

Agenda Item 2

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

Document NR 5

**2020 Annual National Report:
United Kingdom**

Action Requested

- Take note
- Comment

Submitted by

United Kingdom



ASCOBANS

2020 ASCOBANS National Report

The deadline for the submission of National Reports is **31 March 2021**.

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 list provided, based on ASCOBANS species list, see **Annex B**.
- Throughout the form, please include relevant web links 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:

The most successful aspects of implementation of the Agreement?(List up to five items)

>>> Effective mitigation is applied to licenced sources of noise. Guidance is in place for mitigating noise for harbour porpoise SACs.

The greatest challenges in implementing the Agreement? (List up to five items)

>>> Balancing commitments to increase renewable energy production, with impacts on small cetacean populations.

The main priorities for future implementation of the Agreement? (List up to five items)

>>> Crown estate Offshore wind leasing Round 4; increasing the offshore wind capacity to meet the UK government target of 40GW by 2030.

I. General Information

A. Country Information

Name of Party / Non-Party Range State:

>>> United Kingdom

Details of the Report Compiler

Name:

>>> Nichola Clear

Function:

>>> Marine Support Officer

Organization:

>>> Joint Nature Conservation Committee (JNCC)

Postal Address:

>>> JNCC, Inverdee House, Baxter Street, Aberdeen AB11 9QA

Telephone:

>>> +44 (0) 1733 562626

Email:

>>> niki.clear@jncc.gov.uk

Does the Report Compiler act as ASCOBANS National Coordinator (i.e. focal point)?

No

Details of contributor(s)

Please provide the following details per contributor:

Topic(s) contributed to, Name, Function, Organization, Postal Address, Telephone, and Email.

>>> Name: Sonia Mendes

Function: Senior Marine Mammal Advisor

Organization: JNCC

Postal Address: JNCC, Inverdee House, Baxter Street, Aberdeen AB11 9QA

Telephone: +44(0)1224 083527

Email: sonia.mendes@jncc.gov.uk

Name: Sarah Canning

Function: Senior Marine Mammal Advisor

Organization: JNCC

Postal Address: JNCC, Inverdee House, Baxter Street, Aberdeen AB11 9QA

Telephone: +44(0)1224 083526

Email: Sarah.Canning@jncc.gov.uk

Name: Ophelie Humphrey

Function: Senior Specialist, Marine Mammals

Organization: Natural England

Postal Address: Dragonfly House, 2 Gilders Way, Norwich NR3 1UB

Telephone:

Email: Ophelie.Humphrey@naturalengland.org.uk

Name: Nikki Taylor

Function: Marine Species Advisor

Organization: JNCC

Postal Address: Monkstone House, City Road, Peterborough, Cambridgeshire, PE1 1JY

Telephone: +44 (0)1733 866902

Email: nikki.taylor@jncc.gov.uk

Name: Claire Ludgate
Function: Senior Specialist Marine Mammals
Organization: Natural England
Postal Address: Mail Hub Block B, Whittington Road, Worcester WR5 2LQ
Telephone: 07917791632
Email: Claire.ludgate@naturalengland.org.uk

Name: Stephen Foster
Function: Marine Species Advisor
Organization: DAERA
Postal Address: Klondyke Building, Gasworks Business Park, Cromac Avenue, Belfast BT7 2JA
Telephone: 028 9056223
Email: stephen.foster@daera-ni.gov.uk

Name: Karen Hall
Function: Marine Mammal Adviser
Organization: NatureScot
Postal Address: Ground Floor, Stewart Building, Alexandra Wharf, Lerwick, Shetland, ZE1 0LL
Telephone: 01463 667601
Email: Karen.hall@nature.scot

Name: Thomas Stringell
Function: Lead Specialist Advisor: Marine Species
Organization: Natural Resources Wales
Postal Address: Maes y Ffynnon, Ffordd Penrhos, Bangor Gwynedd LL572DW
Telephone: 0300 065 4912 / 07789 878284
Email: tom.stringell@naturalresourceswales.gov.uk

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.

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

ICES Impulsive Noise Register (for HELCOM and OSPAR Parties)

Yes

National Registry

Yes, please specify (e.g. JNCC noise registry):

>>> JNCC Marine Noise Registry

You have attached the following Web links/URLs to this answer.

[JNCC MNR](#) - JNCC Marine Noise Registry

Other

No

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.

If you selected 'Yes', please provide details in **this table** - download and then attach it using the blue 'link' button below.

Yes. Please provide details in the table.

You have attached the following documents to this answer.

[Sec-II B 3.2 0.xlsx](#) - Noise disturbance instances/issues (section 3.2)

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

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

>>> Initiatives/funding

- BEIS Offshore SEA Research Programme – and projects/reports/papers under the fund (e.g. Cheong et al. (2020), Hartley Anderson Limited (2020), Robinson et al. (2020) listed under Papers below).
- The Crown Estate Enabling Fund – and projects/reports/papers under the fund.
- ORJIP Stage 2, specifically the 'Reducing conservatism in underwater noise assessments' project – and reports/papers under the fund/project.
- Defra's Impacts Evidence Group – and projects/reports/papers under the fund.
- SCOTmer – and projects/reports/papers under the fund (e.g. ECOMMAS).
- SNCB funded projects / contacts
- Funds/initiatives looking forward: Offshore Wind Enabling Actions Programme (OWEAP) and Offshore Wind

Evidence and Change (OWEC). Potential for funds from ORE Catapult Innovation fund.

Projects (in addition to some examples above)

- DEPONS – and papers published as part of this project
- PCoD – and papers published as part of this project
- EU funded projects – e.g. COMPASS, JOMOPANS, JONAS – and papers published as part of these projects
- Marine Scotland Cumulative Effects Framework
- Project specific monitoring projects (e.g. East Anglia 1 wind farm harbour porpoise modelling project)
- PhD at Herriot-Watt University on cumulative effects
- Scottish Aquaculture Research Forum

Initiatives/collaborations

- Underwater Sound Forum (USF)
- UK Acoustics Network (UKAN)
- Dolphin and Porpoise Conservation Strategy (published draft for consultation on 22nd March 2021)
- Aquaculture - Acoustic Deterrent Device (ADD) use: Scottish Government parliamentary report

Papers

• Booth, C.G., Sinclair, R.S., and Harwood, J., 2020. Methods for Monitoring for the Population Consequences of Disturbance in Marine Mammals: A Review. *Frontiers in Marine Science*.

<https://doi.org/10.3389/fmars.2020.00115>

• Cheong, S-H., Wang, L., Lepper, P., and Robinson, S., 2020. Final Report: Characterisation of Acoustic Fields Generated by UXO Removal – Phase 2. NPL Report AC 19. ISSN 1754-2936.

• Farcas, A., Powell, C.F., Brookes, K.L., and Merchany, N.D., 2020. Validated shipping noise maps of the Northeast Atlantic. *Science of the Total Environment*, 735, p.139509.

<https://doi.org/10.1016/j.scitotenv.2020.139509>

• Hartley Anderson Limited, 2020. Underwater acoustic surveys: review of source characteristics, impacts on marine species, current regulatory framework and recommendations for potential management options. NRW Evidence Report No: 448, 119pp, NRW, Bangor, UK.

• JNCC, 2020. Guidance for assessing the significance of noise disturbance against Conservation Objectives of harbour porpoise SACs (England, Wales & Northern Ireland). JNCC Report No. 654, JNCC, Peterborough, ISSN 0963- 8091. <https://data.jncc.gov.uk/data/2e60a9a0-4366-4971-9327-2bc409e09784/JNCC-Report-654-FINAL-WEB.pdf>

• Kerswell-Box, T., Mendes, S., Hawkeridge, J., Patel, R., Findlay, C., Gilbertson, P., Wilson, U., Debont, M., and Tasker, M., 2020. The spatial and temporal distribution of loud impulsive noise in UK waters (2015-2018).

Proceedings of Meetings on Acoustics, 37, 040001 (2019); doi: 10.1121/2.0001194

• McGarry, T., De Silva, R., Canning, S., Mendes, S., Prior, A., Stephenson, S. & Wilson, J. (2020). Evidence base for application of acoustic deterrent devices (ADDs) as marine mammal mitigation (Version 2.0). JNCC Report No. 615, JNCC, Peterborough. ISSN 0963-8091.

• Merchant, N.D., Andersson, M.H., Box, T., Le Courtois, F., Cronin, D., Holdsworth, N., Kinnegeing, 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, p.110951. <https://doi.org/10.1016/j.marpolbul.2020.110951>

• Merchant, N.D., and Robinson, S.P., 2020. Abatement of underwater noise pollution from pile-driving and explosions in UK waters. Report of the UKAN workshop held on Tuesday 12 November 2019 at The Royal Society, London. 31pp. doi: 10.6084/m9.figshare.11815449

• Omeyer, L.C.M., Doherty, P.D., Dolman, S., Enever, R., Reese, A., Tregenza, N., Williams, R., and Godley, B.J., 2020. Assessing the Effects of Banana Pingers as a Bycatch mitigation Device for Harbour Porpoise (*Phocoena phocoena*). *Frontiers in Marine Science*. <https://doi.org/10.3389/fmars.2020.00285>

• Risch, D., van Geel, N., Gillespie, D., and Wilson, B., 2020. Characterisation of underwater operational sound of a tidal stream turbine. *The Journal of the Acoustical Society of America*, 147, p.2547.

<https://doi.org/10.1121/10.0001124>

• Robinson, S.P., Wang, L., Cheong, S-H., Lepper, P.A., Marubini, F., and Hartley, J.P., 2020. Underwater acoustic characterisation of unexploded ordnance disposal using deflagration. *Marine Pollution Bulletin*, 160, p.11646.

<https://doi.org/10.1016/j.marpolbul.2020.111646>

• Thompson, P.M., Graham, I.M., Cheney, B., Barton, T.R., Farcas, A., and Merchant, N.D., 2020. Balancing risks of injury and disturbance to marine mammals when pile driving at offshore windfarms. *Ecological Solutions and Evidence*, 1(2), p.e12034. <https://doi.org/10.1002/2688-8319.12034>

• Todd, V.L., Williamson, L.D., Jiang, J., Cox, S.E., Todd, I.B. and Ruffert, M., 2020. Proximate underwater soundscape of a North Sea offshore petroleum exploration jack-up drilling rig in the Dogger Bank. *The Journal of the Acoustical Society of America*, 148(6), pp.3971-3979. <https://doi.org/10.1121/10.0002958>

• Trigg, L.E., Chen, F., Shapiro, G.I., Ingram, S.N., Vincent, C., Thompson, D., Russell, D.J.F., Carter, M.I.D., and Embling, C.B., 2020. Predicting the exposure of diving grey seals to shipping noise. *The Journal of the Acoustical Society of America*, 148, p.1014. <https://doi.org/10.1121/10.0001727>

• Whyte, K.F., Russell, D.J.F., Sparling, C.E., Binnerts, B., and Hastie, G.D., 2020. Estimating the effects of pile driving sounds on seals: Pitfalls and possibilities. *The Journal of the Acoustical Society of America*, 147, p.3948. <https://doi.org/10.1371/journal.pone.0229058>

3.4. Report on noise management for cumulative impacts, including relevant regulations and

guidelines, seismic shot point densities and level of impact deemed acceptable.

>>> SNCB noise management process

JNCC (2020) sets out the advice of JNCC, Natural England and DAERA on assessing the significance of noise disturbance against Conservation Objectives of harbour porpoise SACs. Specifically, the guidance suggests that noise disturbance within an SAC from a plan/project, individually or in combination, is considered to be significant if it excludes harbour porpoises from more than:

- 20% of the relevant area of the site in any given day, or
- an average of 10% of the relevant area of the site over a season which may be determined through the use of EDRs.

These thresholds are used by developers and the SNCBs in the HRA process, and also in SIP (see below). The Guidance describes how the area of SAC disturbed might be determined through use of Effective Deterrent Radii.

In 2020 BEIS published their final Review of Consented Offshore Wind Farms in the Southern North Sea Harbour Porpoise SAC (referred to as the RoC). The RoC assessed eight wind farms for the potential to adversely affect the integrity of the Southern North Sea SAC, which was designated in 2019. The overall key conclusion was that the projects subject to the RoC will not have an adverse effect on the integrity of Southern North Sea SAC, alone or in-combination with other plans and projects as long as effective mitigation measures are put in place to prevent hearing injury (PTS), and a Site Integrity Plan (SIP) is attached to each relevant project's Marine Licence. The effect of the SIP will be to ensure that each wind farm does not exceed the thresholds within the RoC that have been deemed not to cause an adverse effect, alone or in combination. Prior to construction, developers will be required to provide a SIP demonstrating that the above is achieved. If the thresholds are to be exceeded, then further assessment will be required. In such a circumstance, the project will only proceed if the MMO, in consultation with relevant bodies, has satisfied itself that the SAC will not be adversely affected. The SIP process is therefore key to ensuring no adverse effect on the site integrity of the Southern North Sea SAC, from a project alone or in combination.

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

- Increasing
- Unknown

Please provide the nature of the evidence and describe per species (Annex B) where applicable:

>>> Harbour porpoise - Increasing

Increasing due to planned installation of wind farms in North Sea in areas of high densities. This will lead to increases in localised vessel movements, piling, UXO clearance, ADD usage (for mitigation), seabed works, and to a lesser extent geophysical surveys (in the planning/pre-consent stage), all of which will contribute to the predicted overall noise increase. Shipping on the whole is increasing, which will affect harbour porpoise throughout its range. There is evidence of a downward trend in seismic airgun surveys, but an increase in sub-bottom profiler surveys (Kerswell-Box et al., 2020).

Bottlenose dolphin - Increasing

Bottlenose dolphin in UK waters occur in a mix of regional inshore groups and offshore populations to the south and west. Numbers in the greater North Sea are minimal, therefore the proposed increase in infrastructure in the North Sea will have limited effects on BD. Inshore populations are primarily affected by coastal works, recreational and commercial vessel use, and cables.

There are major works within the Moray Firth/East Scotland bottlenose dolphin range which have development conditions to undertake to allow works to go ahead.

White-beaked dolphin - Unknown

There is the potential for increase in underwater noise in Scottish waters associated with planned installation of wind farms, which may overlap with WBD's main area of distribution in UK waters. Kerswell-Box et al. (2020) indicate a decrease in impulsive noise in northern North Sea and Scottish waters.

Additional Comment:

In future years, there are additional marine works planned within Welsh waters, such as Round 4, Morlais and others, which will predominantly affect bottlenose dolphin, harbour porpoise, common dolphin, Risso's dolphin, minke whale.

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.

4.1. Were there any new wind energy farms in development/construction during the reporting period?

If you select 'Yes', please provide details in **this table** - download and then attach it using the blue link button below.

Yes. Please provide details in the table.

You have attached the following documents to this answer.

[Sec-II B 4.1.xlsx](#) - Wind energy farm data

4.2. Were there any new wave power installations in development/construction during the reporting period?

If you select 'Yes', please provide details in **this table** - download and then attach it using the blue 'link' button below.

No

4.3. Were there any new tidal energy installations in development/construction during the reporting period?

If you select 'Yes', please provide details in **this table** - download and then attach it using the blue 'link' button below.

Yes. Please provide details in the table.

You have attached the following documents to this answer.

[Sec-II B 4.3.xlsx](#) - Tidal energy installation data

4.4. Were there any new tidal lagoon/barrage installations in development/construction during the reporting period?

If you select 'Yes', please provide details in **this table** - download and then attach it using the blue 'link' button below.

Yes. Please provide details in the table.

You have attached the following documents to this answer.

[Sec-II B 4.4.xlsx](#) - Tidal lagoon/barrage installation data

4.5. Has there been any other instances/issues related to ocean energy during the reporting period in your country?

No

Please provide details:

>>> N/A

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

>>> • Managed through statutory consent processes i.e. licensing, environmental assessments, etc.

• All Nationally Significant Infrastructure Projects (NSIP) and Developments of National Significance (DNS) in Wales required to go through the Planning Inspectorate process in England and undertake EIAs and HRAs under the various national and EU legislation.

• In relation to offshore wind construction in the Southern North Sea SAC, there is also the requirement for projects to undertake a pre-construction Site Integrity Plan (SIP)

• Underwater noise guidance for noisy activities in SACs published by JNCC, NE and DAERA (2020).

• JNCC mitigation guidelines for underwater explosions, seismic activity and pile driving.

• All marine projects in Scotland licensed through Marine Scotland and required to go through EIA and HRA

• All marine projects in Northern Ireland licensed through DAERA and required to go through EIA and HRA

- All marine projects in Wales licensed through Natural Resources Wales and required to go through EIA and HRA
- The Planning Act 2008 (PA2008) process was introduced to streamline the decision-making process for major infrastructure projects, making it fairer and faster for communities and applicants alike. <https://infrastructure.planninginspectorate.gov.uk/application-process/the-process/>

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 information.

>>> Initiatives/funding

- Please see box 3.3 – all listed initiatives/funding are relevant to ocean energy (BEIS Offshore SEA Research Programme indirectly as UXO clearance typically features during the construction of ocean energy).

- Marine Scotland research programme focussing on understanding interactions of wildlife a MeyGen demonstration tidal site

Projects (also some examples above)

- Please see box 3.3 - all listed initiatives/funding are relevant to ocean energy

Initiatives/collaborations

- Please see box 3.3 - all listed initiatives/funding are relevant to ocean energy

Papers

- ABPmer, 2020. Review of potential collision between tidal stream devices and marine animals, NRW Evidence Report No. 444, (ABPmer Report No. R.3322). A report produced by ABPmer for Cyfoeth Naturiol Cymru (Natural Resources Wales), June 2020.

- Gillespie, D., Palmer, L., Macauley, J., Sparling, C., and Hastie, G., 2020. Passive acoustic methods for tracking the 3D movements of small cetaceans around marine structures. PLoS One.

<https://doi.org/10.1371/journal.pone.0229058>

- Horne, N., Culloch, R.M., Schmitt, P., Lieber, L., Wilson, B., Dale, A.C., Houghton, J.D.R., and Kregting, L.T., 2020. Collision risk modelling for tidal energy devices: A flexible simulation-based approach. Journal of Environmental Management, 278(1), p.111484. <https://doi.org/10.1016/j.jenvman.2020.111484>

- Kerswell-Box, T., Mendes, S., Hawkridge, J., Patel, R., Findlay, C., Gilbertson, P., Wilson, U., Debont, M., and Tasker, M., 2020. The spatial and temporal distribution of loud impulsive noise in UK waters (2015-2018). Proceedings of Meetings on Acoustics, 37, 040001 (2019); doi: 10.1121/2.0001194

- Merchant, N.D., Andersson, M.H., Box, T., Le Courtois, F., Cronin, D., Holdsworth, N., Kinnegeing, 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, p.110951. <https://doi.org/10.1016/j.marpolbul.2020.110951>

- Risch, D., van Geel, N., Gillespie, D., and Wilson, B., 2020. Characterisation of underwater operational sound of a tidal stream turbine. The Journal of the Acoustical Society of America, 147, p.2547.

<https://doi.org/10.1121/10.0001124>

- Sparling, C.E., Seitz, A.C., Madsen, E., and Smith, K., 2020. Collision Risk for Animals around Turbines. In A.E. Copping and L.G. Hemery (Eds.), OES-Environmental 2020 State of the Science Report: Environmental Effects of Marine Renewable Energy Development Around the World. Report for Ocean Energy Systems (OES). (pp. 29-65). DOI: 10.2172/1632881.

- Thompson, P.M., Graham, I.M., Cheney, B., Barton, T.R., Farcas, A., and Merchant, N.D., 2020. Balancing risks of injury and disturbance to marine mammals when pile driving at offshore windfarms. Ecological Solutions and Evidence, 1(2), p.e12034. <https://doi.org/10.1002/2688-8319.12034>

- Williamson, B.J., Blondel, P., Williamson, L.D., and Scott, B.E., 2020. Application of a multibeam echosounder to document changes in animal movement and behaviour around a tidal turbine structure. ICES Journal of Marine Science. <https://doi.org/10.1093/icesjms/fsab017>

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

	1. Status relative to previous years [Increasing, Decreasing, Staying the same, Unknown, Not Applicable]	2. Nature of the evidence
Tidal lagoon/barrage	Unchanged	Notable applications expired so no current installations. Future applications probable.
Tidal energy	Increasing	Number of installed turbines increased in Wales since 2019. Many more planned in future
Wave power	Unchanged	Some applications in process. No change to present installations in 2020

Wind energy	Increasing	Planned installation of wind energy is increasing and will continue to increase in the future as the UK looks to meet our green / net zero targets
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Comments:

>>> None

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.

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

Respondents may select multiple options.

OSPAR

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

Provide link to database record if available.

100+

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

No

Please provide details:

>>> N/A

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

Include mitigation measures, relevant regulations/guidelines, year of implementation; may include planned management.

>>> Through marine mammal mitigation protocols, and through limitation of numbers, frequencies and timings of explosions in some cases. Marine mammal protocols typically include the use of marine mammal observers, passive acoustic monitoring, and acoustic deterrent devices (ADDs). Due to the effectiveness of ADDs at displacing marine mammals to distances outside the injury zone, it is not typically recommended in English waters to also use 'scare charges'; small explosions (typically <250g) ramping up in size prior to UXO detonation.

The MMO have added the requirement for bubble curtains to be used for munitions over 50kg, assuming certain environmental conditions are met. However, there is still no evidence they are effective for UXOs in the North Sea.

Managed by Marine Scotland through licensing processes with mitigation applied on a case by case basis.

In Wales, managed by Natural Resources Wales through licensing processes with mitigation applied on a case

by case basis.

JNCC guidelines for minimising the risk of injury to marine mammals from geophysical surveys (2017):

<http://data.jncc.gov.uk/data/e2a46de5-43d4-43f0-b296-c62134397ce4/jncc-guidelinesseismicsurvey-aug2017-web.pdf>

Alternatives to high order detonation, i.e. low order detonation, are beginning to be considered for marine developments. One such method of low order UXO removal is deflagration. Noise measurements of deflagration have been conducted in quarry trails as part of the BEIS Offshore Energy SEA Research project, which demonstrated this method produces lower noise levels than traditional high order detonation methods. Further work as part of this project will hopefully include noise monitoring of this method when used at sea. Concerns have been raised by some developers regarding health and safety which are still being discussed, however deflagration has been proposed as a UXO removal method for some projects (offshore wind and interconnectors). There is also a newly proposed technique of low yield detonation using water jets being considered by the industry, though this technology does not appear to have the same level of evidence around successful clearance and noise reduction as deflagration.

You have attached the following Web links/URLs to this answer.

[JNCC guidelines](http://data.jncc.gov.uk/data/e2a46de5-43d4-43f0-b296-c62134397ce4/jncc-guidelinesseismicsurvey-aug2017-web.pdf) - JNCC guidelines for minimising the risk of injury to marine mammals from geophysical surveys (2017):

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

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

>>> Initiatives/funding

- BEIS Offshore SEA Research Programme – and projects/reports/papers under the fund (see associated papers listed below).

Papers

- Cheong, S-H., Wang, L., Lepper, P., and Robinson, S., 2020. Final Report: Characterisation of Acoustic Fields Generated by UXO Removal – Phase 2. NPL Report AC 19. ISSN 1754-2936.

- Merchant, N.D., Andersson, M.H., Box, T., Le Courtois, F., Cronin, D., Holdsworth, N., Kinneking, 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, p.110951. <https://doi.org/10.1016/j.marpolbul.2020.110951>

- Merchant, N.D., Robinson, S.P. (2020). Abatement of underwater noise pollution from pile-driving and explosions in UK waters. Report of the UKAN workshop held on Tuesday 12 November 2019 at The Royal Society, London. 31pp. doi: 10.6084/m9.figshare.11815449

- Robinson, S.P., Wang, L., Cheong, S-H., Lepper, P.A., Marubini, F., and Hartley, J.P., 2020. Underwater acoustic characterisation of unexploded ordnance disposal using deflagration. Marine Pollution Bulletin, 160, p.11646. <https://doi.org/10.1016/j.marpolbul.2020.111646>

8.6. Is the perceived level of pressure from unexploded ordnance in your country increasing, decreasing, staying the same, or unknown?

Unknown

Please provide the nature of the evidence where applicable:

>>> All offshore developments must ensure their sites are safe and clear of UXOs before construction begins.

Given the UK ambitions for offshore wind development, it can be assumed the requirement for UXO clearance will increase. However, should deflagration or other low-order methods become best practice, the impacts from this clearance should be less than if using traditional, high-order methods of detonation.

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.

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

National plan(s) and processes in force:

>>> Scotland NMP - <https://www.gov.scot/publications/scotlands-national-marine-plan/>

Welsh NMP - <https://gov.wales/marine-planning#section-29566>

England MSP - <https://www.gov.uk/topic/planning-development/marine-planning>

Marine Plan for Northern Ireland <https://www.daera-ni.gov.uk/articles/marine-plan-northern-ireland>

East England Marine Plan - <https://www.gov.uk/government/publications/east-inshore-and-east-offshore-marine-plans>

South England Marine Plan - <https://www.gov.uk/government/publications/the-south-marine-plans-documents>

National plan(s) and processes in preparation:

>>> North East England Marine Plan (awaiting approval)

North West England Marine Plan (awaiting approval)

South East England Marine Plan (awaiting approval)

South West England Marine Plan (awaiting approval)

Northern Ireland Marine Plan (awaiting approval)

Further information regarding national plans, including links to online resources and maps where available:

>>> Links provided above.

Transboundary plan(s) and processes in force:

>>> N/A

Transboundary plan(s) and processes in preparation:

>>> N/A

Further information regarding transboundary plans, including links to online resources and maps where available:

>>> N/A

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

No

Provide details:

Provide details:

>>> N/A

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.

>>> MarPAMM is an environment project to develop tools for monitoring and managing a number of protected coastal marine environments in Ireland, Northern Ireland and Western Scotland. <https://www.mpa-management.eu/>

Solandt, J.L., Mullier, T., Elliott, S. and Sheehan, E., 2020. Managing marine protected areas in Europe: Moving from 'feature-based' to 'whole-site' management of sites. In Marine Protected Areas (pp. 157-181). Elsevier. <https://doi.org/10.1016/B978-0-08-102698-4.00009-5>

VII. Other Matters

A. Other information or comments important for the Agreement.

Opportunity to include other information relevant to the topics covered in this form but which are missing.
>>> No further comments

B. Difficulties in implementing the Agreement.

>>> No further comments

C. Burning Issues.

>>> No further comments