Reporting under the Habitat Regulations (as amended)[1]

2019-2024

Conservation status assessment for the species:

S2624 - Sperm Whale

(*Physeter macrocephalus*)

United Kingdom

[1] **Habitat Regulations (as amended):**

- The Conservation of Habitats and Species Regulations 2017 (as amended), Regulation 9A
- The Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended), Regulation 6A
- Report under The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended), regulation 3ZA
- The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended), regulation 3ZA

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This report was produced by JNCC in collaboration with the UK Country Nature Conservation Bodies (CNCBs) and country governments.

This document should be cited as:

JNCC, Department of Agriculture, Environment and Rural Affairs, Natural England, Natural Resources Wales & NatureScot. (2026). Conservation status assessment for the species: S2624 Sperm Whale (*Physeter macrocephalus*).

Important note - Please read

- The information in this document represents the United Kingdom Reporting under the Habitat Regulations (as amended)[1], for the period 2019-2024.
- It is based on supporting information provided by Joint Nature Conservation Committee and UK Country Nature Consevation Bodies (CNCBs), which is documented separately.
- The Habitats Regulations reporting 2019-2024 Approach Document provides details on how this supporting information contributed to the UK Report and the fields that were completed for each parameter.
- Map showing the distribution and range of the species is included.
- Explanatory notes (where provided) are included at the end. These provide additional audit trail information to that included within the assessments. Further underpinning explanatory notes are available in the related country reports.
- Some of the reporting fields have been left blank because either: (i) there was insufficient information to complete the field; (ii) completion of the field was not obligatory; and/or (iii) the field was not relevant to this species (section 12 National Site Network coverage for Annex II species).

Further details on the approach to the Habitats Regulations Reporting 2019-2024 are available on the JNCC website.

Assessment Summary: Sperm Whale

Distribution and Range Map

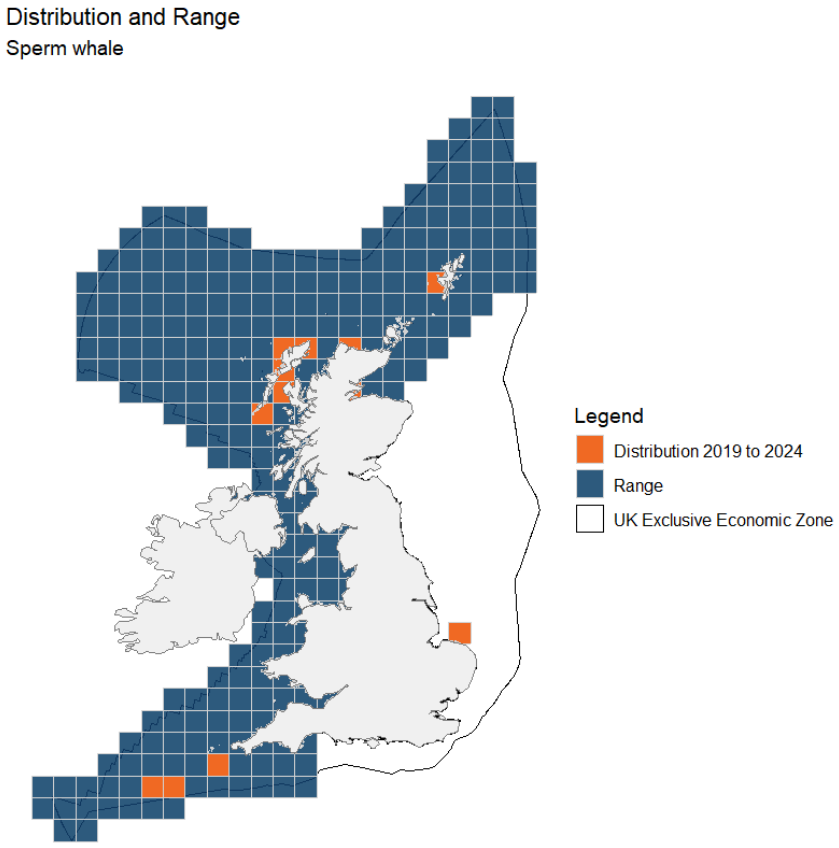

Figure 1: United Kingdom distribution and range map for S2624 - Sperm Whale (*Physeter macrocephalus*). The 50km grid square distribution map is based on available species records within the current reporting period.

Table 1: Table summarising the conservation status for S2624 - Sperm Whale (*Physeter macrocephalus*). Overall conservation status for species is based on assessments of range, population, habitat for the species, and future prospects.

Overall Conservation Status (see section 11)

Unknown (XX)

Breakdown of Overall Conservation Status

Range (see section 5)	**Favourable (FV)**
Population (see section 6)	**Unknown (XX)**
Habitat for the species (see section 7)	**Unknown (XX)**
Future prospects (see section 10)	**Unknown (XX)**

List of Sections

National Level

1. General information

1.1 Country	United Kingdom
1.2 Species code	S2624
1.3 Species scientific name	*Physeter macrocephalus*
1.4 Alternative species scientific name	
1.5 Common name	Sperm Whale
Annex(es)	IV

2. Maps

2.1 Sensitive species	No
2.2 Year or period	2019-2024
2.3 Distribution map	Yes
2.4 Distribution map; Method used	Complete survey or a statistically robust estimate

2.5 Additional information

The distribution map is based on verified sightings data of sperm whale between 2019 and 2024. The sightings were collated from SCANS IV, Pelagis French surveys, NBN Atlas, European Seabirds at Sea, the Joint Cetacean Data Programme, POSEIDON project, University of Aberdeen, The Crown Estate Marine Data Exchange, Whale and Dolphin Conservation, Hebridean Whale and Dolphin Trust, ORCA, Sea Watch Foundation, Marine Discovery Penzance, Sussex Dolphin Project, Cornwall Seal Group Research Trust, Cardigan Bay Marine Wildlife Centre, Natural England, Sea Trust and The Royal Society for the Protection of Birds (RSPB).

3. Information related to Annex V Species

3.1 Is the species taken in the wild / exploited?

3.2 What measures have been taken?

a) Regulations regarding access to property

b) Temporary or local prohibition on the taking of specimens in the wild and exploitation

c) Regulation of the periods and/or methods of taking specimens

d) Application of hunting and fishing rules which take account of the conservation of such populations

e) Establishment of a system of licences for taking specimens or of quotas

f) Regulation of the purchase, sale, offering for sale, keeping for sale, or transport for sale of specimens

g) Breeding in captivity of animal species as well as artificial propagation of plant species

Other measures

Other measures description

3.3: Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)

a) Unit

Table 2: Quantity taken from the wild during the reporting period (see 3.3a for units). For species with defined hunting seasons, Season 1 refers to 2018/2019 (autumn 2018 to spring 2019), and Season 6 to 2023/2024. For species without hunting seasons, data are reported by calendar year: Year 1 is 2019, and Year 6 is 2024.

	Season/ year 1	Season/ year 2	Season/ year 3	Season/ year 4	Season/ year 5	Season/ year 6
b) Minimum	-	-	-	-	-	-
c) Maximum	-	-	-	-	-	-
d) Unknown	-	-	-	-	-	-

3.4: Hunting bag or quantity taken in the wild; Method used	

3.5: Additional information

No additional information

Biogeographical Level

4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs	MATL

4.2 Sources of information

See section 14 References

5. Range

5.1 Surface area (km²)	633,151
5.2 Short-term trend; Period	2019-2024
5.3 Short-term trend; Direction	Stable
5.4 Short-term trend; Magnitude	
a) Estimated minimum	
b) Estimated maximum	
c) Pre-defined range	
d) Unknown	
e) Type of estimate	
f) Rate of decrease	
5.5 Short-term trend; Method used	Complete survey or a statistically robust estimate
5.6 Long-term trend; Period	2013-2024
5.7 Long-term trend; Direction	Stable

5.8 Long-term trend; Magnitude	
a) Minimum	
b) Maximum	
c) Rate of decrease	
5.9 Long-term trend; Method used	Complete survey or a statistically robust estimate

5.10 Favourable Reference Range (FRR)

a) Area (km²)	633,151
b) Pre-defined increment	
c) Unknown	No
d) Method used	Model-based approach
e) Quality of information	high

5.11 Change and reason for change in surface area of range

a) Change	No
b) Genuine change	
c) Improved knowledge or more accurate data	
d) Different method	
e) No information	
f) Other reason	
g) Main reason	

5.12 Additional information

The distribution is based on verified sightings data of sperm whale between 2019 and 2024. The sightings were collated from SCANS IV, Pelagis French surveys, NBN Atlas, European Seabirds at Sea, the Joint Cetacean Data Programme, POSEIDON project, University of Aberdeen, The Crown Estate Marine Data Exchange, Whale and Dolphin Conservation, Hebridean Whale and Dolphin Trust, ORCA, Sea Watch Foundation, Marine Discovery Penzance, Sussex Dolphin Project, Cornwall Seal Group Research

Trust, Cardigan Bay Marine Wildlife Centre, Natural England, Sea Trust and The Royal Society for the Protection of Birds (RSPB).

The FRR was based on an analysis of effort related survey data spanning 1994-2010 compiled for the Joint Cetacean Protocol (JCP) undertaken by Paxton et al. (2016). The estimated range was based on a modelled prediction of sperm whale distribution during August 2010 and adapted based on additional sightings data and expert knowledge (see Paxton et al., 2016 for further detail).

Sperm whales occur in deep waters west of Scotland, with occasional out of habitat individuals reported in the North Sea which often result in the animal stranding. The range of sperm whales has not changed since the 2013 model (Waggit et al., 2019; Gilles, et al., 2022; Lacey and Hammond, 2023).

Since the 2019 Habitats Directive Article 17 assessments, the FRR has changed due to the removal of the EEZ extension into offshore waters west of Scotland. This area has been removed due to lack of data for all species, and subsequent impact on confidence in assessments. This does not represent genuine change in FRR.

6. Population

6.1 Year or period

6.2 Population size (in reporting unit)

a) Unit	number of individuals
b) Minimum	
c) Maximum	
d) Best single value	
6.3 Type of estimate	
6.4 Quality of extrapolation to reporting unit	

6.5 Additional population size (using population unit other than reporting unit)

a) Unit	
b) Minimum	
c) Maximum	
d) Best single value	

e) Type of estimate	
6.6 Population size; Method used	Insufficient or no data available
6.7 Short-term trend; Period	
6.8 Short-term trend; Direction	Unknown
6.9 Short-term trend; Magnitude	
a) Estimated minimum	
b) Estimated maximum	
c) Pre-defined range	
d) Unknown	
e) Type of estimate	
f) Rate of decrease	
6.10 Short-term trend; Method used	Insufficient or no data available
6.11 Long-term trend; Period	
6.12 Long-term trend; Direction	Unknown
6.13 Long-term trend; Magnitude	
a) Minimum	
b) Maximum	
c) Confidence interval	
d) Rate of decrease	
6.14 Long-term trend; Method used	Insufficient or no data available

6.15 Favourable Reference Population (FRP)

ai) Population size	8,291
aii) Unit	number of individuals

b) Pre-defined increment	
c) Unknown	No
d) Method used	Reference-based approach
e) Quality of information	moderate

6.16 Change and reason for change in population size

a) Change	No
b) Genuine change	
c) Improved knowledge or more accurate data	
d) Different method	
e) No information	
f) Other reason	
g) Main reason	

6.17 Additional information

The population estimate for 2022 is based primarily on population estimates from the SCANS IV survey. It is not possible to have an updated population estimate for this species, due to the gap in the 2022 SCANS survey effort in offshore waters west of Scotland which is a high-density region for this species. The missed survey area accounted for 55% of the total population estimate in 2015 (Gilles, et al., 2013; Hammond et al 2021), and 100% of the UK proportion. Therefore, it is not possible to determine the total population abundance estimate for this species in whole of the UK EEZ from the 2022 SCANS survey.

It is challenging to assess the wider context for sperm whales from the ObSERVE programme in Irish waters, as aerial survey methodology using in ObSERVE is not as effective for detecting sperm whales as ship-based survey. Findings from NASS 2024 ship based surveys in the NAMMCO region will provide more context for the northern areas of their range, once published.

The FRV for population was calculated based on estimates from SCANS III (Hammond et al., 2021), supplemented with density estimates from neighbouring regions to fill data gaps within the UK EEZ and limit extrapolation where possible; ObSERVE in Irish waters (Rogan, e al., 2018), NASS 2015 (Pike, et al., 2019a) and NILS 2015 (Leonard and Øien, 2020a) surveys in the NAMMCO region.

Since the 2019 Habitats Directive Article 17 assessments, the FRV has changed due to the removal of the EEZ extension into offshore waters west of Scotland. This area has been removed due to lack of data for all species, and subsequent impact on confidence in assessments. This does not represent genuine change in FRV.

6.18 Age structure, mortality and reproduction deviation	Unknown

7. Habitat for the species

7.1 Sufficiency of area and quality of occupied habitat (for long-term survival)

a) Is area of occupied habitat sufficient?	Unknown
b) Is quality of occupied habitat sufficient?	Unknown
c) If No or Unknown, is there a sufficiently large area of unoccupied habitat of suitable quality?	Unknown

7.2 Sufficiency of area and quality of occupied habitat; Method used

a) Sufficiency of area of occupied habitat; Method used	Based mainly on expert opinion with very limited data
b) Sufficiency of quality of occupied habitat; Method used	Based mainly on expert opinion with very limited data

7.3 Short-term trend; Period

7.4 Short-term trend; Direction	Unknown
7.5 Short-term trend; Method used	Based mainly on expert opinion with very limited data

7.6 Long-term trend; Period

7.7 Long-term trend; Direction	Unknown
7.8 Long-term trend; Method used	Based mainly on expert opinion with very limited data

7.9 Additional information

Direct evidence of cetacean habitat quality is limited as presently, a comprehensive understanding of the key elements important to the species is undetermined. In some cases, conclusions for species range and population could be indicative of habitat quality by proxy, however confidence in assessment outputs would be low.

Though the range has remained stable, due to the key habitat for this species was not surveyed as part of SCANS IV in 2022, it is not possible to determine the habitat for the species.

8. Main pressures

8.1 Characterisation of pressures

Table 3: Pressures affecting the species, including timing and importance/impact ranking. Pressures are defined as factors acting currently and/or during the reporting period (2019–2024). Rankings are: High (direct/immediate influence and/or large spatial extent) and Medium (moderate direct/immediate influence, mainly indirect and/or regional extent).

Pressure	Timing	Ranking
Geotechnical surveying	Ongoing and likely to be in the future	Medium (M)
Military, paramilitary or police exercises and operations in the marine environment	Ongoing and likely to be in the future	Medium (M)
Decline or extinction of related species (e.g. food source / prey, predator / parasite, symbiote, etc.) due to climate change	Ongoing and likely to be in the future	Medium (M)
Bycatch and incidental killing (due to fishing and hunting activities)	Ongoing and likely to be in the future	Medium (M)

8.2 Sources of information

See section 14 References

8.3 Additional information

PC07: Regional pressure in the North Sea and the Irish Sea.

PH02: Pressure will be higher regionally off northwest Scotland and in the Southwest Approaches.

9. Conservation measures

9.1: Status of measures

a) Are measures needed?	Yes
b) Indicate the status of measures	Measures identified and taken
9.2 Main purpose of the measures taken	Maintain the current range, population and/or habitat for the species
9.3 Location of the measures taken	Both inside and outside National Site Network
9.4 Response to measures	Medium-term results (within the next two reporting periods, 2025–2036)

9.5 List of main conservation measures

Table 4: Key conservation measures addressing current pressures and/or anticipated threats during the next two reporting periods (2025–2036). Measures are ranked by importance/impact: High (direct/immediate influence and/or large spatial extent) and Medium (moderate direct/immediate influence, mainly indirect and/or regional extent).

Conservation measure	Ranking
Reduce impact of mixed source pollution	High (H)
Reduce impact of military installations and activities	High (H)
Control/eradication of illegal killing, fishing and harvesting of wild plants, fungi and anmals	High (H)
Reduce bycatch and incidental killing of non-target species	High (H)
Adapt/manage exploitation of energy resources	High (H)
Adapt/manage renewable energy installation, facilities and operation (excl. hydropower and abstraction activities)	High (H)

9.6 Additional information

This species is not an Annex II species and therefore the designation of SACs is not required, as stipulated in the Habitats Regulations. However, as a European Protected Species, protection is provided throughout UK waters and it is an offence to kill, injure or disturb. The UK remains committed to the conservation of marine mammals in UK waters and the implementation of measures to mitigate the impact of pressures and conservation measures have been undertaken in the UK and adjacent waters as part of

the requirements of the Habitats Regulations. Such measures include monitoring bycatch, monitoring strandings data to monitor current and identify emerging pressures, application of appropriate management measures, and noise monitoring and mitigation with regards to offshore industry. This is reflected in the list of conservation measures under field 9.5. The UK also supports a range of international agreements and conventions on the conservation of marine mammals and the marine environment. For example: The Convention on Migratory Species; the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR). A UK Cetacean Conservation Strategy is currently in development, due for publication shortly. The strategy is intended to support decision making and identify actions necessary to maintain or improve the conservation status of cetaceans in UK waters. Defra and devolved administrations fund national strandings schemes for cetaceans which aim to: collate, analyse and report data for all cetacean strandings around the coast of the UK; determine the causes of death (both natural and anthropogenic) in stranded cetaceans, including bycatch and physical trauma and; undertake surveillance on the incidence of disease in stranded cetaceans in order to identify any substantial new threats to their conservation status.

10. Future prospects

10.1a Future trends of parameters

ai) Range	Overall stable
bi) Population	Unknown
ci) Habitat for the species	Unknown

10.1b Future prospects of parameters

aii) Range	Good
bii) Population	Unknown
cii) Habitat for the species	Unknown

10.2 Additional information

No additional information

11. Conclusions

11.1 Range	Favourable (FV)
11.2 Population	Unknown (XX)

11.3 Habitat for the species	Unknown (XX)
11.4 Future prospects	Unknown (XX)
11.5 Overall assessment of Conservation Status	Unknown (XX)
11.6 Overall trend in Conservation Status	Unknown

11.7 Change and reason for change in conservation status

a) Change	No
b) Genuine change	
c) Improved knowledge or more accurate data	
d) Different method	
e) No information	
f) Other reason	
g) Main reason	

11.7 Change and reason for change in conservation status trend

a) Change	No
b) Genuine change	
c) Improved knowledge or more accurate data	
d) Different method	
e) No information	
f) Other reason	
g) Main reason	

11.8 Additional information

Conclusion on Range reached because: (i) the short-term trend direction in Range surface area is stable and (ii) the current Range surface area is approximately equivalent to the Favourable Reference Range.

Conclusion on Population reached because: (i) the short-term trend direction in Population size is unknown; and (ii) the best estimate for population size is unknown due to the gap in the 2022 SCANS survey effort in offshore waters west of Scotland which is a high-density region for this species, accounting for 55% of the population in 2015 (Gilles et al., 2013; Hammond et al., 2021), and 100% of the UK proportion.

Conclusion on Habitat for the species reached because: (i) it is unknown whether the area of habitat is sufficiently large; (ii) it is unknown if habitat quality is sufficient for the long-term survival of the species; and (iii) the short-term trend in area and quality of habitat is unknown.

Conclusion on Future prospects reached because: (i) the Future prospects for Range are Good; (ii) the Future prospects for Population are Unknown; and (iii) the Future prospects for Habitat for the species are Unknown.

Overall assessment of Conservation Status is Unknown because two or more conclusions are Unknown and no conclusions are Unfavourable.

Overall trend in Conservation Status is based on the combination of the short-term trends for Range - stable, Population - unknown, and Habitat for the species - unknown.

12. UK National Site Network (pSCIs, SCIs, SACs) coverage for Annex II species

12.1 Population size inside the pSCIs, SCIs and SACs network

a) Unit	
b) Minimum	
c) Maximum	
d) Best single value	
12.2 Type of estimate	
12.3 Population size inside the network; Method used	
12.4 Short-term trend of population size within the network; Direction	

12.5 Short-term trend of population size within the network; Method used
12.6 Short-term trend of habitat for the species inside the pSCIs, SCIs and SACs network; Direction
12.7 Short-term trend of habitat for the species inside the pSCIs, SCIs and SACs network; Method used

12.8 Additional information

No additional information

13. Complementary information

13.1 Justification of percentage thresholds for trends

No justification information

13.2 Trans-boundary assessment

No trans-boundary assessment information

13.2 Other relevant information

No other relevant information

14. References

Biogeographical and marine regions

4.2 Sources of information

Paxton, C.G.M., Scott-Hayward, L., Mackenzie, M., Rexstad, E. & Thomas, L. (2016) Revised Phase III Data Analysis of Joint Cetacean Protocol Data Resource, JNCC Report No. 517, JNCC, Peterborough, ISSN 0963-8091. https://hub.jncc.gov.uk/assets/01adfabd-e75f-48ba-9643-2d594983201e

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Main pressures

8.2 Sources of information

No sources of information

15. Explanatory Notes

Field label	Note
8.1: Characterisation of pressures	PC07 Geotechnical surveying. Evidence suggests sperm whales are sensitive to impulsive noise and the species distribution overlaps with seismic activity in UK waters (Stone, 2015; Stone et al., 2017). Whilst there is some uncertainty in the impacts to the population, evidence suggests that noise from geophysical survey impacts on sperm whale foraging behaviours, which when occurring frequently enough could impact on the population through decrease in reproduction fitness (Farmer et al., 2018). Direct impact may also result in injury from close proximity to activity. Exposure to this pressure is limited both spatially and temporarily, although it may be regionally significant when occurring. Close proximity to noise created by geotechnical activity also has potential to cause injury, although evidence for the impact and level of risk is limited. This is also mitigated through guidance on operations such as soft start and on board marine mammal observers. Pressure is expected to be higher in the North Sea and Celtic and Irish Seas.
8.1: Characterisation of pressures	PH02 Military, paramilitary or police exercises and operations in the marine environment. Evidence suggests that sperm whale are sensitive to sonar from naval operations, with reductions in foraging observed during continuous active sonar and higher amplitude pulsed sonar (Isojunno et al., 2020) and decreased detections of echolocation clicks during exercises off eastern Canada (Stainstreet et al., 2022). Evidence also suggests the 1-2kHz active sonar can mask echolocating sperm whales, which will ultimately impact communication between individuals and foraging (von Benda-Beckmann et al., 2021).
8.1: Characterisation of pressures	PJ12 Decline or extinction of related species (e.g. food source / prey, predator / parasite, symbiot, etc.) due to climate change. There is no current evidence for the effects of climate change on sperm whales however, sperm whales

	are specialist foragers and primarily feed on cephalopods, mostly squid (Spitz et al., 2011; Sousa et al., 2019; Pierce et al., 2018) which may hinder their ability to adapt to environmental change. Climate change is proposed to affect the abundance and distribution of squid species, however sperm whales may have flexibility in their migratory routes and feeding areas and given the cosmopolitan distribution, and thus may be able to adapt to changing conditions. For example, inter-annual variation in sperm whale strandings on the North Sea coast was proposed to be related to shifts in the North Atlantic Oscillation that could affect squid prey species (Robinson et al., 2005) and a more recent analysis of cetacean habitat use around the Svalbard Archipelago demonstrated a northward shift in the maximum latitude of sperm whales (Storrie et al., 2018).
8.1: Characterisation of pressures	PG13 Bycatch and incidental killing (due to fishing and hunting activities). Evidence of sperm whale depredation on demersal longline in French Patagonia and deep water trawlers in the western North Atlantic raise concern around bycatch for the species. Evidence of the pressure is limited in the UK but stranding records from CSIP and SMASS have previously highlighted animals with cause of death attributed to entanglement (Deaville, 2018).
9.5: List of main conservation measures	MC02 Adapt/manage exploitation of energy resources. Guidance for the protection of marine European Protected Species from deliberate injury, killing and disturbance has been drafted (JNCC 2010a; Marine Scotland, 2014). Marine Industries generate a variety of noise through activities such as geophysical surveys (e.g. seismic surveys (JNCC 2017)), construction (e.g. pile driving (JNCC 2010b)) and decommissioning (e.g. use of explosives (2010c)). As part of the licencing procedures, developers and operators are required to utilise JNCC guidelines to minimise the risk of injury to cetaceans when undertaking such activities (JNCC, 2010b, 2010c; 2017; 2023; 2025; JNCC, Natural England & Cefas, 2025). The guidelines advise on conducting marine mammal

	observations prior to and during the activity and, where suitable, utilising procedures such as soft start (gradual introduction of the sound) to reduce and avoid direct harm to animals. A review of the marine mammal observer data demonstrated the effectiveness of soft start approach (Stone et al, 2017).
9.5: List of main conservation measures	MG04 Control/eradication of illegal killing, fishing and harvesting. The Habitats Directive is transposed into UK law under the Habitat Regulations (HR) for England and Wales (as amended) and the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended), which make it an offence to kill, injure, capture or disturb European marine protected species. Similar legislation exists for Scottish and Northern Irish inshore waters.
9.5: List of main conservation measures	MK01 Reduce impact of mixed source pollution. The impact of chemical pollution on sperm whales remains an issue (Jepson et al, 2016), however, establishing measures beyond the historic ban on PCB use, has not been achieved to date. Further information is required to understand where exposure is occurring to be able to identify appropriate measures.
9.5: List of main conservation measures	MH01 Reduce impact of military installations and activities. To reduce the risk of noise impact on marine mammals, the UK Ministry of Defence (MOD) has a Statement of Intent with UK Statutory Nature Conservation Bodies concerning conduct in relation to marine disturbance. The MOD has developed a real-time alert procedure for naval training operations. This enables localised information on cetacean sightings to be incorporated into the training schedule and for operations to be relocated if necessary.
9.5: List of main conservation measures	MG05 Reduce bycatch and incidental killing of non-target species: The UK is implementing the EU Technical Conservation Measures Regulation transposed into UK regulations which lays down measures concerning incidental catches of vulnerable species in fisheries, and more generally the bycatch obligations within the Habitats Regulations. Since 2004, a dedicated bycatch monitoring programme has been in place, with both dedicated and

	non-dedicated onboard observers collecting data on bycatch numbers. There is a requirement for all fishing vessels over 12m using gill nets or entanglement nets to use pingers under the criteria laid out in the regulation. Furthermore, the UK Marine Wildlife Bycatch Mitigation Initiative (published August 2022) aims to improve our understanding of bycatch and entanglement of sensitive marine species through monitoring and scientific research, identify 'hotspot" or high-risk areas/gear types/fisheries in which to focus monitoring and mitigation, and develop and implement effective measures to minimise bycatch/ entanglement. Currently work is progressing towards development of a bycatch risk framework across all PET species to apply all available evidence and support targeted monitoring.
9.5: List of main conservation measures	MC03 Adapt/manage renewable energy installation, facilities and operation (excl. hydropower and abstraction activities). Guidance for the protection of marine European Protected Species from deliberate injury, killing and disturbance has been drafted (JNCC 2010a; Marine Scotland, 2014). Marine Industries generate a variety of noise through activities such as geophysical surveys (e.g. seismic surveys (JNCC 2017)), construction (e.g. pile driving (JNCC 2010b)) and decommissioning (e.g. use of explosives (2010c)). As part of the licencing procedures, developers and operators are required to utilise JNCC guidelines to minimise the risk of injury to cetaceans when undertaking such activities (JNCC, 2010b, 2010c; 2017; 2023; 2025; JNCC, Natural England & Cefas, 2025). The guidelines advise on conducting marine mammal observations prior to and during the activity and, where suitable, utilising procedures such as soft start (gradual introduction of the sound) to reduce and avoid direct harm to animals. A review of the marine mammal observer data demonstrated the effectiveness of soft start approach (Stone et al., 2017).