

Agenda Item 2

Review of New Information on Threats to
Small Cetaceans

Document NR 2

**2018 Annual National Report
United Kingdom**

Action Requested

Take note

Submitted by

United Kingdom



Note:

Delegates are kindly reminded to bring their own document copies to the meeting, if needed.

ASCOBANS National Reporting Format

1 January 2016 – 31 December 2018

As outlined in [ASCOBANS Resolution 8.1](#) on National Reporting, this format will cover the following Sections of the Annex to the Resolution, in addition to the standard Sections I and VII:

- Disturbance, incl. potential physical impacts (Section II B5, B6, B7)
- Habitat Change and Degradation incl. potential physical impacts (Section II C10, C11, C12, C13, C14)
- Area-based Conservation / Marine Protected Areas (Section II E16, E17)
- Education and outreach (Section VI A)

Exceptionally, the reporting period for questions here is 1 January 2016 – 31 December 2018, unless stated otherwise, to accommodate the requirements of the next Meeting of Parties to ASCOBANS, scheduled for 2020. The reports will inform discussion at the 25th Meeting of the Advisory Committee (AC25), which will be held in September 2019.

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. Please include relevant web links where requested.

Please note that numbering of the sections refers to numbering as in Resolution 8.1. This means the first section in the current form is number 5 (Cetacean Watching Industry) and not number 1.

High-level Summary of Key Messages

In your country, for the reporting period from 2016 to 2018, what does this report reveal about:

- 1. The most successful aspects of implementation of the Agreement?** *(list up to five items)*
Designation of harbour porpoise SACs
- 2. The greatest challenges in implementing the Agreement?** *(list up to five items)*
Climate change
- 3. The main priorities for future implementation of the Agreement?** *(list up to five items)*
Minimising disturbance; monitoring and mitigating habitat degradation and maintaining adequate monitoring

Section I: General Information

A. Country Information

- 1. Name of Party / Non-Party Range State:** United Kingdom
- 2. Details of the Report Compiler**

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Does the Report Compiler act as ASCOBANS National Coordinator (i.e. focal point)?
 No Yes

- 3. Details of contributor(s)**

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Topic(s) contributed to: B7
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<p>Topic(s) contributed to: B5 Name: Mark Simmonds Function: Visiting Teaching Fellow Organization: University of Bristol Postal Address: Langford House, Langford, Bristol, B240 5DU Telephone: Email: ms13731@bristol.ac.uk</p>
<p>Topic(s) contributed to: Sections C10, C11 and VI A Name: Rob Deaville Function: CSIP Project Manager Organization: UK Cetacean Strandings Investigation Programme Postal Address: Institute of Zoology, Regents Park, London, NW1 4RY Telephone: +44 (0) 20 7449 6672 Email: rob.deaville@ioz.ac.uk</p>
<p>Topic(s) contributed to: Sections VI A Name: Andrew Brownlow Function: SMASS Team Lead Organization: Scottish Marine Animal Stranding Scheme Postal Address: SRUC, Inverness Campus, IV2 5NA Telephone: +44 (0) 1463 246044 Email: andrew.brownlow@sruc.ac.uk</p>
<p>Topic(s) contributed to: B5, B6 Name: Karen Hall Function: Marine Mammal Advisor Organization: Scottish Natural Heritage Postal Address: Stewart Building, Lerwick, Shetland ZE1 0LL Telephone: Email: Karen.Hall@nature.scot</p>
<p>Topic(s) contributed to: B5, B6 Name: Fiona Manson Function: Marine Mammal Advisor Organization: Scottish Natural Heritage Postal Address: Battleby, Redgorton Perth PH1 3EW Telephone: Email: Fiona.Manson@nature.scot</p>
<p>Topic(s) contributed to: B5 & B6 Name: Stephen Foster Function: Marine Species Advisor Organization: Department of Agriculture, Environment and Rural Affairs (Northern Ireland) Postal Address: DAERA Marine & Fisheries Division, Marine Conservation and Reporting Team, Klondyke Building, 1 Cromac Avenue, Gasworks Business Park, Malone Lower, Belfast, BT7 2JA Telephone: +44 (0) 28 90569223 Email: stephen.foster@daera-ni.gov.uk</p>
<p>Topic(s) contributed to: Section II B5, B6, B7, B8, B10, B12, B13, B16; Section VI a. Name: Dr Peter GH Evans Function: Director Organization: Sea Watch Foundation / University of Bangor Postal Address: School of Ocean Sciences, University of Bangor, Menai Bridge, Anglesey Telephone: +44 (0) 1407 832892 Email: peter.evans@bangor.ac.uk</p>
<p>Topic(s) contributed to: all sections Name: Farah Chaudry Function: Senior Marine Mammal Advisor Organization: Joint Nature Conservation Committee Postal Address: JNCC, Monkstone House, City Road, Peterborough, PE1 1JY</p>

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Email: farah.chaudry@jncc.gov.uk

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

B. Disturbance (incl. potential physical impacts)

5. Cetacean Watching Industry

AIM: to determine if the developing cetacean watching industry poses a threat to small cetaceans.

Relevant Resolutions: 8.9, 8.2, 8.1, 6.1, 5.4

Whale and dolphin watching is a global industry that can provide socio-economic benefits to local communities by attracting tourism, as well as strengthening public awareness of conservation needs. However, it also has the potential of being harmful when it interferes with the behaviour of animals in their natural environment and may even lead to injury or death. As the cetacean watching industry is still scarcely developed in some countries, collecting this data now allows tracking the development of the industry.

It is of particular importance to ASCOBANS to obtain an overview of the current scale of the activities and to monitor the development of the industry in the future. This is done by quantifying the number and locations of operators, reporting negative interactions and providing information on the development and implementation of any guidelines regarding cetacean watching.

Filling out this section accurately and completely will help to detect any indications of potential threats, allow timely mitigation action and enable Parties and Non-Party Range States to work towards a coordinated approach regarding the development of cetacean watching guidelines in the Agreement area.

Note: We are here only addressing commercial cetacean watching activities which take place from vessels and include viewing of small cetacean species. Operators are defined as those offering trips with a primary focus: they advertise specifically with the aim to see small cetaceans, or a secondary focus: they advertise either for other taxa, such as birds or seals, or large cetaceans, or more general for wildlife, but mention the opportunity to see small cetaceans.

Questions:

5.1. Do you have any commercial small cetacean watching industry operating in your country?

- No.** Go to **Question 5.3.**
 Yes. Continue with **Question 5.2.**

5.2. In the table below, provide the sub-regions, ports and operators from which commercial cetacean watching takes place. Please tick the boxes if small cetacean watching is a primary and/or secondary focus of the operators and, in the first case what the target species are.

Overview of commercial small cetacean watching activities per sub-region.

OSPAR / HELCOM Sub-region	Port	Operator	small cetacean watching		Link to website or contact details
			Primary focus / target species	Secondary focuses	
OII Northern North Sea	Lerwick, Sandwick (Shetland), Burwick (Orkney), John O'Groats Ferry (Caithness), Cromarty, Avoch, Inverness, Nairn, Findhorn, Lossiemouth, Buckie (Moray Firth), Anstruther (Fife), Seahouses (Northumbria), Staithes, Whitby (North Yorks)	Seabirds and Seals, Mousa Ferry, Shetland Wildlife Boat Tours, Wildabout Orkney, JohnO'Groats Ferry, EcoVentures, Dolphin Trips Avoch, Dolphin Spirit Boat Trips, North 58 Sea Adventures, Scottish Marine Safari, Isle of May Boat Trips, Isle of May Ferry, Farne Island Tours, Billy Shiel's Boat Trips, Whitby Whale Watching	☒	BD Bottlenose dolphin HP Harbour porpoise KW Killer Whale RD Risso's dolphin ☒ WBD White beaked dolphin	https://www.seabirds-and-seals.com/ https://www.shetlandseabirdtours.com/ https://www.mousa.co.uk/ https://www.thule-charters.co.uk/ http://www.wildaboutorkney.com/ https://www.orkney.com/listings/pettlandssker-boat-trips/ http://www.jogferry.co.uk/ https://www.ecoventures.co.uk/ http://www.dolphintripsavoch.co.uk/ https://dolphinspirit.co.uk/ http://www.north58.co.uk/ https://www.scottishmarinesafari.com/ https://www.isleofmayboattrips.co.uk/faq.php/ https://www.isleofmayferry.com/ https://www.farne-islands.com/ https://farneislandstours.co.uk/whale-watching/ https://www.whitbywhalewatching.net/

<p>OIII Irish & Scottish W. Coast</p>	<p>Stornoway, Miavaig, Leverburgh, Tarbert (Western Isles), Ullapool, Achiltibuie, Gairloch, Uig, Portree, Stein, Upper Breakish, Elgol, Armadale, Applecross, Knoydart, Mallaig, Arisaig, Tobermory, Ulva, Acharacle, Oban, Clachan Seil, Ardfern, Largs, Fairlie</p>	<p>Lewis Boat Trips, Sea Harris, Kilda Cruises, Seascope Expeditions, Shearwater Summer Isle Cruises, Summer Isles Cruises, Summer Isles Sea Tours, Gairloch Marine Centre & Cruises, Hebridean Whale Cruises, Stardust Boat Trips, Go To St Kilda, Diver's Eye Boat Trips, Sea Trek, Bella Jane Cruises, Spirit of Adventure, Misty Isle Boat Trips, Spindrift BoatTrips, Sea fari Adventures, Western Isles Cruises, Selkie Explorers, Arisaig Marine, Sea Life Surveys, Hebridean Whale & Dolphin Trust, Hebrides Cruises, Mull Charters, Staffa Island Cruises, Staffa Tours, Ardnamurchan Charters, Seafari Adventures, Northern Light, Coastal Connection, Sealife Adventures, Craignish Cruises</p>	<p>☒</p>	<p>BD Bottlenose dolphin CD Short- beaked Common dolphin RD Risso's dolphin WBD White- beaked dolphin</p>	<p>☒</p> <p> https://www.engebret.co.uk https:// www.island-cruising.com https://www.seaharris.co.uk https://www.kildacruises.co.uk https://www.sea-scape.co.uk https://www.summerqueen.co.uk https://www.summer-isles.com/summer-isles-cruises.asp https://www.summerisles-seatours.co.uk https://www.porpoise-gairloch.co.uk https://www.hebridean-whale-cruises.co.uk https://www.skyboat-trips.co.uk https://www.seatrek.co.uk https://www.gotostkilda.co.uk https://www.divers-eye.co.uk https://www.the-spirit-of-adventure.co.uk https://www.bellajane.co.uk https://www.mistysisleboattrips.co.uk https://www.spindrift-boat-trips.co.uk https://www.whalespotting.co.uk https://www.westernislescruises.co.uk https://www.selkie-explorers.co.uk https://www.arisaig.co.uk https://www.sealifesurveys.co.uk https://www.whaledolphintrust.co.uk https://www.hebridescruises.co.uk https://www.mullcharters.com https://www.cruiseline.co.uk/Staffa-Island-Cruises https://www.staffatours.com https://www.west-scotland-marine.com https://www.seafari.co.uk https://www.northernlight-uk.com https://www.coastal-connection.co.uk https://www.sealife-adventures.com https://www.craignishcruises.co.uk </p>
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<p>OIII Irish Sea</p>	<p>Largs, Fairlie, Campbelltown (Scotland), Portrush, Strangford (N Ireland), Port Erin, Port St Mary, Peel (Isle of Man), Conwy, Amlwch, Beaumaris, Menai Bridge, Bangor, Caernarfon, Porthmadog, Pwllheli, Abersoch, Aberdaron, Aberdyfi, Aberystwyth, New Quay, Cardigan (N & W Wales)</p>	<p>Cumbræ Voyages, Clyde Porpoise c.i.c., Kintyre Express (Scotland), Portrush Sea Tours, Clear Sky Adventure (N Ireland), Shona Boat Trips, Isle of Man & Calf Boat Trips, Manx Sea Life Safari (Isle of Man) Celtic Cruising, Seekat Charters, Starida Sea Services, Adventure Elements, Menai Rib Ventures, Quest Charters, Ribride, West Coast Ribs (Anglesey), Waterline Boat Charter, Enlli Charters, Abersoch Angling, Bardsey Boat Trips, Dyfi Discoveries, Celtic Spirit Fishing Trips, Dolphin Spotting Boat Trips, Dolphin Survey Boat Trips, Seamor Boat Trips, Jeremy Laufer Aberporth Boat Trips, A Bay to Remember, Adventure Beyond, Razorbill Rib Charter (N & W Wales)</p>	<p>☒</p>	<p>BD Bottlenose dolphin CD Short-beaked Common dolphin HP Harbour porpoise RD Risso's dolphin</p>	<p>☒</p>	<p>https://www.cumbraevoyages.co.uk https://www.clydeporpoise.org/ https://www.kintyreexpress.com https://www.portrushseatours.com https://www.shonaboattrips.wixsite.com/calftrips https://www.manxsealifesafari.com https://www.celticcruising.co.uk https://www.seekatcharters.co.uk https://www.starida.co.uk https://www.adventureelements.com https://www.ribride.co.uk https://www.questdiving.co.uk https://www.ribride.co.uk https://www.westcoastribs.co.uk https://www.water-line.co.uk https://www.enll charter.co.uk https://www.abersochangling.co.uk/fishing-trips-and-wildlife-cruises https://www.bardseyboattrips.com https://www.dyfidiscoveries.co.uk https://www.charterboats-uk.co.uk/celticspirit/ https://www.facebook.com/DolphinSpottingBoatTripsNewQuay/ https://www.seamor.org https://www.baytoremember.co.uk https://www.adventurebeyond.co.uk https://www.cardiganbayactive.co.uk https://www.razorbillribs.co.uk</p>
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<p>OIII Celtic Sea</p>	<p>St Justinians, Solva, Dale, Neyland, Oxwich Bay (S Wales), Ilfracombe (N Devon), Newquay, Padstow, Rock, St Ives (N Cornwall), Penzance, Porthleven, Mullion (W Cornwall)</p>	<p>Falcon Boats, Thousand Islands Expeditions, Voyages of Discovery, Solva Boat Trips, Broadside Boat Charters, Celtic Charter, Dale Sailing Company, Shearwater Safaris, Gower Coast Adventures (S Wales), Ilfracombe Sea Safari, Wildlife Coastal Cruises (N Devon), Newquay Jet Safaris, Padstow Sealife Safaris, Cornish Sea Tours, St Ives Bay Wildlife Tours (N Cornwall), Marine Discovery, Rib Logan, Vertical Blue Adventures, Lizard Adventure (W Cornwall)</p>	<p>☒</p>	<p>BD Bottlenose dolphin CD Short-beaked Common dolphin HP Harbour porpoise RD Risso's dolphin WBD White beaked dolphin</p>	<p>☒</p> <p>https://www.falconboats.co.uk https://www.thousandislands.co.uk https://www.ramseyisland.co.uk https://www.solva.net/boattrips https://www.broadsidedale.co.uk https://www.celticwildcat.com https://www.dale-sailing.co.uk https://www.boatrides.co.uk https://www.gowercoastadventures.co.uk https://www.ilfracombeseasafari.co.uk https://www.ilfracombeprincess.co.uk https://www.newquayjetsafaris.co.uk https://www.padstowsealifesafaris.co.uk/boat-trips/ https://www.cornishseatours.com https://www.stivesboats.co.uk https://www.marinediscovery.co.uk https://www.charleshood.com https://www.lizardadventure.co.uk</p>
<p>OII Channel</p>	<p>Falmouth, Megavissey, Fowey (S Cornwall), Teignmouth, Brixham, Paignton, Torquay (S Devon)</p>	<p>AK Wildlife Cruises, Orca Sea Safaris, Cornish Dream Charters, Enterprise Boats, Fowey to Megavissey ferries, Fowey Marine Adventures (S Cornwall), Devon Sea Safari, Naturetrek, Paignton Pleasure Cruises, Boat Trips Torbay (S Devon)</p>	<p>☒</p>	<p>BD Bottlenose dolphin CD Short-beaked Common dolphin HP Harbour porpoise RD Risso's dolphin WBD White beaked dolphin</p>	<p>☒</p> <p>https://www.akwildlifecruises.co.uk https://www.orcaseasafaris.co.uk https://www.cornishdreamcharters.co.uk https://www.enterpriseboats.co.uk https://www.mevagisseyferries.co.uk https://www.fma.fowey.com https://www.devonseasafari.com/ https://www.naturetrek.co.uk/tours/seabirds-and-cetaceans-of-lyme-bay https://www.paigntonpleasurecruises.co.uk https://www.funfishtrips.co.uk/brixham-wildlife-sea-fari-cruise/</p>

Regions: This refers to the sub-regions as defined by the HELCOM and OSPAR. An overview of these and a map can be found in ANNEX A. **Target species:** chose from drop-down list provided, based on ASCOBANS list, see ANNEX B.

5.3. Does your country have a definition of the term ‘harassment’? ¹

- No.**
- Yes.** Provide definition in table below:

There is currently no UK-wide set definition of ‘harassment’ for small cetaceans. There are specific mentions of harassment in various documents (see below 5.5) and in general harassment is classed as repeated disturbance. In the UK, reference is made to “deliberate disturbance” of European Protected Species (i.e. all cetaceans) in accord with the Habitats Directive. Guidance on how this is defined is given in this link from 2007:
http://archive.jncc.gov.uk/PDF/eps_InterimGuidanceDisturbance_1.The%20DisturbanceOffence.pdf

5.4. Have there been any incidents of harassment to small cetaceans in the context of commercial cetacean watching reported to authorities?

- No.**
- Yes.** Provide information on table below.

Date: Various dates 2016 – 2018 in Scotland
In what context did this incidence occur? Tour boats approaching dolphins too closely, boats following individuals, cutting off direction of travel, and/or speeding close to dolphins
What was the outcome for (a) the animal or (b) human? <i>For example: behavioural response, injury, death.</i> Behavioural responses
Describe any legal procedures / court proceedings / convictions that took place: Warnings given
Who is the responsible authority to receive such reports? Police Scotland
Link any link to websites or documentations of this incident: N/A

Date: 26 August 2017
In what context did this incidence occur? Party of up to seven boats following a group of Bottlenose Dolphins off Rathlin Island
What was the outcome for (a) the animal or (b) human? <i>For example: behavioural response, injury, death.</i> Probably minor impact, some disturbance.
Describe any legal procedures / court proceedings / convictions that took place: Organiser written to by DAERA
Who is the responsible authority to receive such reports? Police Service Northern Ireland & Department of Agriculture, Environment and Rural Affairs
Link any link to websites or documentations of this incident:

5.5. Does your country have any mitigation measures (codes of conduct/guidelines) in place in the event of disturbance or harassment in the context of commercial cetacean watching?

- No.**
- Yes.** Please add below the type of measures and relevant information:

¹ For example, the US Marine Mammal Protection Act uses the term harassment, and defines two levels: Level A harassment means any act of pursuit, torment, or annoyance that has the potential to injure a marine mammal or marine mammal stock in the wild. Level B harassment refers to acts that have the potential to disturb (but not injure) a marine mammal or marine mammal stock in the wild by disrupting behavioural patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering. NB. The UK uses the term ‘disturbance’ in its legislation.

This may include regional measures.

There are various regional and voluntary codes of conduct/guidelines within the UK, including:

- WiSe Scheme <https://www.wisescheme.org> – training scheme for minimizing wildlife disturbance, for commercial boat operators and the general public.
- Sea Watch Foundation <https://www.seawatchfoundation.org.uk/marine-code-of-conduct/> - best practice advice for recreational activities.
- Zoological Society of London <https://www.zsl.org/infographic-marine-mammal-code-of-conduct> - code of conduct for observing marine mammals in the Greater Thames Estuary
- The Cornwall Wildlife Trust <https://www.cornwallwildlifetrust.org.uk/what-we-do/our-conservation-work/at-sea/marine-and-coastal-code> - code of conduct promoting best practice for encountering marine life in Cornwall.
- RYA The Green Blue <https://www.rya.org.uk/knowledge-advice/planning-environment/Pages/the-green-blue.aspx> - guidance proving practical advice and information for recreational boaters, watersports participants, and marine businesses to act in a considerate and environmentally conscious way.
- The Blue Flag <https://www.blueflag.global/our-programme> Award programme with stringent standards for boating tourism operators to meet in order to be awarded certification.
- The Pembrokeshire Marine Code <https://www.pembrokeshiremarinecode.org.uk/>
- Ceredigion Marine Code, Gwynedd Marine Code, Anglesey Marine Code, Conwy Marine Code http://www.penllynarsarnau.co.uk/codes_of_conduct.aspx
- Jersey Marine and Coastal code <https://www.gov.je/Environment/LandMarineWildlife/Mammals/Pages/Dolphins.aspx>
- The Northumberland Marine Wildlife Watching Boating Code of Conduct <http://www.xbordercurrents.co.uk/documents-and-links/codes-of-conduct/>
- The Scottish Marine Wildlife Watching Code [https://www.nature.scot/sites/default/files/2017-06/Publication%202017%20-%20The%20Scottish%20Marine%20Wildlife%20Watching%20Code%20SMWWC%20-%20Part%201%20-%20April%202017%20\(A2263518\).pdf](https://www.nature.scot/sites/default/files/2017-06/Publication%202017%20-%20The%20Scottish%20Marine%20Wildlife%20Watching%20Code%20SMWWC%20-%20Part%201%20-%20April%202017%20(A2263518).pdf)
- Thanet Marine Wildlife Watching Code
- <http://www.thanetcoast.org.uk/factfile/thanet-coastal-codes/marine-wildlife-watching-code/>
- The Dolphin Space Programme <http://www.dolphinspace.org/> - accreditation scheme for wildlife tour boat operators in the Moray Firth.

These voluntary codes and guidelines make recommendations on best practice such as: appropriate method of approach; minimum distance to cetaceans; appropriate speed and methods to reduce noise; maximum numbers of vessels; and time limits to spend with cetaceans.

5.6. Does your country have any operators that offer swimming with dolphins (or other small cetaceans)?

In some parts of the world this has become an important tourism industry with potential impacts for both cetaceans and swimmers. Although scarcely developed, it has occurred within the ASCOBANS Agreement Area, and requires at least background monitoring. Sometimes incidents occur and can lead to harm for cetaceans and/or swimmers.

- No.** Go to **Question 5.9.**
- Yes.** Provide information in the table below.

Where (location):
Species:
Operator + link to website:

Any reported incidents between cetaceans or swimmers?

- No.
 Yes. Please describe:

If several incidences have been reported please copy this table.

5.7. List any incidents of harassment to cetaceans in your country in the context of swimming with small cetaceans reported to authorities – and the outcome if known (behavioural response, injury, death, any court proceedings).

Date:
In what context did this incidence occur?
What were the outcomes for (a) the animals or (b) humans? <i>For example: behavioural response, injury, death.</i>
Describe any legal procedures / court proceedings / convictions that took place:
Who is the responsible authority to receive such reports?
Link any link to websites or documentations of this incident:

If there were several reported harassments, copy the table and add.

5.8. Does your country have any mitigation measures (codes of conduct/guidelines) in place in the event of disturbance or harassment during swimming with small cetaceans in place?

- No.
 Yes. List below the type of measures and relevant information:

<i>This may include regional measures.</i>
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5.9. Are there any solitary sociable dolphin interactions in your country?

Occasionally, individual solitary dolphins may associate with humans, resulting in increased interactions between the two which may lead to impacts upon either. Sometimes incidents occur and can lead to harm for cetaceans and/or swimmers.

- No. Go to **Question 5.12.**
 Yes. Provide information in the table below:

Where (location)	Poole Bay, Dorset
Date	May 2019
Species	Bottlenose dolphin
Links to websites	https://www.dorsetwildlifetrust.org.uk/news/dwt-warns-against-marine-wildlife-disturbance https://www.bournemouthcho.co.uk/news/17667705.warning-over-dolphins-after-young-bottlenose-is-photographed-surrounded-by-jet-skiers-off-swanage/
Any reported incidents between cetaceans or swimmers	None. Incident with jetskiers and boats circling the dolphin, reported but other than guidance issued as per the link no further action taken (detailed below in 5.10)

Where (location)	Thames Estuary
Date	September – December 2018
Species	Beluga whale
Links to websites	https://www.bbc.co.uk/news/uk-england-kent-46255755
Any reported incidents between cetaceans or swimmers	None

Where (location)	Newquay and Penzance
Date	July 2017 – March 2018
Species	Bottlenose dolphin
Links to websites	http://marinediscovery.co.uk/blog/pierre-the-lone-bottlenose-dolphin/dolphin-watching
Any reported incidents between cetaceans or swimmers	None

5.10. List any incidents of harassments to small cetaceans in the context of interactions with solitary sociable dolphins reported to authorities – and the outcome if known (behavioural response, injury, death, any court proceedings).

Date: May 2019
In what context did this incidence occur? Jetskiers and boats approaching and circling dolphin
What were the outcomes for (a) the animals or (b) humans? Behavioural response
Describe any legal procedures / court proceedings / convictions that took place: Warning issued
Who is the responsible authority to receive such reports? UK National Wildlife Crime Unit https://www.nwcu.police.uk/
Link any link to websites or documentations of this incident: https://www.dorsetwildlifetrust.org.uk/news/dwt-warns-against-marine-wildlife-disturbance

If there were several reported incidents, copy the table and add.

5.11. Does your country have any mitigation measures (codes of conduct/guidelines) in place in the event of interactions with solitary sociable dolphins?

- No.
- Yes. List below the type of measures and relevant information:

General guidance on best practice for interaction with wild cetaceans is provided in Question 5.5.

In 2002, after “Randy”/”Georges” appeared on the Dorset coast and there were many reports of harassment, Sea Watch Foundation, Natural England and Whale and Dolphin Conservation produced a set of guidelines, which Natural England then disseminated. These included instructions to avoid getting in the water with the dolphin; boats should not approach within 100m; if the dolphin approaches, slow down to 5 knots or less, do not turn off engine (if stationary, keep in neutral); local authority to post notices (around Poole Harbour), and volunteer “wardens” to patrol the local beaches to inform the public about the dangers of swimming with the dolphin (one person had a heart attack after a close encounter with the animal).

Some years later, Marine Connection produced a publication on solitary dolphins:
Goodwin, L. and Dodds, M. (2008) *Lone rangers. A report on solitary dolphins and whales including recommendations for their protection*. Marine Connection, London. 47pp.

This information will enable comparisons to be made across the Agreement area, and ultimately may lead to the provision of overall, consistent guidelines.

5.12. List initiatives/projects (including PhD, MSc) in 2016-2018 involving studies of the cetacean watching industry, “swim with small cetacean” operations, solitary sociable dolphin interactions and their possible effects on cetaceans (incl. title, organisation, lead author).

Initiatives:
Wise <https://www.wisescheme.org/>

Cornwall marine and coastal code (also includes a hotline number for reporting disturbance) - <https://www.cornwallwildlifetrust.org.uk/what-we-do/our-conservation-work/at-sea/marine-and-coastal-code>

Wild Seas Wales: Consortium to promote sustainable marine recreation in Wales:

<https://wildseas.wales/>

Projects/Reports:

Evaluating Marine Mammal Watching Legislation Regulations and Codes of Conduct, R. Walker (2018) (<https://www.wcmt.org.uk/fellows/reports/evaluating-marine-mammal-watching-legislation-regulations-and-codes-conduct>)

University of St. Andrews Conservation Studies MSc. Project: 'Approaches to Managing Wildlife Tourism across the UK: Marine Wildlife Watching and Codes of Conduct' by Sian McGuinness. Supervisors: Sophie Smout (University of St. Andrews), Julia Sutherland (JNCC), Rebecca Walker (NE)

Francesca Mancini (2019) Managing the wildlife tourism commons. PhD Thesis. University of Aberdeen. Supervisors: David Lusseau, George Coghill, Fiona Manson (SNH), Ben Leyshon (SNH)

Alejandra Pena Vergara (School of Ocean Sciences, Bangor University) is completing her PhD entitled "Integrating bottlenose dolphin conservation with ecotourism development" for submission this autumn. This includes a chapter analysing questionnaire surveys on the dolphin watching industry in Cardigan Bay, Wales. Supervisors: PGH Evans (SWF/BU), L Cordes, J Turner, J Waggitt (BU).

Aleksandra Koroza (School of Ocean Sciences, Bangor University) undertook a Masters thesis examining the effectiveness of Codes of Conduct in Cardigan Bay SAC (see publication below).

5.13. List publications (reports, theses, papers in journals, books) from any study in your country in 2016-2018 relating to small cetacean watching industry, swim with dolphins (or small cetaceans) operations, solitary sociable dolphin interactions and their possible effects on cetaceans.

de Boer, M. , Jones, D. , Jones, H. and Knee, R. (2018) Spatial and Temporal Baseline Information on Marine Megafauna-Data Facilitated by a Wildlife Tour Operator. *Open Journal of Marine Science*, **8**, 76-113. doi: [10.4236/ojms.2018.81005](https://doi.org/10.4236/ojms.2018.81005).

Inman, Brooker, Dolman, McCann, Wilson. 2016. The use of marine wildlife-watching codes and their role in managing activities within marine protected areas in Scotland. *Ocean & Coastal Management* 132, 1-11. <https://us.whales.org/wp-content/uploads/sites/2/2018/08/marine-wildlife-watching-codes-scotland.pdf>

Koroza, A.A. (2018) Habitat Use and Effects of Boat Traffic on Bottlenose Dolphins at New Quay Harbour, Cardigan Bay. MSc Thesis, University of Bangor. 93pp.

Nunny, L. and Simmonds, M. 2018. Solitary sociable dolphins: a preliminary update. Paper SC/67b/WW06 presented to the IWC Scientific Committee, April-May 2018, Bled, Slovenia (unpublished). 12pp. [Paper available from the Office of this Journal].

Nunny, L. and Simmonds, M.P. 2019. A Global Reassessment of Solitary-Sociable Dolphins. *Front. Vet. Sci.* 5: 331. [Available at: <https://doi.org/10.3389/fvets.2018.00331>].

Mancini, F., Coghill, G. M., & Lusseau, D. (2017). Using qualitative models to define sustainable management for the commons in data-poor conditions. *Environmental Science and Policy*, 67, 52–60. <http://doi.org/10.1016/j.envsci.2016.11.002>

Mancini, F., Coghill, G. M., & Lusseau, D. (2018). Using social media to quantify spatial and temporal dynamics of wildlife tourism activities. *PLOS ONE*, 13(7), e0200565. <http://doi.org/https://doi.org/10.1371/journal.pone.0200565>

Mancini, F., Coghill, G. M., & Lusseau, D. (2018). Quantifying wildlife watchers' preferences to investigate the overlap between recreational and conservation value of natural areas. *Journal of Applied Ecology*. <http://doi.org/10.1111/1365-2664.13274>

Whiteley, L. (2016). Variation in bottlenose dolphin (*Tursiops truncatus*) whistle parameters in relation to group composition, surface behaviour and vessel sound profiles. MSc thesis, University of Bangor. 97pp.

5.14. Please provide web links to other relevant information in your country on cetacean watching industry, swim with dolphins (or small cetaceans) operations, solitary sociable dolphin interactions and their possible effects on cetaceans for this section.

Description	Web link
In 2019, WDC launched an outreach campaign to raise awareness of disturbance, including a short, awareness raising video. WDC also produced a longer video that identifies what disturbance looks like, and how to report it to the Police, including details to record.	https://uk.whales.org/our-4-goals/create-healthy-seas/watch-out-for-dolphins-when-you-are-on-the-water

5.15. Has there been any other notable instances / issues related to cetacean watching industry in 2016-2018 in your country?

5.16. Is the perceived level of pressure from commercial small cetacean watching in your country increasing, decreasing, staying the same or unknown?²

To be done on a species by species basis where applicable (see Annex B) and by region where relevant (see Annex A).

Scientific name of the species	Increasing	Decreasing	Staying the same	Unknown
Bottlenose dolphin <i>Tursiops truncatus</i>	X			
Short-beaked Common Dolphin <i>Delphinus delphis</i>	X			
Killer Whale <i>Orcinus orca</i>	X			
Harbour Porpoise <i>Phocoena phocoena</i>	X			
Risso's dolphin <i>Grampus griseus</i>	X			
White beaked dolphin <i>Lagenorhynchus albirostris</i>			X	

Not applicable. Comments: Generally considered increasing for all coastal small cetaceans subject to marine wildlife watching tourism in the UK

B. Disturbance (incl. potential physical impacts)

6. Recreational Sea Use

AIM: to determine whether recreational sea use is detrimental to small cetaceans and, if so, to identify types of activity and areas of concern.

Relevant Resolutions: 8.9, 8.2, 8.3, 8.1, 7.1, 6.1, 5.4

Recreational use of the sea by humans includes a wide variety of activities, some of which are known to have a potential negative impact on small cetaceans. This includes RIBs (rigid-hulled inflatable boats), hard-hulled boats exceeding 10 knots in speed, yachts and personal water crafts such as jet skis and kayaks; and excludes recreational fishing and sea-angling.

Interactions can cause animals to change behaviour and move away, but can also have more serious impacts, such as injury or even death due to collision. ASCOBANS has agreed on a number of resolutions that highlight the importance to review all available information on recreational use of the sea. Obtaining an overview of

² This is a question based on Resolution 8.1, Annex 1.

best practices and guidelines will enable comparisons to be made across the Agreement Area, and ultimately may lead to the provision of overall, consistent guidelines that might be developed at a regional or national level. In this section we strive to obtain an overview of potential risk areas and national sources that have data on incidents with small cetaceans related to recreational sea use.

Questions:

6.1. Are data on recreational sea use available for your country?

- No.** Go to **Question 6.3.**
- Yes.** Provide information in the table below:

Type of information: *(e.g. number of licenced recreational vessels per region, tourist number per region, other)*

In 2014, the Scottish Government commissioned Land Use Consultants to undertake a study to fill data gaps on marine recreation and tourism activity in Scotland and to provide baseline information for marine planning.

The Scottish Marine Recreation and Tourism Survey (SMRTS) was carried out between August and October 2015. It was designed to gather information for 23 different recreation and tourism activities undertaken at sea or around the Scottish coastline. For the purposes of this study marine recreation and tourism is defined as: 'including those activities which involve travel away from one's "habitual" place of residence, which have as their host or focus the marine environment and/or the coastal zone'. SMRTS comprised a web-based survey which gathered spatial information on the activities people had undertaken during the previous 12 months and asked detailed questions about their one or two most important activities. A survey of businesses was also undertaken.

Web link or other relevant link to data: *(where can this information be found)*
<https://www2.gov.scot/Topics/marine/seamanagement/national/RecandTourism>

6.2. Is information on main areas of recreational sea use available for your country?

Many range states are mapping human activities to fulfil obligations under the EU Maritime Spatial Planning Directive, MSFD, OSPAR, and HELCOM; this information is relevant (though often not readily accessible) to ASCOBANS in understanding the extent and trends of human activities potentially impacting small cetaceans.

- No.**
- Not applicable.** Comments: SWF has mapped main areas of recreational sea use in UK in the context of impacts relevant to marine mammals (unpublished as yet). This is based on a) actual surveys of vessels at sea; and b) information from harbour & marina authorities. Detailed quantified maps have been prepared covering Cardigan Bay and are included in Alejandra Pena Vergara's PhD thesis. Data not available online yet; likely form a publication first.
- Yes.** Provide information in the table below:

Which area:
Northern North Sea, Irish Sea, Irish and Scottish West Coast

Type of information: *(e.g. maps, GIS files, reports)*

Is the data available online? **No.** Comments:
 Yes. Provide link:
<https://www2.gov.scot/Topics/marine/seamanagement/national/RecandTourism>

6.3. Was there any incidents of disturbance or harassment to small cetaceans in relation to recreational sea use in your country?

- No.**
- Unknown.**
- Yes.** Provide information in the table below:

Date: June 2019	Location: River Tyne, Newcastle
------------------------	--

In what context did this incidence occur? <i>For example: what kind of recreational activity.</i> Jetskier
What were the outcomes for (a) the animals or (b) humans? <i>For example: behavioural response, injury, death.</i> Behavioural response
Description of any legal procedures / court proceedings / convictions: None. Warning given.
Link to websites or any documentations of this incident: https://www.dailymail.co.uk/news/article-7219487/Sickening-moment-jet-skiers-speed-pod-dolphins-animals-play-river-Tyne.html

Date: 2018	Location: Moray Firth
In what context did this incidence occur? <i>For example: what kind of recreational activity.</i> Water sports	
What were the outcomes for (a) the animals or (b) humans? <i>For example: behavioural response, injury, death.</i> Behavioural response	
Description of any legal procedures / court proceedings / convictions: None. Warning given.	
Link to websites or any documentations of this incident: https://www.scottishlegal.com/article/cops-with-a-porpoise-issue-dolphin-warning	

Date: 2017	Location: various Scotland
In what context did this incidence occur? <i>For example: what kind of recreational activity.</i> Water sports/recreational boats	
What were the outcomes for (a) the animals or (b) humans? <i>For example: behavioural response, injury, death.</i> Behavioural response	
Description of any legal procedures / court proceedings / convictions: None. Warning given / press releases	
Link to websites or any documentations of this incident: https://www.snhpresscentre.com/news/paw-scotland-warns-of-risky-dolphin-and-whale-encounters-in-scotland-this-summer	

6.4. Does your country have any mitigation measures (codes of conducts/guidelines/laws/rules) in place in the event of disturbance or harassment of cetaceans through recreational sea use?

- No.
- Yes. Provide information in table below:

<i>(Specify if these mitigation measures are linked to a specific species/region/activity only. Include web links to relevant information.)</i> Detailed in Q5.5

6.5. List initiatives/projects (including PhD, MSc) in 2016-2018 involving studies on the disturbance or harassment of cetaceans through recreational sea use in your country (incl. title, organisation, lead author, web link).

<p>Scottish Marine Wildlife Watching Code (Revised 2017) https://www.nature.scot/marinecode</p> <p>Aleksandra Koroza (School of Ocean Sciences, Bangor University) undertook a Masters thesis examining the effectiveness of Codes of Conduct in Cardigan Bay SAC.</p> <p>Alejandra Pena Vergara (School of Ocean Sciences, Bangor University) is completing her PhD entitled "Integrating bottlenose dolphin conservation with ecotourism development" for submission this autumn. Supervisors: PGH Evans (SWF/BU), L Cordes, J Turner, J Waggitt (BU).</p>

The Scottish Government has produced guidance for marine users on the Protection of European Protected Species from injury and disturbance for Scottish Inshore Waters. <https://www2.gov.scot/Topics/marine/marine-environment/species/19887/20813/epsguidance>

Dolphin Space Programme <http://www.dolphinspace.org/index.asp?pageid=12982>

Partnership for Action Against Wildlife Crime (PAW) <https://www.daera-ni.gov.uk/publications/watch-out-wildlife-crime-marine-wildlife-disturbance>

Marine recreation evidence briefing: motorised watercraft: Natural England Evidence Information Note EIN027 <http://publications.naturalengland.org.uk/file/5132173002145792>

6.6. List publications (reports, theses, papers in journals, books) in 2016-2018 from any study in your country relating to disturbance or harassment of cetaceans through recreational sea use .

Quantifying the effect of boat disturbance on bottlenose dolphin foraging activity
[https://www.abdn.ac.uk/lighthouse/documents/Pirotta et al 2015 effects of boat disturbance on dolphins.pdf](https://www.abdn.ac.uk/lighthouse/documents/Pirotta%20et%20al%202015%20effects%20of%20boat%20disturbance%20on%20dolphins.pdf)

Impacts of boat activity on Cardigan Bay bottlenose dolphin (*Tursiops truncatus*) behaviour and their implications for the future
[https://www.welshwildlife.org/wp-content/uploads/cbmwc/2016/04/Emma Lowe dissertation 2016.pdf](https://www.welshwildlife.org/wp-content/uploads/cbmwc/2016/04/Emma_Lowe_dissertation_2016.pdf)

Habitat Use and Effects of Boat Traffic on Bottlenose Dolphins at New Quay Harbour, Cardigan Bay 2018
[https://www.seawatchfoundation.org.uk/wp-content/uploads/2019/02/Koroza Msc-thesis.pdf](https://www.seawatchfoundation.org.uk/wp-content/uploads/2019/02/Koroza_Msc-thesis.pdf)

Managing marine recreation activities: a review of evidence, Natural England Commissioned Report NECR242, November 2017
<http://publications.naturalengland.org.uk/publication/5164654430519296>

Koroza, A.A. (2018) Habitat Use and Effects of Boat Traffic on Bottlenose Dolphins at New Quay Harbour, Cardigan Bay. MSc Thesis, University of Bangor. 93pp.

Whiteley, L. (2016) Variation in bottlenose dolphin (*Tursiops truncatus*) whistle parameters in relation to group composition, surface behaviour and vessel sound profiles. MSc thesis, University of Bangor. 97pp.

6.7. Please provide web links to other relevant information for this section.

Description	Web link
See section 5.14 above for WDC activities	https://uk.whales.org/our-4-goals/create-healthy-seas/watch-out-for-dolphins-when-you-are-on-the-water

6.8. Have there been any other notable instances / issues in your country in the reporting period?

6.9. Is the perceived level of pressure from recreational sea use in your country increasing, decreasing, staying the same or unknown?³

To be done on a species by species basis where applicable (see Annex B) and by region where relevant (see Annex A).

Scientific name of the species	Increasing	Decreasing	Staying the same	Unknown
Bottlenose dolphin <i>Tursiops truncatus</i>	X			
Short-beaked Common Dolphin <i>Delphinus delphis</i>	X			
Killer Whale <i>Orcinus orca</i>				X

³ This is a question based on Resolution 8.1, Annex 1.

Harbour Porpoise <i>Phocoena phocoena</i>	X			
White beaked dolphin <i>Lagenorhynchus albirostris</i>	X			
Risso's dolphin <i>Grampus griseus</i>	X			

Not applicable. Comments: Generally considered increasing for all coastal small cetaceans given the rise in 'staycations' in the UK, increase in watersports and activities in coastal areas.

B. Disturbance (incl. potential physical impacts)

7. Other Sources of Disturbance

AIM: to identify new sources of disturbance that can be a threat to small cetaceans.

Relevant Resolutions: 8.9, 8.1, 6.1

With human activities in the seas increasing particularly in the coastal zone, overlap of cetacean and human habitat use is not covered by the questions above. A human activity can for example cause a cetacean to change behaviour, or it can cause physical harm or death. This section aims to identify new sources of disturbance that can be a threat to small cetaceans. The issue of noise, for example, is covered under section B3.

7.1. Have there been any incidents of disturbance to small cetaceans in your country, not covered in the items above?

- No.**
 Unknown.
 Yes. Please provide information in the table below:

Any incidents of disturbance to cetaceans not covered in Sections B5 or B6 by the report.

Date:	Location:
Description of the event:	
What were the outcomes for (a) the animals or (b) humans? For example: behavioural response, injury, death.	
Describe and mitigation measures operating:	
Description of any legal procedures / court proceedings / convictions:	
Link to websites to relevant information:	

7.2. List initiatives/projects (including PhD, MSc) in 2016-2018 involving studies on other sources of disturbance in your country (incl. title, organisation, lead author, web link).

Studies by University of Bangor's School of Ocean Sciences/SEACAMS and Sea Watch Foundation are currently being undertaken in North Wales in relation to tidal turbine developments. Gemma Veneruso is currently doing her PhD on this in relation to harbour porpoise

7.3. List publications (reports, theses, papers in journals, books) in 2016-2018 from any study in your country relating to other sources of disturbance.

Blanchard, E.E. (2018) Fine-scale use by harbour porpoise of a high energy coastal environment. MSc Thesis, University of Bangor. 70pp.

Evans, P.G.H. (2017) Habitat pressures. Pp. 441-446. In: Encyclopedia of Marine Mammals (Editors B. Würsig, J.G.M. Thewissen and K.M. Kovacs). 3rd Edition. Academic Press, San Diego. 1,157pp.

Evans, P.G.H. and Anderwald, P. (2016) Addressing human pressures upon marine mammals: a European and global

perspective. Journal of the Marine Biological Association of the United Kingdom, 96(4): 779-782. 1-3. doi:10.1017/S0025315416000539.

Evans, P.G.H., Baines, M.E., and Anderwald, P. (2016) Cetacean Stock Assessment in North-west Europe in relation to Exploration and Production Industry Sound. Report to International Association of Oil & Gas Producers Joint Industry Program on Sound & Marine Life. 153pp.

Waggitt, J., Dunn, H., Evans, P.G.H., Hiddink, J., Holmes, L., Keen, E., Murcott, B., Plano, M., Robins, P., Scott, B., Whitmore, J., and Veneruso, G. (2017) Regional-scale patterns in harbor porpoise occupancy of tidal stream environments. ICES Journal of Marine Science, doi:10.1093/icesjms/fsx164

7.4. Please provide web links to other relevant information.

Description	Web link

7.5. Has there been any other notable instances / issues in your country the reporting period?

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

10. Pollution and hazardous substances (incl. microplastics)

AIM: to illustrate progress, during the reporting period, on understanding, monitoring and mitigating impacts on cetaceans of important and emerging pollution-related hazards.

Relevant Resolutions: 8.9, 8.8, 8.7, 8.4, 8.3, 8.2, 8.1, 7.4, 7.1, 6.1, 5.7

Our oceans have been subject to a wide range of different types of pollution over the last decades. Top-predators such as small cetaceans that feed on higher trophic prey, tend to accumulate many of these potentially hazardous substances. There are a number of contaminants and pathogens that are known or suspected to have impacts on cetacean health, immune status or reproduction. These include for example: polychlorinated biphenyls (PCBs) and other persistent organic pollutants (POPs), oil pollution (polycyclic aromatic hydrocarbons), toxins from harmful algal blooms (HABs), sewage, radionuclides, toxic elements, tri-butyl tin (TBT), morbillivirus, and Brucella. In addition, micro- and nano-plastics are also present in the environment and their impacts are presently poorly understood.

Monitoring can be done in tissues of cetaceans obtained from live animals through biopsies, or from dead animals that are generally found on the shore. Necropsies allow the sampling of different tissues such as blubber, muscle, kidney or liver and these can be analysed subsequently.

To better understand the impact of contaminants on cetacean health, to detect new emerging hazards and to work towards a common protocol for analysing sampling Parties are asked to provide information on their programs.

NOTE: Macroplastics and discarded fishing gear are covered under Section C 9 Marine Debris.

Questions:

10.1. Does your country conduct monitoring of pollutants in small cetaceans?

Several pollutants have serious effects on individual cetaceans and can threaten populations. The aim is to capture the nature of existing monitoring and identify gaps in terms of which pollutants are monitored, the extend of this monitoring and the establishment of securely funded long-term data series.

- No.
 Yes.

Any comments:

A time series of levels of PCBs, OCs, PBDEs, HBCD and PFCs in harbour porpoises is being added to each year

10.2. Who is carrying out the pollutant monitoring program? Please provide information on the institution(s)/agencies that collect the samples and carry out the analyses. Copy table if needed.

Name: Cetacean Strandings Investigation Programme (CSIP)
Role in monitoring: Sample collection
Postal Address: Cetacean Strandings Investigation Programme, Institute of Zoology, Regents Park, London, NW1 4RY, UK
Contact Person: Rob Deaville (on behalf of the CSIP consortium)
Telephone: +442074496672
Email: rob.deaville@ioz.ac.uk
Weblink: www.ukstrandings.org

Name: The Centre for Environment, Fisheries and Aquaculture Science
 Role in monitoring: Sample analyses
 Postal Address: Lowestoft Laboratory, Pakefield Road, Lowestoft, Suffolk, NR33 0HT, UK
 Contact Person: Jon Barber
 Telephone: +44 (0)1502 524486
 Email: jon.barber@cefas.co.uk
 Weblink: www.cefas.co.uk

10.3. Select the small cetacean species that were covered by your monitoring program during the reporting period from 2016 to 2018. Mark the year in which the species was sampled with an x.

2016	2017	2018	Species ⁴	2016	2017	2018	Species
76	74	69	Harbour porpoise	1	1	4	SBW Sowerby's beaked whale
36	47	45	CD Short-beaked Common dolphin	1	4	1	BD Bottlenose dolphin
4	4	5	SD Striped dolphin	1	2	0	KW Killer Whale
5	2	4	WBD White-beaked dolphin	1	1	1	AWSD Atlantic white-sided dolphin
4	4	2	RD Risso's dolphin	0	0	2	CBW Cuvier's Beaked Whale
0	4	9	LFPW Long-finned pilot whale	0	1	0	NBW Northern bottlenose whale
			Choose a species	1	0	0	PSW Pygmy sperm whale

Any comments:

NB the above details numbers of stranded cetaceans examined by the UK Cetacean Strandings Investigation Programme, where samples for potential pollutant analyses were collected. It does not indicate those where subsequent analyses occurred. Contaminant analysis has been/is being carried out at Cefas for the years 2016/2017/2018 on: harbour porpoise 20/20/20, SD 2/2/0, CD 6/7/3, WBD 3/2/1, RD 4/4/1, BD 1/4/1, KW 0/2/0, AWSD 1/1/1

⁴ Please refer to Annex B for list of species, including scientific names.

10.4. Select the source of your samples (*multiple answers possible*)

- Necropsy from stranding
- Necropsy from bycatch
- Sample from live stranding
- Biopsy from live animal
- Other (specify in comments)

Any comments:

Samples collected under the aegis of the UK Cetacean Strandings Investigation Programme.

10.5. Select the geographical coverage of your monitoring program (*several answers are possible*)

<p>OSPAR Region I Arctic Waters</p> <input type="checkbox"/> Norwegian Sea	<p>OSPAR Region IV Bay of Biscay and Iberian Coast</p> <input type="checkbox"/> N. Bay of Biscay <input type="checkbox"/> Iberian Sea <input type="checkbox"/> Gulf of Cadiz	<p>HELCOM cont.</p> <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
<p>OSPAR Region II Greater North Sea</p> <input type="checkbox"/> Dogger Bank <input checked="" type="checkbox"/> Southern North Sea <input checked="" type="checkbox"/> Northern North Sea <input checked="" type="checkbox"/> Channel <input type="checkbox"/> Norwegian Trench <input type="checkbox"/> Skagerrak	<p>OSPAR Region V Wider Atlantic</p> <input type="checkbox"/> subregions?	
<p>OSPAR Region III Celtic Sea</p> <input checked="" type="checkbox"/> Celtic Sea <input checked="" type="checkbox"/> Irish Sea <input checked="" type="checkbox"/> Irish & Scottish W. Coast	<p>HELCOM</p> <input type="checkbox"/> Bothnian Bay <input type="checkbox"/> Bothnian Sea <input type="checkbox"/> Archipelago Sea <input type="checkbox"/> Åland Sea	

A map of the regions and sub-regions can be found in the Annex A.

10.6. Select the contaminant / pathogen analyses you have conducted for small cetaceans.

<input checked="" type="checkbox"/> POPs (e.g. PCBs)	<input checked="" type="checkbox"/> Radionuclides	<input checked="" type="checkbox"/> <i>Brucella</i>	<input type="checkbox"/> Others:
<input type="checkbox"/> Oil (e.g. PAHs)	<input type="checkbox"/> Toxic elements	<input checked="" type="checkbox"/> Microplastics	<input type="checkbox"/> Others:
<input type="checkbox"/> HAB toxins	<input type="checkbox"/> TBT	<input type="checkbox"/> Nanoplastics	<input type="checkbox"/> Others:
<input type="checkbox"/> Sewage	<input checked="" type="checkbox"/> Morbillivirus		

Any comments:

10.7. Does your country determine microplastics in cetaceans?

- No.** Go to **Question 10.9.**
- Yes.** Please provide information in the table below:

Do you have a specific protocol to monitor microplastic in small cetaceans? No Yes

If yes, please provide details and weblinks or upload document.

Nelms, S.E., Barnett, J., Brownlow, A., Davison, N.J., Deaville, R., Galloway, T.S., Lindeque, P.K., Santillo, D. and Godley, B.J. (2019) Microplastics in marine mammals stranded around the British coast: ubiquitous but transitory? *Nature Scientific Reports* <https://www.nature.com/articles/s41598-018-37428-3>

There is currently no agreed protocol between Parties. Best practice needs to be established to make sure that all results obtained are comparable between research institutes. In particular, it is essential to avoid contamination of samples during processing, e.g. with airborne microplastic fibres.

10.8. List initiatives/projects (including PhD, MSc) in 2016-2018 in your country involving studies on impact of pollution and hazardous substances (incl. microplastics) on small cetaceans (incl. title, organisation, lead author.

PhD project: "Persistent Organic Pollutants: Assessing the threat to cetaceans."

Organisations: Zoological Society of London, Brunel University London

Funding: Natural Environment Research Council

Student: Rosie Williams

Weblinks to project: <https://www.zsl.org/science/users/rosie-williams>
<https://london-nerc-dtp.org/profile/williamsr/>

PhD project: "Marine litter, microplastics and marine megafauna"

Organisation: University of Exeter, Plymouth Marine Laboratory

Student: Sarah Nelms

Weblinks to project: https://biosciences.exeter.ac.uk/staff/profile/index.php?web_id=Sarah_Nelms

MSc project: "Causes of spatio-temporal trends in skin lesions of Welsh bottlenose dolphins"

Organisation: Bangor University, Sea Watch Foundation

Student: Anastasios Stylus

Supervisors: PGH Evans, JJ Waggitt

10.9. List publications (reports, theses, papers in journals, books) and other evidence from your country in 2016-2018 relating to the impact of pollution and hazardous substances (incl. microplastics) on small cetaceans.

We need to capture information on new knowledge arising from monitoring schemes or other research projects, especially results which enhance our understanding of impacts of hazardous pollutants and/or assess their known or likely effects on cetacean population status (e.g. considering PCB concentrations in blubber in relation to threshold for inhibition of reproduction). Where relevant, please report separately per pollutant, species and area.

Publications:

Acevedo-Whitehouse, K., Cole, K.J., Phillips, D.H., Jepson, P.D., Deaville, R. and Arlt, V.M. (2018) Hepatic DNA Damage in Harbour Porpoises (*Phocoena phocoena*) stranded along the English and Welsh Coastlines. *Environmental and Molecular Mutagenesis*. **59(7)**, 613-624. doi: 10.1002/em.22205

Desforges, J.P., Hall, A., McConnell, B., Asvid, A.r., Barber, J.L., Brownlow, A., De Guise, S., Eulaers, I., Jepson, P.D., Letcher, R.J., Levin, M., Ross, P.S., Samarra, F., Víkingsson, G., Sonne, C., Dietz, R. (2018) Predicting global killer whale population collapse from PCB pollution. *Science*. **361 (6409)** pp. 1373-1376. DOI: 10.1126/science.aat1953

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Gajdosechova, Z., Lawan, M.M., Urgast, D.S., Raab, A., Scheckel, K.G., Lombi, E., Kopittke, P.M., Loeschner, K., Larsen, E.H., Woods, G., Brownlow, A., Read, F.L., Feldmann, J. and Krupp, E.M. (2016) In vivo formation of natural HgSe nanoparticles in the liver and brain of pilot whales. *Nature Scientific Reports* **6**, 34361; doi: 10.1038/srep34361

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Jepson, P.D. and Law, R.J. (2016b) Persistent pollutants, persistent threats: Polychlorinated biphenyls remain a major threat to marine apex predators such as orcas. *Science* **352**: 1388-1389. doi: 10.1126/science.aaf9075

Law, R.J. and Jepson, P.D. (2017) Europe's insufficient pollutant remediation. *Science* **356**, 148. doi: 10.1126/science.aam6274

Murphy, S., Law, R., Deaville, R., Barnett, J., Perkins, W., Brownlow, A., Penrose, J., Davison, N., Barber, J., & Jepson, D. (2018). Chapter 1: Organochlorine Contaminants and Reproductive Implications in Cetaceans: A Case study of the

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Tierney K.M., Muir, G.K.P., Cook, G.T., Heymans, J.J., MacKinnon, G., Howe, J.A., Xu, S., Brownlow, A., Davison, N.J., ten Doeschate, M. and Deaville, R. (2017) Nuclear reprocessing-related radiocarbon (¹⁴C) uptake into UK marine mammals. *Marine Pollution Bulletin* <https://doi.org/10.1016/j.marpolbul.2017.07.002>

Analyses summary:

During the triennial period, the following analyses on contaminants were also carried out by CEFAS;

PCBs in apex predators

- The time series of polychlorinated biphenyls (PCBs) in UK stranded harbour porpoises was extended during the triennial period, with analyses conducted on animals which stranded during 2015 and 2016, with results due to be published shortly.
- Following on from the body of work on PCB levels in apex predators (Jepson et al. 2016a, see above), analyses of PCBs in an additional 7 killer whales (KIW) and 25 bottlenose dolphins (BND) from the UK were also carried out during this period. This included the analyses for 'Lulu' which received much news coverage (e.g. www.bbc.co.uk/news/science-environment-39738582). Assessing the overall results of total PCBs on a lipid weight basis against the two toxicology thresholds discussed in Jepson et al. 2016a (lowest 9mg/kg lw, highest 41mg/kg lw), 78% of BNDs (26/46) and 100% of KIW (9/9) are above the lowest threshold and 50% of BNDs (23/46) and 89% of KIW (8/9) are above the highest threshold. In comparison, for UK harbour porpoises examined usually ~40% are above the lowest threshold and none are above the highest.

Harbour porpoise blubbers 2014 and 2015 Polybrominated diphenyl ethers (PBDEs) 20 animals from each year were analysed to update time trends

- Total PBDE mean levels in 2015 are lower than those measured last in 2008 (sum 9 BDEs 0.22 vs 0.67 mg/kg lw, respectively) and are now <10% of the levels observed at the peak in 2000. However, the rate of decline has slowed down in recent years.

Harbour porpoise blubbers 2014 Hexabromocyclododecane (HBCD) 20 animals were analysed to update time series.

- Previously observed declines up to 2006 have not continued. Mean levels of HBCD in 2014 are similar to those found in 2006 (sum 3 HBCDs 0.83 vs 0.82 mg/kg lw total HBCD). Levels of HBCD are higher now than PBDEs as a result of their decline.

Harbour porpoise livers 2012, 2013 and 2014 Perfluorinated chemicals (PFCs) including PFOS, 20 animals from each year were analysed to update/start time trends.

- Of the 15 PFAS analysed, 6 were ubiquitous (PFOS, FOSA, PFNA, PFDcA, PFUnA and PFTTrDA), a further 5 were present in the majority of samples (PFHxS, PFDCs, PFHpA, PFDoDA and PFTeDA), 2 were detected fairly frequently (PFHxA and PFOA) and the other 2 were only occasionally detected (PFPeA and PFBuS). Mean PFOS concentration for 2012-14 (178 ug/kg ww) is approximately one third of that observed previously for 2001-03 (600 ug/kg ww), indicating that levels have declined. In comparison, the sum of PFCAs was lower: 39 ug/kg ww, but there is no earlier data to compare with to investigate time trends. (PFCAs, PFSAs and FOSA in harbour porpoises (*Phocoena phocoena*) stranded or bycaught in the UK during 2012-2014. (2016) J.L. Barber, A. Papachlimitzou, S. Losada, P. Bersuder, R. Deaville, A. Brownlow, R. Penrose, P.D. Jepson, R.J. Law. *Organohalogen Compounds* 2016, **78**, 119-123.)

10.10. If applicable, list any additional evidence/data of reduced impacts of pollutants on small cetaceans following implementation of national mitigation measures (e.g. decline of contaminant levels in blubber over time).

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10.11. Provide web links to other relevant information to this section.

Description	Web link

10.12. Has there been any other notable instances / issues in your country in the reporting period?

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10.13. Is the perceived pressure from pollution and hazardous substances in your country increasing, decreasing, staying the same or unknown?⁵

To be done on a species by species basis where applicable (see Annex B) and by region where relevant (see Annex A).

Scientific name of the species	Increasing	Decreasing	Staying the same	Unknown
Harbour porpoise <i>Phocoena phocoena</i>				X
Short beaked common dolphin <i>Delphinus delphis</i>				X
Striped dolphin <i>Stenella coeruleoalba</i>				X
White beaked dolphin <i>Lagenorhynchus albirostris</i>				X
Risso's dolphin <i>Grampus griseus</i>				X
Long finned pilot whale <i>Globicephala melas</i>				X
Sowerby's beaked whale <i>Mesoplodon bidens</i>				X
Bottlenose dolphin <i>Tursiops truncatus</i>				X
Killer whale <i>Orcinus orca</i>				X
Atlantic white sided dolphin <i>Lagenorhynchus acutus</i>				X
Cuviers beaked whale <i>Lagenorhynchus acutus</i>				X
Northern bottlenose whale <i>Hyperoodon ampullatus</i>				X
Pygmy sperm whale <i>Kogia breviceps</i>				X

Not applicable. Comments: Variation between the species, variation in changes across contaminants, and insufficient number of samples results in a conclusion of unknown for the above species. Assessment would require further analysis of more samples over a timeseries.

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

11. Ship Strikes

AIM: Understanding the potential risk of ship strike as a cause of injury/death in small cetaceans.

Relevant Resolutions: 8.9, 8.2, 8.1, 6.1, 5.4

⁵ This is a question based on Resolution 8.1, Annex 1.

Ship strikes are collisions between vessels and cetaceans. In the last decades evidence has emerged that ship strikes might occur more often than previously thought and can have a significant impact on small resident cetacean populations. Most research so far has focused on large cetaceans as those animals are often carried visibly into port at the bow of a vessel. For small cetaceans ship strike events are not well documented.

Ship strike occurrence is directly linked to the frequency of shipping activity, including such directed at cetaceans, i.e. cetacean watching. To quantify this risk, it is important to know what kind of vessels are involved in the strike, in particular the vessel speed as well as the type and size of vessel. But it is also important to have information on the cetaceans involved, in particular if the animals were engaged in a particular behaviour such as feeding.

Ship strike can cause direct death or injury in cetaceans. Even collisions that are non-fatal might leave individuals with a reduction in their survival chances. To determine the occurrence of ship-strikes different sources are used. For small cetaceans, direct observations are the rarest. Necropsies of stranded animals can find evidence of characteristic trauma and photographs of animals that survived ship strikes can show typical injuries, such as marks left by propellers. One way to quantify how many animals in a population are impacted by ship strike is to look at the percentage of animals in a photo-identification catalogue that show ship strike marks.

As this is still a not well documented threat this section aims to obtain an overview of what kind of data and research is available and ongoing in the Parties.

Questions:

11.1. Are there reports available in your country of ship strikes with small cetaceans from visual observations?

The International Whaling Commission (IWC) has a global database for ship strike incidents with cetaceans. Whether or not your country is Party to the IWC, it is encouraged for countries to provide all ship strike incident information to the IWC database.

- No.** Go to **Question 11.2.**
- Yes.** Please provide information in the table below:

<p>Has the incident of a ship strike with a small cetacean been submitted to the IWC Ship Strike Database? <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Unknown</p>
<p>Area: <i>(check with OSPAR/HELCOM map in Annex A)</i> Choose a region</p>
<p>Species name (scientific), if known <i>(see Annex B):</i></p>
<p>Date of incident:</p>
<p>Contact: <i>(if available contact details of the observer)</i></p>
<p>Description of the observed incidence: <i>(Group size if other cetaceans presence, was the cetacean alive or dead after the collision, was the animal retrieved, indications of animal being dead before collusion, any other information; if known, provide information on the vessel type, name, speed of the vessel, any damage to the vessel or injuries to people)</i></p>
<p>If animal was retrieved and necropsied, is there a necropsy report for this cetacean? <input type="checkbox"/> No <input type="checkbox"/> Yes If yes, provide link/contact details:</p>
<p>List any other relevant links to websites or other information, photographs or publications, if available:</p>

11.2. Are there reports in your country of vessel strikes from necropsies of stranded animals for 2016-2018?

- No.** Go to **Question 11.3.**
- Yes.** Please provide information in the table below:

Overview of necropsied small cetaceans showing evidence of ship-strike.

Year	Location Sub-area (OSPAR / HELCOM)	Species	Necropsied animals			
			Number of animals showing ship strike markings ⁶	Number of animals with known cause of death	Number of animals with cause of death ship strike	
					possible	certain
2017	OII Channel	CD Short-beaked Common dolphin				1
2017	OIII Celtic Sea	CD Short-beaked Common dolphin				1
2018	OII Channel	HP Harbour porpoise				1

Provide source of information and database link if applicable: UK CSIP strandings and necropsy database

11.3. Does your country have a protocol in use to determine that a cause of death in post mortem examination is due to a vessel strike?

- No.
 Yes. Please provide information below:

All cetacean post-mortem investigations (including tissue sampling) were conducted using standard procedures (e.g. Deaville *et al.*, in press)

Deaville, R. (compiler) (in press) UK Cetacean Strandings Investigation Programme Final Contract Report, 2011-2017
<http://sciencesearch.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&ProjectID=20101&FromSearch=Y&Publisher=1&SearchText=strandings&SortString=ProjectCode&SortOrder=Asc&Paging=10#Description>

11.4. Is there evidence in your country from existing photo-identification catalogues of small cetaceans of any non-lethal ship strike for the 2016-2018?

For populations of small cetaceans, such as bottlenose dolphins, one can identify those animals in photo-identification catalogues of animals that show ship-strike evidence (e.g. scars). Monitoring the % of animals that show ship strike evidence can be a useful tool to monitor the development of this threat.

- No.
 Yes. Please provide information in the table below:

Overview of ship strike evidence in photo-identification catalogues

Year	Location Sub-area (OSPAR / HELCOM)	Species	Photo-identified animals in the catalogue			
			# individual animals in the photo-identification catalogue	# animals showing ship strike markings (e.g. scars)		
				possible	certain	Unknown
	OIII Irish Sea	BD Bottlenose dolphin	308	4		
	Choose a region	Choose a species				
	Choose a region	Choose a species				

11.5. Do you have any other photographs or evidence of ship strikes outside of photo-identification catalogue? No Yes

⁶ These can be sub-acute (animal dies not immediately after the ship-strike) or chronic lesions (scar forming starts, but there is likely infection/inflammation) or healed lesions that are unrelated to the cause of death (although they could have affected an animals health status in the longer term).

See: Lohrengel, K., Evans, P.G.H., Lindenbaum, C.P., Morris, C.W. and Stringell, T.B. (2017) Bottlenose dolphin and harbour porpoise monitoring in Cardigan Bay and Pen Llŷn a'r Sarnau Special Areas of Conservation, 2014-16. NRW Evidence Report No: 191. Natural Resources Wales, Bangor. 154pp.

11.6. List initiatives/projects (including PhD, MSc) involving studies of ship strikes and its possible effects on small cetaceans for 2016-2018 in your country (incl. title, organization, lead author)

As part of the NERC/Defra funded MERP (Marine Ecosystem Research Programme) Project, Sea Watch Foundation / Bangor University have been developing risk maps applied across NW European Seas for all the major cetacean species, by mapping shipping of different sizes & speeds using AIS data and comparing the extent of overlap with densities for each species derived from species distribution maps prepared as the main output of this element of the research programme. Risk factors for each species are being developed based upon the results of the IWC ship strike database and necropsy results from Strandings Investigation Programmes.

11.7. List publications (reports, theses, papers in journals, books) from your country relating to small cetacean ship strikes

Deaville, R. (compiler) (in press) UK Cetacean Strandings Investigation Programme annual report,2017

Deaville, R. (compiler) (in press) UK Cetacean Strandings Investigation Programme annual report,2018 (<http://sciencesearch.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&ProjectID=20101&FromSearch=Y&Publisher=1&SearchText=strandings&SortString=ProjectCode&SortOrder=Asc&Paging=10#Description>)

11.8. List any management / policy actions related to mitigating ship strike for small cetaceans (re-routing, tracking animals, ship speed limits) in your country

Provide web links if available.

11.9. Has there been any other notable instances / issues of ship strike on small cetaceans in your country in the reporting period?

11.10. Is the perceived level pressure from ship strikes on small cetaceans in your country increasing, decreasing, staying the same or unknown?⁷

To be done on a species by species basis where applicable (see Annex B) and by region where relevant (see Annex A).

Scientific name of the species	Increasing	Decreasing	Staying the same	Unknown
Bottlenose dolphin <i>Tursiops truncatus</i>				X
Harbour porpoise <i>Phocoena phocoena</i>				X
Short beaked common dolphin <i>Delphinus delphis</i>				X

Not applicable. Comments:

Investigations and research on ship-strike does not primarily target smaller cetacean species, the evidence in therefore minimal and the extent of the threat unknown.

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

⁷ This is a question based on Resolution 8.1, Annex 1.

12. Climate change (incl. ocean acidification)

AIM: To illustrate progress on understanding, monitoring and mitigating negative effects on small cetaceans of important and emerging climate-change-related hazards.

Relevant Resolutions: 8.9, 8.4, 8.3, 8.2, 8.1, 7.4, 7.1, 6.1, 5.7

It is certain that climate change is altering the habitat of cetaceans. However, our understanding on how the predicted changes will impact different species and populations is still lacking. CMS⁸ highlights the importance on addressing potential issues through the engagement of researchers to better understand the underlying processes, as well as conservation managers and policy makers to monitor changes and to mitigate negative impacts. Focussing on tangible climate change effects relevant to cetaceans, such as ocean warming, prey depletion / prey range shifts, ocean acidification, increased frequency and intensity of ocean storms, changes in sea ice, weakening of the North Atlantic Drift, we need to gather evidence on the existence and nature of climate change effects on small cetaceans and evaluate current monitoring programmes and mitigation measures.

This section aims to provide an overview of what kind of activities are already ongoing in the member states to address climate change. The focus is hereby on those actions specifically regarding cetaceans as well as the most likely impacts on their habitat and prey. Climate change represents possibly the most important future threat to the status of cetaceans in the ASCOBANS region. Direct effects may arise due to ocean warming, resulting in (generally northward) in distribution shifts so that the animals continue to occupy waters with temperature regimes compatible with their thermal niches. Key indirect effects will result from changes in prey distribution and abundance due to ocean warming, ocean acidification and changes in ocean current systems.

Questions:

12.1. Does your country monitor climate effects on cetaceans?⁹

Climate change will have a multiplicity of possible direct and indirect effects on cetaceans. Attempting to quantify this is challenging, these questions are aimed to provide an overview of the type of monitoring programmes that are conducted that may provide indirect evidence of climate change on cetaceans.

- No.** Go to **Question 12.3.**
- Yes.** Continue to **Question 12.2.**

12.2. Which effects has your country been monitoring in the reporting period from 2016 to 2018?

Overview of monitoring activities related to climate change effects on small cetaceans. Please add additional direct or indirect effects if applicable.

Monitoring activity	Comments <i>(if possible, provide e.g. contact / link to project)</i>
<input checked="" type="checkbox"/> Changes in small cetacean abundance	<p>SCANS projects I, II and III https://synergy.st-andrews.ac.uk/scans3/</p> <p>Integrating multiple data sources to assess the distribution and abundance of bottlenose dolphins (<i>Tursiops truncatus</i>) in Scottish waters. Cheney, B., Thompson, P. M., Ingram, S. N., Hammond, P. S., Stevick, P. T., Durban, J. W., Culloch, R. M., Elwen, S. H., Mandelberg, L., Janik, V. M., Quick, N. J., Islas Villanueva, V., Robinson, K. P., Costa, M., Einfeld, S. M., Walters, A., Phillips, C., Weir, C. R., Evans, P. G. H., Anderwald, P. & 3 others, 2013, In : Mammal Review. 43, p. 71-88</p> <p>A Bayesian capture-recapture population model with simultaneous estimation of heterogeneity.</p>

⁸ [CMS Resolution 12.21](#) on Climate Change and Migratory Species.

⁹ This refers to direct and indirect effects.

Monitoring activity	Comments <i>(if possible, provide e.g. contact / link to project)</i>
	<p>Corkrey, R., Brooks, S., Lusseau, D., Parsons, K., Durban, JW., Hammond, P. S. & Thompson, PM., Sep 2008, In : Journal of the American Statistical Association. 103, p. 948-960 13 p</p> <p>Habitat preferences and distribution of harbour porpoise (<i>Phocoena phocoena</i>) west of Scotland Booth, C. G., Embling, C., Gordon, J., Calderan, S. V. & Hammond, P. S., 25 Mar 2013, In : Marine Ecology Progress Series. 478, p. 273–285 13 p</p> <p>Estimating survival and abundance in a bottlenose dolphin population taking into account transience and temporary emigration Silva, M., Magalhães, S., Prieto, R., Santos, RS. & Hammond, P. S., 2009, In : Marine Ecology Progress Series. 392, p. 263-276</p> <p>Robbins, J.R., Babey, L., Embling, C.B. (in review) ‘Citizen science in the marine environment: A case-study estimating common dolphin densities in the north-east Atlantic’, PeerJ [and accepted for a poster @ WMM 2019]</p> <p>Embling, C.B., Walters, A.E.M., & Dolman, S.J. (2015) How much effort is enough? The power of citizen science to monitor trends in coastal cetacean species. <i>Global Ecology and Conservation</i>, doi: 10.1016/j.gecco.2015.04.003</p> <p>Evans, P.G.H. and Waggitt, J.J. (2019) Impacts of climate change on marine mammals. <i>Marine Climate Change Impacts Partnership (MCCIP) Science Review 2019</i> (in press).</p> <p>Lohrengel, K., Evans, P.G.H., Lindenbaum, C.P., Morris, C.W., Stringell, T.B. (2018) Bottlenose Dolphin Monitoring in Cardigan Bay 2014 - 2016, NRW Evidence Report No: 191, 162pp, Natural Resources Wales, Bangor.</p> <p><i>SW bottlenose dolphin population:</i> Collation of photos of bottlenose dolphins from citizen scientists, whale-watching organisations and other local organisations (such as the Cornwall Seal Group) to carry out a photo-ID based abundance estimate of the bottlenose dolphin populations in the Southwest UK in 2017. This was carried out as part of the Southwest bottlenose dolphin consortium (with Cornwall Wildlife Trust), analysis carried out by a University of Plymouth masters (MRes) student (Rebecca Dudley) to estimate a population of only 28 dolphins, showing this to be a highly vulnerable population. Contact: Dr. Clare Embling, Dr Simon Ingram University of Plymouth</p> <p><i>Cornwall line transect surveys:</i> Visual-acoustic surveys have been carried out along the south Cornish coast from Plymouth to the Scilly Isles for 1-2 weeks for the past 3 years (August 2017, August 2018, June & July 2019). These surveys used standard line-transect visual survey methodology (single platform) and a towed hydrophone array. All marine animals were recorded (cetaceans, seals, sharks, sunfish, seabirds, jellyfish and marine litter). Data analysed within undergraduate dissertation projects analysing the habitat use of harbour porpoises with environmental variables. The visual-acoustic data for harbour porpoises will be analysed by an MRes student in 2019-2020. Contact: Dr. Clare Embling, Dr Simon Ingram University of Plymouth</p> <p>MRes (Kimberly Nielsen, 2018) ‘Spatial and temporal variability in porpoise density: implications for conservation in UK seas’, in collaboration with</p>

Monitoring activity	Comments <i>(if possible, provide e.g. contact / link to project)</i>
	ORCA, reported in ORCA publication 'State of European Cetaceans 2018', accepted for poster @ WMM 2019. Used distance analysis to estimate abundance and densities of harbour porpoises from 10 years of ORCA data. Contact: Dr. Clare Embling, Dr Simon Ingram University of Plymouth
<input checked="" type="checkbox"/> Changes in small cetacean distribution	See abundance. MSc (Isara Edgar, 2018) 'Using platforms of opportunity to identify the spatial and temporal distribution of harbour porpoise within Falmouth Bay, Cornwall'. In collaboration with AK Wildlife (whale watching organisation based in Falmouth). Contact: Dr. Clare Embling, Dr Simon Ingram University of Plymouth
<input checked="" type="checkbox"/> Changes in small cetacean migration or movement range	See abundance. Nykänen, M., Dillane, E., Englund, A., Foote, A.D., Ingram, S.N., Louis M., Mirimin, L., Oudejans, M., Rogan, E. (2018) 'Quantifying dispersal between marine protected areas by a highly mobile species, the bottlenose dolphin, <i>Tursiops truncatus</i> ', Ecology & Evolution, 8(18): 9241-9258
<input checked="" type="checkbox"/> Changes in small cetacean migration or movement timing	See abundance
<input type="checkbox"/> Changes in small cetacean community structure	
<input checked="" type="checkbox"/> Changes in reproductive success and timing in small cetaceans	A new approach to estimate fecundity rate from inter-birth intervals. Arso Civil, M., Cheney, B., Quick, N. J., Thompson, P. M. & Hammond, P. S., Apr 2017, In : Ecosphere. 8, 4, 10 p., e01796
<input checked="" type="checkbox"/> Changes in prey (fish) abundance and distribution	Ransijn, J.M., Booth, C. & Smout, S.C. 2019. A calorific map of harbour porpoise prey in the North Sea. JNCC Report No. 633. JNCC, Peterborough, ISSN 0963 8091. http://data.jncc.gov.uk/data/c12c1b45-73ba-4402-a8f5-ec0275a72cf1/JNCC-Report-633-FINAL-WEB.pdf Simpson, S.D., Blanchard, J., and Genner, M. (2013). Fish. Marine Climate Change Impacts Partnership (MCCIP) Science Review 2013: 113-124. doi:10.14465/2013.arc13.113-124 (update in press.)
<input checked="" type="checkbox"/> Changes in timing of prey (fish) spawning and migration	Simpson, S.D., Blanchard, J., and Genner, M. (2013). Fish. Marine Climate Change Impacts Partnership (MCCIP) Science Review 2013: 113-124. doi:10.14465/2013.arc13.113-124 (update in press.)
<input checked="" type="checkbox"/> Changes in fishing effort	Data available through ICES STECF data: https://stecf.jrc.ec.europa.eu/data-dissemination Pinnegar, J.K., Garrett, A., Simpson, S.D., Engelhard, G.H., and van der Kooij, J. (2017) Fisheries. Marine Climate Change Impacts Partnership (MCCIP) Science Review 2017: 1-17. doi: 10.14465/2017.arc10.007-fis
<input checked="" type="checkbox"/> Changes in the occurrence of pathogens <i>(from sampled individuals)</i>	See section 10.6 for details in pathogens analysed in small cetaceans. CSIP produce yearly reports of findings.
<input checked="" type="checkbox"/> Incidences of algal blooms <i>(if yes, where; specify year)</i>	There is some time series data on the abundance of algal toxins in shellfish. Food Standards Scotland shellfish monitoring program (http://marine.gov.scot/themes/biotoxin-monitoring).
<input type="checkbox"/> ...	

12.3. List new initiatives / projects which provide evidence / data about climate change effects on small cetaceans in your country in 2016-2018 (title, organization, lead author; include the species concerned, the climate change effect observed, who did the work)

Provide web links if available.

Janneke Ransijn PhD Project in progress at St Andrews: "Marine mammal predators and ecosystem change in European Atlantic seas." Supervisors Sophie Smout and Phil Hammond. Harbour porpoise and food intake related to food availability. Composition of HP diets is substantially associated with sandeel abundance, so climate-driven changes in sandeel populations are very likely to impact these populations (along with other expected changes in prey community composition).

As part of the NERC/Defra funded MERP (Marine Ecosystem Research Programme) Project, Sea Watch Foundation / Bangor University have been mapping temporal changes in the abundance and distribution of 37 fish and 9 cephalopod species as well climate indices (temperature, salinity, stratification, NAO, AMO) and relating these to temporal trends in the abundance and distribution of all cetacean species occurring regularly in NW European seas. Some of the results are in Evans, P.G.H. and Waggitt, J.J. (2019) Impacts of climate change on marine mammals. *Marine Climate Change Impacts Partnership (MCCIP) Science Review 2019* (in press).

12.4. List new reports/publications which provide evidence / data of climate change effects on small cetaceans in your country in 2016-2018 (title, organization, lead author; include the species concerned, the climate change effect observed, who did the work)

Provide web links if available.

Bairstow, A. (2017) The effects of climate change on Northwest European cetaceans. MSc Thesis, University of Bangor. 35pp.

Evans, P.G.H. and Bjørge, A. (2013) Impacts of climate change on marine mammals. *Marine Climate Change Impacts Partnership (MCCIP) Science Review 2013*: 134-148. Published online 28 November 2013 doi:10.14465/2013.arc15.134-148.

Evans, P.G.H. and Waggitt, J.J. (2019) Impacts of climate change on marine mammals. *Marine Climate Change Impacts Partnership (MCCIP) Science Review 2019* (in press).

MacDonald, A., Speirs, D.C., Greenstreet, S.P.R. & Heath, M.R. (2018) Exploring the Influence of Food and Temperature on North Sea Sandeels Using a New Dynamic Energy Budget Model. *Frontiers in Marine Science*, **5**, 53–14.

Simmonds M.P. (2017) Evaluating the Welfare Implications of Climate Change for Cetaceans. In: Butterworth A. (eds) *Marine Mammal Welfare*. *Animal Welfare*, vol 17. Springer, Cham https://doi.org/10.1007/978-3-319-46994-2_8

12.5. Are there any actions / measures in your country to reduce identified climate change impacts on small cetaceans (directly or indirectly)?

No.

Yes. Please describe below:

12.6. List any gaps in monitoring / mitigation of climate change effects on cetaceans

In order to plan future monitoring and mitigation we need to be aware of current gaps and emerging issues.

Gap: A need for greater understanding of habitat usage and prey changes effects on predators, especially for harbor porpoises which appear to be very sensitive to any reduction in foraging success. Need for further information on the abundance of important porpoise prey especially sandeels and gobies in UK waters. The same applies to all species listed in 12.9 and other fish species affected by climate change eg. cod, whiting, haddock.

Gap: Greater frequency of monitoring to understand finer-scale changes in abundance and distribution.

12.7. List any emerging potential issues related to climate change effects on small cetaceans

Potential issues: shift or contraction in range; changes to physical habitat; changes to food web, prey distribution and availability and predator-prey relationships; increased susceptibility to disease and contaminants; effects on reproductive success

12.8. Has there been any other notable instances / issues on climate change effects on small cetaceans in your country in the reporting period?

12.9. Is the perceived level of pressure from climate change to small cetaceans in your country increasing, decreasing, staying the same or unknown?¹⁰

To be done on a species by species basis where applicable (see Annex B) and by region where relevant (see Annex A).

Scientific name of the species	Increasing	Decreasing	Staying the same	Unknown
Harbour porpoise <i>Phocoena phocoena</i>	X			
Bottlenose dolphin <i>Tursiops truncatus</i>	X			
Risso's dolphin <i>Grampus griseus</i>	X			
Short-beaked Common Dolphin <i>Delphinus delphis</i>	X			
White beaked dolphin <i>Lagenorhynchus albirostris</i>	X			

Not applicable. Comments:

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

13. Physical Habitat Change (e.g. from construction)

AIM: Human activities in the Agreement area have the potential to impact upon small cetaceans. Tracking those activities causing physical habitat change and better understanding their relative impacts will help shape any necessary mitigation action required.

Relevant Resolutions: 8.11, 8.9, 8.6, 8.4, 8.3, 8.2, 8.1, 7.1, 6.2, 6.1, 5.7

Human activities in the Agreement area have the potential to impact upon small cetaceans. Tracking those activities that cause physical habitat change and obtaining a better understanding of their relative impacts will help shape any necessary mitigation action.

This section aims to review new information on physical habitat change, e.g. from construction, and its impacts on small cetaceans, their prey and their habitat, and make recommendations to Parties and other relevant authorities for further action.

The collation of this information will contribute to the development of risk maps showing the spatial and temporal (by season) distribution of activities that have an impact on cetaceans, including information provided in National Reports, taking into account the work done by other organisations.

Note: In the term "physical habitat change", we include a) coastal/marine construction – artificial islands, harbours, bridges, oil/gas platforms, wind turbines, tidal turbines; and b) seabed damage – dredging, bottom trawling.

¹⁰ This is a question based on Resolution 8.1, Annex 1.

Questions:

13.1. Provide spatial information on locations (in form of maps and/or links) of physical habitat change in your country by activity type (dredging, marine construction, coastal construction) for 2016-18.

Many range states are mapping human activities to fulfil obligations under the EU Maritime Spatial Planning Directive, MSFD, OSPAR, and HELCOM; this information is relevant (though often not readily accessible) to ASCOBANS in understanding the extent and trends of human activities potentially impacting small cetaceans.

Activity: Various construction and fisheries

Which area: (Please refer to the overview of OSPAR & HELCOM sub-regions in Annex A, if possible.)

Northern North sea, Celtic Sea, Irish sea

Type of information: (e.g. maps, GIS files, reports)

Marine Scotland hosts information for Scotland. See regulations for information eg MSLOT

<https://www2.gov.scot/Topics/marine/Licensing/marine> <http://marine.gov.scot/maps/nmpi>

MMO hosts information for England and Wales. Marine Information System (MIS) provided by the MMO. The Marine Information System (MIS) is provided by the Marine Management Organisation (MMO) primarily to communicate the contents of adopted marine plans in England. The mapping function of the system sets out the spatial extent of marine plan policies alongside summarised information and a link to further information. The mapping function also provides further information to put marine plans into context, such as spatial information related to marine licensing. <http://mis.marinemanagement.org.uk/>

Is the data available online?

No. Comments:

Yes. Provide link: MIS

<http://defra.maps.arcgis.com/apps/webappviewer/index.html?id=3dc94e81a22e41a6ace0bd327af4f346>

13.2. Does your country have any cases of impacts on physical habitat change (e.g. dredging, marine construction, coastal construction) for small cetaceans for 2016-18?

No.

Yes. Describe in the table below:

Provide web links if available.

13.3. Does your country have any mitigation measures to prevent impacts on small cetaceans during physical habitat change activities (e.g. dredging, marine construction, coastal construction)?

No.

Yes. Describe in the table below:

Overview of mitigation measures related to small cetaceans and physical habitat change activities.

Provide web links if available.

Normally developed as part of marine mammal mitigation plans for projects, which are a requirement of EIAs for offshore development. <https://www2.gov.scot/Topics/marine/marine-environment/mpanetwork/MPAMGT/protectedareasmgt>

13.4. List initiatives/projects (including PhD, MSc) in your country in 2016-2018 involving studies of impacts from physical habitat change on small cetaceans (incl. title, organisation, lead author).

Provide web links if available.

Most of the studies on human activities such as construction and the potential impacts on small cetaceans are related to disturbance due to noise and/or presence of vessels rather than physical habitat change. These studies are usually covered in National Reporting Section B4 Ocean Energy.

Jamie McAuley et al at the Sea Mammal Research Unit (University of St. Andrews): tracking cetaceans around offshore installations <http://www.smru.st-andrews.ac.uk/person/jdjm/>; Doug Gillespie et al <http://www.smru.st-andrews.ac.uk/person/dg50/> using passive acoustics to study how small cetaceans (harbour porpoise and dolphins) behave in the immediate vicinity of tidal energy devices

13.5. List publications (reports, theses, papers in journals, books) in 2016-2018 in your country relating to potential impacts of physical habitat change on small cetaceans.

Cox, S.L, Witt, M.J., Embling, C.B., Godley, B.J., Hosegood, P.J., Miller, P.I., Votier, S.C., Ingram, S.N. (2017) 'Temporal patterns in habitat use by small cetaceans at an oceanographically dynamic marine renewable test site in the Celtic Sea', *Deep Sea Research Part II: Topical Studies in Oceanography*, 141: 178-190.

Evans, P.G.H. (2017) Habitat pressures. Pp. 441-446. In: *Encyclopedia of Marine Mammals* (Editors B. Würsig, J.G.M. Thewissen and K.M. Kovacs). 3rd Edition. Academic Press, San Diego. 1,157pp.

13.6. Provide web links to other relevant information.

13.7. Has there been any other notable instances / issues in your country regarding physical habitat change in the reporting period?

13.8. Is the perceived level of pressure from physical habitat change) in your country increasing, decreasing, staying the same or unknown?¹¹

To be done on a species by species basis where applicable (see Annex B) and by region where relevant (see Annex A).

Scientific name of the species	Increasing	Decreasing	Staying the same	Unknown
Harbour porpoise <i>Phocoena phocoena</i>				X
Bottlenose dolphin <i>Tursiops truncatus</i>				X
Risso's dolphin <i>Grampus griseus</i>				X
Short-beaked Common Dolphin <i>Delphinus delphis</i>				X
White beaked dolphin <i>Lagenorhynchus albirostris</i>				X

Not applicable. Comments:

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

14. Other issues

Question:

14.1. List any other issues not mentioned above.

¹¹ This is a question based on Resolution 8.1, Annex 1.

E. Area-based Conservation / Marine Protected Areas

16. List of protected areas, e.g. Natura 2000 sites

AIM: to provide information on existing and proposed marine protected areas with cetaceans as part of the selection criteria.

Relevant Resolutions: 8.2, 8.1, 5.7

Marine protected areas (MPAs) are considered under numerous agreements (including the Convention on Biological Diversity, Habitats Directive, Bern Convention, Ramsar Convention, OSPAR Convention, HELCOM, ACCOBAMS) as a tool to achieve conservation goals. Part of ASCOBANS remit is to provide expert advice for the conservation and management of small cetaceans. This includes inviting Parties and Range States to continue or initiate research aimed at locating areas of special importance to the survival (in particular breeding and feeding) of small cetaceans as suitable sites for the establishment of protected areas, and to implement appropriate management actions in these areas on their own or in the context of other intergovernmental bodies to ensure the protection of small cetaceans.

To monitor the progress of such work to fulfil the obligations of Resolution 5.7 (2006) and actions in the 2017-2020 workplan, ASCOBANS requires information (e.g. location, species, status, spatial data, management plans and monitoring) on existing and proposed marine protected areas with cetaceans as part of the selection criteria.

It is of particular interest to ASCOBANS to obtain an overview of the current scale of marine protected areas and to review best practice approaches to management of marine protected areas, in order to make recommendations to Parties, taking MPAs beyond being just 'paper parks'.

Questions:

16.1. Please complete and/or update the following table, providing details of existing or proposed MPAs with cetaceans forming part of the selection criteria.

Please copy the table for each MPA.

Name (<i>full name of MPA</i>)	Bristol Channel Approaches SAC	
ASCOBANS Action Plan	<input type="checkbox"/> Jastarnia Plan <input type="checkbox"/> North Sea Plan	<input type="checkbox"/> WBBK Plan <input checked="" type="checkbox"/> Not Applicable
<i>OSPAR / HELCOM sub-area</i>	OIII Celtic Sea	
Size (<i>m²</i>)	5850 km ²	
Cetacean species forming part of selection criteria	Harbour porpoise (<i>Phocoena phocoena</i>)	
MPA status	<input checked="" type="checkbox"/> Designated <input type="checkbox"/> Submitted <input type="checkbox"/> Under consultation	<input type="checkbox"/> Recommended <input type="checkbox"/> Other, please specify:
Date of designation (<i>if applicable</i>)	26 th February 2019	
Legislation / Directive	Habitats Directive	
Are there management measures in place?	<input type="checkbox"/> No. <input checked="" type="checkbox"/> Yes. Provide link: Conservation objectives and advice on operations are available here: http://archive.jncc.gov.uk/pdf/BristolChApproaches_ConsAdvice.pdf	
Link to shapefiles and/or or online map	http://archive.jncc.gov.uk/protectedsites/SACselection/gis_data/terms_conditions.asp	
Link to any other online information	http://archive.jncc.gov.uk/default.aspx?page=7241	

Name (full name of MPA)	West Wales Marine SAC	
ASCOBANS Action Plan	<input type="checkbox"/> Jastarnia Plan <input type="checkbox"/> North Sea Plan	<input type="checkbox"/> WBBK Plan <input checked="" type="checkbox"/> Not Applicable
OSPAR / HELCOM sub-area	OIII Irish Sea	
Size (m ²)	7,376km ²	
Cetacean species forming part of selection criteria	Harbour porpoise (<i>Phocoena phocoena</i>)	
MPA status	<input checked="" type="checkbox"/> Designated <input type="checkbox"/> Submitted <input type="checkbox"/> Under consultation	<input type="checkbox"/> Recommended <input type="checkbox"/> Other, please specify:
Date of designation (if applicable)	26 th February 2019	
Legislation / Directive	Habitats Directive	
Are there management measures in place?	<input type="checkbox"/> No. <input checked="" type="checkbox"/> Yes. Provide link: Conservation objectives and advice on operations are available here: http://archive.jncc.gov.uk/pdf/WestWales_ConsAdvice.pdf	
Link to shapefiles and/or or online map	http://archive.jncc.gov.uk/protectedsites/SACselection/gis_data/terms_conditions.asp	
Link to any other online information	http://archive.jncc.gov.uk/default.aspx?page=7343	

Name (full name of MPA)	North Anglesey Marine SAC	
ASCOBANS Action Plan	<input type="checkbox"/> Jastarnia Plan <input type="checkbox"/> North Sea Plan	<input type="checkbox"/> WBBK Plan <input checked="" type="checkbox"/> Not Applicable
OSPAR / HELCOM sub-area	OIII Irish Sea	
Size (m ²)	3,249km ²	
Cetacean species forming part of selection criteria	Harbour porpoise (<i>Phocoena phocoena</i>)	
MPA status	<input checked="" type="checkbox"/> Designated <input type="checkbox"/> Submitted <input type="checkbox"/> Under consultation	<input type="checkbox"/> Recommended <input type="checkbox"/> Other, please specify:
Date of designation (if applicable)	26 th February 2019	
Legislation / Directive	Habitats Directive	
Are there management measures in place?	<input type="checkbox"/> No. <input checked="" type="checkbox"/> Yes. Provide link: Conservation objectives and advice on operations are available here: http://archive.jncc.gov.uk/pdf/NAnglesey_ConsAdvice.pdf	
Link to shapefiles and/or or online map	http://archive.jncc.gov.uk/protectedsites/SACselection/gis_data/terms_conditions.asp	
Link to any other online information	http://archive.jncc.gov.uk/default.aspx?page=7244	

Name (full name of MPA)	North Channel SAC	
ASCOBANS Action Plan	<input type="checkbox"/> Jastarnia Plan <input type="checkbox"/> North Sea Plan	<input type="checkbox"/> WBBK Plan <input checked="" type="checkbox"/> Not Applicable

<i>OSPAR / HELCOM sub-area</i>	OIII Irish Sea	
Size (m²)	1,604km ²	
Cetacean species forming part of selection criteria	Harbour porpoise (<i>Phocoena phocoena</i>)	
MPA status	<input checked="" type="checkbox"/> Designated <input type="checkbox"/> Submitted <input type="checkbox"/> Under consultation	<input type="checkbox"/> Recommended <input type="checkbox"/> Other, please specify:
Date of designation (if applicable)	26 th February 2019	
Legislation / Directive	Habitats Directive	
Are there management measures in place?	<input type="checkbox"/> No. <input checked="" type="checkbox"/> Yes. Provide link: Conservation objectives and advice on operations are available here: http://archive.jncc.gov.uk/pdf/NorthChannel_ConsAdvice.pdf	
Link to shapefiles and/or or online map	http://archive.jncc.gov.uk/protectedsites/SACselection/gis_data/terms_conditions.asp	
Link to any other online information	http://archive.jncc.gov.uk/default.aspx?page=7242	

Name (full name of MPA)	Southern North Sea SAC	
ASCOBANS Action Plan	<input type="checkbox"/> Jastarnia Plan <input checked="" type="checkbox"/> North Sea Plan	<input type="checkbox"/> WBBK Plan <input type="checkbox"/> Not Applicable
<i>OSPAR / HELCOM sub-area</i>	Choose a region	Southern North Sea
Size (m²)	36, 951km ² .	
Cetacean species forming part of selection criteria	Harbour porpoise (<i>Phocoena phocoena</i>)	
MPA status	<input checked="" type="checkbox"/> Designated <input type="checkbox"/> Submitted <input type="checkbox"/> Under consultation	<input type="checkbox"/> Recommended <input type="checkbox"/> Other, please specify:
Date of designation (if applicable)	26 th February 2019	
Legislation / Directive	Habitats Directive	
Are there management measures in place?	<input type="checkbox"/> No. <input checked="" type="checkbox"/> Yes. Provide link: Conservation objectives and advice on operations are available here: http://archive.jncc.gov.uk/pdf/SNorthSea_ConsAdvice.pdf	
Link to shapefiles and/or or online map	http://archive.jncc.gov.uk/protectedsites/SACselection/gis_data/terms_conditions.asp	
Link to any other online information	http://archive.jncc.gov.uk/default.aspx?page=7243	

Name (full name of MPA)	Cardigan Bay / Bae Ceredigion SAC	
ASCOBANS Action Plan	<input type="checkbox"/> Jastarnia Plan <input type="checkbox"/> North Sea Plan	<input type="checkbox"/> WBBK Plan <input checked="" type="checkbox"/> Not Applicable
<i>OSPAR / HELCOM sub-area</i>	OIII Irish Sea	
Size (m²)	958 km ²	
Cetacean species forming part of selection criteria	Bottlenose dolphin <i>Tursiops truncatus</i>	

MPA status	<input checked="" type="checkbox"/> Designated <input type="checkbox"/> Submitted <input type="checkbox"/> Under consultation	<input type="checkbox"/> Recommended <input type="checkbox"/> Other, please specify:
Date of designation (if applicable)	March 2005	
Legislation / Directive	Habitats Directive	
Are there management measures in place?	<input type="checkbox"/> No. <input checked="" type="checkbox"/> Yes. Provide link: http://www.cardiganbaysac.org.uk/pdf%20files/Cardigan%20Bay%20CSA%20Management%20Plan%20(2001).pdf http://www.cardiganbaysac.org.uk/pdf%20files/Cardigan Bay SAC Management Scheme 2008.pdf	
Link to shapefiles and/or or online map	http://archive.jncc.gov.uk/protectedsites/SACselection/gis_data/terms_conditions.asp	
Link to any other online information	http://archive.jncc.gov.uk/default.aspx?page=7241	

Name (full name of MPA)	Moray Firth SAC	
ASCOBANS Action Plan	<input type="checkbox"/> Jastarnia Plan <input type="checkbox"/> North Sea Plan	<input type="checkbox"/> WBBK Plan <input checked="" type="checkbox"/> Not Applicable
OSPAR / HELCOM sub-area	OII Northern North Sea	
Size (m ²)	1512.78 km ²	
Cetacean species forming part of selection criteria	Bottlenose dolphin <i>Tursiops truncatus</i>	
MPA status	<input checked="" type="checkbox"/> Designated <input type="checkbox"/> Submitted <input type="checkbox"/> Under consultation	<input type="checkbox"/> Recommended <input type="checkbox"/> Other, please specify:
Date of designation (if applicable)	17 March 2005	
Legislation / Directive	Habitats Directive	
Are there management measures in place?	<input type="checkbox"/> No. <input checked="" type="checkbox"/> Yes. Provide link: https://morayfirth-partnership.org/sac-management-group/	
Link to shapefiles and/or or online map	https://sitelink.nature.scot/site/8327	
Link to any other online information		

Name (full name of MPA)	Inner Hebrides and the Minches SAC	
ASCOBANS Action Plan	<input type="checkbox"/> Jastarnia Plan <input type="checkbox"/> North Sea Plan	<input type="checkbox"/> WBBK Plan <input checked="" type="checkbox"/> Not Applicable
OSPAR / HELCOM sub-area	OIII Irish & Scottish W. Coast	
Size (m ²)	13813.9 km ²	
Cetacean species forming part of selection criteria	Harbour porpoise (<i>Phocoena phocoena</i>)	
MPA status	<input checked="" type="checkbox"/> Designated <input type="checkbox"/> Submitted <input type="checkbox"/> Under consultation	<input type="checkbox"/> Recommended <input type="checkbox"/> Other, please specify:

Date of designation (if applicable)	17 Dec 2018
Legislation / Directive	(e.g. Habitats Directive) Habitats Directive
Are there management measures in place?	<input type="checkbox"/> No. <input checked="" type="checkbox"/> Yes. Provide link:
Link to shapefiles and/or or online map	https://sitelink.nature.scot/site/10508
Link to any other online information	

Name (full name of MPA)	North East Lewis MPA	
ASCOBANS Action Plan	<input type="checkbox"/> Jastarnia Plan <input type="checkbox"/> North Sea Plan	<input type="checkbox"/> WBBK Plan <input checked="" type="checkbox"/> Not Applicable
OSPAR / HELCOM sub-area	OIII Irish & Scottish W. Coast	
Size (m ²)	907 km ²	
Cetacean species forming part of selection criteria	Rissos dolphin <i>Grampus griseus</i>	
MPA status	<input type="checkbox"/> Designated <input type="checkbox"/> Submitted <input checked="" type="checkbox"/> Under consultation	<input type="checkbox"/> Recommended <input type="checkbox"/> Other, please specify:
Date of designation (if applicable)	N/A	
Legislation / Directive	(e.g. Habitats Directive) Habitats Directive	
Are there management measures in place?	<input checked="" type="checkbox"/> No. <input type="checkbox"/> Yes. Provide link:	
Link to shapefiles and/or or online map		
Link to any other online information	https://www.nature.scot/2019-possible-nature-conservation-marine-protected-areas-consultation	

16.2. Provide information on management measures particularly relevant to small cetaceans in MPAs listed above. Including any temporal/spatial restriction of activities (i.e. seasonal fishery closures, changes to vessel activity etc.).

In order to monitor implementation of MPA management measures and make recommendations on best practice, we need to understand what management measures are being used and be aware of examples of what approaches are proving effective.

<p>https://www2.gov.scot/Topics/marine/marine-environment/mpanetwork/inshorempas/Management/PMFStakeholder https://www2.gov.scot/Topics/marine/marine-environment/mpanetwork/MPAMGT/protectedareasmgt</p> <p>Conservation Objectives and Advice on Operations documents available for 5 harbour porpoise SACs in England and Wales. The advice is given in fulfilment of the duty of the Statutory Nature Conservation Bodies (SNCBs) under the Habitats Regulations to advise Relevant and Competent Authorities as to (a) the Conservation Objectives for the site; and (b) any operations which may cause deterioration of natural habitats or the habitats of species, or disturbance of species, for which the site has been designated.</p> <ul style="list-style-type: none"> • http://archive.jncc.gov.uk/pdf/BristolChApproaches_ConsAdvice.pdf • http://archive.jncc.gov.uk/pdf/SNorthSea_ConsAdvice.pdf • http://archive.jncc.gov.uk/pdf/NorthChannel_ConsAdvice.pdf • http://archive.jncc.gov.uk/pdf/NAnglesey_ConsAdvice.pdf • http://archive.jncc.gov.uk/pdf/WestWales_ConsAdvice.pdf

Further site specific management measures will be developed to meet the relevant conservation objectives.

16.3. Provide details of existing or proposed monitoring schemes related to the effectiveness of MPAs / management measures listed above for small cetaceans.

Monitoring programmes:
Moray Firth SAC – University of Aberdeen
Cardigan Bay and Pen Llyn a’r Sarnau SACs – Sea Watch Foundation
North East Lewis MPA – Whale & Dolphin Conservation

16.4. Recommend any best practice approaches to management (threat mitigation) of MPAs listed above for small cetaceans.

Development of spatially explicit population modelling is recommended for long-term MPA management, eg. building upon approaches developed by IWC’s RMP.

A Removals Limit Algorithm (RLA) is developed to set limits to anthropogenic mortality of small cetacean populations that allow specified conservation objectives to be met. JNCC [Report 628](#) (2019) Hammond, P.S., Paradinas, I. & Smout, S.C.

16.5. List new initiatives/projects involving studies of cetaceans relating to MPAs in your country (title, organization, lead author; include the species concerned, who did the work)

In order to plan future approaches for MPA management and monitoring we need to be aware of current gaps and emerging issues.

Provide web links if available.

Development of UK Dolphin and Porpoise Conservation strategy (due for consultation Autumn 2019): A UK wide strategy developed by Marine Scotland in Collaboration with DEFRA, DAERA, JNCC, NE, NRW, and SNH. The strategy aims to ensure effective management to achieve and/or maintain favourable conservation status for the eight of the most commonly occurring dolphin and porpoise species in UK waters.

16.6. List new reports/publications involving studies of cetaceans relating to MPAs in your country (title, organization, lead author; include the species concerned, who did the work)

Provide web links if available.

Evans, P.G.H. (2018) Marine protected areas and marine spatial planning for the benefit of marine mammals. *Journal of the Marine Biological Association of the United Kingdom*, 98(5): 973-976. doi:10.1017/S0025315418000334

Lohrengel, K., Evans, P.G.H., Lindenbaum, C.P., Morris, C.W. and Stringell, T.B. (2017) Bottlenose dolphin and harbour porpoise monitoring in Cardigan Bay and Pen Llŷn a’r Sarnau Special Areas of Conservation, 2014-16. NRW Evidence Report No: 191. Natural Resources Wales, Bangor. 154pp.

Lopes, K.F.C.F. (2017) Habitat preference of bottlenose dolphin (*Tursiops truncatus*) in Cardigan Bay. MSc Thesis, University of Bangor. 54pp.

Nuuttila, H.K., Courtene-Jones, Winnie, Baulch, S., Simon, M., and Evans, P.G.H. (2017) Don’t forget the porpoise: Acoustic monitoring reveals fine scale temporal variation between bottlenose dolphin and harbour porpoise in Cardigan Bay SAC. *Marine Biology*, 164: 50. doi:10.1007/s00227-017-3081-5.

16.7. Provide web links to other relevant information.

Section VI: Information and Education

A. Education and outreach

AIM: to determine if there are gaps in the outreach and education activities and if further materials should be produced in your country or by the Secretariat (e.g. on certain themes, species, regions, languages, for certain target audiences).

Relevant Resolutions: 8.3, 8.2, 5.8, 8.13

ASCOBANS Communication, Education and Public Awareness (CEPA) Plan¹² was presented at the 17th Meeting of the Advisory Committee. The purpose of the CEPA Plan was to identify actions and activities to be undertaken by the Secretariat, Parties and relevant partners. In addition, the Advisory Committee recommended the following overarching principles: (i) Carefully identifying the audience – e.g. children, students, policy makers, fishers – and making materials appropriate to each particular audience; (ii) Noting that different localities, communities and cultures may require different approaches; (iii) Preparing outreach and education materials in relevant languages (including on the website); and (iv) Building joint initiatives with ‘partner’ organizations and others. The CEPA aimed for more effective engagement with audiences, greater impact upon audiences, closer relationship with key conservation issues; more effective connection with educational, fundraising and promotional initiatives; and more effective and easily understood communication of relevant areas of science. In this spirit, the purpose of this section is to highlight successes and to identify potential gaps in outreach and education activities and related materials.

Questions:

- Please list education/outreach activities in 2016-2018 in your country, which are of relevance to conservation of small cetaceans in ASCOBANS’ remit** (e.g. activities during the International Day of the Baltic Harbour Porpoise in May)

Organiser	Name of activity <i>(incl. translation to English, where applicable)</i>	Date(s)	Location	Target audience <i>(general public, scientists, children, fishers; other – please state)</i>	Links (for further information)
WDC Education	Various – school talks, outdoor activities, community visits - cetaceans in Scotland, particularly bottlenose dolphins	2016 - 2018	Various	schools, general public, communities	https://dolphincentre.whales.org/

¹² See [AC17 Report](#), Annex 10 (starting on page 65).

Organiser	Name of activity <i>(incl. translation to English, where applicable)</i>	Date(s)	Location	Target audience <i>(general public, scientists, children, fishers; other – please state)</i>	Links (for further information)
HWDT	Talks, volunteering opportunities, research, surveys, Whale track app, Hebridean whale trail	2016 - 2018	West coast of Scotland	general public, communities, schools, scientists	https://hwdt.org/
Shorewatch	Volunteer opportunities, data gathering	2016-2018	Scotland	General public	http://www.wdcs.org/national_regions/scotland/shorewatch/
SEA WATCH FOUNDATION: Orca watch	Events, Citizen Science Volunteering, social media platform	2016-2018	Caithness, Orkney & Shetland	General public, scientists	https://www.seawatchfoundation.org.uk/orca-watch-2019/
ORCA: surveyors/wildlife officers	Events, data gathering, publications	2016-2018	UK	General public, scientists	https://www.orcaweb.org.uk/get-involved/train-to-be-a-marine-mammal-surveyor
ORCA	Whale education month	2016-2018	UK	Schools (children aged 7-11 years)	https://www.orcaweb.org.uk/get-involved/orca-in-schools
SEA WATCH FOUNDATION: National Whale and Dolphin Watch	Events, data gathering, Citizen Science Volunteering, social media platform	2016 - 2018	UK	General public, scientists	https://www.seawatchfoundation.org.uk/nwdw/
CSIP (ZSL)	CSI of the Sea (public demonstration dissections of stranded cetaceans)	2016-2018 (various)	Zoological Society of London; National Marine Aquarium; British Science Festival	General public; scientists	www.zsl.org/science/whats-on/csi-of-the-sea www.zsl.org/science/whats-on/csi-of-the-sea-pollutants-in-our-seas https://www.zsl.org/science/whats-on/csi-of-the-sea-online-event https://www.youtube.com/watch?v=JybKVQb6dYQ https://www.youtube.com/watch?v=jX4t07BqxBY
CSIP (SMASS, SRUC)	Volunteer network for stranding responses	2014-current	Scotland	General public,	Since 2014, SMASS has implemented an initiative to recruit and train collaborators and members of the public in the safe, reliable and accurate measurement and sampling of dead stranded marine animals. This encourages the public to report strandings and improves the range and breadth of data from cases unsuitable or logistically impossible to collect for post mortem examination. This programme has proved invaluable

Organiser	Name of activity <i>(incl. translation to English, where applicable)</i>	Date(s)	Location	Target audience <i>(general public, scientists, children, fishers; other – please state)</i>	Links (for further information)
					to SMASS in both providing rapid and reliable information and images about strandings and in many cases measurement and samples from cases too autolysed, or remote, to enable a necropsy. Since beginning this initiative SMASS have trained 210 people around the Scottish coastline
SDC Education officer	School talks – focusing on cetaceans in Scotland, particularly bottlenose dolphins	19/01/2016 – 13/12/2016	Various (Inverness and Moray)	Primary schools (20 schools, 1537 pupils), Secondary schools and higher (two schools, 62 students)	
SDC Education officer	School outdoor activities – various activities for example watching out for dolphins, beach cleans	11/02/2016 – 10/11/2016	WDC's Scottish Dolphin Centre	Primary Schools (28 schools, 908 pupils), Secondary schools and higher (six schools, 201 students)	
SDC Education officer	Community/youth group talks - focusing on cetaceans in Scotland, particularly bottlenose dolphins	13/01/2016 – 22/11/2016	Various (Moray)	Community groups (12 groups, 303 adults) Youth groups (five groups, 85 children 5-10yrs old)	
SDC Education officer	Group outdoor activities – various activities for example watching out for dolphins, beach cleans	05/04/2016 – 15/11/2016	Scottish Dolphin Centre + Inverness	Five youth groups (122 children 5-12yrs old) and two community groups (53 adults)	
SDC Education officer	School talks – focusing on cetaceans in Scotland, particularly bottlenose dolphins	01/02/2017 – 15/12/2017	Various (Inverness, Moray, Aberdeen)	Primary schools (20 schools, 1839 pupils) Secondary Schools (three schools, 142 students)	
SDC Education officer	School outdoor activities – various activities for example watching out for	24/02/2017 – 10/11/2017	Scottish Dolphin Centre +various	Primary Schools (19 schools, 592 pupils), Secondary Schools and	

Organiser	Name of activity <i>(incl. translation to English, where applicable)</i>	Date(s)	Location	Target audience <i>(general public, scientists, children, fishers; other – please state)</i>	Links (for further information)
	dolphins, beach cleans		locations (Inverness)	higher (10 schools, 237 students)	
SDC Education officer	Community/youth group talks - focusing on cetaceans in Scotland, particularly bottlenose dolphins	17/01/2017 – 24/11/2017	Moray Firth and Inverness	Community group talks (17 groups, 366 adults)	
SDC Education officer	Group outdoor activities – various activities for example watching out for dolphins, beach cleans	23/05/2017 – 26/09/2017	Scottish Dolphin Centre	Youth groups (six groups, 96 children aged 3-10yrs old)	
SDC Education officer	School talks – focusing on cetaceans in Scotland, particularly bottlenose dolphins	26/01/2018 – 29/11/2018	Various (Moray and Inverness)	Primary Schools (19 schools, 1778 pupils) Secondary Schools and higher (four schools and one school event workshops, 257 students)	
SDC Education officer	School outdoor activities – various activities for example watching out for dolphins, beach cleans	01/02/2018 – 12/10/2018	Scottish Dolphin Centre	Primary Schools (16 schools, 517 pupils) Secondary schools and higher (9 schools, 316 students)	
SDC Education officer	Community/youth group talks - focusing on cetaceans in Scotland, particularly bottlenose dolphins	11/01/2018 – 29/11/2018	Various (Moray)	Youth groups (two groups, 26 children aged 5-10yrs old) Community groups (15 groups, 356 adults)	
SDC Education officer	Group outdoor activities – various activities for example watching out for dolphins, beach cleans	22/06/2018 – 16/10/2018	Scottish Dolphin Centre	Youth Groups (Four groups, 38 children aged 2-15yrs old) Community groups (three groups, 34 adults)	

Organiser	Name of activity <i>(incl. translation to English, where applicable)</i>	Date(s)	Location	Target audience <i>(general public, scientists, children, fishers; other – please state)</i>	Links (for further information)
Irish Whale and Dolphin Group	Whale Watch	A day in May - annually	3 sites in Northern Ireland (sites 18, 19 and 20 in linked report.)	General public	https://iwdg.ie/whale-watch-ireland-2017-results/
SEA WATCH FOUNDATION	Talks, Training Courses, School Visits, Citizen Science Volunteering, social media platform	2016-2018	UK	General public, scientists, marine stakeholders,	https://www.seawatchfoundation.org.uk/
Ulster Wildlife	Living Seas	Various events and school visits annually	Northern Ireland	General public and schools	https://www.ulsterwildlife.org/what-we-do/protect-wildlife-havens-land-and-sea/protect-wildlife-sea https://www.ulsterwildlife.org/blog/dave-wall/cetaceous-and-cretaceous-north-antrim-coast https://www.larnetimes.co.uk/news/a-great-time-to-head-to-the-coast-and-catch-a-glimpse-of-these-amazing-creatures-1-8534210

2. Please list current information/outreach materials produced in your country, which are of relevance to ASCOBANS' remit and species.

Name of publication <i>(incl. translation into English, where applicable)</i>	Author(s)	Publisher	Year	Links <i>(to download publication)</i>	Can ASCOBANS distribute the link to publication for outreach purposes?
Northern Ireland's Ocean Giants: 2-sided A4 chart and code of conduct for local marine mammals (11 spp.) including small cetaceans (5 spp.)	Ulster Wildlife	Ulster Wildlife		None	<input type="checkbox"/> No <input type="checkbox"/> Yes
					<input type="checkbox"/> No <input type="checkbox"/> Yes

3. List other organisations engaged in outreach relevant to ASCOBANS' remit, incl. web links.

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4. Please list other initiatives relevant to ASCOBANS' remit that are not included above.

CSIP (SMASS, SRUC)	Development of 'BeachTrack' app	July27th2019	Scotland	General public, SMASS volunteer network	Beach Track is available to download from Google Play and the App Store. www.beachtrack.org
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5. List any gaps in your country's outreach relevant to ASCOBANS' remit. What would be needed to fill these gaps?

Promotion of the 'Beachtracker' app to assist in reporting strandings, quantifying survey effort and qualitatively assessing visible marine litter on the coastline

6. List outreach activities foreseen for 2020, in which you would like ASCOBANS to be involved.

The next Meeting of the Parties to ASCOBANS is scheduled to be held in 2020.

7. Resources permitting, are there any materials that you think the ASCOBANS Secretariat should produce?

No.

Yes. Please describe what, and why:

8. Has there been any notable instances / issues in your country related to education and outreach in the reporting period?

Section VII: Other Matters

A. Other information or comments important for the Agreement:¹³

B. Difficulties in implementing the Agreement:

¹³ Opportunity to include other information relevant to the topics covered in this form but which are missing.

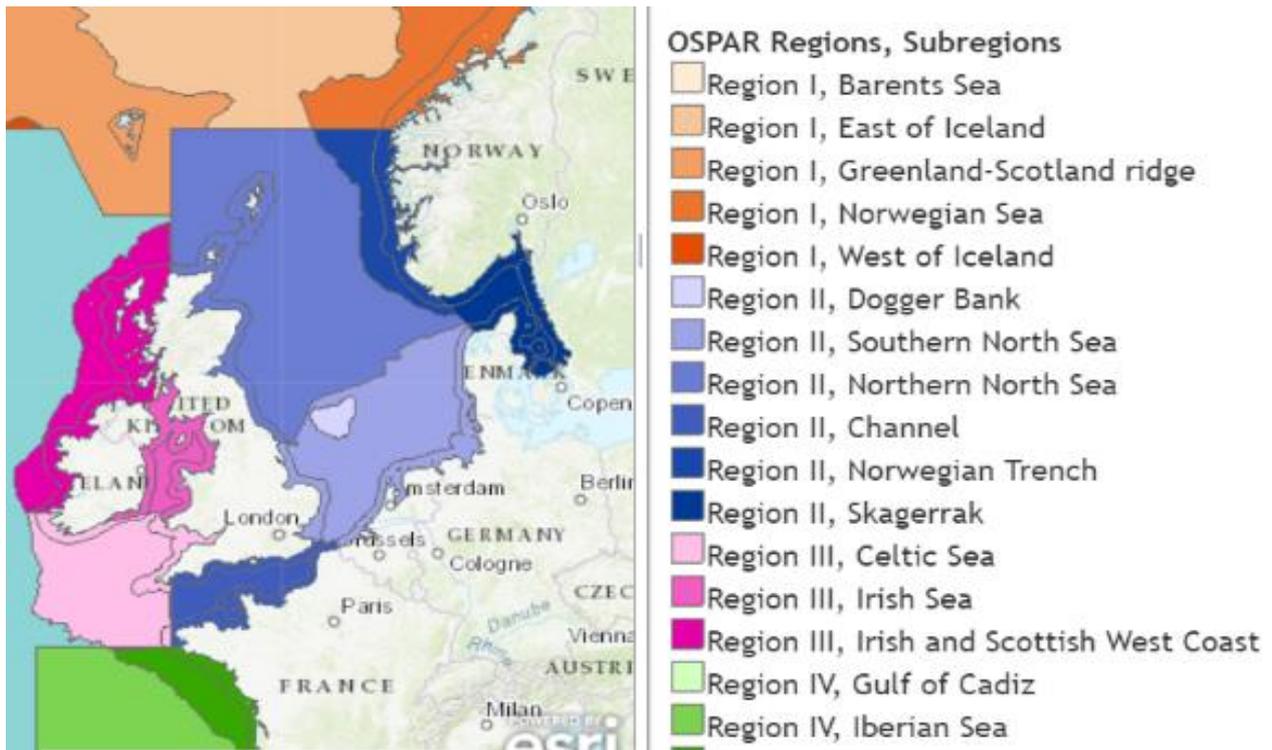
ANNEX A: Overview of the sub-regions as defined by OSPAR and HELCOM.

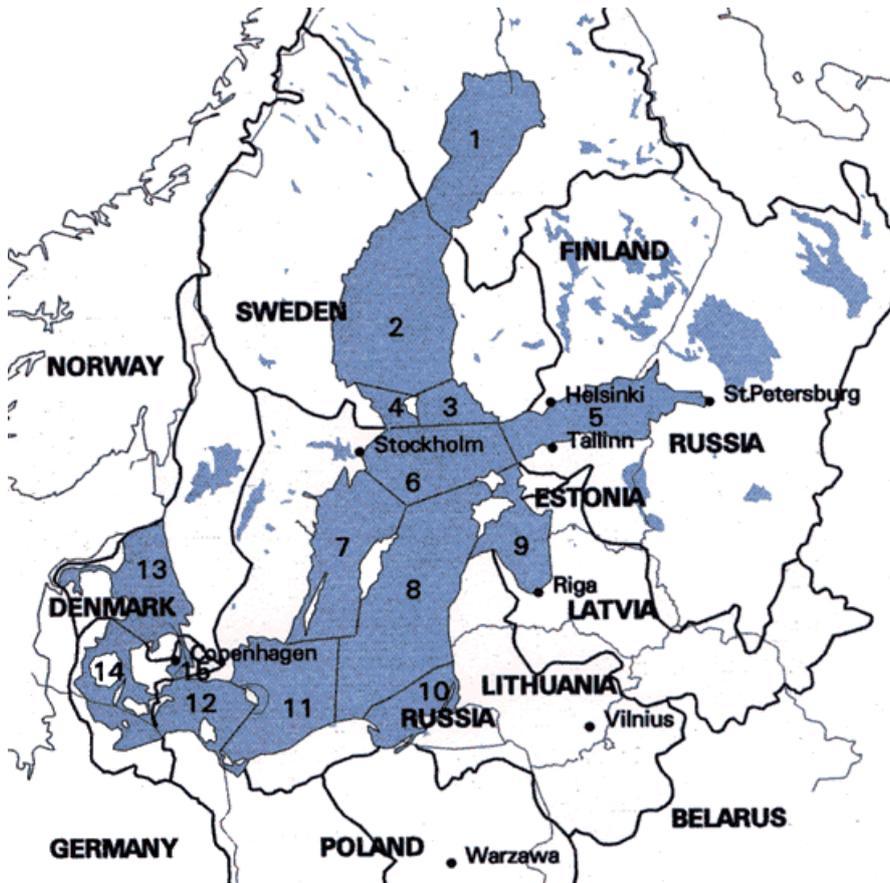
Choose an item.

Drop-down menu sub-regions OSPAR and HELCOM

Choose an item.

<p>OSPAR Region I Arctic Waters</p> <ul style="list-style-type: none"> <input type="checkbox"/> Norwegian Sea <p>OSPAR Region II Greater North Sea</p> <ul style="list-style-type: none"> <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 <p>OSPAR Region III Celtic Sea</p> <ul style="list-style-type: none"> <input type="checkbox"/> Celtic Sea <input type="checkbox"/> Irish Sea <input type="checkbox"/> Irish & Scottish W. Coast 	<p>OSPAR Region IV Bay of Biscay and Iberian Coast</p> <ul style="list-style-type: none"> <input type="checkbox"/> N. Bay of Biscay <input type="checkbox"/> Iberian Sea <input type="checkbox"/> Gulf of Cadiz <p>OSPAR Region V Wider Atlantic</p> <ul style="list-style-type: none"> <input type="checkbox"/> subregions? <p>HELCOM</p> <ul style="list-style-type: none"> <input type="checkbox"/> Bothnian Bay <input type="checkbox"/> Bothnian Sea <input type="checkbox"/> Archipelago Sea <input type="checkbox"/> Åland Sea 	<p>HELCOM cont.</p> <ul style="list-style-type: none"> <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
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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

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.