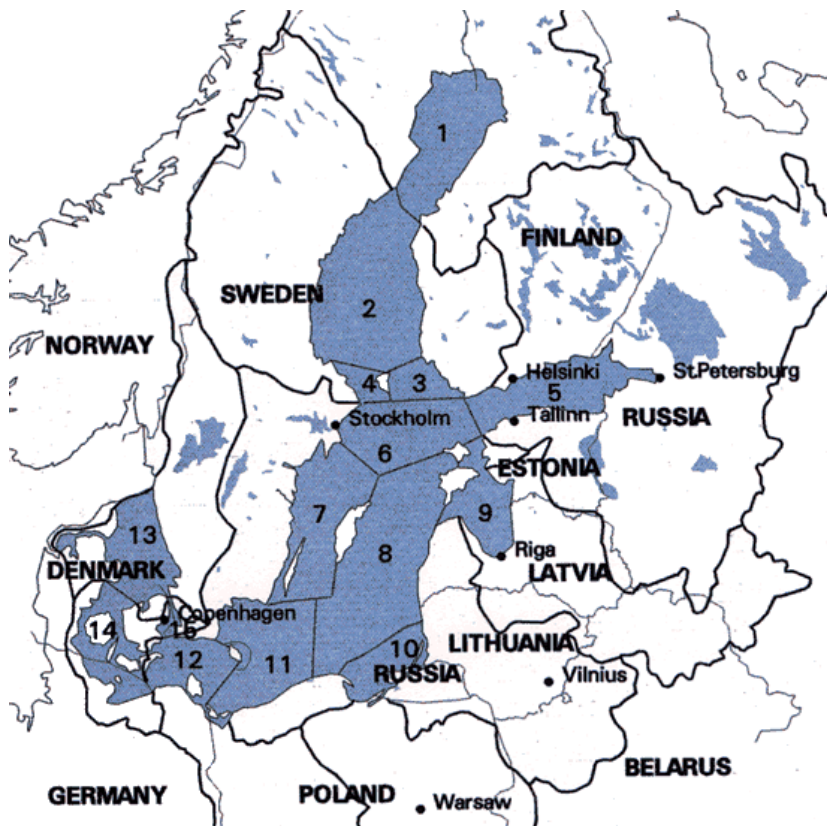
Annex A: Overview of the sub-regions as defined by OSPAR and HELCOM, and areas as defined by ICES.

Drop-down menu sub-regions OSPAR and HELCOM

Choose an item.

OSPAR Region I Arctic Waters <input type="checkbox"/> Norwegian Sea OSPAR Region II Greater North Sea <input type="checkbox"/> Dogger Bank <input type="checkbox"/> Southern North Sea <input type="checkbox"/> Northern North Sea <input type="checkbox"/> Channel <input type="checkbox"/> Norwegian Trench <input type="checkbox"/> Skagerrak OSPAR Region III Celtic Sea <input type="checkbox"/> Celtic Sea <input type="checkbox"/> Irish Sea <input type="checkbox"/> Irish & Scottish W. Coast	OSPAR Region IV Bay of Biscay and Iberian Coast <input type="checkbox"/> N. Bay of Biscay <input type="checkbox"/> Iberian Sea <input type="checkbox"/> Gulf of Cadiz OSPAR Region V Wider Atlantic <input type="checkbox"/> HELCOM <input type="checkbox"/> Bothnian Bay <input type="checkbox"/> Bothnian Sea <input type="checkbox"/> Archipelago Sea <input type="checkbox"/> Åland Sea	HELCOM cont. <input type="checkbox"/> Gulf of Finland <input type="checkbox"/> Northern Baltic Proper <input type="checkbox"/> Western Gotland Basin <input type="checkbox"/> Eastern Gotland Basin <input type="checkbox"/> Gulf of Riga <input type="checkbox"/> Gdansk Basin <input type="checkbox"/> Bornholm Basin <input type="checkbox"/> Arkona Basin <input type="checkbox"/> Kattegat <input type="checkbox"/> Belt Sea <input type="checkbox"/> The Sound
---	--	--





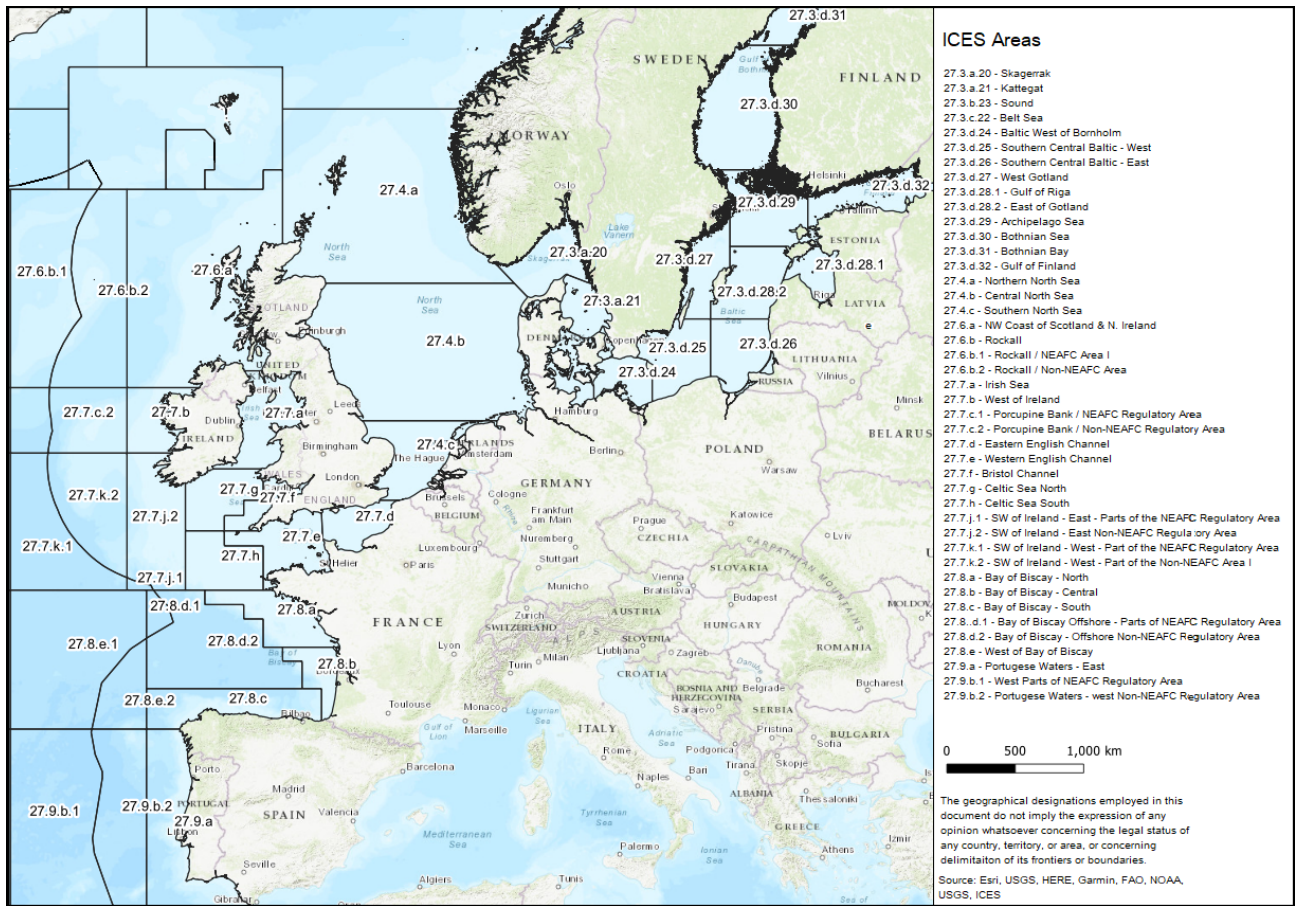
A map of the Baltic Sea drainage basins (catchment area), and marine subdivisions, including basins.

1. Bothnian Bay
2. Bothnian Sea
3. Archipelago Sea
4. Åland Sea
5. Gulf of Finland
6. Northern Baltic Proper
7. Western Gotland Basin
8. Eastern Gotland Basin
9. Gulf of Riga
10. Gdansk Basin
11. Bornholm Basin
12. Arkona Basin
13. Kattegat
14. Belt Sea
15. The Sound

Drop-down menu of ICES Areas

Choose an item.

Area	Area Description	Area	Area Description
27.3	Skagerrak, Kattegat, Sound, Belt and Baltic Seas	27.7.b	West of Ireland
27.3.a	Skagerrak and Kattegat	27.7.c	Porcupine Bank
27.3.a.20	Skagerrak	27.7.c.1	Porcupine Bank / NEAFC Reg. Area
27.3.a.21	Kattegat	27.7.c.2	Porcupine Bank / Non-NEAFC Reg. Area
27.3.b.c	Sound and Belt Sea	27.7.d	Eastern English Channel
27.3.b.23	Sound	27.7.e	Western English Channel
27.3.c.22	Belt Sea	27.7.f	Bristol Channel
27.3.d	Baltic Sea	27.7.g	Celtic North Sea
27.3.d.24	Baltic West of Bornholm	27.7.h	Celtic Sea South
27.3.d.25	Southern Central Baltic – West	27.7.j	SW of Ireland – East
27.3.d.26	Southern Central Baltic – East	27.7.j.1	SW of Ireland – East – Parts of the NEAFC Reg. Area
27.3.d.27	West of Gotland	27.7.j.2	SW of Ireland – East – Non-NEAFC Reg. Area
27.3.d.28.1	Gulf of Riga	27.7.k	SW of Ireland - West
27.3.d.28.2	East of Gotland	27.7.k.1	SW of Ireland – West – Part of the NEAFC Reg. Area
27.3.d.29	Archipelago Sea	27.7.k.2	SW of Ireland – West – Part of the Non-NEAFC Area I
27.3.d.30	Bothnian Sea	27.8	Bay of Biscay
27.3.d.31	Bothnian Bay	27.8.a	Bay of Biscay North
27.3.d.32	Bay of Finland	27.8.b	Bay of Biscay Central
27.4	North Sea	27.8.c	Bay of Biscay South
27.4.a	Northern North Sea	27.8.d	Bay of Biscay Offshore
27.4.b	Central North Sea	27.8.d.1	Bay of Biscay Offshore – Part of the NEAFC Reg. Area
27.4.c	Southern North Sea	27.8.d.2	Bay of Biscay Offshore – Non-NEAFC Reg. Area
27.6	Rockall, NW Coast of Scotland and N. Ireland	27.8.e	Wet of Bay of Biscay
27.6.a	NW Coast of Scotland and N. Ireland	27.9	Portuguese Waters
27.6.b	Rockall	27.9.a	Portuguese Waters – East
27.6.b.1	Rockall / NEAFC Reg. Area I	27.9.b	Portuguese Water - West
27.6.b.2	Rockall / Non-NEAFC Reg. Area	27.9.b.1	Portuguese waters – West Part of the NEAFC Reg. Area
27.7	Irish Sea, West of Ireland, Porcupine Bank, Eastern and Western English Channel, Bristol Channel, Celtic Sea North and South, and Southwest of Ireland – East and West	27.9.b.2	Portuguese waters – Non-NEAFC Reg. Area
27.7.a	Irish Sea		



Annex B: Species covered by ASCOBANS

Code	Common name	Scientific name
AWSD	Atlantic white-sided dolphin	<i>Lagenorhynchus acutus</i>
BBW	Blainville's beaked whale	<i>Mesoplodon densirostris</i>
BD	Bottlenose dolphin	<i>Tursiops truncatus</i>
CBW	Cuvier's beaked whale	<i>Ziphius cavirostris</i>
CD	Short-beaked Common Dolphin	<i>Delphinus delphis</i>
FKW	False killer whale	<i>Pseudorca crassidens</i>
GBW	Gervais' beaked whale	<i>Mesoplodon europaeus</i>
HP	Harbour Porpoise	<i>Phocoena phocoena</i>
KW	Killer Whale	<i>Orcinus orca</i>
LFPW	Long-finned pilot whale	<i>Globicephala melas</i>
NBW	Northern bottlenose whale	<i>Hyperoodon ampullatus</i>
PKW	Pygmy killer whale	<i>Feresa attenuata</i>
PSW	Pygmy sperm whale	<i>Kogia breviceps</i>
RD	Risso's dolphin	<i>Grampus griseus</i>
RTD	Rough-toothed dolphin	<i>Steno bredanensis</i>
SBW	Sowerby's beaked whale	<i>Mesoplodon bidens</i>
SD	Striped dolphin	<i>Stenella coeruleoalba</i>
SFPW	Short-finned pilot whale	<i>Globicephala macrorhynchus</i>
TBW	True's beaked whale	<i>Mesoplodon mirus</i>
WBD	White-beaked dolphin	<i>Lagenorhynchus albirostris</i>

Drop down menu small cetacean species:

Choose an item.