

Agenda Item 2

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

Document NR.5/Rev.1

**2021 Annual National Report:
The Netherlands**

Action Requested

- Take note
- Comment

Submitted by

The Netherlands





ASCOBANS

2021 ASCOBANS National Report

The deadline for the submission of National Reports is **31 March 2022**.

As outlined in ASCOBANS Resolution 8.1 (Rev.MOP9) National Reporting, this form will cover the year 2021 (Year 2 of the cycle), and the following topics included in the Annex to the Resolution, in addition to the standard Sections I (General Information) and VII (Other Matters):

Bycatch (Section II A1)

Resource Depletion (Section II A2)

Marine Debris (Section II C9)

Surveys and Research (Section III A: Biological Information, B: Monitoring Programmes, C: Other Research)

Use of Strandings Records (Section IV A: Stranding Network and Strandings)

The National Reports submitted will inform discussions at the 27th Meeting of the ASCOBANS Advisory Committee in late 2022.

- All questions apply to the reporting period of 1 January - 31 December 2021.

- Region in the tables refers to the sub-regions as defined by the HELCOM and OSPAR, and Areas refers to the sub-areas as defined by ICES. An overview and maps of these can be found in **Annex A**. Species can be chosen from the list provided, based on ASCOBANS species list, see **Annex B**.

- Throughout the form, please include relevant web links where applicable.

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

For any questions, please do not hesitate to contact the Secretariat: ascobans.secretariat@ascobans.org.

High-level Summary of Key Messages

In your country, for 2021 (Year 2), what does this report reveal about:

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

- >>> • Use of the updated Conservation Plan for the Harbour Porpoise in The Netherlands to guide policy and research
- Continuation and formalisation (e.g. WOT - statutory research tasks) of monitoring tasks
 - More holistic analyses of different national and international data sets at both national and international levels (for example from strandings as well as survey databases)
 - Development of an EU proposal with multiple stakeholders and parties to assess bycatch of cetaceans in the North Sea

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

- >>> • Long-term funding of monitoring or new research projects
- Acquiring offshore animals (e.g. through bycatches) for post mortem exams
 - Methods for assessing cumulative impacts
 - Understanding the ecological role of the Harbour Porpoise in Dutch waters (and beyond).

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

- >>> • International cooperation with all stakeholders/parties involved on assessing bycatch for the North Sea harbour porpoise
- Development of alternative methodologies to make monitoring cost-effective and multi-targeted (e.g. High Definition aerial surveys, fishery monitoring, PAM, tagging)

I. General Information

A. Country Information

Name of Party / Non-Party Range State:

>>> The Netherlands

Details of the Report Compiler

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

Yes

Details of contributor(s)

Please provide the following details per contributor:

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

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contributed and reviewed all sections

II. Habitat Conservation and Management (threats and pressures on cetaceans)

A. Fisheries-related Threats

1. Bycatch

AIM: to illustrate progress on understanding, monitoring and mitigating bycatch of small cetaceans.

Relevant Resolutions: 9.2, 8.5 (Rev.MOP9), 8.4 (Rev.MOP9), 8.3, 7.3, 7.1, 6.1, 5.8, 5.7, 5.5, 3.3

Bycatch, the entanglement of an animal in fishing gear, is identified as a major cause of mortality in small cetaceans. Every effort should be made to reduce bycatch towards zero as quickly as possible. Parties to ASCOBANS have agreed on a number of resolutions that highlight the importance of mitigating bycatch of small cetaceans in the Agreement Area, as available data indicates that levels of bycatch pose a considerable threat to their conservation status. Parties have agreed that modifications of fishing gear and relevant practices shall be applied in order to reduce negative impacts where data indicates unacceptable interaction. The Agreement Area requires improved monitoring, collation of data, and consideration of appropriate mitigation measures, while also taking into account similar work in other areas.

To better understand the extent of the impact of bycatch on small cetaceans, monitoring and mitigation measures in place, and ongoing work in the Agreement Area, countries are requested to provide relevant information.

Note: This section includes bycatch in recreational fisheries.

1.1. How is bycatch assessed/monitored in your country?

For the reporting period, please identify whether the following methods were used and the percentage (by monitoring method, of total bycaught animals, by gear type if applicable):

Dedicated observer schemes

Fisheries observes

Remote Electronic Monitoring

Self-reporting by fishermen

Pathological investigation

Assessment at stranding site

>>> Information about cetacean bycatch is obtained through:

Dedicated observer schemes

Fisheries observers

Self-reporting by fishermen

Pathological investigation

Comments:

>>> It is not completely clear how percentages need to be calculated. Will bring this up in the next AC meeting. It is very difficult to determine the % of the different methods used as they are not all quantifiable.

The dedicated observer schemes are not designed to provide bycatch estimates for small cetaceans in Dutch waters, but they are designed to record bycatch events for a sample of the Dutch fishery that uses static gear.

Fisheries observers that are on board will also register any bycatch of cetaceans if noted.

Self-reporting by fishermen is occurring, however it is difficult to know to what degree.

Pathological investigation of stranded harbour porpoises (and at times other small cetaceans) is conducted for about 50 animals per year. Bycatch is one of the causes of deaths that is registered.

1.2. Which species of small cetaceans were recorded as bycatch by commercial fishing in the reporting period?

Please provide details in **this table** - download and then attach it using the blue 'link' button below.

Hold 'Ctrl' to select multiple options.

HP - Harbour Porpoise

1.4. Has there been any notable incidents/issues related to bycatch during the reporting period in your country?

No

1.5. Are there any mitigation measures in place?

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

Yes

The following measures are in place:

>>> The use of pingers in bottom-set gillnets in the North Sea is voluntary and not monitored. In certain coastal N2000 sites there are time area closures in place and mandatory use of pingers

1.6. Have there been changes in fishing effort (for fisheries known to have an impact) in the reporting period?

Unknown/Not Applicable

Please provide details:

>>> Gillnets have stabilised around about 11 vessels since 2019.

1.7. Relevant new research/work/collaboration on bycatch in your country.

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

>>> The initiative "CIBBRiNA" was started in 2020. It is a proposal for a European project that aims to address the most urgent bycatch issues for cetaceans and other ETP species in the North Sea. It is led by the Netherlands (LNV) and includes a consortium of 49 beneficiary partners, 9 associated partners, 20 organisations in the Stakeholder Advisory Board and numerous smaller organisations from 14 countries. The proposal has been submitted to the LIFE call of the EC. And update on the status of the proposal will likely be available during the AC meeting..

1.8. Is the perceived level of pressure from bycatch in your country increasing, decreasing, staying the same or unknown?

Staying the same

Unknown

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

>>> Based on monitoring as described in 1.1. However, improvements could be done to the monitoring programme, e.g. REM. This should be implemented on a regional scale.

2. Resource Depletion

AIM: to determine areas where, and to what extent, depletion of fish stocks have occurred during the reporting period. In addition; identify ongoing mitigation efforts regarding detrimental implications for small cetaceans.

Relevant Resolutions: 8.9, 8.3, 7.1, 6.1

Depletion in fish stocks due to overfishing and other factors generates pressure on the favourable conservation status of small cetaceans (through possible food shortage). More integrated management and reductions in fishing effort (also prompted by concern about fish stock depletion or other ecosystem considerations) have been encouraged, especially in areas of known risk. Further research, effective fishery regulations and innovation within certain fishing methods are considered to be helpful steps towards mitigating this pressure.

Parties to ASCOBANS have agreed on a number of resolutions that (1) determine the impact of the depletion of fish stocks on small cetaceans, (2) encourage fishing effort reductions and (3) review new information on these depletions to make recommendations. Resource depletion in the Agreement Area requires improved monitoring, collation of data, and consideration of appropriate mitigation measures, while also taking into account similar work in other areas.

It is of particular interest to ASCOBANS to understand the extent of prey depletions, any related ongoing work, monitoring and mitigation measures in the Agreement Area. Countries are requested to provide relevant information.

2.1. Based on the latest stock assessments, are there any notable depletions of fish species which would be a concern for small cetaceans?

No

2.4. Is there any evidence within your country's national waters that resource depletion may be impacting small cetaceans (e.g. evidence of starvation)?

Yes

Please provide details:

>>> Starvation is a cause of death that has been found for harbour porpoise that have stranded, in particular juvenile animals. However, it is not known if the cause of the malnutrition is linked to resource depletion.

2.5. Are there any national efforts to evaluate cetacean body condition at sea (e.g. surveys)?

Yes

Please provide details:

>>> Necropsies are conducted of at least 50 harbour porpoises per year that have stranded along the Dutch coast. Body condition is determined for them.

2.7. Is the perceived level of pressure from resource depletion in your country increasing, decreasing, staying the same or unknown?

Unknown

B. Disturbance (incl. potential physical impacts)

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

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

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

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

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

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

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

ICES Impulsive Noise Register (for HELCOM and OSPAR Parties)

Yes

National Registry

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

>>> Data on Unexploded Ordnance are collected by the Dutch Navy and shared with the Royal Netherlands Meteorological Institute (KNMI)

Other

No

3.2. Any instances/issues in the reporting period including information on planned or completed significant developments/activities, including the details of monitoring in place before, during and after the project.

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

Yes. Please provide details in the table.

You have attached the following documents to this answer.

[Sec-II B 3.2 0 NL.xlsx](#)

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

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

>>> JOMOPANS: The aim of this international project is the development of a framework for an operational monitoring program for underwater sound in the North Sea. With measurements and models the underwater

soundscape is mapped. The tools made in this project help policy makers, marine managers and other stakeholders to better assess where sound in the North Sea might have negative effects on marine life. The work is subsidized by Interreg for the North Sea Region. <https://northsearegion.eu/jomopans>

In 2015, the Ministry of Economic Affairs and Rijkswaterstaat initiated an integrated monitoring and research programme to study gaps in our knowledge relating to the impact of offshore wind farms on the ecosystem of the North Sea. This so-called WoZEP Offshore wind energy ecological programme 2016-2023 envisages research on more fundamental and overarching topics related to effects of wind farms on indicator species, including the harbour porpoise. <https://www.noordzeeloket.nl/en/functions-and-use/offshore-wind-energy/ecology/offshore-wind-ecological-programme-wozep/>

SEANSE - Strategic Environmental Assessment North Sea Energy as an aid for Maritime Spatial Planning (SEANSE). In the framework of the implementation of the Political Declaration on energy cooperation between the North Seas Countries a common environmental assessment framework (CEAF) for assessing ecological cumulative effects of offshore renewable energy development is being developed. One of the proposed framework approaches is a modelling tool to quantitatively assess cumulative impacts of piling for offshore wind farm construction on the harbour porpoise population (more information available via TNO).

TNO participates in the 3S-project, together with main partners FFI (Norway), SMRU (UK) and Cerema (Fra) and several associate partners; it is sponsored by the defense organizations or navies of US, UK, FR, UK and NL. In the 3rd phase of the project (3S3, 2016-2021) additional baseline and behavioural response data was gathered in from 2016 to 2019. This project has resulted in multiple peer-reviewed publications (currently more than 50) addressing different aspects of the response of animals to sonar sound and compare this to other types of responses. Three full Behavioural Response Studies (BRS) of 2, 3 and 4 weeks were conducted in 2016, 2017 and 2019. In 2019 the exposure experiments were supported by the operational frigate of the Royal Norwegian Navy, the KNM Otto Sverdrup. The cruise reports of 2016 and 2017 are available online. References (2019 and 2020):

Berges BJP, Geelhoed SCV, Scheidat M & Tougaard J (2019) Quantifying harbour porpoise foraging behaviour in CPOD data: identification, automatic detection and potential application. Wageningen, Wageningen Marine Research (University & Research centre), Wageningen Marine Research report C039/19 Quantifying harbour porpoise foraging behaviour in CPOD data: identification, automatic detection and potential application, pp. 41

de Jong CAF, Heinis F, von Benda-Beckmann AM & Binnerts B (2019) Testing CEAF in SEANSE case studies - Impact of piling for wind farms on North Sea harbour porpoise population. TNO report R11563.

de Jong K, Forland TN, Amorim MCP et al. (2020) Predicting the effects of anthropogenic noise on fish reproduction. *Rev Fish Biol Fisheries* 30, 245-268. <https://doi.org/10.1007/s11160-020-09598-9>

Isojunno S, Wensveen PJ, Lam FPA, Kvadsheim PH, von Benda-Beckmann AM, Martín López LM, Kleivane L, Siegal EM, Miller PJO (2020) When the noise goes on: received sound energy predicts sperm whale responses to both intermittent and continuous navy sonar. *Journal of Experimental Biology* 223 (7) available at: <https://jeb.biologists.org/content/223/7/jeb219741>

Kastelein RA, von Benda-Beckmann AM, Lam, F-PA, Jansen E & de Jong CAF (2019) Effect of a Bubble Screen on the Behavioral Responses of Captive Harbor Porpoises (*Phocoena phocoena*) Exposed to Airgun Sounds. *Aquatic mammals* 284: 706-716. DOI:10.1578/AM.45.6.2019.706

Kastelein RA, Helder-Hoek L, Cornelisse SA, von Benda-Beckmann AM, et al. (2020) Lack of reproducibility of temporary hearing threshold shifts in a harbor porpoise after exposure to repeated airgun sounds. *The Journal of the Acoustical Society of America* 148 (2), 556-565 available at <https://asa.scitation.org/doi/10.1121/10.0001668>

Kok ACM (2020) The noise of the hunt: Effects of noise on predator-prey relationships in a marine ecosystem (PhD Dissertation. Institute of Biology (IBL), Faculty of Science, Leiden University). Promotor(en) en Copromotor(en): Cate, C.J. ten, Slabbekoorn, H.W.; Visser, F. available at: <https://scholarlypublications.universiteitleiden.nl/handle/1887/138192>

Kok ACM, van Kolfshoten L, Campbell JA, von Benda-Beckmann AM, Patrick JO Miller PJO, Slabbekoorn H & Visser F (2020) Diving apart together: call propagation in diving long-finned pilot whales. *Journal of Experimental Biology* 223 (10)

McQueen AD, Suedel BC, de Jong C & Thomsen F (2020) Ecological Risk Assessment of Underwater Sounds from Dredging Operations. *Integrated Environmental Assessment and Management* · March 2020 DOI: 10.1002/ieam.4261

Müller RAJ, von Benda-Beckmann AM, Halvorsen MB & Ainslie MA (2020) Application of kurtosis to underwater sound. *The Journal of the Acoustical Society of America* 148 (2), 780-792

Sertlek HO, Slabbekoorn H & Ainslie MA (2019) The contribution of shipping sound to the Dutch underwater soundscape: Past, present, future. *Proceedings of Meetings on Acoustics* 5ENAF 37 (1), 070010

Sertlek HÖ, Slabbekoorn H, ten Cate C & Ainslie MA (2019) Source specific sound mapping: spatial, temporal and spectral distribution of sound in the Dutch North Sea, *Environmental Pollution* 247: 1143-1157.

Soudijn FH, Van Kooten T, Slabbekoorn H & De Roos AM (2020) Population-level effects of acoustic disturbance in Atlantic cod: a size-structured analysis based on energy budgets. *Proc. R. Soc. B.*, 287, Article 20200490, 10.1098/rspb.2020.0490

Tsouvalas A. Underwater Noise Emission Due to Offshore Pile Installation: A Review. *Energies*. 2020; 13(12):3037. <https://doi.org/10.3390/en13123037>

von Benda-Beckmann AM, Wensveen PJ, Prior M, Ainslie MA, Hansen RR, Isojunno S, Lam FPA, Kvadsheim PH &

Miller PJO (2019). Predicting acoustic dose associated with marine mammal behavioural responses to sound as detected with fixed acoustic recorders and satellite tags. *J. Acoust. Soc. Am.* 145(3):1401-1416.

<https://doi.org/10.1121/1.5093543>

von Benda-Beckmann S, Geelhoed SCV, Kinneking N, van Kuijk B, Scheidat M & Versteeg S (2020) Assessment methodology for impulse noise: A case study on three species in the North Sea. Arcadis.

<https://edepot.wur.nl/531594>

Wensveen P, Isojunno S, Hansen R, von Benda-Beckmann A, Kleivane L, van Ijsselmuide S, Lam FP, Kvadsheim PH, DeRuiter S, Curé C, Narazaki T, Tyack P & Miller P (2019) Northern bottlenose whales in a pristine environment respond strongly to close and distant navy sonar signals. *Proceedings of the Royal Society B* 286:20182592. <http://dx.doi.org/10.1098/rspb.2018.2592>

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

>>> The Framework for Assessing Ecological and Cumulative Effects (KEC) focuses on effects of offshore wind farms, including the noise during construction. available documents on this are available here:

<https://www.noordzeeloket.nl/en/functions-and-use/offshore-wind-energy/ecology/accumulation-ecological-effects/framework-assessing-ecological-cumulative-effects/>

More information can also be found in the chapter "noise" of the updated conservation plan for the harbour porpoise, available at:

<https://www.rijksoverheid.nl/binaries/rijksoverheid/documenten/rapporten/2020/11/16/updated-conservation-plan-for-the-harbour-porpoise-phocoena-phocoenain-the-netherlands/bijlage-updated-conservation-plan-for-the-harbour-porpoise-phocoena-phocoenain-the-netherlands.pdf>

publications:

Booth C, Heinis F & Harwood J (2019) Updating the Interim PCoD Model: Workshop Report New transfer functions for the effects of disturbance on vital rates in marine mammal species, Report Code SMRUC-BEI-2018-011, submitted to the Department for Business, Energy and Industrial Strategy (BEIS), February 2019.

Heinis F, de Jong CAF, von Benda-Beckmann S & Binnerts B (2019) Framework for Assessing Ecological and Cumulative Effects – 2018, Cumulative effects of offshore wind farm construction on harbour porpoises HWE: 18.153RWS_KEC2018

von Benda-Beckmann S, Geelhoed SCV, Kinneking N, van Kuijk B, Scheidat M & Versteeg S (2020) Assessment methodology for impulse noise: A case study on three species in the North Sea. Arcadis.

<https://edepot.wur.nl/531594>

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

Staying the same

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

>>> Underwater sound in the North Sea is likely to increase in the future. Wind park construction includes the removal (by explosion) of unexploded ordnance from the area. This as well as the piling activities will introduce impulsive sound. Wind farm operation is linked to an increase in local shipping for servicing of the parks.

Mitigation measures are in place to reduce input of (impulsive) noise. To what degree these measure will contribute to a reduction in underwater sound in Dutch waters can be assessed in the future.

The most relevant small cetaceans (as they are residents) for the NL North Sea are the harbour porpoise and white beaked dolphin. For the porpoise avoidance to impulsive noise has been shown.

4. Ocean Energy

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

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

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

Parties to ASCOBANS have agreed to introduce precautionary measures and procedures for activities surrounding the development of renewable energy in marine environments in order to minimise and mitigate possible effects on small cetaceans, by following best practices. Parties have committed to investigating such pressures and robustly monitoring and mitigating them through environmental impact

assessments. Addressing all aspects relevant to the conservation of protected species in regard to ocean energy and collaboration with other organizations working on or potentially interested in the issue is to the benefit of small cetaceans in the Agreement Area.

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

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

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

Yes. Please provide details in the table.

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

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

No

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

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

No

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

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

No

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

No

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

>>> Windpark development is regulated by Dutch law (<https://wetten.overheid.nl/BWBR0036752/2017-01-01> in Dutch). General information at: <https://english.rvo.nl/topics/sustainability/offshore-wind-energy>

To manage the pressure, specific sound level criteria need to be met during construction. These are regularly reviewed. For the construction of Borssele measures to limit or monitor the introduction of impulsive sound included a maximum sound level during piling of SEL @ 750m: 160-172 dB re $\mu\text{Pa}^2\text{s}$. Noise was to be monitored continuously and mitigated if the criteria were exceeded.

The Netherlands has developed the 'Framework for Assessing Ecological and Cumulative effects' (KEC). Sound Exposure Level (SEL) threshold value at 750 metre from the source for piling has been set for the construction of all offshore wind farms on the Dutch Continental Shelf. This threshold will remain subject to review as new information becomes available. In addition to the noise threshold, mitigation measures (Acoustic Deterrent Device (ADD), soft start) have to be used to encourage harbour porpoises to move away in order to reduce the risk

of hearing damage (Permanent Threshold Shift (PTS)). More information can be found in the Updated Conservation Plan for the Harbour Porpoise *Phocoena phocoena* in the Netherlands. available at:

<https://www.rijksoverheid.nl/binaries/rijksoverheid/documenten/rapporten/2020/11/16/updated-conservation-plan-for-the-harbour-porpoise-phocoena-phocoenain-the-netherlands/bijlage-updated-conservation-plan-for-the-harbour-porpoise-phocoena-phocoenain-the-netherlands.pdf>

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

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

>>> Projects:

WOZEP Offshore wind energy ecological programme initiated by the Ministry of Economic Affairs and Rijkswaterstaat is ongoing to study gaps in our knowledge relating to the impact of offshore wind farms on the ecosystem of the North Sea.

Passive acoustic monitoring (PAM) was conducted during construction of the Borssele wind parks.

Publications:

Scheidat M & Porter L (2019) Chapter 2: Monitoring marine mammals. In: Wildlife and Wind Farms – Conflicts and Solutions edited by Martin Perrow. Volume 4 - Offshore: Monitoring & Mitigation. Pelagic Publishing. 330 pp.

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

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

	1. Status relative to previous years [Increasing, Decreasing, Staying the same, Unknown, Not Applicable]	2. Nature of the evidence
Tidal lagoon/barrage	unknown	
Tidal energy	not applicable	
Wave power	not applicable	
Wind energy	increasing	planned wind park projects

Comments:

>>> The primary industry using ocean power in the NL North Sea is wind energy.

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

8. Unexploded Ordnance

AIM: to provide information on the mitigation, management and potential negative impacts of unexploded ordnance on small cetaceans during the reporting period.

Relevant Resolutions: 8.11 (Rev.MOP9), 8.9, 8.8, 8.3

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

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

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

Respondents may select multiple options.

OSPAR

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

No

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

Staying the same

9. Marine Debris (ingestion and entanglement)

AIM: to illustrate progress, during the reporting period, on understanding, monitoring and mitigating impacts of marine debris on small cetaceans.

Relevant Resolutions: 8.8, 8.3, 6.1

Marine debris, such as macroplastics and discarded fishing gear, poses a threat to small cetaceans due to the potential for these materials to be ingested or to cause entanglement. Commercial fishing operations, recreational fishing and cargo shipping are notable sources of this material, of which the majority is plastic and ghost nets. However, it is assumed that most of the marine litter worldwide comes from land, although this differs per region. Even small amounts of macroplastics that have been ingested may present serious effects on small cetaceans, such as detrimental influence on the gastrointestinal tract or leaching pollutants into the body, potentially leading to mortality or reduced body condition. Entanglement is well-established as a threat to small cetaceans as plastic debris continues to accumulate in aquatic environments, and may cause physical injuries, reduced survival or drowning.

To better understand the impact of marine debris on small cetaceans and measures in place to mitigate these effects, countries are requested to provide relevant information.

Note: Includes macroplastics and discarded fishing gear. Microplastics are covered under Section C 10 Pollution and Hazardous Substances.

9.1. Does your country have monitoring in place to assess levels of marine debris?

Yes. Please provide information below.

Include parameters provided through monitoring (e.g. type of litter (size, shape, material), amount, impacts on species, geographical location, etc.).

>>> OSPAR Litter Monitoring Programme of beach litter

Data on the amount of litter on a given stretch of coastline is recorded at item level. Items to be recorded are predefined by the Guideline for Monitoring Marine Litter on the Beaches in the OSPAR Maritime Area (OSPAR Agreement 2010-02).

OSPAR Plastic particles in Fulmar stomachs in the North Sea

Two types of plastic categories are distinguished in the OSPAR Common Indicator. Industrial plastic pellets are separated from consumer debris such as sheets, foams, threadlike materials, and hard fragments. For each of these categories the number of particles and mass (in grams and to the fourth decimal place) is recorded. The final assessment is based only on the total weight of plastics in stomachs, but industrial and consumer waste plastics have different sources and as such provide very useful information for interpreting the monitoring data.

Dutch seafloor litter monitoring in the North Sea

This is a monitoring programme developed to evaluate the state of marine waters (Good Environmental Status) within the Marine Strategy Framework Directive (MSFD) for the Marine Litter descriptor (D10). The Dutch monitoring program for this descriptor includes the collection of data on the presence, abundance and distribution of macro litter on the seafloor. According to the Dutch program, the data on seafloor litter must be collected during statutory task fish surveys using a standardised GOV (Grand Ouverture Verticale) fishing net as part of the International Bottom Trawl Survey (IBTS), which is carried out yearly in the North Sea. The Dutch seafloor litter monitoring results are uploaded to the ICES DATRAS database, and are used in OSPAR assessments of seafloor litter in the North Sea (Volwater and van Hal, 2020).

9.2. Are these data publicly available?

Please provide web link.

Yes

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

[Strandingsonderzoek](#)

9.3. What species of small cetaceans were found to have been impacted by marine debris? Please provide details in the table.

Please provide details in **this table** - download and then attach it using the blue 'link' button below.

>>> None

9.4. Are there any mitigation measures in place?

Mitigation measures might include changes in gear to prevent loss, entanglement response, adoption of measures to reduce land-based/boat-based sources of marine debris, etc.

No

Per measure, please provide: date of implementation, Region (Annex A), identify whether the measure has been effective and provide comments, and other relevant information.

>>> While there are no specific measures to mitigate marine debris as it relates to small cetaceans, a reduction

in plastic pollution is part of the OSPAR Regional Action Plan.
<https://www.ospar.org/work-areas/eiha/marine-litter/regional-action-plan>

9.5. How is marine debris managed?

Include relevant regulations/guidelines and the year of implementation, current and planned.
>>> see above

9.7. Is the perceived level of pressure from marine debris in your country increasing, decreasing, staying the same, or unknown?

Staying the same

Please provide the nature of the evidence and describe per species (Annex B) where applicable:
>>> Marine debris does not seem to be a particular threat to harbour porpoises, based on the post mortem exams conducted. For several indicators (national and OSPAR) decreased values of litter have been demonstrated, but for some no decrease is shown.

D. Management of Cumulative Impacts

15. Marine Spatial Planning

AIM: to provide information on existing and proposed marine spatial plans and processes during the reporting period that may impact small cetaceans.

Relevant Resolutions 9.1, 8.9, 8.6, 8.3

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

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

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

No

E. Area-based Conservation / Marine Protected Areas

16. Protected Areas, e.g. Natura 2000 Sites

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

Relevant Resolutions: 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, MSFD) as a tool to achieve conservation goals. Part of ASCOBANS remit is to provide expert advice on 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. This also includes advising on appropriate management measures 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 and actions in the workplan, ASCOBANS requires information (e.g. location, species, status, spatial data, management plans and monitoring) on existing and proposed marine protected areas with small 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.

16.1. Does your country have MPAs (existing or proposed) where small cetaceans are the primary reason for the (proposed) designation?

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

No

16.2. Does your country have MPAs (existing or proposed) with small cetaceans are forming part of the selection criteria?

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

Yes

III. Surveys and Research

A. Biological Information (per species)

1. Abundance Estimates

AIM: to provide new information on abundance and life history parameters of small cetaceans during the reporting period.

Relevant Resolutions: 8.5 (Rev.MOP9), 8.4 (Rev.MOP9), 8.3, 7.1, 6.1, 5.7, 5.5, 4.7, 3.5, 3.3

Abundance estimates and information on life history are of critical importance for the determination of broader species attributes such as populations levels, health and overall status. These parameters can contribute towards determination of GES and provide a reference for mortality events. Abundance and life history parameters are typically assessed from monitoring programmes. Fluctuations in these parameters can provide insight into trends in populations. Information on abundance and life history parameters can inform the need for mitigation measures, and regional assessment of these parameters allows for a more spatially targeted and concentrated response to support national assessments.

In the ASCOBANS Area, small cetacean abundance and life history should be monitored in response to a number of ASCOBANS resolutions. Continued monitoring of these parameters is essential to understanding current status and trends.

1.1. Did your country conduct national dedicated surveys on abundance and distribution during the reporting period?

If you select 'Yes', please provide details in **this table** - download and then attach it using the blue 'link' button below. Attach maps separately, clearly marking which survey they apply to.

Note: Information relevant to SCANS-III is to be provided in Questions 1.2.

No

1.3. Is the abundance of species in your country increasing, decreasing, staying the same, or unknown?

Staying the same

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

>>> Dedicated national aerial surveys since 2010 don't show a trend. National multi-species aerial surveys suggest an increasing trend, whereas shore-based seawatching data and strandings data point at a decrease in the last years

2. New Information on Life History Parameters

2.1. Is there new information on the following life history parameters in the reporting period?

For each life history parameters, please identify the species and provide web links and details where applicable.

	1. Yes / No	2. Describe per species
Other relevant factors	No	
Age and sex structure	No	
Diet	Yes	Stomach contents Harbour porpoise
Longevity	No	
Potential reproductive span/capacity	No	
Calf and adult mortality rates	No	
Inter-birth intervals	No	
Age of sexual and physical maturity	No	

B. Monitoring Programmes

3. Overview of Current Monitoring and Survey Schemes

AIM: to provide information on the progress of monitoring programmes, relevant methodologies and aims thereof, and status of small cetaceans during the reporting period.

Relevant Resolutions: 8.11 (Rev.MOP9), 8.9, 8.8, 8.5 (Rev.MOP9), 8.4 (Rev.MOP9), 8.3, 7.3, 7.1, 6.1, 5.7
Monitoring programmes provide important data on biological and environmental attributes, such as population status, abundance and spatial-temporal distribution. They create opportunities for new research and development, including potential improvements to methodology for monitoring in terms of accuracy, practicality and cost efficiency.

In the ASCOBANS Area, application of coherent monitoring programmes focused on small cetaceans, which collect and provide objective, robust and comparable data, is a key component in understanding and improving the conservation status of small cetaceans through appropriate management. Parties have agreed to design, implement and support relevant monitoring programmes through a number of resolutions. Such efforts are also supported by legislation from a number of bodies which identify monitoring as a requirement in management systems. Additionally, Parties have been encouraged to coordinate their monitoring programmes, which promotes international cooperation and synergies. Parties have also been encouraged to review such monitoring programmes and propose improvements for the betterment of conservation efforts.

It is the interest of ASCOBANS to understand the current monitoring programmes utilised, their outputs, and future activities in the Agreement Area. Countries are requested to provide information relevant to their activities as well as potential improvements to such programmes and efforts.

3.1. Did your country have national monitoring programmes that enabled assessment of the Conservation Status of small cetaceans in your waters (i.e. provides abundance estimates and/or life history parameters and information on pressures) during the reporting period?

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

Yes. Please provide details in the table.

3.2. Please provide the relevant information regarding aerial surveying activities.

Provide the number of surveys, area covered, relevant species, and timeframe of the survey.

>>> WMR- aerial surveys marine mammals: monitoring scheme changed from annual summer surveys to three-annual summer and spring surveys, plus six-yearly SCANS survey. Due to covid no annual surveys in Dutch waters after 2019. SCANS-IV is due in 2022.

MWTL-aerial surveys birds and marine mammals: monitoring scheme with annual surveys in six periods a year

3.3. Please provide the relevant information regarding Passive Acoustic Monitoring (PAM).

Provide the location of moored instruments, timeframe of the survey, the relevant species, and the make and model of instruments used.

>>> PAM monitoring of the Borssele wind farms has taken place since the construction phase in 2019/2020, and will continue to 2024/2025. This monitoring falls under the umbrella of the national overarching WOZEP programme, aimed at studying ecological effects of offshore wind farms

3.4. Are any of these programmes carried out in collaboration with other countries?

Yes. Provide information below.

Please provide the collaborators and links per programme.

>>> The SCANS survey will be conducted in collaboration with all European countries bordering European shelf waters

C. Other Research (not mentioned elsewhere in Section II, II, or IV)

Please provide relevant information in regard to other research (not mentioned elsewhere in Sections II, III, IV).

Per project, please provide the institution, duration, aim(s)/objective(s), and the method.

>>> The NZG Marine Mammals Database is part of the Dutch Seabird Group (NZG) . It includes collection of cetacean sightings nbut is not maintained anymore, Sightings of cetaceans are entered in waarneming.nl (observation.org).

Strandings (live and dead) are collated by NATURALIS in a database presented at the website www.walvisstrandigen.nl that is linked to waarneming.nl

Seawatching data systematically collecting cetacean data are available at: www.trektellen.nl

The Rugvin foundation is a volunteer based organisation conducting cetacean surveys in the Southern North Sea and Eastern Scheldt and member of the Atlantic Research Coalition (ARC) European Cetacean Monitoring Coalition (ECMC).

They also do photo identification work on harbour porpoises in the Eastern Scheldt. Pilot project to investigate whether it is possible to distinguish between calf and adult harbour porpoises based on their click characteristics. Eventually this could lead to development and/or improvement of an algorithm that can be applied to existing databases. <https://www.wur.nl/en/Research-Results/Research-Institutes/marine-research/show-marine/Acoustic-research-on-porpoises-in-the-Eastern-Scheldt.htm>

IV. Use of Strandings Records

A. Stranding Network and Strandings

AIM: to provide information on stranding events and demonstrate progress of stranding networks in understanding, monitoring and mitigating strandings of small cetaceans.

Relevant Resolutions: **8.10 (Rev.MOP9)**, 8.7, 8.4 (Rev.MOP9), 8.3, 7.4, 7.3, 7.1, 6.1, 5.7

Stranding of cetaceans is an ever-present occurrence and analysis through necropsy and sampling can provide indications of reason for injury and death. Stranding numbers also provide information on population status, abundance and distribution. Effective response to strandings contributes to the maintenance of favourable conservation status of small cetaceans and also has implications for animal welfare. Comprehensive stranding networks are a critical asset in managing small cetacean strandings and have resulted in large numbers of animals rescued and returned to sea. These networks also have the capacity to guide the public on animal welfare, human health and safety considerations during stranding events.

In the effort to mitigate the anthropogenic causes of these occurrences, Parties have agreed to measures through a number of resolutions. Continued monitoring of stranding causation and further developing guidance for best practices in stranding response and necropsies was identified by Parties as important tasks to pursue, as was setting up stranding response networks. This information is to align with appropriate sampling practices and countries should ensure that the data is available for researchers. Additionally, development and support of international strandings databases and regular reporting is conducted through relevant research institutes and stranding schemes. ASCOBANS Secretariat encourages the ongoing funding and support of engagement with organizations for further development of guidelines, best practices and maintaining dataflow for capacity building across stranding networks.

To better understand the extent to which stranding events occur and how these events are managed, it is the interest of ASCOBANS for countries to provide the relevant information on these occurrences within the Agreement Area, procedures undertaken in response to stranding events, necropsies and information on stranding networks.

1.1. Is there a national stranding network in place?

Yes

Please provide details:

>>> Naturalis: available at Walvisstrandingen.nl

University of Utrecht: available at UU.nl/strandingsonderzoek.nl

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

[Walvisstrandingen](http://Walvisstrandingen.nl) - This website provides an overview of cetaceans stranded along the Dutch (North Sea) coast. It includes also partial and fossil strandings and live strandings.

1.2. Does the national stranding network cover the whole, or part of the reporting country's coastline?

Whole coastline

Please provide details:

>>> The stranding network has a coverage of the whole coastline. There are some areas, such as the Wadden Sea, that has likely lesser effort than other areas.

1.3. Are necropsies carried out to determine cause of death?

Yes

Please provide details:

>>> Necropsies are carried out on at least 50 stranded harbour porpoises per year. Other cetaceans are also necropsied on an ad-hoc basis.

1.4. Is there a database of strandings?

Yes. Continue to Question 1.5.

1.5. Is there data available online or downloadable on request?

Yes

Please provide details:

>>> Data on stranded cetaceans (dead and alive, and including fossils) can be found at the website www.walvisstrandingen.nl
It is hosted by Naturalis.
Information on the necropsy results can be requested from the University of Utrecht.

1.6. Provide details for any new institution(s) responsible for a stranding database, responding to live-strandings, collection of carcasses, and for conducting necropsies.

Please identify the new responsible institution(s) and provide their: responsibility (responding to live-strandings, collection of carcasses, necropsies, stranding database), phone number, email, and website.
>>> no new institutions

1.7. Were cases photographed, measured or sampled even if not collected for necropsy during the reporting period?

Yes

Please provide details:

>>> The volunteers working in the stranding network collect photographs and measurements of stranded animals. These can be accessed at walvisstrandingen.nl.

1.8. Were there recorded stranding events in your country during the reporting period?

If you select 'Yes', please provide details in **this table** - download and then attach it using the blue 'link' button below. Provide details relevant for recorded stranding events during the reporting period.

Yes

How many strandings occurred during the reporting period (specify live and dead)? Please also provide more details in the table.

>>> 2020: 433 Harbour porpoise (of these 21 alive), 1 Bottlenose dolphin
2021: 714 Harbour porpoise (of these 12 alive), 1 Bottlenose dolphin, 1 White-sided dolphin

You have attached the following documents to this answer.

[Sec-IV_A_1.8_0strandings.xlsx](#) - Strandings small cetaceans NL 2020 and 2021

1.9. Were any necropsies conducted during the reporting period?

Yes. Provide information below.

Per necropsy, please provide: the protocol used for dissection/methodologies/collection of samples etc., number of carcasses necropsied, what causes of death were identified (add percentage if available), and any additional comments.

>>> The necropsies follow the protocol described in earlier reports.
In 2021, 54 dead harbour porpoises were examined: 35 males and 19 females, divided as 24 adults, 23 juveniles and 7 neonates. There were an additional three fetuses found. Most of the examined harbour porpoises died as a result of infectious diseases (39%) and grey seal attacks (20%). Bycatch was the most likely cause of death for 7 porpoises (13%) and 5 other porpoises died following trauma of unclear origin (9%).

V. Legislation

A. Overview of Legislative Framework

AIM: to provide information on national, regional and international legislation and guidelines relevant to small cetaceans during the reporting period.

Relevant Resolutions: 8.10 (Rev.MOP9), 8.9, 8.8, 8.6, 8.5 (Rev.MOP9), 8.4 (Rev.MOP9), 8.3, 7.1, 6.2, 6.1, 5.7, 5.4

Legislation and guidelines are a key component of efforts to support favourable conservation status of small cetaceans in the ASCOBANS Area. A number of existing legislation and guidelines bear relevance to conservation efforts for small cetaceans on national, regional and international scales. Regular updating and adaptation of guidelines and legislation (where applicable) can ensure ongoing prevention, minimization and reduction of negative impacts of marine activities on small cetaceans. In addition, these actions support transparent and reliable management.

Parties to ASCOBANS have agreed to support the requisition, development and the implementation of legislation and guidelines to assess, minimize and mitigate pressures on favourable conservation status of small cetaceans in the Agreement Area. Parties have committed to these actions through a number of resolutions regarding pressures known to be detrimental to small cetaceans. It is in the interest of ASCOBANS for countries to provide information on current and foreseen national, regional and international legislation and guidelines relevant to small cetaceans in the Agreement Area.

1.1. Please provide the applicable information regarding legislation and guidelines relevant to small cetaceans below.

Are national guidelines relevant for small cetaceans currently in place in your country?

Yes

Is national legislation relevant for small cetaceans currently in place in your country?

Yes

Are regional and/or international guidelines relevant for small cetaceans currently in place in your country?

Yes

Is regional and/or international legislation relevant for small cetaceans currently in place in your country?

Yes

1.2. Have there been any instances/issues related to national, regional and/or international legislation during the reporting period in your country?

No

VI. Information and Education

A. Education and Outreach

A. Education and Outreach

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

Relevant Resolutions: 9.1, 8.3, 5.8

ASCOBANS Communication, Education and Public Awareness (CEPA) Plan[1] 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.

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

1.2. List current information/outreach materials produced in your country, which are of relevance to the ASCOBANS Area and species.

Per publication, please provide: the name of the publication (inc. translation into English, where applicable), author(s), publisher, year, links (to download publication), and identify whether ASCOBANS may distribute the link to publication for outreach purposes.

>>> Rugvin Foundation (2020): Dutch and German version of brochure on the harbour porpoise in the Dutch Delta (Zeeland). <https://rugvin.nl/wp-content/uploads/2021/06/De-zeeuwse-walvis-folder-A4-1.pdf>

Rugvin Foundation (2021): Whale Poo Seamulation, in Dutch and English. Interactive game to educate about how whales benefit humans, threats and the effects of conservation. Also physical game distributed. <https://whalepooseamulation.com/>

Wageningen Marine Research (2021): Radio item (in Dutch) on project concerning the collection of harbour porpoise calf clicks. <https://www.bnnvara.nl/vroegevogels/artikelen/wat-zeggen-bruinvisen>

Rugvin Foundation (2021): Educative 1-day courses about whales and dolphins, with a main role for the harbour porpoise. <https://rugvin.nl/voorlichting/eendaagse-walviscursus/>

Wageningen Marine Research (2021): two short video's on harbour porpoise acoustic research (on Youtube including English subtitles). <https://www.wur.nl/en/Research-Results/Research-Institutes/marine-research/show-marine/Acoustic-research-on-porpoises-in-the-Eastern-Scheldt.htm>

1.3. List other organizations engaged in outreach relevant to the ASCOBANS Area.

Please include web links where applicable.

>>> Stichting Rugvin

SOS Dolfijn

WWF

