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

2019-2024

Conservation status assessment for the species:

S1349 - Bottlenose dolphin

(*Tursiops truncatus*)

United Kingdom

JNCC

NATURAL ENGLAND

NatureScot
Scotland's Nature Agency
Buidheann Nàdair na h-Alba

Cyfoeth Naturiol Cymru
Natural Resources Wales

Department of Agriculture, Environment and Rural Affairs
An Roinn Talmhaíochta, Comhshaoil agus Gnóthaí Tuaithe
Depairtment o' Fairmin, Environment an' Kintra Matthers
www.daera-ni.gov.uk

NIEA Northern Ireland Environment Agency
Gníomhaireacht Comhshaoil Thuaisceart Éireann
Norlin Airlan Environment Agency

[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

For further information please contact:

Joint Nature Conservation Committee. Quay House, 2 East Station Road, Fletton Quays, Peterborough, PE2 8YY. https://jncc.gov.uk

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

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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: Bottlenose dolphin

Distribution and Range Map

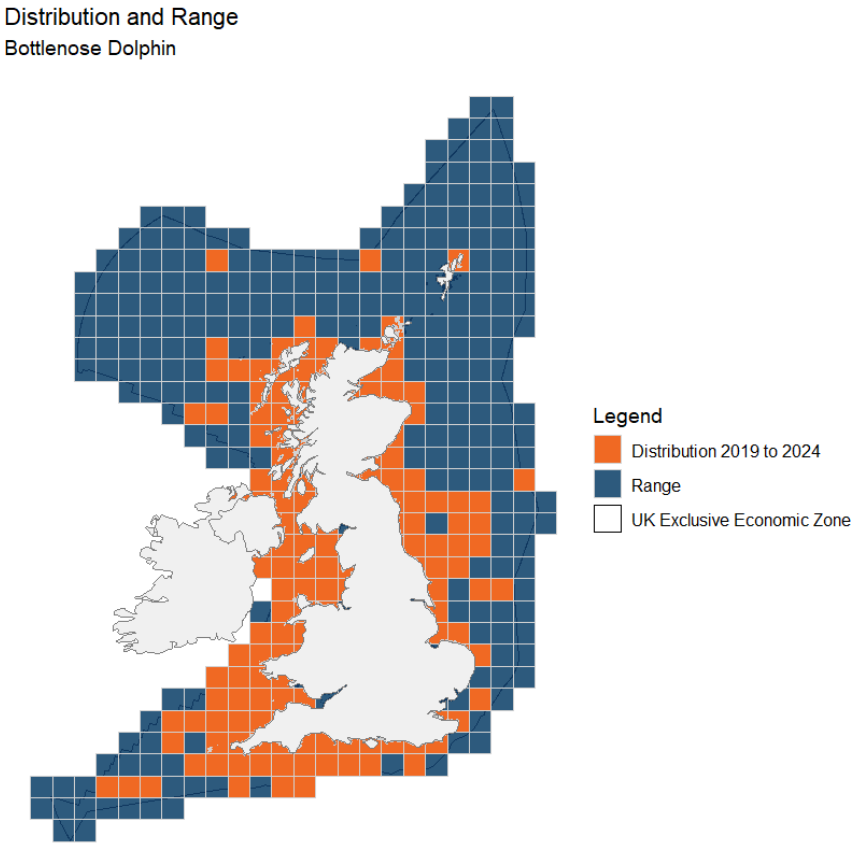

Figure 1: United Kingdom distribution and range map for S1349 - Bottlenose dolphin (*Tursiops truncatus*). The 50km grid square distribution map is based on available species records within the current reporting period.

Table 1: Table summarising the conservation status for S1349 - Bottlenose dolphin (*Tursiops truncatus*). 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)

Favourable (FV)

Breakdown of Overall Conservation Status

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

List of Sections

National Level

1. General information

1.1 Country	United Kingdom
1.2 Species code	S1349
1.3 Species scientific name	*Tursiops truncatus*
1.4 Alternative species scientific name	
1.5 Common name	Bottlenose dolphin
Annex(es)	II, 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 bottlenose dolphin 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 and Cardigan Bay Marine Wildlife Centre.

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)	1,052,500
5.2 Short-term trend; Period	2013-2022
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	1994-2024
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)	1,052,500
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

Bottlenose dolphins are distributed throughout the UK EEZ, with two spatially, genetically and culturally segregated ecotypes: offshore and coastal populations. This assessment includes both ecotypes as a single species. However, assessments have also been completed independently for coastal populations to ensure a distinct status could be recognised. Assessments have also been comleted at Management Unit level for this species to provide an outlook at relevant spatial scales to feed into management.

The distribution is based on verified sightings of bottlenose dolphin 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 and Cardigan Bay Marine Wildlife Centre.

Though the overall UK range for the species has not changed, distribution within their range has shifted which may be driven by prey availability. In 2022, there was an increase in sightings in Northern Celtic Sea, Irish Sea and the Hebrides (Gilles at al 2023). Results from neighbouring regions to the west and north will add more context to the changes of the wider population beyond the UK EEZ, results have yet to be published.

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 bottlenose dolphin distribution during August 2010 and adapted based on additional sightings data and expert knowledge.

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	2022

6.2 Population size (in reporting unit)

a) Unit	number of individuals
b) Minimum	33,943
c) Maximum	76,014
d) Best single value	50,795
6.3 Type of estimate	95% confidence interval
6.4 Quality of extrapolation to reporting unit	high

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	Complete survey or a statistically robust estimate
6.7 Short-term trend; Period	2016-2022
6.8 Short-term trend; Direction	Increasing
6.9 Short-term trend; Magnitude	
a) Estimated minimum	
b) Estimated maximum	
c) Pre-defined range	Increasing > 100%
d) Unknown	No
e) Type of estimate	95% confidence interval
f) Rate of decrease	
6.10 Short-term trend; Method used	Complete survey or a statistically robust estimate
6.11 Long-term trend; Period	2005-2022
6.12 Long-term trend; Direction	Increasing
6.13 Long-term trend; Magnitude	
a) Minimum	
b) Maximum	
c) Confidence interval	
d) Rate of decrease	
6.14 Long-term trend; Method used	Complete survey or a statistically robust estimate

6.15 Favourable Reference Population (FRP)

ai) Population size	7,830
aii) Unit	number of individuals
b) Pre-defined increment	
c) Unknown	No
d) Method used	Model-based approach
e) Quality of information	high

6.16 Change and reason for change in population size

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

6.17 Additional information

The bottlenose dolphin population in the UK is largely comprised of the offshore ecotype which occupies waters between 100m to beyond the continental shelf edge (Geelhoed et al., 2022).

The population estimate for 2022 is based primarily on density estimates from the SCANS IV survey. However, there is a gap in the 2022 SCANS survey effort in offshore waters west of Scotland, a high-density region for this species which accounted for 9% of the UK population during SCANS III (Gilles et al., 2013; Hammond et al., 2021). The population estimate provided here has therefore been corrected using the % of the UK population sighted in the missing block during SCANS III. While necessary, such extrapolation introduces uncertainty and decreases confidence in the population estimate produced.

The change in the proportion of population within the UK EEZ is likely to represent a shift in the interannual distribution of the offshore ecotype (Gilles et al., 2023; Giralt

Paradell et al. 2024) with migration of animals into the region; rather than an increase in the overall population as the rate in growth is greater than natural growth rates for a closed population (Geelhoed et al., 2022). Wider context on recent population distribution and abundance will be provided from recent surveys by NAMMCO and ObSERVE which are yet to be published.

The FRV (7830; CV: 0.28; CI: 4566-13426) for population was calculated based on estimates from SCANS II in 2005 (Hammond, et al., 2021) and CODA in 2007 (Hammond, et al., 2009), 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 (Pike, et al., 2019a; Pike, et al., 2019b) and NILS (Leonard and Øien, 2020a; Leonard and Øien, 2020b) 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.

As short-term trend in population has been determined as increasing, the pre-defined range field has been used to indicate a magnitude. However, population estimates have been calculated from large-scale surveys at approximately decadal intervals, and the confidence intervals associated with population estimates are wide. Thus, confidence in the magnitude is low.

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.

The population of bottlenose dolphin using the UK EEZ overall has continued to increase since 2005 and the range has remained stable.

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
PD01: Wind, wave and tidal power (including infrastructure)	Ongoing and likely to be in the future	Medium (M)

PF05: Sports, tourism and leisure activities	Ongoing and likely to be in the future	Medium (M)
PF12: Residential, commercial and industrial activities and structures generating noise, light, heat or other forms of pollution	Ongoing and likely to be in the future	Medium (M)
PG01: Marine fish and shellfish harvesting causing reduction of species/prey populations and disturbance of species (professional)	Ongoing and likely to be in the future	Medium (M)
PK02: Mixed source marine water pollution (marine and coastal)	Ongoing and likely to be in the future	Medium (M)
PJ12: 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)
PG13: Bycatch and incidental killing (due to fishing and hunting activities)	Ongoing and likely to be in the future	Medium (M)
PE02: Shipping lanes and ferry lanes transport operations	Ongoing and likely to be in the future	Medium (M)
PI04: Plant and animal diseases, pathogens and pests	Ongoing and likely to be in the future	Medium (M)

8.2 Sources of information

See section 14 References

8.3 Additional information

PF05: Assessed as a ‘Medium’ pressure but current reporting may be underestimating the extent of the pressure on marine mammal populations around the UK. A greater pressure in coastal areas.

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
MC02: Adapt/manage exploitation of energy resources	High (H)
MG04: Control/eradication of illegal killing, fishing and harvesting of wild plants, fungi and anmals	High (H)
MG05: Reduce bycatch and incidental killing of non-target species	High (H)
MH01: Reduce impact of military installations and activities	High (H)
MK01: Reduce impact of mixed source pollution	High (H)
MC03: Adapt/manage renewable energy installation, facilities and operation (excl. hydropower and abstraction activities)	High (H)
MG01: Management of professional/commercial fishing, shellfish and seaweed harvesting (incl. restoration of habitats)	High (H)

9.6 Additional information

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 remains committed to supporting a range of international agreements and conventions on the conservation of marine mammals and the marine environment. For example: The Convention on Migratory

Species and its Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas (ASCOBANS); the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR). Three Special Areas of Conservation (SAC) have been designated with bottlenose dolphin as a qualifying feature (grade A-C) (see Section 12): Cardigan Bay/ Bae Ceredigion (UK0012712) Wales inshore; Moray Firth (UK0019808) Scotland inshore; Pen Llyn a'r Sarnau/ Lleyn Peninsula and the Sarnau (UK0013117) Wales inshore. Each UK devolved administration has developed voluntary wildlife watching guidelines/codes of conduct which are publicly available however, while these are endorsed by the UK government and devolved administrations, there is no mandate for operators or individuals to adopt them. A UK Cetacean 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	Very Positive - increasing >1% (more than one percent) per year on average
ci) Habitat for the species	Unknown

10.1b Future prospects of parameters

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

10.2 Additional information

No additional information

11. Conclusions

11.1 Range	Favourable (FV)
11.2 Population	Favourable (FV)
11.3 Habitat for the species	Unknown (XX)
11.4 Future prospects	Favourable (FV)
11.5 Overall assessment of Conservation Status	Favourable (FV)
11.6 Overall trend in Conservation Status	Stable

11.7 Change and reason for change in conservation status

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

11.7 Change and reason for change in conservation status trend

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

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 equal to the Favourable Reference Range.

Conclusion on Population reached because: (i) the best estimate for population size is significantly higher than the Favourable Reference Population; and (ii) the short-term trend direction in Population size is increasing.

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 good; and (iii) the Future prospects for Habitat for the species are unknown.

Overall assessment of Conservation Status is Favourable because all conclusions, except for Habitat, are Favourable.

Overall trend in Conservation Status is based on the combination of the shortterm trends for Range - stable, Population - increasing, 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	number of individuals
b) Minimum	199
c) Maximum	777
d) Best single value	364
12.2 Type of estimate	95% confidence interval
12.3 Population size inside the network; Method used	Based mainly on extrapolation from a limited amount of data
12.4 Short-term trend of population size within the network; Direction	Decreasing

12.5 Short-term trend of population size within the network; Method used	Based mainly on extrapolation from a limited amount of data
12.6 Short-term trend of habitat for the species inside the pSCIs, SCIs and SACs network; Direction	Unknown
12.7 Short-term trend of habitat for the species inside the pSCIs, SCIs and SACs network; Method used	Insufficient or no data available

12.8 Additional information

The total population of coastal bottlenose dolphin is a collation of the latest estimates from the coastal populations within SAC designated for bottlenose dolphin (Cheney et al., 2013; Lohrengel et al., in prep; Cheney, et al., 2024). The proportion of the coastal bottlenose dolphin populations using designated SAC areas has declined over the short and long terms, but the populations have increased over all with a higher proportion of the population using surrounding areas and expanding their range in the case of the Scottish east coast population.

However, based on the increase of the coastal bottlenose dolphin populations within key areas, it can be assumed that overall the coastal bottlenose dolphin population is increasing in abundance and range. For more information for each MU, please refer to the MU assessments for bottlenose dolphin.

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

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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	PK02 Mixed source marine water pollution (marine and coastal). The general impact of contaminants on cetaceans is well documented, including impacts on the immune system and reproduction (Jepson et al., 2016). The concentration is highly dependent on the age, sex, reproductive state and nutritional condition of the animals in addition to the intake via the food web.Coastal populations of bottlenose dolphin have much more higher levels of exposure than animals offshore and evidence exists for several coastal populations of bottlenose dolphin (Stylos et al., 2022; Corr et al., 2023; Zanutttini et al., 2019). Bottlenose dolphin was one of four species found to have PCB levels significantly higher than other species, which is linked with possible low reproductive capacity consistent with PCB-induced toxicity (Jepson et al., 2016; Williams et al., 2023).
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 bottlenose dolphins. The effect is likely to be mediated through variation in prey resource initially. Lassalle et al (2012) noted that bottlenose dolphin may be more susceptible to a decline in food source due to the required prey biomass for their survival in comparison to other species. However, their varied diet will likely reduce impact of changing availability of species through diversification. There are a few reports of starvation in bottlenose dolphin in annual reports from the UK Cetacean Strandings Investigation Programme but it is not possible to determine whether this is a representative sample of the population and if this is due to climate change of fishing pressures (Deaville, 2018:2024).
8.1: Characterisation of pressures	PD01 Wind, wave and tidal power, including infrastructure. Pile driving during the construction phase for renewable infrastructure is a known cause of disturbance/

	displacement of bottlenose dolphins (David, 2006; Graham et al., 2017; Fernandez-Betelu et al., 2021). The influence of this pressure is indirect with evidence of recovery/return once the pressure is removed. Bottlenose dolphins are also at risk from collision with sub-surface marine renewable devices such as tidal turbines (Malinka et al., 2018). Exposure to these pressures is likely to be of higher risk to coastal populations rather than the offshore populations. There are considerable legal and societal obligations to meet clean energy requirements which will result in the increased development of the renewable energy industry. Novel industries such as tidal and wave power also have the potential to introduce new impacts, such as collision risk (Malinka et al., 2018) and displacement from key habitat (Fernandez-Betelu et al., 2021).
8.1: Characterisation of pressures	PF05 Sports, tourism and leisure activities. The impact of wildlife watching, and other leisure activities, is indirect with evidence of recovery/return once the pressure is removed. Exposure to this pressure is limited both spatially and temporally, although it may be regionally significant when occurring e.g. for coastal populations (Lohrengel et al., 2018). Boat presence is associated with a short-term reduction in foraging activity (New et al., 2013; Pirotta et al., 2014), and both short-term and long-term changes in behaviour, distribution and communication (La Manna et al., 2016; 2023; Heiler et al., 2016; Vergara-Pena, 2020; Koroza, 2018; Bejder et al., 2006; Hastie et al., 2006). The grading reflects the highest level of risk for coastal populations, whereas risk for offshore populations would be low. Mitigation exists for key coastal populations in both the east of Scotland and Cardigan Bay in Wales in the form of codes of conduct for interacting with the species.
8.1: Characterisation of pressures	PF12 Industrial or commercial activities and structures generating noise, light, heat or other forms of pollution. Cetaceans rely on echolocation for navigation, foraging and communication, making them sensitive to noise in the marine environment. Although different sources of

	disturbance have been identified as potential pressures in the pre-defined EU list, these pressures independently have not been identified as Medium or High risk to bottlenose dolphins in UK waters. However, the cumulative impact of activities can affect distribution and communication of animals (Heiler et al., 2016). Commercial activities such as a dredging have the potential to cause displacement of coastal bottlenose dolphin populations (Pirotta et al., 2013; Todd et al., 2015; Tillin et al., 2011). An acoustic disturbance was unable to be ruled out as a potential contributor to a mass stranding event involving bottlenose dophin in the Cromarty Firth in 2021 (Scottish Marine Animal Stranding Scheme, 2022). Impacts are likely greater for the coastal bottlenose dolphin compared to its offshore counterpart . This pressure expected to continue in the longer term.
8.1: Characterisation of pressures	PG01 Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species. A lack of food has a direct and immediate influence on the individual. Starvation is identified as an important cause of death for bottlenose dolphins in UK waters through post mortem investigations (Deaville 2011:2024). There is evidence to suggest that bottlenose dolphin may be the species of toothed cetacean most sensitive to resource depletion with a food-energy requirement three times that of the species with next highest requirement, the common dolphin (Lassalle et al., 2012). There is also a direct overlap identified between bottlenose dolphin diet preferences and commercially targeted species (Lassalle et al., 2012). However, no link has been identified between commercial fishing practices and the cases of cetacean starvation in UK waters. Studies have also highlighted the potential for acoustic deterrent devices on fishing equipment/aquaculture to impact on cetacean movement patterns, and in some cases result in habitat exclusion (ICES, 2015; Deng et al., 2014; Leeney et al., 2008).

8.1: Characterisation of pressures	PG13 Bycatch and incidental killing (due to fishing and hunting activities). Bottlenose dolphin bycatch is been reoprt in set net fisheries (Northridge et al., 2016; Deaville, 2018) and studies on the prevalence of epidermal conditions, deformities and injurries in bottlenose dolphins have noted that the most notable lesions were all linked to bycatch/entanglement in fishing gear (Stylos et al., 2022). Current evidence suggest that the consequence of bycatch may be higher in small coastal populations and less for larger offshore populations but for offshore populations the chance of this issue being observed is small given limited bycatch observer effort and the reduced chance of dead animals stranding.
8.1: Characterisation of pressures	PE02 Shipping lanes and ferry lanes transport operations. Recent modelling of the relative collision risk by species and sea region found moderate collision risk in the English Channel, Bay of Biscay, Celtic Sea, Irish Sea, Bristol Channel and the Wider North Atlantic (Robbins, 2022). The risk of collision risk was also highlighted by Corr et al. (2023), particularly for coastal populations with high volumes of recreational activities and/or fishing vessels. However, to date only one animal necropsied through the UK Cetacean Strandings Investigation Programme (CSIP) has a recorded cause of death has ship/boat strike. Shipping lanes and ferry lanes transport operations may also cause changes in moverment patterns, acoustic behaviours and habitat use (Mills et al., 2023; Luis et al., 2014; Bas et al., 2014), although evidence of this is currently limited in UK waters. The risk would be higher in coastal regions and busy shipping lanes.
8.1: Characterisation of pressures	PI04 Plant and animal diseases, pathogens and pests. Necropsies of stranded animals highlights consistent evidence of parasitic infestation and infection from pathogens (Deaville 2011:2024).
9.5: List of main conservation measures	MJ01 Reduce impact of mixed source pollution: The impact of chemical pollution on bottlenose dolphins 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	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	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. These data inform implementation and potential effectiveness of measures such as pingers. 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. Inshore Vessel Monitoring System (iVMS) devices are being implemented for under-12 metre fishing vessels, allowing data on latitude, longitude, course and speed to be recorded and help improve the management and sustainability of the marine environment.

	Legislation to make iVMS mandatory on under-12 metre vessels is expected to come into effect in 2024 in England. In Scotland, consultation on the introduction mandatory electronic tracking for under-12 metre vessels was carried out in late 2023. Legislation requiring iVMS for under-12 metre vessels operating in Welsh waters has been in place since 2022. Since February 2022 it has been mandatory for under-10 metre fishing vessels in English and Welsh waters to create and submit a catch record for every fishing trip through the Catch Recording Application (Catch App or Record your Catch). Data is collected on vessel, trip, gear, area fished and catch and can be used to inform on fishing activity by gear type and species. 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	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), construction (e.g. pile driving) and decommissioning (e.g. use of explosives). 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 (e.g Stone, 2015) demonstrated the effectiveness of soft start approach (Stone et al. 2017). Habitats Regulations Assessments (HRA) and Environmental Impact Assessments (EIA) processes are also applied where plans/projects present the risk of injury, mortality or disturbance within SACs or wider seas as part of the UK's consenting process.
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).
9.5: List of main conservation measures	MG01 Management of professional/commercial fishing, shellfish and seaweed harvesting (incl. restoration of habitats). Fisheries Management Plans (FMPs) are currently being developed across all administrations for fisheries with perceived threats or pressures to the marine environment. FMPs are required under the Fisheries Act 2020 which provides the framework for management fisheries outside the EU Common Fisheries Policy. The Joint Fisheries Statement (agreeing the delivery of the 8

objectives of the Fisheries Act 2020) sets out plans for 43 FMPs. Publication of FMPs started last year and is expected to continue for 2-3 years. Some are being jointly developed, others by a single authority for its own waters. 6 FMPs have now been published.