



**DOGGER BANK
TEESSIDE A & B**

**March
2014**

Environmental Statement

Chapter 8


Designated Sites

Application Reference: 6.8

Cover photograph: Installation of turbine foundations in the North Sea

Document Title Dogger Bank Teesside A & B
 Environmental Statement – Chapter 8
 Designated Sites
 Forewind Document Reference F-OFC-CH-008 Issue 4.1
 Date March 2014

Drafted by	Royal HaskoningDHV (Peter Thornton)	
Checked by	Ben Orriss	
Date / initials check		06 March 2014
Approved by	Angela Lowe	
Date / initials approval		06 March 2014
Forewind Approval		
Date / Reference approval	Gareth Lewis	18 February 2014

Title: Dogger Bank Teesside A & B Environmental Statement Chapter 8 - Designated Sites		Contract No. (if applicable) Onshore <input checked="" type="checkbox"/> Offshore <input checked="" type="checkbox"/>
Document Number: F-OFC-CH-008	Issue No: 4.1	Issue Date: 06 March 2014
Status: Issued for 1st. Technical Review <input type="checkbox"/> Issued for PEI3 <input type="checkbox"/> Issued for 2nd. Technical Review <input type="checkbox"/> Issued for DCO <input checked="" type="checkbox"/>		
Prepared by: Royal HaskoningDHV (Peter Thornton)		Checked by: Ben Orriss
Approved by: Angela Lowe	Signature / Approval (Forewind)  Gareth Lewis	Approval Date: 18 February 2014

Revision History

Date	Issue No.	Remarks / Reason for Issue	Author	Checked	Approved
12 September 2013	1	Issued for 1st Technical Review	PT	AL	AL
24 September 2013	1.1	Issued for Comment version and format change	JM/SM/CC	PT	AL
04 October 2013	2	Issued for 2nd Technical Review	PT	AL	AL
11 October 2013	3	Issued for PEI3 Submission	PT	AL	RAH
13 February 2014	4	Pre-DCO Submission Review	PT	BLO	AL
06 March 2014	4.1	DCO Submission	PT	BLO	AL

Contents

1. Introduction	1
2. Legislation, Policy and Guidance	2
2.1. Legislation, policy and guidance	2
2.2. Consultation	3
3. Methodology	5
3.1. Study area.....	5
3.2. Characterisation of the existing environment - methodology.....	5
3.3. Assessment of impacts - methodology	8
4. Methodology	9
4.1. Statutory international designated sites in the UK.....	9
4.2. Species and habitats of European importance.....	17
4.3. Statutory national designations	17
4.4. Nationally important sites and species and local or non-statutory sites and species.....	25
4.5. Future designations	32
4.6. Transboundary sites	32
4.7. Conclusions	32
5. Assessment of Impacts during Construction	33
5.1. Introduction	33
5.2. Results of assessment on designated sites during the construction phase for Dogger Bank Teesside A & B (and Dogger Bank Teesside A and Dogger Bank Teesside B individually)	33
6. Assessment of Impacts during Operation	38
6.1. Introduction	38
6.2. Results of assessment on designated sites and species during the operation phase for Dogger Bank Teesside A & B (and Dogger Bank Teesside A and Dogger Bank Teesside B individually)	38

7. Assessment of Impacts during Decommissioning	44
7.1. Introduction	44
7.2. Results of assessment on designated sites during the decommissioning phase for Dogger Bank Teesside A & B (and Dogger Bank Teesside A and Dogger Bank Teesside B individually)	44
8. Cumulative Impact Assessment	50
8.1. Introduction	50
8.2. Cumulative impacts of Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D on designated and non-statutorily designated sites and species	52
8.3. Cumulative impacts of Dogger Bank Teesside A & B and all other projects on designated and non-statutory designated sites and species	74
9. Transboundary Effects	77
9.1. Introduction	77
9.2. The impacts arising from Dogger Bank Teesside A & B (and Dogger Bank Teesside A and Dogger Bank Teesside B individually) on transboundary sites and species	77
9.3. The impacts arising from Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D on transboundary sites and species	79
9.4. The impacts arising from Dogger Bank Teesside A & B and all other projects on transboundary sites and species	80
10. Summary	82
10.1. Findings	82
10.2. Conclusions	84
11. References	86

Table of Tables

Table 2.1	NPS assessment requirements for designated sites.....	2
Table 2.2	Key consultation and stakeholder issues and outcomes in relation to the designated sites chapter received by Forewind	4
Table 3.1	Description of statutory and non-statutory designations addressed in this chapter	6
Table 4.1	UK SPAs, Ramsar sites and individual SSSIs reported in this chapter and shown on Figure 4.1	12
Table 4.2	UK SACs (and their component SSSIs) and related Ramsar sites reported in this chapter and shown on Figure 4.2	14
Table 4.3	OSPAR species screened into the assessment.....	17
Table 4.4	National designated (or defined) sites screened in to the assessment ..	19
Table 4.5	Recommended MCZ (rMCZ) sites screened in to the assessment.....	26
Table 4.6	Local and non-statutorily designated onshore sites screened in to the assessment.....	26
Table 5.1	Summary of impacts on designated sites and species during the construction phase for Dogger Bank Teesside A & B (and Dogger Bank Teesside A and Dogger Bank Teesside B individually).....	33
Table 6.1	Summary of impacts on designated sites and species during the operation phase for Dogger Bank Teesside A & B (and Dogger Bank Teesside A and Dogger Bank Teesside B individually).....	38
Table 7.1	Summary of impacts on designated sites and species during the decommissioning phase for Dogger Bank Teesside A & B (and Dogger Bank Teesside A and Dogger Bank Teesside B individually).....	45
Table 8.1	Projects considered within the cumulative impact assessment on offshore designated sites and species	51

Table 8.2	Summary of cumulative impacts on designated sites and species during the construction phase for Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D, and Dogger Bank Teesside A & B and all other projects	53
Table 8.3	Summary of cumulative impacts on designated sites and species during the operation phase for Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D, and Dogger Bank Teesside A & B and all other projects	60
Table 8.4	Summary of cumulative impacts on designated sites and species during the decommissioning phase for Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D, and Dogger Bank Teesside A & B and all other projects	67
Table 9.1	Summary of impacts on transboundary species during the construction, operation, and decommissioning phase for Dogger Bank Teesside A & B (and Dogger Bank Teesside A and Dogger Bank Teesside B individually)	78
Table 9.2	Summary of impacts on transboundary species during the construction, operation, and decommissioning phase for Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D	79
Table 9.3	Summary of impacts on transboundary species during the construction, operation, and decommissioning phase for Dogger Bank Teesside A & B and all other projects.....	81

Table of Figures

Figure 4.1	UK SPAs, Ramsar sites and SSSIs screened in.....	11
Figure 4.2	UK offshore SACs / Ramsar sites and SSSIs considered.....	16
Figure 4.3	Offshore nationally designated sites	27
Figure 4.4	Onshore nationally and locally (and non-statutory) designated sites	28

Table of Appendices

Appendix 4A	Forewind CIA Strategy - Offshore
Appendix 8A	Screening of all UK sites in the study area
Appendix 8B	Screening of OSPAR List of Threatened Species and Habitats
Appendix 11A	Ornithology Technical Report

1. Introduction

- 1.1.1. This chapter of the Environmental Statement (ES) describes the existing environment with regard to designated sites and species, and presents the conclusions in relation to the assessment of potential impacts of Dogger Bank Teesside A & B on these designated sites and species during the construction, operation and decommissioning phases. This chapter therefore draws together and presents in one place issues relating to designated sites and species. Where the potential for significant impacts is identified, mitigation measures and residual impacts are presented.
- 1.1.2. This chapter considers United Kingdom (UK) local, national and international designated sites that may be affected by both the onshore and offshore components of the development, and in the transboundary section considers non-UK international designated sites. It also considers species and habitats on the Oslo and Paris Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR) List of Threatened and Declining Species and Habitats.
- 1.1.3. This chapter provides the conclusions of the assessment of impacts from a number of other chapters within this ES, namely:
- **Chapter 9 Marine Physical Processes;**
 - **Chapter 10 Marine Water and Sediment Quality;**
 - **Chapter 11 Marine and Coastal Ornithology;**
 - **Chapter 12 Marine and Intertidal Ecology;**
 - **Chapter 13 Fish and Shellfish Ecology;**
 - **Chapter 14 Marine Mammals;**
 - **Chapter 24 Onshore Geology, Water Resources and Land Quality;**
 - **Chapter 25 Terrestrial Ecology;** and
 - **Chapter 32 Transboundary Effects.**
- 1.1.4. The assessment of impacts on European sites (i.e. those designated under the Habitats Directive (92/43/EEC) and Council Directive (2009/147/EC) on the conservation of wild birds (the 'Birds Directive')) has been informed by a Habitats Regulations Assessment (HRA) process, including an HRA Screening Report and, where necessary, the provision of information to inform an Appropriate Assessment (AA), presented in the Dogger Bank Teesside A & B **HRA Report**. All information relating to the on-going HRA process has been submitted and is available alongside this ES.

2. Legislation, Policy and Guidance

2.1. Legislation, policy and guidance

- 2.1.1. The assessment of potential impacts upon designated sites has been made in the relevant chapters of the ES with specific reference to the relevant National Policy Statements (NPS). These are the principal decision making documents for Nationally Significant Infrastructure Projects (NSIP). Those relevant to Dogger Bank Teesside A & B are:
- Overarching NPS for Energy (EN-1) (Department of Energy and Climate Change (DECC) 2011a); and
 - NPS for Renewable Energy Infrastructure (EN-3) (DECC 2011b).
- 2.1.2. The specific assessment requirements for designated sites, as detailed in the NPS, are summarised in **Table 2.1**, together with an indication of the paragraph numbers of the ES Chapter where each is addressed.

Table 2.1 NPS assessment requirements for designated sites

NPS requirement	NPS reference
Where the development is subject to EIA the applicant should ensure that the Environmental Statement (ES) clearly sets out any effects on internationally, nationally and locally designated sites of ecological or geological conservation importance, on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity. The IPC should also expect the applicant to provide environmental information proportionate to the infrastructure where Environmental Impact Assessment (EIA) is not required.	EN-1, paragraph 5.3.3
The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests.	EN-1, paragraph 5.3.4

- 2.1.3. **Chapters 9, 10, 11, 12, 13, 14, 24, and 25** contain reference to the NPS assessment requirements that relate specifically to each of those topics, as set out in Section 1 above.
- 2.1.4. The assessment of impacts on designated sites and species within the relevant chapters of the ES follows the general legislative framework set out by the Offshore Marine Conservation (Natural Habitats, & c.) Regulations 2007 (as amended), the Conservation of Habitats and Species Regulations 2010 (Habitats Regulations), the Wildlife and Countryside Act 1981, and the Marine and Coastal Access Act 2009.
- 2.1.5. The principal legislation, policy and guidance documents used in the assessment are as set out in **Chapter 3 Legislation and Policy**.

2.2. Consultation

- 2.2.1. To inform the ES, Forewind has undertaken a thorough pre-application consultation process, including the following key stages:
- Scoping Report submitted to the Planning Inspectorate (May 2012);
 - Scoping Opinion received from the Planning Inspectorate (June 2012);
 - First stage of statutory consultation (in accordance with sections 42 and 47 of the Planning Act 2008) on Preliminary Environmental Information (PEI) 1 (report published May 2012); and
 - Second stage of statutory consultation (in accordance with sections 42, 47 and 48 of the Planning Act 2008) on the draft ES designed to allow for comments before final application to the Planning Inspectorate.
- 2.2.2. In addition, consultation associated with Dogger Bank Creyke Beck application (Forewind, August 2013) has been taken into account for Dogger Bank Teesside A & B where appropriate.
- 2.2.3. In between the statutory consultation periods, Forewind consulted specific groups of stakeholders on a non-statutory basis to ensure that they had an opportunity to inform and influence the development proposals. Consultation undertaken throughout the pre-application development phase has informed Forewind's design decision making and the information presented in this document. Further information on the consultation process is presented in **Chapter 7 Consultation**. A Consultation Report is also provided alongside this ES as part of the overall planning submission.
- 2.2.4. A summary of the consultation carried out at key stages throughout the project, of particular relevance to Designated Sites, is presented in **Table 2.2**. This table only includes the key items of consultation that have defined the assessment. A considerable number of comments, issues and concerns raised during consultation have been addressed during consultation meetings and hence have not resulted in changes to the content of the ES. In these cases, the issue in question has not been captured in **Table 2.2**. A full explanation of how the consultation process has shaped the ES, as well as tables of all responses received during the statutory consultation periods, will be provided in the Consultation Report.

Table 2.2 Key consultation and stakeholder issues and outcomes in relation to the designated sites chapter received by Forewind

Consultee	Consultation	Comment	Response
Joint Nature Conservation Committee (JNCC)	June 2013 (consultation on Dogger Bank Creyke Beck draft ES, statutory)	It was unclear throughout the chapter how such assessments had been made and how specific species of conservation interest (i.e. BAP species) had been accounted for.	A reference has been made to relevant sections within other chapters where the specific assessment has been undertaken and concluded in relation to the designated sites/species throughout the assessment sections in this chapter.
JNCC	June 2013 (consultation on Dogger Bank Creyke Beck draft ES, statutory)	It is not clear how Forewind have assessed designated sites in this chapter. Whilst we accept that the assessment of cSACs and SPAs has been covered in the Appropriate Assessment information it is not clear how other designated sites have been assessed. JNCC and Natural England would like more information from Forewind on this issue so that we can have confidence in the impact statements provided.	This chapter is a signposting chapter, and presents the results of the specific assessment on designated sites and species from the other chapters within the draft ES (as noted in paragraph 1.1.3). Consequently, the methodology in this chapter describes the nature of the designated sites and species and the impacts on them (assessed in the other chapters of the draft ES). Additional text specifically clarifying this is presented in Sections 1, 2, and 3.

3. Methodology

3.1. Study area

- 3.1.1. In order to cover both the onshore and offshore elements of the proposed development, separate study areas have been assigned to the terrestrial (onshore) and marine (offshore) environments.

Onshore

- 3.1.2. The onshore study area considered any designations within 2km of the development footprint. The development footprint comprises all areas above Mean High Water Spring (MHWS) and includes the co-location of two converter stations near to the existing Lackenby NGET substation in Teesside, an onshore High Voltage Direct Current (HVDC) cable route (approximately 6km long and up to 36m wide) from the Redcar and Cleveland coast to the converter station, and a High Voltage Alternating Current (HVAC) cable route (approximately 2km long and up to 38m wide) between the converter stations and the existing Lackenby substation (**Chapter 5 Project Description**).
- 3.1.3. The study area of the onshore development is extended to 5km beyond the onshore cable corridor in consideration of the potential for roosting bats.
- 3.1.4. Distances stated for onshore designations are measured from the closest point to the onshore development footprint as described above.

Offshore

- 3.1.5. The offshore study area covered a much wider area, largely due to the mobile and migratory nature of many of the species concerned (for example birds and marine mammals). The exact study area therefore depends on the feature being assessed, details of which are provided in the relevant assessment chapters as identified in Section 1.
- 3.1.6. The reader is also directed to **Chapter 11** and the Dogger Bank Teesside A & B **HRA Report**, which gives particular consideration to the geographic scope of the assessment for ornithology, specifically the offshore study area includes international designations within the Greater North Sea Region encompassing the U.K., France, Germany, Belgium, the Netherlands, Denmark, Sweden, and Norway.
- 3.1.7. Distances stated for offshore designations are measured from the closest point to the wind farm boundary, export cable corridor or landfall.

3.2. Characterisation of the existing environment - methodology

- 3.2.1. In addition to using the information drawn together in **Chapters 9, 10, 11, 12, 13, 14, 24, and 25** (which has included site specific surveys), a desk study has been used to identify relevant designated sites within the defined study areas and to draw together information describing their status and condition.

3.2.2. The statutory designations described within this section are detailed in **Table 3.1.**

Table 3.1 Description of statutory and non-statutory designations addressed in this chapter

Rationality of designation	Designation	Statutory implementation
Internationally designated sites ¹	Ramsar ¹	The Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention or Wetlands Convention), 1971.
European designated sites (Natura 2000) ¹	Special Protection Area (SPA) ¹	European Community Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive) and the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended in 2012) for those sites which have marine components.
	Special Area of Conservation (SAC) ¹	European Community Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive) and the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended in 2012) for those sites with marine components.
European level habitats and species	OSPAR List of Threatened and/or Declining Species and Habitat	Not statutorily protected, but UK is signatory to the OSPAR Convention. Consequently, the status offers no additional conservation gain but indicates the UK's commitment to the process of mapping and identifying threatened or declining species and habitats.
Nationally designated sites	Sites of Special Scientific Interest (SSSI)	National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981 (amended by the Countryside and Rights of Way (CROW) Act 2000 and the Natural Environment and Rural Communities (NERC) Act 2006).
	Marine Conservation Zone (MCZ)	Marine and Coastal Access Act 2009.
	National Nature Reserve (NNR)	National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981 (amended by the Countryside and Rights of Way (CROW) Act 2000 and the Natural Environment and Rural Communities (NERC) Act 2006).
	Marine Nature Reserve (MNR)	Wildlife and Countryside Act 1981.
	Biosphere Reserve	Not statutorily protected, but nominated by the Government under the UNESCO's Man and the Biosphere Programme.
Nationally non-statutorily designated sites	Ancient Woodland	Not statutorily protected, but must be taken into account in planning decisions.
Local and non-statutorily designated sites	Local Geological Sites (previously RIGS)	Designated by local authorities under the National Parks and Access to the Countryside Act (1949).
	Local Nature Reserves (LNR)	Not statutorily protected, but must be taken into account in planning decisions.
	Local Wildlife Sites (LWS)	Not statutorily protected, but must be taken into account in planning decisions (identified in PPS 9).
	Biodiversity Action Plan (BAP) habitats and species	Not statutorily protected, but linked with Biodiversity Action Plan habitats.

¹ International and European designations are assessed in the Dogger Bank Teesside A & B **HRA Report**.

- 3.2.3. The desk study identified international, national and locally designated (or non-statutorily designated) sites including:
- Ramsar sites;
 - SAC;
 - SPA;
 - OSPAR List of Threatened and/or Declining Species and Habitat;
 - SSSI;
 - NNR;
 - MCZ;
 - MNR;
 - Biosphere Reserves;
 - BAP priority habitats and species;
 - Ancient Woodland (AW);
 - Local Geological Sites (previously Regionally Important Geological Sites);
 - LNR; and
 - LWS.
- 3.2.4. Information was also gathered on species and habitats present within the study area and listed on the UK BAP, and the OSPAR List of Threatened and/or Declining Species and Habitats.
- 3.2.5. Onshore, the Multi-Agency Geographic Information for the Countryside and Joint Nature Conservation Committee websites have been reviewed for information on nationally and internationally designated sites of nature conservation importance and LNRs within 1km of the study area (5km for bats).
- 3.2.6. Information on locally designated sites of nature conservation importance (and non-statutory sites) and records of notable habitats (such as ancient woodlands) and notable species within 1km (5km for bats) of the study area were obtained from the local Biodiversity Records Centre, and Local County recorders contacted for any relevant records (see **Chapter 25**).
- 3.2.7. An Extended Phase I Habitat survey has been undertaken in order to provide information on the habitats in the study area and to assess the potential for notable or protected fauna. A search has been undertaken for any invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). Further information is provided in **Chapter 25**.

3.3. Assessment of impacts - methodology

- 3.3.1. The assessment of impacts on designated sites reported in this Chapter draws on the parameter specific assessments as set out in **Chapters 9, 10, 11, 12, 13, 14, 24, and 25**, which follow the general EIA methodology described in **Chapter 4 EIA Process**. The impacts described are sign posted back to the relevant chapter containing the detailed assessment (including the Dogger Bank Teesside A & B **HRA Report** for European sites).

4. Methodology

4.1. Statutory international designated sites in the UK

- 4.1.1. There are a number of international, national and local designations (statutory and non-statutory) of relevance to the development of Dogger Bank Teesside A & B, including those that are designated by and lie within European states surrounding the North Sea.
- 4.1.2. A precautionary approach has been adopted for the selection of designated sites in this chapter. All sites where uncertainty exists regarding the capacity for the effects of the proposed development to influence the features for which these sites have been designated, have been included. Background information for sites where potential significant effects at construction or operation stage are likely to occur is presented in following sections.
- 4.1.3. Non-UK international designated sites are considered in the transboundary section of this chapter (see Section 9).

International and European sites

- 4.1.4. In the UK, statutory international designated sites include SPAs, SACs and Ramsar as shown in **Table 3.1**. Transboundary SPAs, SACs, and Ramsar sites are also located within and surrounding the North Sea (see Section 4.6).
- 4.1.5. SACs and SPAs form the '*Natura 2000*' network, which is designed to protect Europe's most important areas for wildlife. Ramsar sites are classified as requiring the same protection at a policy level, in respect of new development, as SPAs and SACs. Interim designations are given where sites are yet to be classified/fully designated.
- 4.1.6. Under Regulation 61 of the Habitats Regulations and Regulation 25 of the Offshore Habitats Regulations 2007, if a proposed development is likely to significantly affect a designated site (unconnected with site management), the competent authority (i.e. in this case the Secretary of State) must undertake an Appropriate Assessment as part of a HRA (Regulation 61(1) of the Habitats Regulations and Regulation 25(1) of the Offshore Habitats Regulations).
- 4.1.7. The Appropriate Assessment is used to determine whether, in view of the European site's conservation objectives, the plan or project, either alone or in combination with other plans or projects, would have an adverse effect (or risk of an adverse effect) on the integrity of the site in question. The applicant provides information to inform an Appropriate Assessment, normally in the form of an HRA report.

- 4.1.8. The assessment of potential environmental impacts upon the ‘*Natura 2000*’ sites where a potential likely significant effect could arise as a result of Dogger Bank Teesside A & B has been undertaken and presented in the Dogger Bank Teesside A & B **HRA Report**, and is therefore considered to fall outside the EIA assessment on designated sites and species summarised in this chapter as it lies outwith the EIA regulations. However, it should be noted that the suite of SPAs also comprise component SSSI and the impacts on the UK SPAs are reported in this chapter in relation to the SSSI components.

Ramsar sites

- 4.1.9. Ramsar sites are wetlands of international importance designated under the Ramsar Convention (1971). The initial emphasis was on selecting sites of importance to waterbirds within the UK, and consequently many Ramsar sites are also SPAs classified under the Birds Directive.
- 4.1.10. Given the location of Dogger Bank Teesside A & B and migratory nature of some of the bird species present in designated sites around the North Sea, Ramsar sites spread over a large geographical area have been included in the assessment presented in this chapter (see **Figure 4.1** and **Table 4.1** for the list of UK Ramsar sites considered in this chapter due to their component SSSIs (see Section 4.2)). **Appendix 8A** presents the screening undertaken that determined which Ramsar sites are considered within this chapter for their respective SSSI component sites. However, all UK and transboundary Ramsar sites are considered and assessed in the Dogger Bank Teesside A & B **HRA Report**.
- 4.1.11. It should be noted that in **Appendix 8A**, the screening to ascertain and identify the sites which would be reported in this chapter has been informed by the detailed assessment carried out in **Chapter 11** and its supporting **Appendix 11A Ornithology Technical Report**. Consequently, it was identified that for migratory (wintering and passage) waterbird species the birds recorded within Dogger Bank Zone (and subsequently Dogger Bank Teesside A & B) during the surveys could not be linked to specific designated sites (including Ramsar sites, SPAs, and SSSIs) with respect to the potential impact on populations of collisions and barrier effect (see paragraphs 3.3.11, 3.3.36, and 3.3.48 in **Chapter 11**). The key reasons being (see paragraph 3.3.11 in **Chapter 11**):
- Because of the distance of the zone offshore and thus the potential coastal and inland sites that birds may originate from;
 - Because birds may not migrate directly to or from the sites for which they are features of; and
 - Because several sites might be used by the same individuals at different periods of the year.

Table 4.1 UK SPAs, Ramsar sites and individual SSSIs reported in this chapter and shown on Figure 4.1

Site name and designation
UK
Alde–Ore Estuary SPA / Ramsar (UK1)
Brighton to Newhaven Cliffs SSSI (UK2)
Buchan Ness to Collieston Coast SPA (UK3)
Calf of Eday SPA (UK4)
Cape Wrath SPA (UK5)
Collieston to Whinnyfold Coast SSSI (UK6)
Copinsay SPA (UK7)
Coquet Island SPA (UK8)
Dover to Kingsdown Cliffs SSSI (UK9)
Dunbar Coast SSSI (UK10)
Durham Coast SSSI (UK11)
East Caithness Cliffs SPA (UK12)
Eilean Hoan (North Sutherland Coastal Islands) SSSI (UK13)
Fair Isle SPA (UK14)
Farne Islands SPA (UK15)
Fetlar SPA (UK16)
Flamborough and Filey Coast pSPA (formerly Flamborough Head and Bempton Cliffs SPA) (UK17)
Forth Islands SPA (UK18)
Foula SPA (UK19)
Fowlsheugh SPA (UK20)
Hermaness, Saxa Vord and Valla Field SPA (UK21)
Hoy SPA (UK22)
Hunstanton Cliffs SSSI (UK23)
Marwick Head SPA (UK24)
North Berwick Coast SSSI (UK25)
North Caithness Cliffs SPA (UK26)
Northumbria Coast SPA / Ramsar (UK27)
Noss SPA (UK28)
Papa Westray (North Hill and Holm) SPA (UK29)
Rousay SPA (UK30)
St Abb's Head to Fast Castle SPA (UK31)
Sule Skerry and Sule Stack SPA (UK32)
Sumburgh Head SPA (UK33)
Teesmouth and Cleveland Coast SPA / Ramsar (UK34)
Troup, Pennan and Lion's Heads SPA (UK35)
West Westray SPA (UK36)
Weybourne Cliffs SSSI (UK37)

- 4.1.12. The assessment of collisions and barrier effect on the migratory bird populations have, therefore, been assessed with respect to the national (and biogeographic) populations. The assessment (in **Chapter 11**) concluded that **negligible to minor adverse** impacts are predicted on the migrant bird populations assessed, as a result of collisions and barrier effects for the operation phase for Dogger Bank Teesside A & B (see Table 7.7 and Table 7.11 in **Chapter 11**) and for Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B, and Dogger Bank Teesside C & D combined (see Table 10.12 and Table 10.16 in

Chapter 11). No impacts related to collisions or barrier effects were identified during the construction and decommissioning phases for Dogger Bank Teesside A & B, either alone or cumulatively with Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D or other projects outside Dogger Bank Zone.

- 4.1.13. In relation to transboundary Ramsar sites for Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D combined or in combination, the findings of the impact assessment on these is presented in the Dogger Bank Teesside A & B **HRA Report** and are not reported further in this chapter (see Section 4.6).

Special Protection Areas (SPAs)

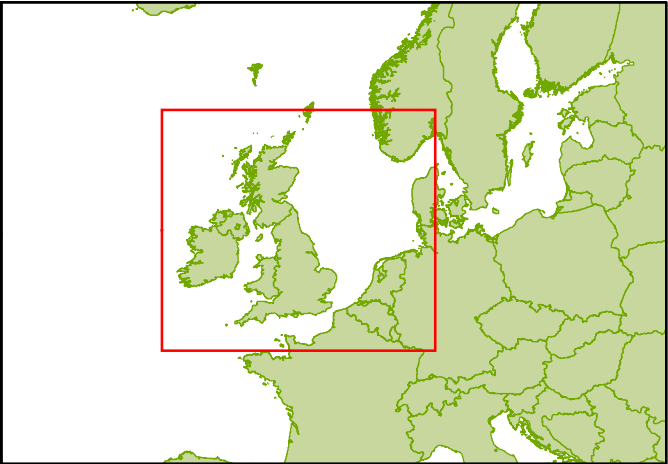
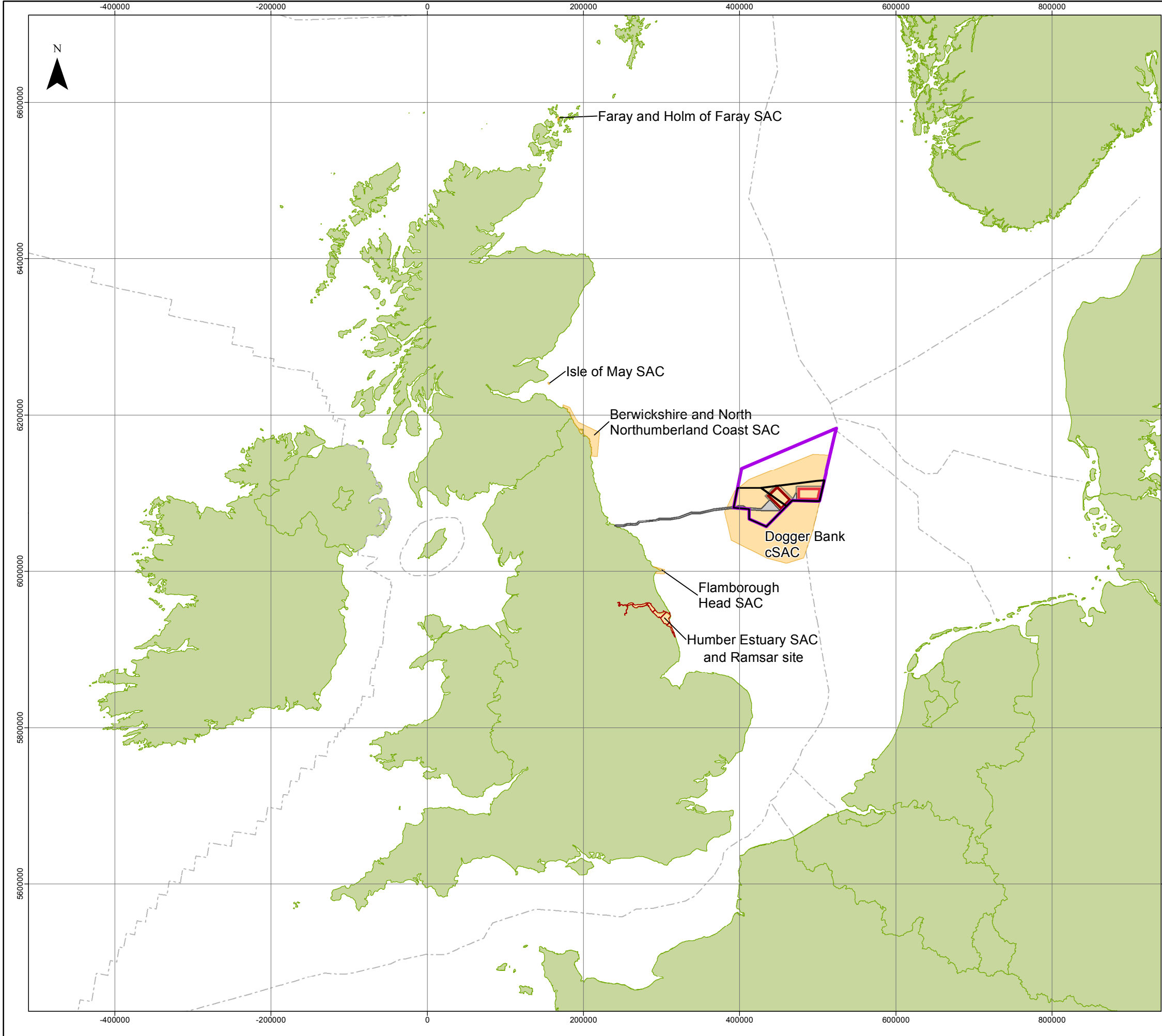
- 4.1.14. SPAs are statutory designated sites that are classified under European Union (EU) law in accordance with Article 4 of the EC Directive on the conservation of wild birds (79/409/EEC) (known as the Birds Directive). They are classified for rare and vulnerable birds, listed in Annex I of the Birds Directive, and for regularly occurring migratory species.
- 4.1.15. SPAs were screened in for appropriate assessment taking into consideration the location of Dogger Bank Teesside A & B in relation to migratory routes and foraging ranges for the bird species present in designated sites around the North Sea (see Dogger Bank Teesside A & B **HRA Report**).
- 4.1.16. SPAs designated for breeding and wintering / passage seabird populations of the following species: Arctic skua, Atlantic puffin, black-legged kittiwake, common guillemot, great black-backed gull, great skua, lesser black-backed gull, northern fulmar, northern gannet and razorbill (for wintering / passage only) were screened in where the mean maximum or maximum foraging range from the sites encompassed part or all of the offshore wind farm area, but also where the breeding population outside of the breeding season could be affected for sites within the Greater North Sea Region of the UK waters.
- 4.1.17. SPAs that support designated populations of migratory species (including species that may form part of internationally important assemblages of waterbirds) that could pass through Dogger Bank Zone were screened into the assessment, unless very low numbers of these species were recorded within Dogger Bank Zone. For example, Arctic tern and common tern were screened out following the results of the baseline surveys due to the extremely low numbers present within Dogger Bank Zone.
- 4.1.18. The UK SPAs that were screened into this chapter due to their component SSSIs (see Section 4.2) are shown on **Figure 4.1** and listed in **Table 4.1**, whilst **Appendix 8A** presents the screening that was undertaken to determine which SPAs (specifically their component SSSIs) are reported within this chapter. As described in paragraph 4.1.11 above, the migrant bird populations of designated sites (including SPAs) have not been reported in this chapter due to the negligible population level effects assessed in **Chapter 11**. However, all UK and transboundary SPAs are considered and assessed in the Dogger Bank Teesside A & B **HRA Report**, including the conclusion in relation to the sites' integrity, and are not reported further in this chapter (see Section 4.6).

Special Areas of Conservation (SACs) and Sites of Community Importance (SCIs)

- 4.1.19. SACs are sites designated under EC Directive 92/43/EEC on the conservation of habitats and wild flora and fauna (known as the Habitats Directive), because of their significant contribution to conserving the 189 habitat types and 788 species identified in Annexes I and II of the Directive. SCIs share the same characteristics as SACs. SCIs, while proposed at European Commission are yet to be formally designated by the government of each country.
- 4.1.20. SACs screened into this chapter due to their component SSSIs and relevant features (see Section 4.2) are shown on **Figure 4.2** and listed in **Table 4.2**, whilst **Appendix 8A** presents the screening undertaken that determined which SACs (specifically their component SSSIs) are considered within this chapter. However, all UK and transboundary SACs / cSACs / SCIs / pSCIs are considered and assessed in the Dogger Bank Teesside A & B HRA Report, including the conclusion in relation to site integrity.

Table 4.2 UK SACs (and their component SSSIs) and related Ramsar sites reported in this chapter and shown on **Figure 4.2**

Site name	Component SSSIs	Feature(s)
Dogger Bank cSAC	There is no component SSSI for this site, therefore it is not considered further in this report. Impacts on the site are considered in the HRA Report .	Sandbanks which are slightly covered by sea water all the time
Berwickshire and North Northumberland Coast SAC	<ul style="list-style-type: none"> Burnmouth Coast SSSI St Abb's Head to Fast Castle SSSI Bamburgh Coast and Hills SSSI Castle Point to Cullernose Point SSSI Newton Links SSSI Northumberland Shore SSSI Lindisfarne SSSI Berwickshire Coast (intertidal) SSSI The Farne Islands SSSI Howick to Seaton Point SSSI 	Grey seal
Faray and Holm of Faray SAC	<ul style="list-style-type: none"> Faray and Holm of Faray SSSI 	Grey seal
Humber Estuary SAC and Humber Estuary Ramsar	<ul style="list-style-type: none"> Humber Flats and Marshes: Upper Humber SSSI Humber Flats and Marshes: The Grues SSSI Humber Flats and Marshes: Barton and Barrow Clay Pits SSSI Humber Flats and Marshes: Spurn Head to Salt End Flats SSSI North Lincolnshire Coast SSSI Humber Flats and Marshes: Pyewipe and Cleethorpes Coast SSSI 	Grey seal
Isle of May SAC	<ul style="list-style-type: none"> Isle of May SSSI 	Grey seal



LEGEND

- Dogger Bank Zone
- Tranche boundary
- Dogger Bank Teesside A
- Dogger Bank Teesside B
- Dogger Bank Teesside A & B Export Cable Corridor
- Temporary works area
- UK Special Area of Conservation (SAC) or candidate Special Area of Conservation (cSAC)
- Humber Estuary Ramsar site

0 50 100 200
Kilometres

Data Source:
Designations © JNCC, 2013

PROJECT TITLE
DOGGER BANK TEESSIDE A & B

DRAWING TITLE
Figure 4.2 UK offshore SAC's and SSSI's considered

VER	DATE	REMARKS	Drawn	Checked
1	07/10/2013	PEI3	JE	PT
2	10/02/2014	DCO Submission	JE	PT

DRAWING NUMBER:
F-OFL-MA-238

SCALE	1:5,000,000	PLOT SIZE	A3	DATUM	WGS84	PROJECTION	UTM31N
-------	-------------	-----------	----	-------	-------	------------	--------

The concepts and information contained in this document are the copyright of Forewind. Use or copying of the document in whole or in part without the written permission of Forewind constitutes an infringement of copyright. Forewind does not warrant that this document is definitive nor free of error and does not accept liability for any loss caused or arising from reliance upon information provided herein.

4.2. Species and habitats of European importance

OSPAR list of threatened and/or declining species and habitats

- 4.2.1. Part I of the OSPAR list includes over 30 invertebrates, birds, fish, reptiles and mammals and Part II details 16 habitat types. Those species and habitats found in OSPAR Region II, where the proposed wind farm is located are listed in **Table 4.3** (Region II comprises the North Sea, the English Channel, the Skagerrak and the Kattegat to the limits of the OSPAR maritime area, bounded on the north by latitude 62°N, on the west by longitude 5°W and the east coast of Great Britain, and on the south by latitude 48°N). The full OSPAR list identifying those species not present within Dogger Bank Teesside A & B zone of influence are presented in **Appendix 8B**.

Table 4.3 OSPAR species screened into the assessment

Latin name	Common name	Presence in relation to Dogger Bank Teesside A& B
Birds		
<i>Rissa tridactyla</i>	Black-legged kittiwake	Present during ornithological surveys and identified as a species of principal concern (see Chapter 11 Marine and Coastal Ornithology).
Fish		
<i>Raja montagui</i> (synonym: <i>Dipturus montagui</i>)	Spotted ray	Present within the wind farm site (see Section 4 in Chapter 13 Fish and Shellfish Ecology).
<i>Gadus morhua</i>	Cod	Present within the wind farm site (see Section 4 in Chapter 13 Fish and Shellfish Ecology).
<i>Raja clavata</i>	Thornback skate / ray	Present within the wind farm site (see Section 4 in Chapter 13 Fish and Shellfish Ecology).
<i>Squalus acanthias</i>	(North-east Atlantic) spurdog	Present within the wind farm site (see Section 4 in Chapter 13 Fish and Shellfish Ecology).
Mammals		
<i>Phocoena phocoena</i>	Harbour porpoise	Present within the wind farm site. Common, and occurs throughout the year, with peak numbers in the south eastern North Sea January - April (see Chapter 14 Marine Mammals).

4.3. Statutory national designations

Sites of Special Scientific Interest

- 4.3.1. SSSI are designated for a variety of wildlife and geological features in England and are designated under the Wildlife and Countryside Act 1981 (as amended). The SSSIs that form a component site of the UK SPAs and the SSSIs outwith any European designated sites (i.e. SPAs) screened into the study area and subsequent assessments in the relevant chapters are identified in **Appendix 8A**, and are listed in **Table 4.4** along with the relevant interest features. SSSIs that support bird populations of conservation importance are often incorporated into the European designated sites (SPAs) and fall under the assessment within the Dogger Bank Teesside A & B **HRA Report**. However, 25 SPAs (and Ramsar sites) have been identified with component SSSIs whose features have been screened into this chapter (listed in **Table 4.4** and screening reported in **Appendix 8A**). In addition, eight SSSIs not present as components

of SPAs (and Ramsar sites) support a number of marine seabird species whose populations are known to forage within the study area. Consequently, these SSSIs have been screened in for potential impacts on their marine seabirds (notably black-legged kittiwake, great black-backed gull, great skua, lesser black-backed gull, northern fulmar, and razorbill). The locations of these SSSIs (or the SPAs / Ramsar sites which contain component SSSIs) are presented on **Figure 4.1**.

- 4.3.2. There are five SACs which comprise component SSSIs for which a feature or features are screened into the reporting within this chapter (see **Appendix 8A**). These are listed in **Table 4.2** and their locations shown on **Figure 4.2**.
- 4.3.3. No terrestrial SSSIs have been screened in (see **Appendix 8A**) in relation to the landward cable corridor.

National Nature Reserves

- 4.3.4. NNR are a selection of the parts of SSSIs considered to be of the best quality in terms of conservation of their features. The SSSI within the cable route corridor does not include an NNR designation. Therefore no NNRs are screened into this assessment.

Marine Conservation Zones

- 4.3.5. New Marine Protected Areas (MPAs) will be put forward under the provisions of the Marine and Coastal Access Act (2009), with the designation of recommended Marine Conservation Zones (rMCZs). In September 2011 a list of the 127 rMCZs was published by Defra for consultation. The Government has since opted for a phased approach to designating these areas, choosing to consult on the potential designation of only 31 sites initially. The rMCZs are now classified as red, amber and green. Red rMCZs have been refused further consideration for designation, amber rMCZs have an uncertain future with no timetable for any future designation and green rMCZ are the 31 put forward for potential designation, subject to consultation in 2013.
- 4.3.6. MCZs will augment the Natura 2000 network for species and habitats that are either not covered by the Habitats Directive or for which the Directive is felt not to cover adequately, providing added protection to marine ecosystems, ecological processes, habitats and species. The process of putting forward sites was devolved to four regional projects which are stakeholder led. The project of most relevance to Dogger Bank Teesside A & B is the North Sea Marine Conservation Zones Project - NetGain project, which defined 18 Marine Conservation Zones offshore of Britain's East Coast, of which 14 were considered within the study area (see **Appendix 8A**). However, 12 rMCZs were screened out as they are considered to lie outwith the zones where potential physical or indirect physical and chemical disturbances would be expected to extend to these sites in the long-term, and those closer to the export cable corridor are, at worst, likely to experience temporary and reversible effects. No sites are identified for mobile species such as marine mammals or fish, which themselves could travel through or in any areas of disturbance resulting from Dogger Bank Teesside A & B.

Table 4.4 National designated (or defined) sites screened in to the assessment

Site name and designation	Component SSSIs ¹	Distance (km) from Dogger Bank Teesside A & B	Site features ²
Alde–Ore Estuary SPA	<ul style="list-style-type: none"> Alde-Ore Estuary 	298km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 301km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding - Avocet, lesser black-backed gull, little tern, marsh harrier, and sandwich tern. Breeding assemblage – as breeding species above and black headed gull and herring gull. Wintering – Avocet and redshank. Wintering assemblage – as wintering species above and black-tailed godwit, dunlin, lapwing, shelduck, shoveler, teal, white-fronted goose, and wigeon.
Alde–Ore Estuary Ramsar			<ul style="list-style-type: none"> Breeding – Lesser black-backed gull. Wintering - Common redshank and pied avocet. Breeding assemblage - as breeding species above and Western marsh harrier, little tern, Mediterranean gull, and sandwich tern. Wintering assemblage – as wintering species above and common shelduck, Eurasian teal, Eurasian wigeon, northern pintail, and northern shoveler.
Brighton to Newhaven Cliffs SSSI	N/A	465km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 525km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Only colony of breeding black-legged kittiwake in Sussex, and breeding northern fulmar and herring gull. Geological (best and most extensive exposure of the Offaster pilula Zone in England). Unimproved chalk grassland, maritime vegetation and assemblage of beetles.
Buchan Ness To Collieston Coast SPA	<ul style="list-style-type: none"> Collieston to Whinnyfold Coast Bullers of Buchan 	308km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 351km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding assemblage - Black-legged kittiwake, common guillemot, European shag, herring gull, and northern fulmar.
Calf of Eday SPA	<ul style="list-style-type: none"> Calf of Eday 	522km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 541km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding assemblage - Black-legged kittiwake, common guillemot, cormorant, great black-backed gull, and northern fulmar.

Site name and designation	Component SSSIs ¹	Distance (km) from Dogger Bank Teesside A & B	Site features ²
Cape Wrath SPA	<ul style="list-style-type: none"> Cape Wrath 	500km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 572km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding assemblage – Atlantic puffin, black-legged kittiwake, common guillemot, northern fulmar, and razorbill.
Collieston to Whinnyfold Coast SSSI	N/A	395km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 385km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Seabird colony supporting northern fulmar (breeding), common guillemot (breeding), black-legged kittiwake (breeding), and razorbill (breeding).
Copinsay SPA	<ul style="list-style-type: none"> Copinsay 	485km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 508km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding assemblage – Black-legged kittiwake, common guillemot, great black-backed gull, and northern fulmar.
Coquet Island SPA	<ul style="list-style-type: none"> Coquet Island 	87km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 225km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding - Arctic tern, Atlantic puffin, common tern, roseate tern, and sandwich tern. Breeding assemblage – as breeding species above and black-headed gull.
Dover to Kingsdown Cliffs SSSI	N/A	435km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 450km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> The coastline from Dover harbour to Kingsdown is of extreme importance geologically and physiographically, and for its varied floral and faunal communities which include many rare species. Including: Chalk foreshore and platforms with associated communities. Chalk grassland scrub. Shingle beach and shingle vegetation. Invertebrate communities. Only colony of breeding black-legged kittiwake in Kent, and breeding northern fulmar, lesser black-backed gull, rock pipit, black redstart, whitethroat, blackcap, grasshopper and other rarer warblers, and colonies of cliff nesting house martins.
Dunbar Coast SSSI	N/A	188km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 370km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Black-legged kittiwake (breeding).

Site name and designation	Component SSSIs ¹	Distance (km) from Dogger Bank Teesside A & B	Site features ²
Durham Coast SSSI	N/A	11km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 207km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding – Black-legged kittiwake and northern fulmar.
East Caithness Cliffs SPA	<ul style="list-style-type: none"> Berriedale Cliffs Castle of Old Wick to Craig Hammel Craig Hammel to Sgaps Geo Dunbeath to Sgaps Geo 	422km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 481km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding – Black-legged kittiwake, common guillemot, herring gull, peregrine falcon, and razorbill. Breeding assemblage – as breeding species above and Atlantic puffin, cormorant, European shag, great black-backed gull, and northern fulmar.
Eileen Hoan (North Sutherland Coastal Islands) SSSI	N/A	525km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 595km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Great black-backed gull (breeding).
Fair Isle SPA	<ul style="list-style-type: none"> Fair Isle 	536km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 535km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding – Arctic tern, common guillemot, and Fair Isle wren. Breeding assemblage – as breeding species above and Arctic skua, Atlantic puffin, black-legged kittiwake, European shag, great skua, northern fulmar, northern gannet, and razorbill.
Farne Islands SPA	<ul style="list-style-type: none"> Farne Islands 	119km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 236km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding – Arctic tern, Atlantic puffin, common guillemot, common tern, roseate tern, and sandwich tern. Breeding assemblage – as breeding species above and black-legged kittiwake, cormorant, and European shag
Fetlar SPA	<ul style="list-style-type: none"> Lamb Hoga North Fetlar Trona Mires 	642km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 627km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding - Arctic tern, dunlin, great skua, red-necked phalarope, and whimbrel. Breeding assemblage – as breeding species above and Arctic skua, great skua, and northern fulmar.
Flamborough and Filey Coast pSPA (formerly Flamborough Head and Bempton Cliffs SPA)	<ul style="list-style-type: none"> Flamborough Head 	57km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 165km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding – Black-legged kittiwake. Breeding assemblage – as breeding species above and Atlantic puffin, common guillemot, herring gull, northern fulmar, northern gannet, and razorbill.

Site name and designation	Component SSSIs ¹	Distance (km) from Dogger Bank Teesside A & B	Site features ²
Forth Islands SPA	<ul style="list-style-type: none"> Bass Rock Forth Islands Inchmickery Isle of May 	190km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 309km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding – Arctic tern, Atlantic puffin, common tern, European shag, lesser black-backed gull, northern gannet, roseate tern, and sandwich tern. Breeding assemblage – as breeding species above and black-legged kittiwake, common guillemot, cormorant, herring gull, northern fulmar, and razorbill.
Foula SPA	<ul style="list-style-type: none"> Foula 	607km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 606km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding - Arctic tern, Atlantic puffin, common guillemot, European shag, great skua, Leach's storm petrel, and red-throated diver. Breeding assemblage – as breeding species above and Arctic skua, black-legged kittiwake, northern fulmar, and razorbill.
Fowlsheugh SPA	<ul style="list-style-type: none"> Fowlsheugh 	264km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 332km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding – Black-legged kittiwake and common guillemot. Breeding assemblage – as breeding species above and herring gull, northern fulmar, and razorbill.
Hermaness, Saxa Vord and Valla Field SPA	<ul style="list-style-type: none"> Hermaness Saxa Vord 	663km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 649km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding – Atlantic puffin, black-legged kittiwake, common guillemot, European shag, great skua, northern fulmar, and northern gannet, and red-throated diver.
Hoy SPA	<ul style="list-style-type: none"> Hoy 	482km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 521km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding – Great skua, peregrine falcon, and red-throated diver. Breeding assemblage – as above and Arctic skua, Atlantic puffin, black-legged kittiwake, common guillemot, great black-backed gull, and northern fulmar.
Hunstanton Cliffs SSSI	N/A	230km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 290km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> A key site showing a condensed Lower–Upper Cretaceous (Albian–Cenomanian) sequence Largest colony of northern fulmar (breeding) on the east coast south of Flamborough Head.
Marwick Head SPA	<ul style="list-style-type: none"> Marwick Head 	519km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 553km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding – Common guillemot. Breeding assemblage – as breeding and black-legged kittiwake.

Site name and designation	Component SSSIs ¹	Distance (km) from Dogger Bank Teesside A & B	Site features ²
North Berwick Coast SSSI	N/A	215km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 350km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Northern fulmar (breeding).
North Caithness Cliffs SPA	<ul style="list-style-type: none"> Duncansby Head Dunnet Head Holborn Head Red Point Coast Stroma 	459km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 497km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding – common guillemot and peregrine falcon. Breeding assemblage – as above breeding species and Atlantic puffin, black-legged kittiwake, northern fulmar, and razorbill.
Northumbria Coast SPA	<ul style="list-style-type: none"> Durham Coast Lindisfarne Newton Links Northumberland Shore 	20km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 208km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding - Little tern. Wintering - Purple sandpiper and turnstone.
Northumbria Coast Ramsar			<ul style="list-style-type: none"> Breeding – Little tern. Wintering – Purple sandpiper and ruddy turnstone.
Noss SPA	<ul style="list-style-type: none"> Noss 	597km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 586km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding – Atlantic puffin, black-legged kittiwake, northern fulmar, common guillemot, great skua, Arctic skua, and northern gannet.
Papa Westray (North Hill and Holm) SPA	<ul style="list-style-type: none"> Holm of Papa Westray North Hill 	539km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 559km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding - Arctic tern and Arctic skua.
Rousay SPA	<ul style="list-style-type: none"> Rousay 	521km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 545km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding –Arctic tern. Breeding assemblage – includes the breeding species above and Arctic skua, black-legged kittiwake, common guillemot and northern fulmar.
St Abb's Head to Fast Castle SPA	<ul style="list-style-type: none"> St Abb's Head to Fast Castle Head 	160km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 276km+ (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding assemblage - Black-legged kittiwake, common guillemot, European shag, herring gull, and razorbill.
Sule Skerry and Sule Stack SPA	<ul style="list-style-type: none"> Sule Skerry Sule Stack 	533km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 590km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding - Atlantic puffin, European storm-petrel, Leach's storm petrel, and northern gannet. Breeding assemblage – as breeding species above and including common guillemot, and European shag.

Site name and designation	Component SSSIs ¹	Distance (km) from Dogger Bank Teesside A & B	Site features ²
Sumburgh Head SPA	<ul style="list-style-type: none"> Sumburgh Head 	570km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 562km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding – Arctic tern. Breeding assemblage – as above breeding species and black-legged kittiwake, common guillemot, and northern fulmar.
Teemouth and Cleveland Coast SPA	<ul style="list-style-type: none"> Cowpen Marsh Durham Coast Redcar Rocks Seal Sands Seaton Dunes and Common 	2km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 197km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding – Little tern. Passage – Ringed plover and sandwich tern. Wintering – Knot and redshank. Wintering assemblage – as wintering species above and cormorant, lapwing, sanderling, and shelduck.
Teemouth and Cleveland Coast Ramsar	<ul style="list-style-type: none"> South Gare and Coatham Sands Tees and Hartlepool Foreshore and Wetlands 		<ul style="list-style-type: none"> Passage – Common redshank. Wintering – Red knot. Breeding - Little tern. Passage assemblage – as passage species above and common greenshank, northern shoveler, and sandwich tern.
Troup, Pennan And Lion's Heads SPA	<ul style="list-style-type: none"> Gamrie & Pennan Coast 	349km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 389km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding – Common guillemot. Breeding assemblage – as breeding species above and black-legged kittiwake, herring gull, northern fulmar, and razorbill.
West Westray SPA	<ul style="list-style-type: none"> West Westray 	532km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 555km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Breeding - Arctic tern and common guillemot. Breeding assemblage – as breeding species above and Arctic skua, black-legged kittiwake, northern fulmar, and razorbill.
Weybourne Cliffs SSSI	N/A	235km (nearest to Dogger Bank Teesside A & B Export Cable Corridor) 255km (nearest to Dogger Bank Teesside A or Dogger Bank Teesside B)	<ul style="list-style-type: none"> Cliffs east of Weybourne afford the best Pleistocene sections showing the pre-Cromerian deposits of the Cromer Forest bed. Additional biological interest is provided by colonies of sand martins in the cliff-face and of northern fulmars (breeding) on the cliff ledges.

¹ Given where site named is SPA / Ramsar.

² SPA features only given if site or component SSSIs are linked and screened in due to ornithological interest.

- 4.3.7. **Table 4.5** details sites where the possibility for impacts to species or habitats supporting rMCZ designations arising from Dogger Bank Teesside A & B, namely through sediment disturbance, could not be excluded. The site locations in relation to Dogger Bank Teesside A & B are shown on **Figure 4.3**.

Marine Nature Reserves

- 4.3.8. The nearest MNRs are located in the Bristol Channel (Lundy) and Irish Sea (Strangford Lough). Consequently, these have not been considered further.

Biosphere Reserves

- 4.3.9. The nearest biosphere reserve is located on the North Norfolk Coast, and consequently, given the extreme distance (see **Appendix 8A**) from the onshore and offshore development for Dogger Bank Teesside A & B this has not been considered further.

4.4. Nationally important sites and species and local or non-statutory sites and species

- 4.4.1. Non-statutory sites and species of local importance for nature conservation may be present that complement nationally and internationally designated geological and wildlife sites. The local sites considered in this assessment are presented in **Table 4.6** and **Figure 4.4**.

BAP priority habitats

- 4.4.2. A number of priority BAP habitats are present within the landward cable corridor (notably arable field margins, road verge, maritime cliff and slope, semi-natural broad-leaved woodland, and hedgerow). However, with the exception of hedgerows, the other habitats are of poor quality and are not considered to be 'priority' habitat and have not been considered further.
- 4.4.3. Local BAP priority habitats are present within 1km of the cable route corridor (see Section 4.3 in **Chapter 25**), notably gardens and allotments, and ponds. However, none of these habitats are considered further as they are outside of the landward cable construction area.
- 4.4.4. Priority BAP priority habitats identified within the offshore marine environment (see paragraphs 4.4.19 to 4.4.22 in **Chapter 12**) include:
- Subtidal sands and gravel; and
 - Mud habitats in deep waters.

Ancient Woodland

- 4.4.5. Ancient Woodlands are not statutorily designated. One area of Ancient Woodland (Wilton Wood) is located within 1km of the landward cable route (see Section 4 in **Chapter 25**), and this has been considered further (see **Table 4.6**).

BAP and legally protected species

- 4.4.6. The following BAP and/or legally protected species were located within the landward cable route corridor during surveys (see Section 4 in **Chapter 25**):
- Bats (principally species of *Pipistrellus*, *Nyctalus*, and *Myotis*).

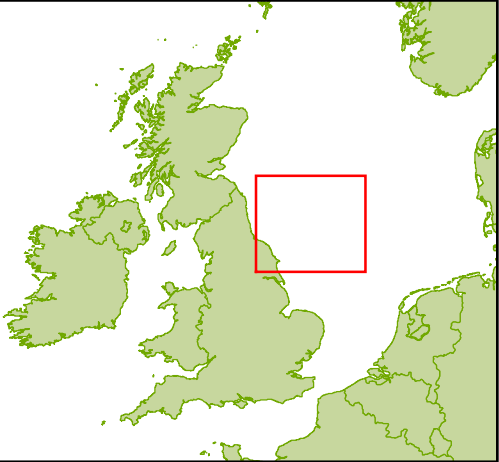
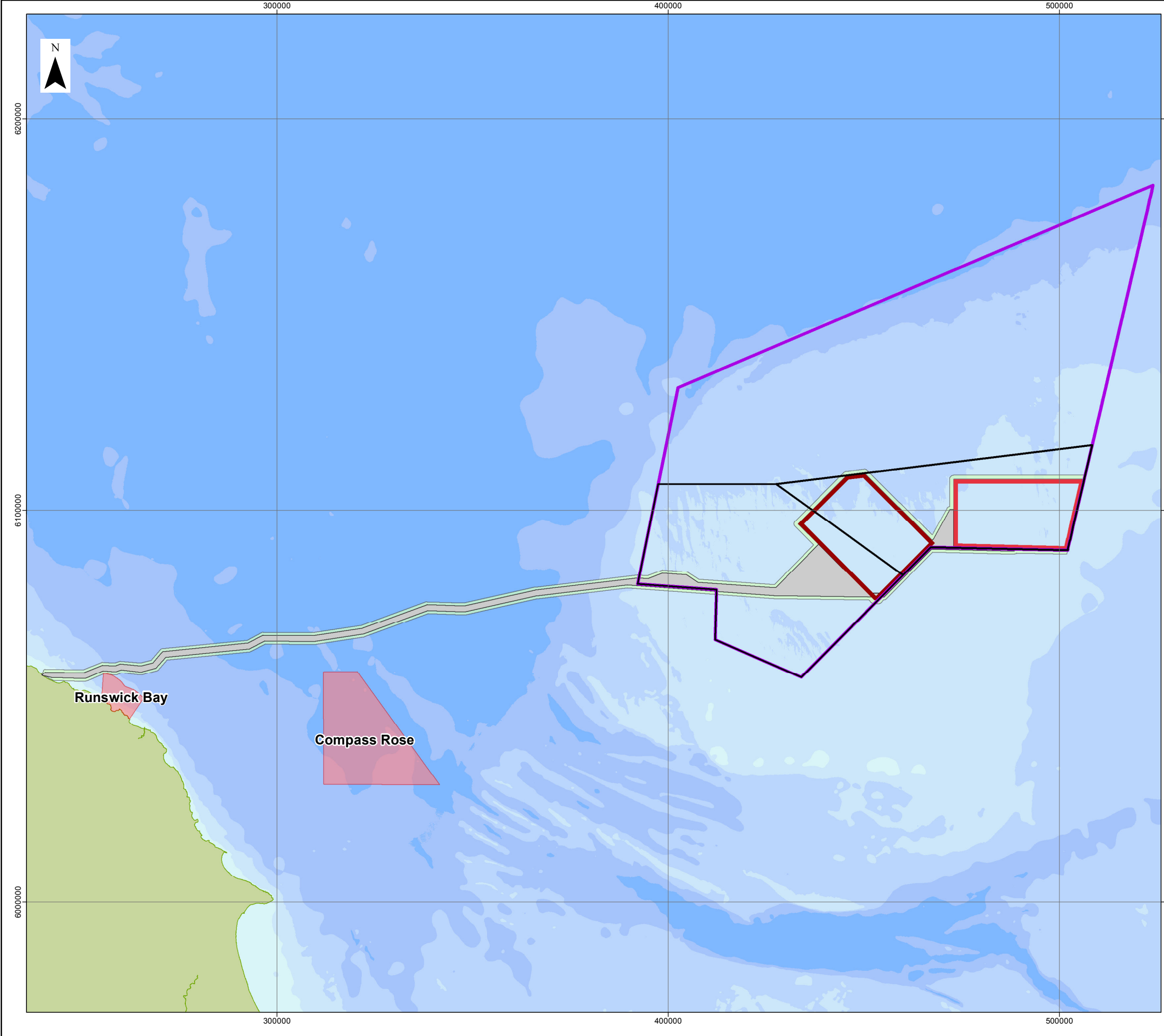
Table 4.5 Recommended MCZ (rMCZ) sites screened in to the assessment

Site name	Distance from Dogger Bank Teesside A & B		Site features
	Export cable corridor	Offshore wind farm	
Compass Rose (Amber rMCZ)	10km	105km	<p>Broad Scale Habitat:</p> <ul style="list-style-type: none"> • Moderate energy circalittoral rock; and • Subtidal sand. <p>Habitat of Conservation Importance:</p> <ul style="list-style-type: none"> • Subtidal sands and gravels (modelled).
Runswick Bay (Amber rMCZ)	10km	105km	<p>Broad Scale Habitat:</p> <ul style="list-style-type: none"> • High energy infralittoral rock; • Moderate energy infralittoral rock; • High energy circalittoral rock; • Subtidal coarse sediment; • Subtidal sand; and • Subtidal mixed sediment. <p>Species of Conservation Importance:</p> <ul style="list-style-type: none"> • Ocean qauhog (<i>Arctica islandica</i>).

Table 4.6 Local and non-statutorily designated onshore sites screened in to the assessment

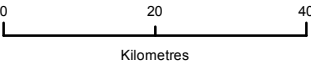
Site name	Designation	Distance (km) from Dogger Bank Teesside A & B	Site features
Redcar to Saltburn Coast	LWS	Transected	Designated for vascular plants and coastal grassland, covering both the sandy foreshore and low boulder cliffs, and for its wintering bird assemblage.
Wilton Wood*	Ancient Woodland	700m	Ancient woodland.
Hedgerow	BAP habitat	Within landward cable corridor	N/A

*Proximity to the export cable



LEGEND

- Dogger Bank Zone
- Tranche boundary
- Dogger Bank Teesside A
- Dogger Bank Teesside B
- Dogger Bank Teesside A & B Export Cable Corridor
- Temporary works area
- Recommended Marine Conservation Zone (rMCZ)



Data Source:
Designations © Natural England, 2013
Background bathymetry image derived in part from TCarta data © 2009

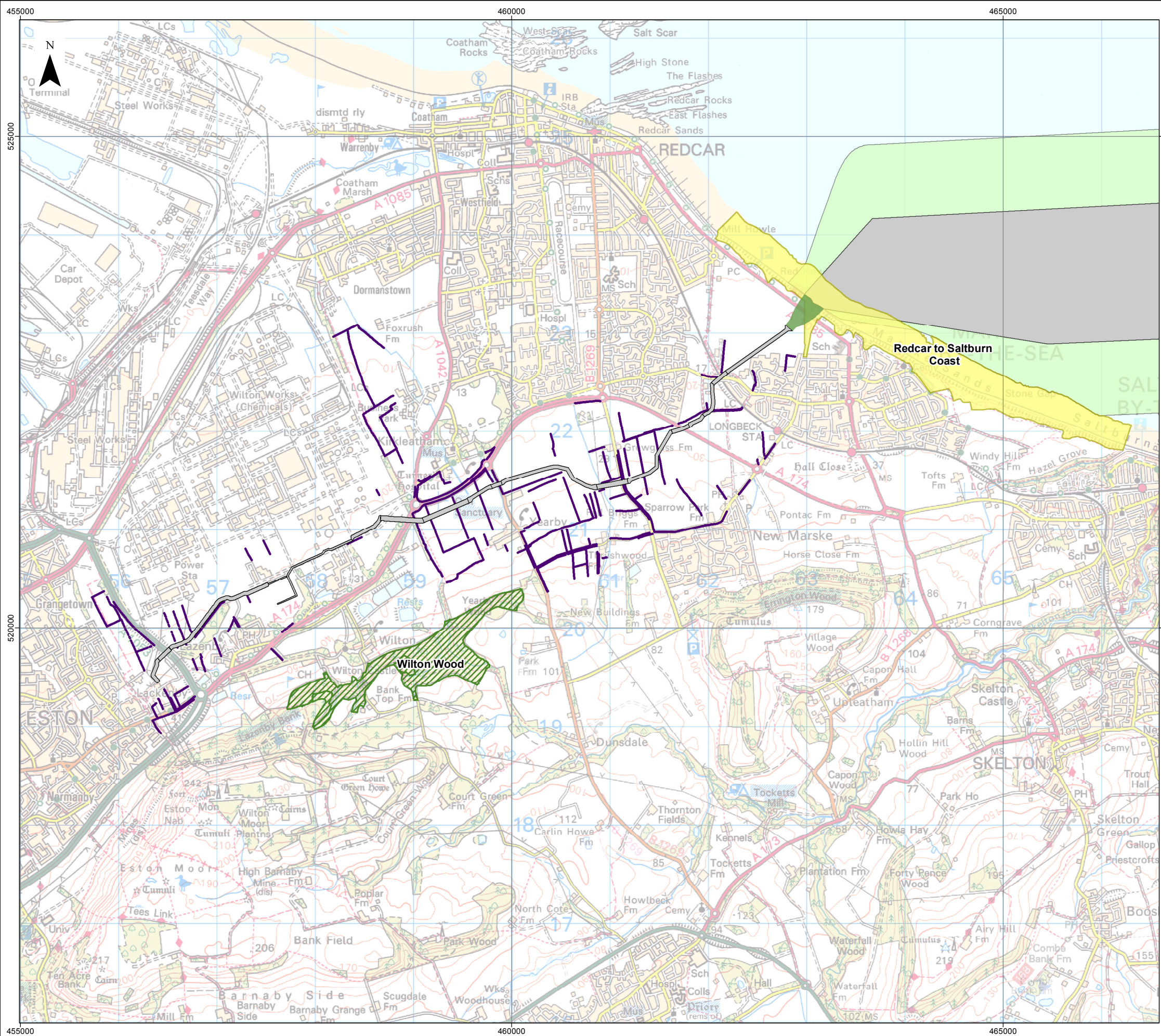
PROJECT TITLE
DOGGER BANK TEESSIDE A & B

DRAWING TITLE
Figure 4.3 Offshore nationally designated sites considered

VER	DATE	REMARKS	Drawn	Checked
1	07/10/2013	PEI3	JE	PT
2	10/02/2014	DCO Submission	JE	PT

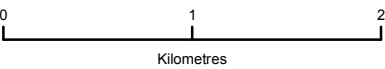
DRAWING NUMBER:
F-OFL-MA-239

SCALE	1:1,000,000	PLOT SIZE	A3	DATUM	WGS84	PROJECTION	UTM31N
-------	-------------	-----------	----	-------	-------	------------	--------



LEGEND

- Dogger Bank Teesside A & B Export Cable Corridor
- Temporary works area
- Cable landfall envelope
- Ancient Woodland
- Local Wildlife Site
- Hedgerows



Data Source:
Ordnance Survey © Crown copyright and database right, 2013. Licence number 100020449

PROJECT TITLE
DOGGER BANK TEESSIDE A & B

DRAWING TITLE
Figure 4.4 Local and non-statutorily designated onshore sites considered

VER	DATE	REMARKS	Drawn	Checked
1	08/10/2013	PEI3	JE	PT
2	10/02/2014	DCO Submission	JE	PT

DRAWING NUMBER:
F-OFL-MA-240

SCALE	1:40,000	PLOT SIZE	A3	DATUM	OSGB	PROJECTION	BNG
-------	----------	-----------	----	-------	------	------------	-----

The concepts and information contained in this document are the copyright of Forewind. Use or copying of the document in whole or in part without the written permission of Forewind constitutes an infringement of copyright. Forewind does not warrant that this document is definitive nor free of error and does not accept liability for any loss caused or arising from reliance upon information provided herein.



4.4.7. The following non-avian BAP and / or legally protected species were located within the marine export cable corridor and offshore marine area during surveys (see Section 4 in **Chapter 13**, and Section 4 in **Chapter 14**):

- Harbour porpoise;
- Minke whale;
- White-beaked dolphin;
- Grey seal (though only a LBAP species in the north-east);
- Harbour (common) seal;
- Basking shark;
- Spurdog;
- Raitt's sandeel;
- Herring;
- Cod;
- Whiting;
- Plaice;
- Mackerel;
- Sole;
- Horse mackerel;
- Anglerfish; and
- Hake.

4.4.8. The following non-avian BAP and / or legally protected species were not located within the marine export cable corridor and offshore marine area during surveys but could be present within or transiting through Dogger Bank Teesside A & B (see Section 4 in **Chapter 13**, and Section 4 in **Chapter 14**):

- European eel;
- Sea lamprey;
- River lamprey;
- Atlantic salmon;
- Sea trout;
- Smelt;
- Spotted ray;
- Tope;
- Common skate; and
- Ling.

4.4.9. The following English BAP priority birds and/or legally protected bird species were located within or passing through the intertidal area of the export cable corridor and the marine export cable corridor and offshore marine area during surveys (see Table 4.17 and Table 4.18 in **Chapter 11**):

- Arctic skua;
- Black-tailed godwit;
- Common linnet;
- Common (lesser) redpoll;
- Common scoter;
- Eurasian curlew;
- European nightjar;
- Great bittern;
- Greater scaup;
- Herring gull;
- Marsh warbler;
- Northern lapwing;
- Reed bunting;
- Ring ouzel;
- Roseate tern;
- Sky lark;
- Song thrush;
- Pied (spotted) flycatcher;
- Tree pipit; and
- Yellow wagtail.

4.4.10. The following Scottish BAP priority birds and / or legally protected bird species were located within or passing through the intertidal area of the export cable corridor and the marine export cable corridor and offshore marine area during surveys (see Table 4.18 in **Chapter 11**):

- Arctic tern;
- Barnacle goose;
- Bar-tailed godwit;
- Bean goose;
- Black-throated diver;
- Common goldeneye;
- Common greenshank;
- Common tern;

- Dunlin;
- European greater white-fronted goose;
- European storm-petrel;
- Golden plover;
- Great cormorant;
- Greenland greater white-fronted goose;
- Hen harrier;
- Leach's storm-petrel;
- Little gull;
- Long-tailed duck;
- Merlin;
- Northern pintail;
- Osprey;
- Ruff;
- Sandwich tern;
- Short-eared owl;
- Slavonian grebe;
- Velvet scoter; and
- Whimbrel.

4.4.11. Given the very low numbers observed across Dogger Bank Zone or little or no sensitivity to the effects of offshore wind farms of the BAP bird species listed in paragraphs 4.4.9 and 4.4.10 above, further assessment has not been considered for Arctic tern, black-throated diver, common linnet, common starling, common tern, European greater white-fronted goose, European storm-petrel, great cormorant, Greenland greater white-fronted goose, hen harrier, Leach's storm-petrel, lesser (common) redpoll, little gull, long-tailed duck, marsh warbler, merlin, osprey, reed bunting, ring ouzel, roseate tern, sandwich tern, sky lark, song thrush, spotted (pied) flycatcher, tree pipit, and yellow wagtail.

Local Nature Reserves

4.4.12. All district and county councils have powers to acquire, declare and manage LNR. To qualify for LNR status, a site must be of importance for wildlife, geology, education or public enjoyment. Some are also nationally important SSSIs. LNRs must be controlled by the local authority through ownership, lease or agreement with the owner (Natural England 2010). There are no LNRs within the study area, therefore, LNRs have not been considered further.

Local Wildlife Sites

- 4.4.13. LWS are designated by the County and Unitary authorities. LWS complement the nationally designated sites, but also overlap with BAP habitats at a national or local level. One LWS (Redcar to Saltburn Coast) lies within the 1km cable route corridor and is within the route of the cable, and has therefore been considered in the assessment. The site is designated for its vascular plants and coastal grassland, covering both the sandy foreshore and low boulder cliffs, and for its wintering bird assemblage. The location is shown on **Figure 4.4**.

Local Geological Sites

- 4.4.14. No geological sites (either Local Geological Sites or RIGS) are located within 1km of the landward cable corridor, therefore these are not considered further.

4.5. Future designations

- 4.5.1. Natural England and the JNCC are proceeding with the selection and designation of a second series of SACs in the UK inshore area (0 – 12nm (22km) zone) and offshore marine area (in UK waters beyond 12nm (22km)) (JNCC 2009). All candidate SACs (cSAC) have been entered into the Register of European sites, as required by law under Regulation 13 of The Conservation of Habitats and Species Regulations 2010. Dogger Bank cSAC has been adopted as a SCI by the European Commission on 16 November 2012 and will in the near future be designated as a SAC. However, it has been considered throughout the ES as already being fully designated with regards to the legislative protection and impact assessment.
- 4.5.2. Whilst the decision to consult on the adoption of 31 rMCZs excludes the two rMCZs (i.e. Compass Rose and Runswick Bay), the assessment of designated sites in **Chapter 12** in the ES has given consideration to these sites and the impacts are presented in this chapter.

4.6. Transboundary sites

- 4.6.1. All of the transboundary sites have been identified within the Greater North Sea region that comprise European designated sites, with the exception of the OSPAR list of threatened species and habitats (see paragraph 4.3.1). Consequently, the findings of the impact assessment on these sites and their features is presented in the Dogger Bank Teesside A & B **HRA Report** and are not reported further in this chapter due to the assessment of impacts on those sites falling under the requirements of the Habitats Regulations Assessment process.

4.7. Conclusions

- 4.7.1. The sites of relevance to Dogger Bank Teesside A & B are described and assessed within **Chapters 11, 12, 13, 14, 24, and 25**. **Tables 4.3 to 4.6** identify all of the designated sites and species which have been screened in and assessed within the relevant chapters and are summarised in this chapter.

5. Assessment of Impacts during Construction

5.1. Introduction

- 5.1.1. The summary of the impacts on the relevant designated sites and species as a result of the construction phase for Dogger Bank Teesside A & B is presented in **Table 5.1**. All of the impacts on the designated sites' Valued Ecological Receptor's and all of the impacts predicted for each species are presented within the individual chapters listed in Section 1. For impacts in relation to the integrity of European designated sites (SPAs and Ramsar sites, SACs, and SCIs), refer to the Dogger Bank Teesside A & B **HRA Report**. The impacts for Dogger Bank Teesside A and Dogger Bank Teesside B individually are the same significance for all impacts and sites and their features, as well as being the same significance when combined (i.e. as Dogger Bank Teesside A & B); consequently, only one impact is stated.

5.2. Results of assessment on designated sites during the construction phase for Dogger Bank Teesside A & B (and Dogger Bank Teesside A and Dogger Bank Teesside B individually)

- 5.2.1. As shown in **Table 5.1**, the predicted impacts on designated sites and species range from **no impact** to **minor adverse** impacts. Many of the impacts are temporary or short-term in nature and would cease on completion of the construction phase, or in the case of some habitat disturbance, are likely to recover within the short-term.

Table 5.1 Summary of impacts on designated sites and species during the construction phase for Dogger Bank Teesside A & B (and Dogger Bank Teesside A and Dogger Bank Teesside B individually)

Site / species (including designation)	Impact
Internationally designated sites	
Dogger Bank cSAC	Refer to Dogger Bank Teesside A & B HRA Report
Nationally designated sites	
Alde–Ore Estuary SSSI	Negligible - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Berwickshire and North Northumberland Coast SAC - component SSSIs (see Table 4.2) ¹	Minor adverse - see Table 6.22 and paragraphs 6.2.11, 6.3.10, 6.4.10, and 6.5.8 in Chapter 14 Marine Mammals
Brighton to Newhaven Cliffs SSSI	Negligible - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Buchan Ness to Collieston Coast SPA - component SSSIs (see Table 4.4)	Minor adverse - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Calf of Eday SSSI	Minor adverse - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology

Site / species (including designation)	Impact
Cape Wrath SSSI	Minor adverse - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Collieston to Whinnyfold Coast SSSI	Minor adverse - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Copinsay SSSI	Minor adverse - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Coquet Island SSSI	Minor adverse - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Dover to Kingsdown Cliffs SSSI	Negligible - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Dunbar Coast SSSI	Negligible - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Durham Coast and Marsden Bay SSSI	Negligible - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
East Caithness Cliffs SPA - component SSSIs (see Table 4.4)	Minor adverse - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Eilean Hoan (North Sutherland Coastal Islands) SSSI	Negligible - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Fair Isle SSSI	Minor adverse - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Faray and Holm of Faray SSSI (grey seal features) ¹	Minor adverse - see Table 6.22 and paragraphs 6.2.11, 6.3.10, 6.4.10, and 6.5.8 in Chapter 14 Marine Mammals
Farne Islands SSSI	Minor adverse - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Fetlar SPA - component SSSIs (see Table 4.4)	Negligible - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Flamborough Head SSSI (grey seal) ¹	Minor adverse - see Table 6.22 and paragraphs 6.2.11, 6.3.10, 6.4.10, and 6.5.8 in Chapter 14 Marine Mammals
Flamborough Head SSSI (ornithology features)	Minor adverse - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Forth Islands SPA - component SSSIs (see Table 4.4)	Minor adverse - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Foula SSSI	Minor adverse - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Fowlsheugh SSSI	Minor adverse - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Gamrie & Pennan Coast SSSI (Troup, Pennan and Lion's Heads SPA)	Minor adverse - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Hermaness, Saxa Vord and Valla Field SPA - component SSSIs (see Table 4.4)	Minor adverse - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Hoy SSSI	Minor adverse - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Humber Estuary SAC and Ramsar (grey seal feature) - component SSSIs (see Table 4.2) ¹	Minor adverse - see Table 6.22 and paragraphs 6.2.11, 6.3.10, 6.4.10, and 6.5.8 in Chapter 14 Marine Mammals
Hunstanton Cliffs SSSI	Negligible - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Isle of May SSSI (grey seal feature) ¹	Minor adverse - see Table 6.22 and paragraphs 6.2.11, 6.3.10, 6.4.10, and 6.5.8 in Chapter 14 Marine Mammals

Site / species (including designation)	Impact
Marwick Head SSSI	Minor adverse - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
North Berwick Coast SSSI	Negligible - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
North Caithness Cliffs SPA - component SSSIs (see Table 4.4)	Minor adverse - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Northumbria Coast SPA and Ramsar - component SSSIs (see Table 4.4)	Negligible - see paragraphs 6.7.5, 6.7.9, and 6.7.14 in Chapter 11 Marine and Coastal Ornithology
Noss SSSI	Minor adverse - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Papa Westray SPA - component SSSIs (see Table 4.4)	Negligible - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Rousay SSSI	Minor adverse - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
St Abb's Head to Fast Castle Head SSSI	Minor adverse - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Sule Skerry and Sule Stack SPA - component SSSIs (see Table 4.4)	Minor adverse - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Sumburgh Head SSSI	Minor adverse - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Teesmouth and Cleveland Coast SPA and Ramsar - component SSSIs (see Table 4.4)	Negligible - see Tables 6.5 and 6.6, and paragraphs 6.7.5, 6.7.9, and 6.7.14 in Chapter 11 Marine and Coastal Ornithology
West Westray SSSI	Minor adverse - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Weybourne Cliffs SSSI	Negligible - see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Compass Rose rMCZ	Minor adverse - see Table 6.6 and paragraph 6.8.9 in Chapter 12 Marine and Intertidal Ecology
Runswick Bay rMCZ	Minor adverse - see Table 6.6 and paragraph 6.8.11 in Chapter 12 Marine and Intertidal Ecology
Locally designated or non-statutorily designated sites and BAP priority habitats	
Redcar to Saltburn Coast LWS	Minor adverse - see paragraphs 6.2.5 and 6.2.8 in Chapter 25 Terrestrial Ecology
Wilton Wood - Ancient Woodland	No impact identified in Section 6 in Chapter 25 Terrestrial Ecology
Hedgerows BAP priority habitat	Minor adverse - see paragraphs 6.3.4 and 6.3.6 in Chapter 25 Terrestrial Ecology
Subtidal sands and gravels BAP priority habitat	Minor adverse - see Table 6.5 in Chapter 12 Marine and Intertidal Ecology
Mud habitats in deep waters BAP priority habitat	Minor adverse - see Table 6.5 in Chapter 12 Marine and Intertidal Ecology
Biodiversity Action Plan (BAP) species and legally protected species	
Harbour porpoise BAP priority species	Minor adverse - see Table 6.22 and paragraphs 6.2.11, 6.3.10 and 6.5.8 in Chapter 14 Marine Mammals
Minke whale BAP priority species	Minor adverse - see Table 6.22 and paragraphs 6.2.11, 6.3.10 and 6.5.8 in Chapter 14 Marine Mammals
White-beaked dolphin BAP priority species	Minor adverse - see Table 6.22 and paragraphs 6.2.11, 6.3.10 and 6.5.8 in Chapter 14 Marine Mammals

Site / species (including designation)	Impact
Grey seal LBAP and legally protected species	Minor adverse - see Table 6.22 and paragraphs 6.2.11, 6.3.10, 6.4.10, and 6.5.8 in Chapter 14 Marine Mammals
Harbour (common) seal BAP priority species	Minor adverse - see Table 6.22 and paragraphs 6.2.11, 6.3.10, 6.4.10, and 6.5.8 in Chapter 14 Marine Mammals
Bats BAP priority species	Minor adverse - see paragraphs 6.4.7 and 6.4.9 in Chapter 25 Terrestrial Ecology
Arctic skua BAP priority species	Negligible - see paragraphs 6.7.2, 6.7.5, and 6.7.8 in Chapter 11 Marine and Coastal Ornithology
Black-tailed godwit BAP priority species	No impact - see paragraphs 6.7.2, 6.7.5, and 6.7.8 in Chapter 11 Marine and Coastal Ornithology
Common scoter BAP priority species	No impact - see paragraphs 6.7.2, 6.7.5, and 6.7.8 in Chapter 11 Marine and Coastal Ornithology
Eurasian curlew BAP priority species	No impact - see paragraphs 6.7.2, 6.7.5, and 6.7.8 in Chapter 11 Marine and Coastal Ornithology
European nightjar BAP priority species	No impact - see paragraphs 6.7.2, 6.7.5, and 6.7.8 in Chapter 11 Marine and Coastal Ornithology
Great bittern BAP priority species	No impact - see paragraphs 6.7.2, 6.7.5, and 6.7.8 in Chapter 11 Marine and Coastal Ornithology
Greater scaup BAP priority species	No impact - see paragraphs 6.7.2, 6.7.5, and 6.7.8 in Chapter 11 Marine and Coastal Ornithology
Herring gull BAP priority species	Negligible - see paragraphs 6.7.2, 6.7.5, and 6.7.8, and Tables 6.5 and 6.6 in Chapter 11 Marine and Coastal Ornithology
Northern lapwing BAP priority species	Minor adverse - see paragraphs 6.7.2, 6.7.5, and 6.7.8, and Tables 6.5 and 6.6 in Chapter 11 Marine and Coastal Ornithology
European eel BAP priority species	Negligible to minor adverse - see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Sea lamprey BAP priority species	Negligible to minor adverse - see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
River lamprey BAP priority species	Negligible to minor adverse - see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Atlantic salmon BAP priority species	Negligible to minor adverse - see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Sea trout BAP priority species	Negligible to minor adverse - see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Smelt BAP priority species	Negligible to minor adverse - see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Basking shark BAP priority species	Negligible to minor adverse - see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Spotted ray BAP priority species	Negligible to minor adverse - see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Spurdog BAP priority species	Negligible to minor adverse - see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Tope BAP priority species	Negligible to minor adverse - see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Raitt's sandeel BAP priority species	Negligible to minor adverse - see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Herring BAP priority species	Negligible to minor adverse - see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology

Site / species (including designation)	Impact
Cod BAP priority species	Negligible to minor adverse - see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Whiting BAP priority species	Negligible to minor adverse - see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Plaice BAP priority species	Negligible to minor adverse - see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Mackerel BAP priority species	Negligible to minor adverse - see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Sole BAP priority species	Negligible to minor adverse - see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Horse mackerel BAP priority species	Negligible to minor adverse - see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Anglerfish BAP priority species	Negligible to minor adverse - see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Common skate BAP priority species	Negligible to minor adverse - see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Ling BAP priority species	Negligible to minor adverse - see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Hake BAP priority species	Negligible to minor adverse - see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology

¹ Given the wide scale movement of grey seals within the North Sea and between sites only a national level population has been undertaken and presented.

6. Assessment of Impacts during Operation

6.1. Introduction

- 6.1.1. The summary of the impacts on the relevant designated sites and species as a result of the operation phase for Dogger Bank Teesside A & B are presented in **Table 6.1**. All of the impacts on the designated sites' Valued Ecological Receptor's (VER's) and all of the impacts predicted for each species are presented within the individual chapters listed in Section 1. For impacts in relation to the European designated sites, refer to the Dogger Bank Teesside A & B **HRA Report**. The impacts for Dogger Bank Teesside A and Dogger Bank Teesside B individually are the same significance for all impacts and sites where stated in **Table 6.1** and their features, as well as being the same significance when combined (i.e. as Dogger Bank Teesside A & B); consequently, only one impact is stated.

6.2. Results of assessment on designated sites and species during the operation phase for Dogger Bank Teesside A & B (and Dogger Bank Teesside A and Dogger Bank Teesside B individually)

- 6.2.1. As shown in **Table 6.1**, all of the predicted impacts on designated sites (where impacts could be concluded) and species as a result of the operation phase for Dogger Bank Teesside A & B (and Dogger Bank Teesside A and Dogger Bank Teesside B individually) range from **no impact** to **minor adverse** impacts.

Table 6.1 Summary of impacts on designated sites and species during the operation phase for Dogger Bank Teesside A & B (and Dogger Bank Teesside A and Dogger Bank Teesside B individually)

Site / species (including designation)	Impact
Internationally designated sites	
Dogger Bank cSAC	Refer to Dogger Bank Teesside A & B HRA Report
Nationally designated sites	
Alde–Ore Estuary SSSI	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
Berwickshire and North Northumberland Coast SAC - component SSSIs (see Table 4.2) ¹	Negligible to minor adverse - see paragraphs 7.1.8, 7.2.7, 7.3.7, 7.4.5, 7.5.12, and 7.6.6 in Chapter 14 Marine Mammals
Brighton to Newhaven Cliffs SSSI	Negligible - see Tables 7.3, 7.5, 7.9, 7.12 and 7.14 in Chapter 11 Marine and Coastal Ornithology
Buchan Ness to Collieston Coast SPA - component SSSIs (see Table 4.4)	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology

Site / species (including designation)	Impact
Calf of Eday SSSI	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
Cape Wrath SSSI	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
Collieston to Whinnyfold Coast SSSI	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
Copinsay SSSI	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
Coquet Island SSSI	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
Dover to Kingsdown Cliffs SSSI	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
Dunbar Coast SSSI	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
Durham Coast and Marsden Bay SSSI	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
East Caithness Cliffs SPA - component SSSIs (see Table 4.4)	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
Eilean Hoan (North Sutherland Coastal Islands) SSSI	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
Fair Isle SSSI	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
Faray and Holm of Faray SSSI (grey seal features) ¹	Negligible to minor adverse - see paragraphs 7.1.4, 7.2.7, 7.3.7, 7.4.5, 7.5.12, and 7.6.6 in Chapter 14 Marine Mammals
Farne Islands SSSI	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
Fetlar SPA - component SSSIs (see Table 4.4)	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
Flamborough Head SSSI (grey seal) ¹	Negligible to minor adverse - see paragraphs 7.1.8, 7.2.7, 7.3.7, 7.4.5, 7.5.12, and 7.6.6 in Chapter 14 Marine Mammals
Flamborough Head SSSI (ornithology features)	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
Forth Islands SPA - component SSSIs (see Table 4.4)	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
Foula SSSI	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology

Site / species (including designation)	Impact
Fowlsheugh SSSI	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
Gamrie & Pennan Coast SSSI (Troup, Pennan and Lion's Heads SPA)	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
Hermaness, Saxa Vord and Valla Field SPA - component SSSIs (see Table 4.4)	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
Hoy SSSI	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
Humber Estuary SAC and Ramsar - component SSSIs (see Table 4.2) ¹	Negligible to minor adverse - see paragraphs 7.1.8, 7.2.7, 7.3.7, 7.4.5, 7.5.12, and 7.6.6 in Chapter 14 Marine Mammals
Hunstanton Cliffs SSSI	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
Isle of May SSSI (grey seal feature) ¹	Negligible to minor adverse - see paragraphs 7.1.8, 7.2.7, 7.3.7, 7.4.5, 7.5.12, and 7.6.6 in Chapter 14 Marine Mammals
Marwick Head SSSI	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
North Berwick Coast SSSI	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
North Caithness Cliffs SPA - component SSSIs (see Table 4.4)	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, and 7.17 in Chapter 11 Marine and Coastal Ornithology
Northumbria Coast SPA and Ramsar - component SSSIs (see Table 4.4)	Minor adverse - see Section 7.8 and paragraphs 7.10.6, 7.10.26, and 7.10.28 in Chapter 11 Marine and Coastal Ornithology
Noss SSSI	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
Papa Westray SPA - component SSSIs (see Table 4.4)	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
Rousay SSSI	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
St Abb's Head to Fast Castle Head SSSI	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
Sule Skerry and Sule Stack SPA - component SSSIs (see Table 4.4)	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
Sumburgh Head SSSI	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
Teesmouth and Cleveland Coast SPA and Ramsar - component SSSIs (see Table 4.4)	Minor adverse - see Tables 7.7, 7.11, Section 7.8, and paragraphs 7.10.6, 7.10.26, and 7.10.28 in Chapter 11 Marine and Coastal Ornithology

Site / species (including designation)	Impact
West Westray SSSI	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
Weybourne Cliffs SSSI	Minor adverse - see Tables 7.3, 7.5, 7.9, 7.12, 7.14, 7.15, 7.17, and 7.19 in Chapter 11 Marine and Coastal Ornithology
Compass Rose rMCZ	No impact - see paragraphs 7.9.7 and 7.9.9 in Chapter 12 Marine and Intertidal Ecology
Runswick Bay rMCZ	No impact - see paragraphs 7.9.7 and 7.9.9 in Chapter 12 Marine and Intertidal Ecology
Locally designated or non-statutorily designated sites and BAP priority habitats	
Redcar to Saltburn Coast LWS	No impact identified in Section 7 in Chapter 25 Terrestrial Ecology
Wilton Wood - Ancient Woodland	No impact identified in Section 7 in Chapter 25 Terrestrial Ecology
Hedgerows BAP priority habitat	No impact identified in Section 7 in Chapter 25 Terrestrial Ecology
Subtidal sands and gravels BAP priority habitat	Negligible to minor adverse - see Table 7.3 and paragraphs 7.9.6 and 7.9.9 in Chapter 12 Marine and Intertidal Ecology
Mud habitats in deep waters BAP priority habitat	Negligible to minor adverse - see Table 7.3 and paragraphs 7.9.6 and 7.9.9 in Chapter 12 Marine and Intertidal Ecology
Biodiversity Action Plan (BAP) species and legally protected species	
Harbour porpoise BAP priority species	Negligible to minor adverse - see paragraphs 7.1.8, 7.2.7, 7.3.7, 7.4.5, 7.5.12, 7.6.6, and 7.7.4 in Chapter 14 Marine Mammals
Minke whale BAP priority species	Negligible to minor adverse - see paragraphs 7.1.8, 7.2.7, 7.3.7, 7.4.5, 7.5.12, 7.6.6, and 7.7.4 in Chapter 14 Marine Mammals
White-beaked dolphin BAP priority species	Negligible to minor adverse - see paragraphs 7.1.8, 7.2.7, 7.3.7, 7.4.5, 7.5.12, 7.6.6, and 7.7.4 in Chapter 14 Marine Mammals
Grey seal LBAP and legally protected species	Negligible to minor adverse - see paragraphs 7.1.8, 7.2.7, 7.3.7, 7.4.5, 7.5.12, 7.6.6, and 7.7.4 in Chapter 14 Marine Mammals
Harbour (common) seal BAP priority species	Negligible to minor adverse - see paragraphs 7.1.8, 7.2.7, 7.3.7, 7.4.5, 7.5.12, 7.6.6, and 7.7.4 in Chapter 14 Marine Mammals
Bats BAP priority species	Negligible - see paragraph 7.2.3 in Chapter 25 Terrestrial Ecology
Arctic skua BAP priority species	Minor adverse - see paragraphs 7.10.1, 7.10.6, 7.10.11, 7.10.21, and Tables 7.3, 7.5, 7.9, 7.12, and 7.14 in Chapter 11 Marine and Coastal Ornithology
Black-tailed godwit BAP priority species	Minor adverse - see paragraphs 7.10.2, 7.10.6, 7.10.12, 7.10.22, and Tables 7.16 and 7.18 in Chapter 11 Marine and Coastal Ornithology
Common scoter BAP priority species	Negligible to minor adverse - see paragraphs 7.10.2, 7.10.6, 7.10.12, 7.10.22, and Tables 7.16 and 7.18 in Chapter 11 Marine and Coastal Ornithology
Eurasian curlew BAP priority species	Negligible to minor adverse - see paragraphs 7.10.2, 7.10.6, 7.10.12, 7.10.22, and Tables 7.16 and 7.18 in Chapter 11 Marine and Coastal Ornithology

Site / species (including designation)	Impact
European nightjar BAP priority species	Negligible to minor adverse - see paragraphs 7.10.2, 7.10.6, 7.10.12, 7.10.22, and Tables 7.16 and 7.18 in Chapter 11 Marine and Coastal Ornithology
Great bittern BAP priority species	Negligible to minor adverse - see paragraphs 7.10.2, 7.10.6, 7.10.12, 7.10.22, and Tables 7.16 and 7.18 in Chapter 11 Marine and Coastal Ornithology
Greater scaup BAP priority species	Negligible to minor adverse - see paragraphs 7.10.2, 7.10.6, 7.10.12, 7.10.22, and Tables 7.16 and 7.18 in Chapter 11 Marine and Coastal Ornithology
Herring gull BAP priority species	No impact - see paragraphs 7.10.2, 7.10.6, 7.10.12, 7.10.22, and Tables 7.16 and 7.18 in Chapter 11 Marine and Coastal Ornithology
Northern lapwing BAP priority species	Negligible to minor adverse - see paragraphs 7.10.2, 7.10.6, 7.10.12, 7.10.22, and Tables 7.16 and 7.18 in Chapter 11 Marine and Coastal Ornithology
European eel BAP priority species	Negligible to minor adverse - see Tables 7.1, 7.2, 7.8, 7.9, and 7.10 in Chapter 13 Fish and Shellfish Ecology
Sea lamprey BAP priority species	Negligible to minor adverse - see Tables 7.1, 7.2, 7.8, 7.9, and 7.10 in Chapter 13 Fish and Shellfish Ecology
River lamprey BAP priority species	Negligible to minor adverse - see Tables 7.1, 7.2, 7.8, 7.9, and 7.10 in Chapter 13 Fish and Shellfish Ecology
Atlantic salmon BAP priority species	Negligible to minor adverse - see Tables 7.1, 7.2, 7.8, 7.9, and 7.10 in Chapter 13 Fish and Shellfish Ecology
Sea trout BAP priority species	Negligible to minor adverse - see Tables 7.1, 7.2, 7.8, 7.9, and 7.10 in Chapter 13 Fish and Shellfish Ecology
Smelt BAP priority species	Negligible to minor adverse - see Tables 7.1, 7.2, 7.8, 7.9, and 7.10 in Chapter 13 Fish and Shellfish Ecology
Basking shark BAP priority species	Negligible to minor adverse - see Tables 7.1, 7.2, 7.8, 7.9, and 7.10 in Chapter 13 Fish and Shellfish Ecology
Spotted ray BAP priority species	Negligible to minor adverse - see Tables 7.1, 7.2, 7.8, 7.9, and 7.10 in Chapter 13 Fish and Shellfish Ecology
Spurdog BAP priority species	Negligible to minor adverse - see Tables 7.1, 7.2, 7.8, 7.9, and 7.10 in Chapter 13 Fish and Shellfish Ecology
Tope BAP priority species	Negligible to minor adverse - see Tables 7.1, 7.2, 7.8, 7.9, and 7.10 in Chapter 13 Fish and Shellfish Ecology
Raitt's sandeel BAP priority species	Negligible to minor adverse - see Tables 7.1, 7.2, 7.8, 7.9, and 7.10 in Chapter 13 Fish and Shellfish Ecology
Herring BAP priority species	Negligible to minor adverse - see Tables 7.1, 7.2, 7.8, 7.9, and 7.10 in Chapter 13 Fish and Shellfish Ecology
Cod BAP priority species	Negligible to minor adverse - see Tables 7.1, 7.2, 7.8, 7.9, and 7.10 in Chapter 13 Fish and Shellfish Ecology

Site / species (including designation)	Impact
Whiting BAP priority species	Negligible to minor adverse - see Tables 7.1, 7.2, 7.8, 7.9, and 7.10 in Chapter 13 Fish and Shellfish Ecology
Plaice BAP priority species	Negligible to minor adverse - see Tables 7.1, 7.2, 7.8, 7.9, and 7.10 in Chapter 13 Fish and Shellfish Ecology
Mackerel BAP priority species	Negligible to minor adverse - see Tables 7.1, 7.2, 7.8, 7.9, and 7.10 in Chapter 13 Fish and Shellfish Ecology
Sole BAP priority species	Negligible to minor adverse - see Tables 7.1, 7.2, 7.8, 7.9, and 7.10 in Chapter 13 Fish and Shellfish Ecology
Horse mackerel BAP priority species	Negligible to minor adverse - see Tables 7.1, 7.2, 7.8, 7.9, and 7.10 in Chapter 13 Fish and Shellfish Ecology
Anglerfish BAP priority species	Negligible to minor adverse - see Tables 7.1, 7.2, 7.8, 7.9, and 7.10 in Chapter 13 Fish and Shellfish Ecology
Common skate BAP priority species	Negligible to minor adverse - see Tables 7.1, 7.2, 7.8, 7.9, and 7.10 in Chapter 13 Fish and Shellfish Ecology
Ling BAP priority species	Negligible to minor adverse - see Tables 7.1, 7.2, 7.8, 7.9, and 7.10 in Chapter 13 Fish and Shellfish Ecology
Hake BAP priority species	Negligible to minor adverse - see Tables 7.1, 7.2, 7.8, 7.9, and 7.10 in Chapter 13 Fish and Shellfish Ecology

¹ Given the wide scale movement of grey seals within the North Sea and between sites only a national level population has been undertaken and presented.

7. Assessment of Impacts during Decommissioning

7.1. Introduction

- 7.1.1. The summary of the impacts on the relevant designated sites and species as a result of the decommissioning phase for Dogger Bank Teesside A & B is presented in **Table 7.1**. All of the impacts on the designated sites' Valued Ecological Receptor's and all of the impacts predicted for each species are presented within the individual chapters listed in Section 1. For impacts in relation to the European designated sites, refer to the Dogger Bank Teesside A & B **HRA Report**. The impacts for Dogger Bank Teesside A and Dogger Bank Teesside B individually are the same significance for all impacts and sites and their features, as well as being the same significance when combined (i.e. as Dogger Bank Teesside A & B); consequently, only one impact is stated.

7.2. Results of assessment on designated sites during the decommissioning phase for Dogger Bank Teesside A & B (and Dogger Bank Teesside A and Dogger Bank Teesside B individually)

- 7.2.1. As shown in **Table 7.1**, the predicted impacts on designated sites and species range from **no impact** to **minor adverse** impacts, similar to the construction phase. However, some disturbance impacts are predicted to be significantly reduced in terms of magnitude (e.g. particularly underwater noise as there would be no piling works in this phase). Consequently, all of the impacts are temporary and / or short-term in nature and would cease on completion of the decommissioning phase. Only impacts resulting in habitat disturbance would extend on completion of the decommissioning phase, but it is predicted that these habitats will recover and within a short period no impacts would remain. No impacts are considered to affect a designated site or a protected species permanently.

Table 7.1 Summary of impacts on designated sites and species during the decommissioning phase for Dogger Bank Teesside A & B (and Dogger Bank Teesside A and Dogger Bank Teesside B individually)

Site / species (including designation)	Impact
Internationally designated sites	
Dogger Bank cSAC	Refer to Dogger Bank Teesside A & B HRA Report
Nationally designated sites	
Alde–Ore Estuary SSSI	No impact - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Berwickshire and North Northumberland Coast SAC - component SSSIs (see Table 4.2) ¹	Minor adverse - see Table 6.23 and paragraphs 6.2.13, 6.3.10, 6.4.9, and 6.5.8 in Chapter 14 Marine Mammals
Brighton to Newhaven Cliffs SSSI	No impact - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Buchan Ness to Collieston Coast SPA - component SSSIs (see Table 4.4)	Minor adverse - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Calf of Eday SSSI	Minor adverse - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Cape Wrath SSSI	Minor adverse - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Collieston to Whinnyfold Coast SSSI	Minor adverse - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Copinsay SSSI	Minor adverse - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Coquet Island SSSI	Minor adverse - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Dover to Kingsdown Cliffs SSSI	No impact - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Dunbar Coast SSSI	No impact - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Durham Coast and Marsden Bay SSSI	No impact - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
East Caithness Cliffs SPA - component SSSIs (see Table 4.4)	Minor adverse - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Eilean Hoan (North Sutherland Coastal Islands) SSSI	No impact - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Fair Isle SSSI	Minor adverse - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Faray and Holm of Faray SSSI (grey seal features) ¹	Minor adverse - see Table 6.23 and paragraphs 6.2.13, 6.3.10, 6.4.9, and 6.5.8 in Chapter 14 Marine Mammals

Site / species (including designation)	Impact
Farne Islands SSSI	Minor adverse - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Fetlar SPA - component SSSIs (see Table 4.4)	Negligible - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Flamborough Head SSSI (grey seal) ¹	Minor adverse - see Table 6.23 and paragraphs 6.2.13, 6.3.10, 6.4.9, and 6.5.8 in Chapter 14 Marine Mammals
Flamborough Head SSSI (ornithology features)	Minor adverse - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Forth Islands SPA - component SSSIs (see Table 4.4)	Minor adverse - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Foula SSSI	Minor adverse - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Fowlsheugh SSSI	Minor adverse - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Gamrie & Pennan Coast SSSI (Troup, Pennan and Lion's Heads SPA)	Minor adverse - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Hermaness, Saxa Vord and Valla Field SPA - component SSSIs (see Table 4.4)	Minor adverse - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Hoy SSSI	Minor adverse - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Humber Estuary SAC and Ramsar- component SSSIs (see Table 4.2) ¹	Minor adverse - see Table 6.23 and paragraphs 6.2.13, 6.3.10, 6.4.9, and 6.5.8 in Chapter 14 Marine Mammals
Hunstanton Cliffs SSSI	No impact - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Isle of May SSSI (grey seal feature) ¹	Minor adverse - see Table 6.23 and paragraphs 6.2.13, 6.3.10, 6.4.9, and 6.5.8 in Chapter 14 Marine Mammals
Marwick Head SSSI	Minor adverse - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
North Berwick Coast SSSI	No impact - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
North Caithness Cliffs SPA - component SSSIs (see Table 4.4)	Minor adverse - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Northumbria Coast SPA and Ramsar - component SSSIs (see Table 4.4)	Negligible - as for construction see paragraphs 6.7.5, 6.7.9, and 6.7.14 in Chapter 11 Marine and Coastal Ornithology
Noss SSSI	Minor adverse - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology

Site / species (including designation)	Impact
Papa Westray SPA - component SSSIs (see Table 4.4)	Negligible - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Rousay SSSI	Minor adverse - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
St Abb's Head to Fast Castle Head SSSI	Minor adverse - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Sule Skerry and Sule Stack SPA - component SSSIs (see Table 4.4)	Minor adverse - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Sumburgh Head SSSI	Minor adverse - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Teesmouth and Cleveland Coast SPA and Ramsar - component SSSIs (see Table 4.4)	Negligible - as for construction see Tables 6.5 and 6.6, and paragraphs 6.7.5, 6.7.9, and 6.7.14 in Chapter 11 Marine and Coastal Ornithology
West Westray SSSI	Minor adverse - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Weybourne Cliffs SSSI	No impact - as for construction see Tables 6.3, 6.4, and 6.6 in Chapter 11 Marine and Coastal Ornithology
Compass Rose rMCZ	Negligible - as for construction see paragraph 6.9.8 in Chapter 12 Marine and Intertidal Ecology
Runswick Bay rMCZ	Negligible - as for construction see paragraph 6.9.8 in Chapter 12 Marine and Intertidal Ecology
Locally designated or non-statutorily designated sites and BAP priority habitats	
Redcar to Saltburn Coast LWS	Negligible - see paragraphs 6.2.10 and 6.2.13 referred to in section 8 in Chapter 25 Terrestrial Ecology
Wilton Wood - Ancient Woodland	No impact identified in Section 6 or referred to in section 8 in Chapter 25 Terrestrial Ecology
Hedgerows BAP priority habitat	Negligible - see paragraphs 6.2.21 and 6.2.23 referred to in section 8 in Chapter 25 Terrestrial Ecology
Subtidal sands and gravels BAP priority habitat	Minor adverse – see paragraph 8.3.2 in Chapter 12 Marine and Intertidal Ecology
Mud habitats in deep waters BAP priority habitat	Minor adverse – see paragraph 8.3.2 in Chapter 12 Marine and Intertidal Ecology
Biodiversity Action Plan (BAP) species and legally protected species	
Harbour porpoise BAP priority species	Negligible to minor adverse - see paragraphs 8.2.5, 8.3.5, 8.4.7, 8.5.6, and 8.6.8 in Chapter 14 Marine Mammals
Minke whale BAP priority species	Negligible to minor adverse - see paragraphs 8.2.5, 8.3.5, 8.4.7, 8.5.6, and 8.6.8 in Chapter 14 Marine Mammals
White-beaked dolphin BAP priority species	Negligible to minor adverse - see paragraphs 8.2.5, 8.3.5, 8.4.7, 8.5.6, and 8.6.8 in Chapter 14 Marine Mammals
Grey seal LBAP and legally protected species	Negligible to minor adverse - see paragraphs 8.2.5, 8.3.5, 8.4.7, 8.5.6, and 8.6.8 in Chapter 14 Marine Mammals

Site / species (including designation)	Impact
Harbour (common) seal BAP priority species	Negligible to minor adverse - see paragraphs 8.2.5, 8.3.5, 8.4.7, 8.5.6, and 8.6.8 in Chapter 14 Marine Mammals
Bats BAP priority species	Negligible - see paragraphs 6.3.17 and 6.3.19 referred to in Section 8 in Chapter 25 Terrestrial Ecology
Arctic skua BAP priority species	Negligible - as for construction see paragraphs 6.7.2, 6.7.5, and 6.7.8 in Chapter 11 Marine and Coastal Ornithology
Black-tailed godwit BAP priority species	No impact - as for construction see paragraphs 6.7.2, 6.7.5, and 6.7.8 in Chapter 11 Marine and Coastal Ornithology
Common scoter BAP priority species	No impact - as for construction see paragraphs 6.7.2, 6.7.5, and 6.7.8 in Chapter 11 Marine and Coastal Ornithology
Eurasian curlew BAP priority species	No impact - as for construction see paragraphs 6.7.2, 6.7.5, and 6.7.8 in Chapter 11 Marine and Coastal Ornithology
European nightjar BAP priority species	No impact - as for construction see paragraphs 6.7.2, 6.7.5, and 6.7.8 in Chapter 11 Marine and Coastal Ornithology
Great bittern BAP priority species	No impact - as for construction see paragraphs 6.7.2, 6.7.5, and 6.7.8 in Chapter 11 Marine and Coastal Ornithology
Greater scaup BAP priority species	No impact - as for construction see paragraphs 6.7.2, 6.7.5, and 6.7.8 in Chapter 11 Marine and Coastal Ornithology
Herring gull BAP priority species	Negligible - as for construction see paragraphs 6.7.2, 6.7.5, and 6.7.8, and Tables 6.5 and 6.6 in Chapter 11 Marine and Coastal Ornithology
Northern lapwing BAP priority species	Minor adverse - as for construction see paragraphs 6.7.2, 6.7.5, and 6.7.8, and Tables 6.5 and 6.6 in Chapter 11 Marine and Coastal Ornithology
European eel BAP priority species	Negligible to minor adverse - as for construction see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Sea lamprey BAP priority species	Negligible to minor adverse - as for construction see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
River lamprey BAP priority species	Negligible to minor adverse - as for construction see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Atlantic salmon BAP priority species	Negligible to minor adverse - as for construction see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Sea trout BAP priority species	Negligible to minor adverse - as for construction see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Smelt BAP priority species	Negligible to minor adverse - as for construction see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Basking shark BAP priority species	Negligible to minor adverse - as for construction see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology

Site / species (including designation)	Impact
Spotted ray BAP priority species	Negligible to minor adverse - as for construction see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Spurdog BAP priority species	Negligible to minor adverse - as for construction see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Tope BAP priority species	Negligible to minor adverse - as for construction see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Raitt's sandeel BAP priority species	Negligible to minor adverse - as for construction see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Herring BAP priority species	Negligible to minor adverse - as for construction see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Cod BAP priority species	Negligible to minor adverse - as for construction see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Whiting BAP priority species	Negligible to minor adverse - as for construction see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Plaice BAP priority species	Negligible to minor adverse - as for construction see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Mackerel BAP priority species	Negligible to minor adverse - as for construction see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Sole BAP priority species	Negligible to minor adverse - as for construction see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Horse mackerel BAP priority species	Negligible to minor adverse - as for construction see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Anglerfish BAP priority species	Negligible to minor adverse - as for construction see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Common skate BAP priority species	Negligible to minor adverse - as for construction see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Ling BAP priority species	Negligible to minor adverse - as for construction see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Hake BAP priority species	Negligible to minor adverse - as for construction see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology

1 Given the wide scale movement of grey seals within the North Sea and between sites only a national level population has been undertaken and presented.

8. Cumulative Impact Assessment

8.1. Introduction

- 8.1.1. This section describes the cumulative impact assessment for designated sites, taking into consideration other plans, projects and activities. A summary of the Cumulative Impact Assessment (CIA) is also presented in **Chapter 33 Cumulative Impact Assessment**.
- 8.1.2. Forewind has developed a strategy for the assessment of cumulative impacts in consultation with statutory stakeholders including the Marine Management Organisation (MMO), the JNCC, Natural England and the Centre for Environment, Fisheries and Aquaculture Science (Cefas). Details of the approach to cumulative impact assessment adopted for this Environmental Statement are provided in **Appendix 4A Forewind Cumulative Impact Assessment Strategy - Offshore**. In its simplest form the Cumulative Impact Assessment strategy involves consideration of:

Onshore

- Whether impacts on a receptor can occur on a cumulative basis between the onshore elements of Dogger Bank Teesside A & B and other activities, projects and plans for which sufficient information regarding location and scale exist.

Offshore

- Whether impacts on a receptor can occur on a cumulative basis between the wind farm project(s) subject to the application(s) and other wind farm projects, activities and plans in Dogger Bank Zone (either consented or forthcoming); and
- Whether impacts on a receptor can occur on a cumulative basis with other activities, projects and plans outwith Dogger Bank Zone (e.g. other offshore wind farm developments), for which sufficient information regarding location and scale exist.

Onshore projects

- 8.1.3. The cumulative impact assessments carried out and reported in **Chapter 24** and **Chapter 25** identified that there would be no cumulative impacts associated with Dogger Bank Teesside A & B and all other projects on designated sites and species.

Offshore projects

- 8.1.4. The cumulative impact assessments carried out and reported in the relevant chapters listed in Section 1 identified a number of projects that could result in cumulative impacts on designated sites and species. The projects, activities and plans considered in the chapters' cumulative impact assessments are listed

in **Table 8.1** along with the receptors (and subsequently related designated sites and species) for which cumulative impact assessment has been undertaken.

Table 8.1 Projects considered within the cumulative impact assessment on offshore designated sites and species

Type of project	Title	Topic			
		Marine and coastal ornithology	Marine and intertidal ecology	Fish and shellfish ecology	Marine mammals
Aggregate extraction	Area 400	No	No	No	Yes
	Area 439	No	No	No	Yes
	Area 448 (now 514/1)	No	No	No	Yes
	Area 449 (now 514/3)	No	No	No	Yes
	Area 454 (now Area 512)	No	No	No	Yes
	Area 466/1	Yes	Yes	Yes	Yes
	Area 483	No	No	No	Yes
	Area 484	No	No	No	Yes
	Area 485/1	Yes	Yes	Yes	Yes
	Area 485/2	Yes	Yes	Yes	Yes
	Area 492	No	No	No	Yes
	Area 493	No	No	No	Yes
	Area 494	No	No	No	Yes
	Area 495/1	No	No	No	Yes
	Area 495/2	No	No	No	Yes
	Area 506	No	No	No	Yes
Cables and pipelines	Breagh Pipeline	No	No	No	Yes
Offshore Wind Farm	Beatrice	Yes	No	No	Yes
	Blyth Demonstration Site	Yes	No	No	Yes
	Breeveertien II	Yes	No	No	No
	Dogger Bank Creyke Beck A & B	Yes	Yes	Yes	Yes
	Dogger Bank Teesside C & D	Yes	Yes	Yes	Yes
	Dudgeon	Yes	No	No	Yes
	East Anglia ONE	Yes	Yes	Yes	Yes
	East Anglia Three	No	No	No	Yes
	East Anglia Four	No	No	No	Yes
	European Offshore Wind Development Centre / Aberdeen Offshore Wind Farm	Yes	No	No	No
	Firth of Forth Alpha	Yes	No	Yes	Yes
	Firth of Forth Bravo	Yes	No	Yes	Yes
	Galloper	Yes	No	No	Yes
	Greater Gabbard	Yes	No	No	No
	Hornsea Project One	Yes	Yes	Yes	Yes
	Hornsea Project Two	No	Yes	Yes	Yes

Type of project	Title	Topic			
		Marine and coastal ornithology	Marine and intertidal ecology	Fish and shellfish ecology	Marine mammals
Offshore Wind Farm (continued)	Humber Gateway	Yes	No	No	Yes
	Inch Cape	Yes	No	No	Yes
	Kentish Flats	No	No	No	Yes
	Lincs	Yes	No	No	Yes
	London Array II	Yes	No	No	Yes
	Moray Firth - Telford, Stevenson and MacColl	Yes	No	No	Yes
	Neart Na Gaoithe	Yes	No	No	Yes
	Offshore- Bürger- windpark Butendiek (Germany)	No	No	No	Yes
	Race Bank	Yes	No	No	Yes
	Sheringham Shoal	Yes	No	No	No
	Teesside Offshore Wind Farm	Yes	No	No	Yes
	Thanet	Yes	No	No	No
	Triton Knoll	Yes	No	Yes	Yes
	Westermest Rough	Yes	No	Yes	Yes
Oil and Gas	Cygnus gas field development (Alpha and Bravo)	Yes	No	No	Yes
	Ensign	No	No	No	Yes
	Rochelle	No	No	No	Yes
Tidal	Cantick Head	No	No	No	Yes
	Westray South	No	No	No	Yes
Wave energy	Brough Head (Aquamarine Power)	No	No	No	Yes
	Costa Head	No	No	No	Yes
	Inner Sound	No	No	No	Yes

8.2. Cumulative impacts of Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D on designated and non-statutorily designated sites and species

- 8.2.1. The summary of the assessment of the cumulative impacts predicted as a result of the construction, operation, and decommissioning phase for Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D is presented in **Tables 8.2, 8.3, and 8.4** respectively. Where no impacts were determined as a result of the construction, operation, and decommissioning of Dogger Bank Teesside A & B (see **Tables 5.1, 6.1, and 7.1** respectively), these elements are not included in this table. All of the cumulative impacts on the designated sites' Valued Ecological Receptor's and all of the cumulative impacts predicted for each species are presented within the individual chapters listed in Section 1. For cumulative impacts (the 'in-combination assessment') in relation to the European designated sites, refer to the Dogger Bank Teesside A & B **HRA Report**.

Construction phase

8.2.2. As summarised in **Table 8.2**, the predicted cumulative impacts on designated sites and species in the construction phase range from **no cumulative impact** to **minor adverse** cumulative impacts. As with the construction phase for Dogger Bank Teesside A & B (and Dogger Bank Teesside A and Dogger Bank Teesside B individually) alone, many of the impacts are temporary or short-term in nature and would cease on completion of the construction phase, or in the case of some habitat disturbance, may recover within the short-term. Furthermore, for the majority of receptors no significant increase in the magnitude of impacts has occurred for Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D.

Table 8.2 Summary of cumulative impacts on designated sites and species during the construction phase for Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D, and Dogger Bank Teesside A & B and all other projects

Designated site /species (with designation)	Cumulative construction phase impact on designated site / species	
	Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D	Dogger Bank Teesside A & B and all other projects
Internationally designated sites		
Dogger Bank cSAC	Refer to Dogger Bank Teesside A & B HRA Report	
Nationally designated sites		
Alde–Ore Estuary SSSI	Negligible cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Berwickshire and North Northumberland Coast SAC - component SSSIs (see Table 4.2) ¹	Assessed at the population level due to the wide range and intermingling of populations at colonies and sites	
Brighton to Newhaven Cliffs SSSI	Negligible cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Buchan Ness to Collieston Coast SPA - component SSSIs (see Table 4.4)	Negligible cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Calf of Eday SSSI	Negligible to minor adverse cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Cape Wrath SSSI	Negligible to minor adverse cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Collieston to Whinnyfold Coast SSSI	Negligible to minor adverse cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase

Designated site /species (with designation)	Cumulative construction phase impact on designated site / species	
	Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D	Dogger Bank Teesside A & B and all other projects
Copinsay SSSI	Negligible to minor adverse cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Coquet Island SSSI	Negligible to minor adverse cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Dover to Kingsdown Cliffs SSSI	Negligible cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Dunbar Coast SSSI	Negligible cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Durham Coast and Marsden Bay SSSI	Negligible cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
East Caithness Cliffs SPA - component SSSIs (see Table 4.4)	Negligible to minor adverse cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Eilean Hoan (North Sutherland Coastal Islands) SSSI	Negligible cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Fair Isle SSSI	Negligible to minor adverse cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Faray and Holm of Faray SSSI (grey seal feature) ¹	Assessed at the population level due to the wide range and intermingling of populations at colonies and sites	
Farne Islands SSSI	Negligible to minor adverse cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Fetlar SPA - component SSSIs (see Table 4.4)	Negligible cumulative impact - see Tables 6.4, 6.6, and 10.5 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Flamborough Head SSSI (grey seal) ¹	Assessed at the population level due to the wide range and intermingling of populations at colonies and sites	
Flamborough Head SSSI (ornithology features)	Negligible to minor adverse cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Forth Islands SPA - component SSSIs (see Table 4.4)	Negligible to minor adverse cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase

Designated site /species (with designation)	Cumulative construction phase impact on designated site / species	
	Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D	Dogger Bank Teesside A & B and all other projects
Foula SSSI	Negligible to minor adverse cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Fowlsheugh SSSI	Negligible to minor adverse cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Gamrie & Pennan Coast SSSI (Troup, Pennan and Lion's Heads SPA)	Negligible to minor adverse cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Hermaness, Saxa Vord and Valla Field SPA - component SSSIs (see Table 4.4)	Negligible to minor adverse cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Hoy SSSI	Negligible to minor adverse cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Humber Estuary SAC and Ramsar - component SSSIs (see Table 4.2) ¹	Assessed at the population level due to the wide range and intermingling of populations at colonies and sites	
Hunstanton Cliffs SSSI	Negligible cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Isle of May SSSI (grey seal feature) ¹	Assessed at the population level due to the wide range and intermingling of populations at colonies and sites	
Marwick Head SSSI	Negligible to minor adverse cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
North Berwick Coast SSSI	Negligible cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
North Caithness Cliffs SPA - component SSSIs (see Table 4.4)	Negligible to minor adverse cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Northumbria Coast SPA and Ramsar - component SSSIs (see Table 4.4)	Negligible cumulative impact - see paragraphs 10.4.18 and 10.4.32 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Noss SSSI	Negligible to minor adverse cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Papa Westray SPA - component SSSIs (see Table 4.4)	Negligible cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase

Designated site /species (with designation)	Cumulative construction phase impact on designated site / species	
	Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D	Dogger Bank Teesside A & B and all other projects
Rousay SSSI	Negligible to minor adverse cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
St Abb's Head to Fast Castle Head SSSI	Negligible to minor adverse cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Sule Skerry and Sule Stack SPA - component SSSIs (see Table 4.4)	Negligible to minor adverse cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Sumburgh Head SSSI	Negligible to minor adverse cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Teesmouth and Cleveland Coast SPA and Ramsar - component SSSIs (see Table 4.4)	Negligible cumulative impact - see cumulative impact - see paragraphs 10.4.18 and 10.4.32 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
West Westray SSSI	Negligible to minor adverse cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Weybourne Cliffs SSSI	Negligible cumulative impact - see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Compass Rose rMCZ	No cumulative impact - see paragraph 10.3.3 in Chapter 12 Marine and Intertidal Ecology	No cumulative impact - see paragraph 10.3.3 in Chapter 12 Marine and Intertidal Ecology
Runswick Bay rMCZ	No cumulative impact - see paragraph 10.3.3 in Chapter 12 Marine and Intertidal Ecology	No cumulative impact - see paragraph 10.3.3 in Chapter 12 Marine and Intertidal Ecology
Locally designated or non-statutorily designated sites and BAP priority habitats		
Redcar to Saltburn Coast LWS	No cumulative impact identified in Section 10.3 in Chapter 25 Terrestrial Ecology	No cumulative impact - see paragraph 10.3.25 in Chapter 25 Terrestrial Ecology
Wilton Wood - Ancient Woodland	No cumulative impact identified in Section 10.3 in Chapter 25 Terrestrial Ecology	No cumulative impact identified in Section 10.3 in Chapter 25 Terrestrial Ecology
Hedgerows BAP priority habitat	Minor adverse cumulative impact - see paragraph 10.3.27 in Chapter 25 Terrestrial Ecology	Minor adverse cumulative impact - see paragraphs 10.3.4, 10.3.16, and 10.3.27 in Chapter 25 Terrestrial Ecology
Subtidal sands and gravels BAP priority habitat	Negligible cumulative impact - see paragraphs 10.2.6 and 10.3.3 in Chapter 12 Marine and Intertidal Ecology	Negligible cumulative impact - see paragraphs 10.2.6 and 10.3.3 in Chapter 12 Marine and Intertidal Ecology

Designated site /species (with designation)	Cumulative construction phase impact on designated site / species	
	Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D	Dogger Bank Teesside A & B and all other projects
Mud habitats in deep waters BAP priority habitat	Negligible cumulative impact - see paragraphs 10.2.6 and 10.3.3 in Chapter 12 Marine and Intertidal Ecology	Negligible cumulative impact - see paragraphs 10.2.6 and 10.3.3 in Chapter 12 Marine and Intertidal Ecology
Biodiversity Action Plan (BAP) species and legally protected species		
Harbour porpoise BAP priority species	Minor adverse cumulative impact - see paragraph 10.2.11, 10.2.32, 10.2.37, 10.2.39, 10.2.43, and 10.2.46 in Chapter 14 Marine Mammals	Assessed in operation phase
Minke whale BAP priority species	Minor adverse cumulative impact - see paragraph 10.2.11, 10.2.32, 10.2.37, 10.2.39, 10.2.43, and 10.2.46 in Chapter 14 Marine Mammals	Assessed in operation phase
White-beaked dolphin BAP priority species	Minor adverse cumulative impact - see paragraph 10.2.11, 10.2.32, 10.2.37, 10.2.39, 10.2.43, and 10.2.46 in Chapter 14 Marine Mammals	Assessed in operation phase
Grey seal LBAP and legally protected species	Negligible to minor adverse cumulative impact - see paragraph 10.2.13, 10.2.32, 10.2.37, 10.2.39, 10.2.43, and 10.2.46 in Chapter 14 Marine Mammals	Assessed in operation phase
Harbour (common) seal BAP priority species	Negligible to minor adverse cumulative impact - see paragraph 10.2.11, 10.2.32, 10.2.37, 10.2.39, 10.2.43, and 10.2.46 in Chapter 14 Marine Mammals	Assessed in operation phase
Bats BAP priority species	Minor adverse cumulative impact - see paragraph 10.3.33 in Chapter 25 Terrestrial Ecology	Minor adverse cumulative impact - see paragraphs 10.3.10 and 10.3.33 in Chapter 25 Terrestrial Ecology
Arctic skua BAP priority species	Negligible cumulative impact - see paragraph 10.4.1 and Table 10.5 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Black-tailed godwit BAP priority species	No cumulative impact - see paragraph 10.4.2 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Common scoter BAP priority species	No cumulative impact - see paragraph 10.4.2 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Eurasian curlew BAP priority species	No cumulative impact - see paragraph 10.4.2 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
European nightjar BAP priority species	No cumulative impact - see paragraph 10.4.2 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Great bittern BAP priority species	No cumulative impact - see paragraph 10.4.2 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase

Designated site /species (with designation)	Cumulative construction phase impact on designated site / species	
	Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D	Dogger Bank Teesside A & B and all other projects
Greater scaup BAP priority species	No cumulative impact - see paragraph 10.4.2 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Herring gull BAP priority species	No cumulative impact - see paragraph 10.4.2 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Northern lapwing BAP priority species	No cumulative impact - see paragraph 10.4.2 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
European eel BAP priority species	Minor adverse cumulative impact - see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact - see paragraphs 10.8.11 and 10.8.17 in Chapter 13 Fish and Shellfish Ecology
Sea lamprey BAP priority species	Minor adverse cumulative impact - see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact - see paragraphs 10.8.11 and 10.8.17 in Chapter 13 Fish and Shellfish Ecology
River lamprey BAP priority species	Minor adverse cumulative impact - see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact - see paragraphs 10.8.11 and 10.8.17 in Chapter 13 Fish and Shellfish Ecology
Atlantic salmon BAP priority species	Minor adverse cumulative impact - see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact - see paragraphs 10.8.11 and 10.8.17 in Chapter 13 Fish and Shellfish Ecology
Sea trout BAP priority species	Minor adverse cumulative impact - see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact - see paragraphs 10.8.11 and 10.8.17 in Chapter 13 Fish and Shellfish Ecology
Smelt BAP priority species	Minor adverse cumulative impact - see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact - see paragraphs 10.8.11 and 10.8.17 in Chapter 13 Fish and Shellfish Ecology
Basking shark BAP priority species	Minor adverse cumulative impact - see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact - see paragraphs 10.8.11 and 10.8.17 in Chapter 13 Fish and Shellfish Ecology
Spotted ray BAP priority species	Minor adverse cumulative impact - see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact - see paragraphs 10.8.11 and 10.8.17 in Chapter 13 Fish and Shellfish Ecology
Spurdog BAP priority species	Minor adverse cumulative impact - see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact - see paragraphs 10.8.11 and 10.8.17 in Chapter 13 Fish and Shellfish Ecology
Tope BAP priority species	Minor adverse cumulative impact - see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact - see paragraphs 10.8.11 and 10.8.17 in Chapter 13 Fish and Shellfish Ecology
Raitt's sandeel BAP priority species	Minor adverse cumulative impact - see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact - see paragraphs 10.8.11 and 10.8.17 in Chapter 13 Fish and Shellfish Ecology

Designated site /species (with designation)	Cumulative construction phase impact on designated site / species	
	Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D	Dogger Bank Teesside A & B and all other projects
Herring BAP priority species	Minor adverse cumulative impact - see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact - see paragraphs 10.8.11 and 10.8.17 in Chapter 13 Fish and Shellfish Ecology
Cod BAP priority species	Minor adverse cumulative impact - see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact - see paragraphs 10.8.11 and 10.8.17 in Chapter 13 Fish and Shellfish Ecology
Whiting BAP priority species	Minor adverse cumulative impact - see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact - see paragraphs 10.8.11 and 10.8.17 in Chapter 13 Fish and Shellfish Ecology
Plaice BAP priority species	Minor adverse cumulative impact - see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact - see paragraphs 10.8.11 and 10.8.17 in Chapter 13 Fish and Shellfish Ecology
Mackerel BAP priority species	Minor adverse cumulative impact - see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact - see paragraphs 10.8.11 and 10.8.17 in Chapter 13 Fish and Shellfish Ecology
Sole BAP priority species	Minor adverse cumulative impact - see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact - see paragraphs 10.8.11 and 10.8.17 in Chapter 13 Fish and Shellfish Ecology
Horse mackerel BAP priority species	Minor adverse cumulative impact - see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact - see paragraphs 10.8.11 and 10.8.17 in Chapter 13 Fish and Shellfish Ecology
Anglerfish BAP priority species	Minor adverse cumulative impact - see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact - see paragraphs 10.8.11 and 10.8.17 in Chapter 13 Fish and Shellfish Ecology
Common skate BAP priority species	Minor adverse cumulative impact - see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact - see paragraphs 10.8.11 and 10.8.17 in Chapter 13 Fish and Shellfish Ecology
Ling BAP priority species	Minor adverse cumulative impact - see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact - see paragraphs 10.8.11 and 10.8.17 in Chapter 13 Fish and Shellfish Ecology
Hake BAP priority species	Minor adverse cumulative impact - see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact - see paragraphs 10.8.11 and 10.8.17 in Chapter 13 Fish and Shellfish Ecology

1 Given the wide scale movement of grey seals within the North Sea and between sites only a national level population has been undertaken and presented.

Operation phase

- 8.2.3. As summarised in **Table 8.3**, the predicted cumulative impacts on designated sites and species as a result of the operation phase for Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D range from **no cumulative impact** to **minor adverse** cumulative impacts, with the exception of some sites and species for which a moderate adverse cumulative impact is predicted.
- 8.2.4. A **moderate adverse** impact is predicted on the Flamborough Head SSSI due to the cumulative collisions on the black-legged kittiwake population (see paragraph 10.4.30 in **Chapter 11**).

Table 8.3 Summary of cumulative impacts on designated sites and species during the operation phase for Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D, and Dogger Bank Teesside A & B and all other projects

Designated site /species (with designation)	Cumulative operation phase impact on designated site / species	
	Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D	Dogger Bank Teesside A & B and all other projects
Internationally designated sites		
Dogger Bank cSAC	Refer to Dogger Bank Teesside A & B HRA Report	
Nationally designated sites		
Alde–Ore Estuary SSSI	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.10, 10.14, 10.28, 10.29, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.29, 10.33,10.34 and paragraphs 10.4.44 and 10.4.43 in Chapter 11 Marine and Coastal Ornithology
Berwickshire and North Northumberland Coast SAC - component SSSIs (see Table 4.2) ¹	Assessed at the population level due to the wide range and intermingling of populations at colonies and sites	
Brighton to Newhaven Cliffs SSSI	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.10, 10.14, 10.28, 10.29, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.30, 10.34 and paragraph 10.4.44 in Chapter 11 Marine and Coastal Ornithology
Buchan Ness to Collieston Coast SPA - component SSSIs (see Table 4.4)	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.10, 10.14, 10.28, 10.29, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor to moderate adverse cumulative impact - see Tables 10.21, 10.24, 10.31, 10.33, 10.34, and paragraphs 10.4.45 and 10.4.46 in Chapter 11 Marine and Coastal Ornithology
Calf of Eday SSSI	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.14, 10.28, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.30, and 10.34 in Chapter 11 Marine and Coastal Ornithology
Cape Wrath SSSI	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.14, 10.28, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.30, and 10.34 in Chapter 11 Marine and Coastal Ornithology

Designated site /species (with designation)	Cumulative operation phase impact on designated site / species	
	Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D	Dogger Bank Teesside A & B and all other projects
Collieston to Whinnyfold Coast SSSI	Minor adverse cumulative impact - see Tables 7.12, 10.8, and 10.28 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact -see Tables 10.21, 10.28, and 10.34 in Chapter 11 Marine and Coastal Ornithology
Copinsay SSSI	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.14, 10.28, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.30, and 10.34 in Chapter 11 Marine and Coastal Ornithology
Coquet Island SSSI	Minor adverse cumulative impact - see Tables 7.12, 10.8, and 10.28 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact -see Tables 10.21, 10.31, 10.34, and paragraph 10.4.44 in Chapter 11 Marine and Coastal Ornithology
Dover to Kingsdown Cliffs SSSI	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.10, 10.14, 10.28, 10.29, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.30, and 10.34 in Chapter 11 Marine and Coastal Ornithology
Dunbar Coast SSSI	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.10, 10.14, 10.28, 10.29, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.30, and 10.34 in Chapter 11 Marine and Coastal Ornithology
Durham Coast and Marsden Bay SSSI	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.10, 10.14, 10.28, 10.29, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.30, and 10.34 in Chapter 11 Marine and Coastal Ornithology
East Caithness Cliffs SPA - component SSSIs (see Table 4.4)	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.14, 10.28, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor to moderate adverse cumulative impact - see Tables 10.21, 10.24, 10.28, and 10.30, 10.33, 10.34, and paragraph 10.4.49 in Chapter 11 Marine and Coastal Ornithology
Eilean Hoan (North Sutherland Coastal Islands) SSSI	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.10, 10.14, 10.28, 10.29, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.30, and 10.34 in Chapter 11 Marine and Coastal Ornithology
Fair Isle SSSI	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.14, 10.28, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.30, and 10.34 in Chapter 11 Marine and Coastal Ornithology
Faray and Holm of Faray SSSI (grey seal feature) ¹	Assessed at the population level due to the wide range and intermingling of populations at colonies and sites	
Farne Islands SSSI	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.10, 10.14, 10.28, 10.29, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor to moderate adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.31, 10.34, and paragraph 10.4.44 in Chapter 11 Marine and Coastal Ornithology
Fetlar SPA - component SSSIs (see Table 4.4)	Minor adverse cumulative impact - see Tables 7.12, 10.8, and 10.14 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see Tables 10.21, 10.24, and 10.34 in Chapter 11 Marine and Coastal Ornithology
Flamborough Head SSSI (grey seal) ¹	Assessed at the population level due to the wide range and intermingling of populations at colonies and sites	

Designated site /species (with designation)	Cumulative operation phase impact on designated site / species	
	Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D	Dogger Bank Teesside A & B and all other projects
Flamborough Head SSSI (ornithology features)	Minor adverse to moderate adverse cumulative impact - see Tables 7.12, 10.8, 10.10, 10.14, 10.28, 10.29, and 10.30, and paragraph 10.4.30 in Chapter 11 Marine and Coastal Ornithology	Minor to moderate adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.31, 10.33, 10.34, and paragraphs 10.4.44, 10.4.47, and 10.4.50 in Chapter 11 Marine and Coastal Ornithology
Forth Islands SPA - component SSSIs (see Table 4.4)	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.10, 10.14, 10.28, 10.29, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor to moderate adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.31, 10.33, 10.34, and paragraphs 10.4.44 and 10.4.48 in Chapter 11 Marine and Coastal Ornithology
Foula SSSI	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.14, 10.28, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.30, and 10.34 in Chapter 11 Marine and Coastal Ornithology
Fowlsheugh SSSI	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.10, 10.14, 10.28, 10.29, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor to moderate adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.31, 10.33, 10.34, and paragraphs 10.4.44 and 10.4.46 in Chapter 11 Marine and Coastal Ornithology
Gamrie & Pennan Coast SSSI (Troup, Pennan and Lion's Heads SPA)	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.10, 10.14, 10.28, 10.29, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.30, 10.33, 10.34, and paragraph 10.4.46 in Chapter 11 Marine and Coastal Ornithology
Hermaness, Saxa Vord and Valla Field SPA - component SSSIs (see Table 4.4)	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.14, 10.28, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.30, and 10.34 in Chapter 11 Marine and Coastal Ornithology
Hoy SSSI	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.14, 10.28, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.30, and 10.34 in Chapter 11 Marine and Coastal Ornithology
Humber Estuary SAC and Ramsar - component SSSIs (see Table 4.2) ¹	Assessed at the population level due to the wide range and intermingling of populations at colonies and sites	
Hunstanton Cliffs SSSI	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.10, 10.14, 10.28, 10.29, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.30, and 10.34 in Chapter 11 Marine and Coastal Ornithology
Isle of May SSSI (grey seal feature) ¹	Assessed at the population level due to the wide range and intermingling of populations at colonies and sites	
Marwick Head SSSI	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.14, 10.28, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.30, and 10.34 in Chapter 11 Marine and Coastal Ornithology

Designated site /species (with designation)	Cumulative operation phase impact on designated site / species	
	Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D	Dogger Bank Teesside A & B and all other projects
North Berwick Coast SSSI	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.10, 10.14, 10.28, 10.29, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.30, and 10.34 in Chapter 11 Marine and Coastal Ornithology
North Caithness Cliffs SPA - component SSSIs (see Table 4.4)	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.14, 10.28, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.30, 10.33, 10.34, and paragraph 10.4.46 in Chapter 11 Marine and Coastal Ornithology
Northumbria Coast SPA and Ramsar - component SSSIs (see Table 4.4)	Negligible cumulative impact - see paragraphs 10.4.21 and 10.4.32 in Chapter 11 Marine and Coastal Ornithology	Negligible cumulative impact - see paragraphs 10.1.11, 10.4.21, and 10.4.32 in Chapter 11 Marine and Coastal Ornithology
Noss SSSI	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.14, 10.28, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.30, and 10.34 in Chapter 11 Marine and Coastal Ornithology
Papa Westray SPA - component SSSIs (see Table 4.4)	Minor adverse cumulative impact - see Tables 7.12, 10.8, and 10.14 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see Tables 10.21, 10.24, 10.28, and 10.34 in Chapter 11 Marine and Coastal Ornithology
Rousay SSSI	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.14, 10.28, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.30, and 10.34 in Chapter 11 Marine and Coastal Ornithology
St Abb's Head to Fast Castle Head SSSI	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.10, 10.14, 10.28, 10.29, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor to moderate adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.31, 10.33, 10.34, and paragraphs 10.4.44 and 10.4.46 in Chapter 11 Marine and Coastal Ornithology
Sule Skerry and Sule Stack SPA - component SSSIs (see Table 4.4)	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.14, 10.28, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.30, and 10.34 in Chapter 11 Marine and Coastal Ornithology
Sumburgh Head SSSI	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.14, 10.28, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.30, and 10.34 in Chapter 11 Marine and Coastal Ornithology
Teesmouth and Cleveland Coast SPA and Ramsar - component SSSIs (see Table 4.4)	Negligible cumulative impact - see paragraphs 10.4.21 and 10.4.32 in Chapter 11 Marine and Coastal Ornithology	Negligible cumulative impact - see paragraphs 10.1.11, 10.4.18, and 10.4.32 in Chapter 11 Marine and Coastal Ornithology
West Westray SSSI	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.14, 10.28, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.30, and 10.34 in Chapter 11 Marine and Coastal Ornithology
Weybourne Cliffs SSSI	Minor adverse cumulative impact - see Tables 7.12, 10.8, 10.10, 10.14, 10.28, 10.29, and 10.30 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see Tables 10.21, 10.24, 10.28, 10.30, and 10.34 in Chapter 11 Marine and Coastal Ornithology

Designated site /species (with designation)	Cumulative operation phase impact on designated site / species	
	Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D	Dogger Bank Teesside A & B and all other projects
Compass Rose rMCZ	No cumulative impact identified - see Sections 10.4, 10.5, and 10.6 in Chapter 12 Marine and Intertidal Ecology	No cumulative impact identified - see Sections 10.4, 10.5, and 10.6 in Chapter 12 Marine and Intertidal Ecology
Runswick Bay rMCZ	No cumulative impact identified - see Sections 10.4, 10.5, and 10.6 in Chapter 12 Marine and Intertidal Ecology	No cumulative impact identified - see Sections 10.4, 10.5, and 10.6 in Chapter 12 Marine and Intertidal Ecology
Locally designated or non-statutorily designated sites and BAP priority habitats		
Redcar to Saltburn Coast LWS	No cumulative impact - see paragraph 10.3.25 in Chapter 25 Terrestrial Ecology	No cumulative impact identified in Section 10.3 in Chapter 25 Terrestrial Ecology
Wilton Wood - Ancient Woodland	No cumulative impact identified in Section 10.3 in Chapter 25 Terrestrial Ecology	No cumulative impact identified in Section 10.3 in Chapter 25 Terrestrial Ecology
Hedgerows BAP priority habitat	Minor beneficial cumulative impact - see paragraph 10.3.27 in Chapter 25 Terrestrial Ecology	No cumulative impact - see paragraphs 10.3.4, and 10.3.16 in Chapter 25 Terrestrial Ecology
Subtidal sands and gravels BAP priority habitat	Negligible to minor adverse cumulative impacts - see paragraphs 10.4.5, 10.5.3, and 10.6.3 in Chapter 12 Marine and Intertidal Ecology	Negligible to minor adverse cumulative impacts - see paragraphs 10.4.5, 10.5.3, and 10.6.3 in Chapter 12 Marine and Intertidal Ecology
Mud habitats in deep waters BAP priority habitat	Negligible to minor adverse cumulative impacts - see paragraphs 10.4.5, 10.5.3, and 10.6.3 in Chapter 12 Marine and Intertidal Ecology	Negligible to minor adverse cumulative impacts - see paragraphs 10.4.5, 10.5.3, and 10.6.3 in Chapter 12 Marine and Intertidal Ecology
Biodiversity Action Plan (BAP) species and legally protected species		
Harbour porpoise BAP priority species	Minor adverse cumulative impact - see paragraphs 10.2.48, 10.2.50, 10.2.52, 10.2.54, and 10.2.56 in Chapter 14 Marine Mammals	Minor adverse to moderate adverse cumulative impacts - see paragraph 10.3.6, 10.3.10, 10.3.12, 10.4.13, 10.4.33, 10.4.43, and 10.4.47 in Chapter 14 Marine Mammals
Minke whale BAP priority species	Minor adverse cumulative impact - see paragraphs 10.2.48, 10.2.50, 10.2.52, 10.2.54, and 10.2.56 in Chapter 14 Marine Mammals	Minor adverse cumulative impact - see paragraph 10.3.6, 10.3.10, 10.3.12, 10.4.13, 10.4.37, 10.4.43, and 10.4.47 in Chapter 14 Marine Mammals
White-beaked dolphin BAP priority species	Minor adverse cumulative impact - see paragraphs 10.2.48, 10.2.50, 10.2.52, 10.2.54, and 10.2.56 in Chapter 14 Marine Mammals	Minor adverse cumulative impact - see paragraph 10.3.6, 10.3.10, 10.3.12, 10.4.13, 10.4.37, 10.4.43, and 10.4.47 in Chapter 14 Marine Mammals
Grey seal LBAP and legally protected species	Negligible to minor adverse cumulative impacts - see paragraphs 10.2.48, 10.2.50, 10.2.52, 10.2.54, and 10.2.56 in Chapter 14 Marine Mammals	Negligible to moderate adverse cumulative impacts - see paragraph 10.3.6, 10.3.10, 10.3.12, 10.4.14, 10.4.39, 10.4.43, and 10.4.47 in Chapter 14 Marine Mammals

Designated site /species (with designation)	Cumulative operation phase impact on designated site / species	
	Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D	Dogger Bank Teesside A & B and all other projects
Harbour (common) seal BAP priority species	Negligible to minor adverse cumulative impacts - see paragraphs 10.2.48, 10.2.50, 10.2.52, 10.2.54, and 10.2.56 in Chapter 14 Marine Mammals	Minor adverse to moderate adverse cumulative impacts - see paragraph 10.3.6, 10.3.10, 10.3.12, 10.4.43, and 10.4.47 in Chapter 14 Marine Mammals
Bats BAP priority species	Minor adverse cumulative impact - see paragraph 10.3.33 in Chapter 25 Terrestrial Ecology	Minor adverse cumulative impact - see paragraph 10.3.9 in Chapter 25 Terrestrial Ecology
Arctic skua BAP priority species	Negligible to minor adverse cumulative impact - see paragraphs 10.4.3, 10.4.5, 10.4.7, and 10.4.9 in Chapter 11 Marine and Coastal Ornithology	Negligible to minor adverse cumulative impact - see paragraphs 10.4.33, 10.4.35, and 10.4.37 in Chapter 11 Marine and Coastal Ornithology
Black-tailed godwit BAP priority species	Minor adverse cumulative impact - see paragraphs 10.4.4, 10.4.6, 10.4.8, and 10.4.10 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see paragraphs 10.4.34, 10.4.36, and 10.4.38 in Chapter 11 Marine and Coastal Ornithology
Common scoter BAP priority species	Minor adverse cumulative impact - see paragraphs 10.4.4, 10.4.6, 10.4.8, and 10.4.10 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see paragraphs 10.4.34, 10.4.36, and 10.4.38 in Chapter 11 Marine and Coastal Ornithology
Eurasian curlew BAP priority species	Minor adverse cumulative impact - see paragraphs 10.4.4, 10.4.6, 10.4.8, and 10.4.10 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see paragraphs 10.4.34, 10.4.36, and 10.4.38 in Chapter 11 Marine and Coastal Ornithology
European nightjar BAP priority species	Minor adverse cumulative impact - see paragraphs 10.4.4, 10.4.6, 10.4.8, and 10.4.10 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see paragraphs 10.4.34, 10.4.36, and 10.4.38 in Chapter 11 Marine and Coastal Ornithology
Great bittern BAP priority species	Minor adverse cumulative impact - see paragraphs 10.4.4, 10.4.6, 10.4.8, and 10.4.10 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see paragraphs 10.4.34, 10.4.36, and 10.4.38 in Chapter 11 Marine and Coastal Ornithology
Greater scaup BAP priority species	Minor adverse cumulative impact - see paragraphs 10.4.4, 10.4.6, 10.4.8, and 10.4.10 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see paragraphs 10.4.34, 10.4.36, and 10.4.38 in Chapter 11 Marine and Coastal Ornithology
Herring gull BAP priority species	Minor adverse cumulative impact - see paragraphs 10.4.4, 10.4.6, 10.4.8, and 10.4.10 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see paragraphs 10.4.34, 10.4.36, and 10.4.38 in Chapter 11 Marine and Coastal Ornithology
Northern lapwing BAP priority species	Minor adverse cumulative impact - see paragraphs 10.4.4, 10.4.6, 10.4.8, and 10.4.10 in Chapter 11 Marine and Coastal Ornithology	Minor adverse cumulative impact - see paragraphs 10.4.34, 10.4.36, and 10.4.38 in Chapter 11 Marine and Coastal Ornithology

Designated site /species (with designation)	Cumulative operation phase impact on designated site / species	
	Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D	Dogger Bank Teesside A & B and all other projects
European eel BAP priority species	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology
Sea lamprey BAP priority species	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology
River lamprey BAP priority species	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology
Atlantic salmon BAP priority species	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology
Sea trout BAP priority species	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology
Smelt BAP priority species	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology
Basking shark BAP priority species	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology
Spotted ray BAP priority species	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology
Spurdog BAP priority species	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology
Tope BAP priority species	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology
Raitt's sandeel BAP priority species	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology
Herring BAP priority species	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology
Cod BAP priority species	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology
Whiting BAP priority species	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology
Plaice BAP priority species	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology
Mackerel BAP priority species	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology
Sole BAP priority species	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology

Designated site /species (with designation)	Cumulative operation phase impact on designated site / species	
	Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D	Dogger Bank Teesside A & B and all other projects
Horse mackerel BAP priority species	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology
Anglerfish BAP priority species	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology
Common skate BAP priority species	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology
Ling BAP priority species	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology
Hake BAP priority species	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology

¹ Given the wide scale movement of grey seals within the North Sea and between sites only a national level population has been undertaken and presented.

Decommissioning phase

8.2.5. As summarised in **Table 8.4**, the predicted cumulative impacts on designated sites and species as a result of the decommissioning phase for Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D range from **no cumulative** impact to **minor adverse** cumulative impacts. As with the decommissioning phase for Dogger Bank Teesside A & B (and Dogger Bank Teesside A and Dogger Bank Teesside B individually) alone, many of the impacts are temporary and short-term in nature and would cease on completion of the decommissioning.

Table 8.4 Summary of cumulative impacts on designated sites and species during the decommissioning phase for Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D, and Dogger Bank Teesside A & B and all other projects

Designated site /species (with designation)	Cumulative decommissioning phase impact on designated site / species	
	Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D	Dogger Bank Teesside A & B and all other projects
Internationally designated sites		
Dogger Bank cSAC	Refer to Dogger Bank Teesside A & B HRA Report	
Nationally designated sites		
Alde–Ore Estuary SSSI	Negligible cumulative impact - as for construction see Tables 6.4,6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Berwickshire and North Northumberland Coast SAC - component SSSIs (see Table 4.2) ¹	Assessed at the population level due to the wide range and intermingling of populations at colonies and sites	

Designated site /species (with designation)	Cumulative decommissioning phase impact on designated site / species	
	Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D	Dogger Bank Teesside A & B and all other projects
Brighton to Newhaven Cliffs SSSI	Negligible cumulative impact - as for construction see Tables 6.4,6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Buchan Ness to Collieston Coast SPA - component SSSIs (see Table 4.4)	Negligible to minor adverse cumulative impact - as for construction see Tables 6.4, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Calf of Eday SSSI	Negligible to minor adverse cumulative impact - as for construction see Tables 6.4, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Cape Wrath SSSI	Negligible to minor adverse cumulative impact - as for construction see Tables 6.4, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Collieston to Whinnyfold Coast SSSI	Negligible to minor adverse cumulative impact - as for construction see Tables 6.4, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Copinsay SSSI	Negligible to minor adverse cumulative impact - as for construction see Tables 6.4, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Coquet Island SSSI	Negligible to minor adverse cumulative impact - as for construction see Tables 6.4, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Dover to Kingsdown Cliffs SSSI	Negligible cumulative impact - as for construction see Tables 6.4,6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Dunbar Coast SSSI	Negligible cumulative impact - as for construction see Tables 6.4,6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Durham Coast and Marsden Bay SSSI	Negligible cumulative impact - as for construction see Tables 6.4,6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
East Caithness Cliffs SPA - component SSSIs (see Table 4.4)	Negligible to minor adverse cumulative impact - as for construction see Tables 6.4, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Eilean Hoan (North Sutherland Coastal Islands) SSSI	Negligible cumulative impact - as for construction see Tables 6.4,6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Fair Isle SSSI	Negligible to minor adverse cumulative impact - as for construction see Tables 6.4, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase

Designated site /species (with designation)	Cumulative decommissioning phase impact on designated site / species	
	Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D	Dogger Bank Teesside A & B and all other projects
Faray and Holm of Faray SSSI (grey seal feature) ¹	Assessed at the population level due to the wide range and intermingling of populations at colonies and sites	
Farne Islands SSSI	Negligible to minor adverse cumulative impact - as for construction see Tables 6.4, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Fetlar SPA - component SSSIs (see Table 4.4)	Negligible cumulative impact - as for construction - see Tables 6.4, 6.6, and 10.5 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Flamborough Head SSSI (grey seal) ¹	Assessed at the population level due to the wide range and intermingling of populations at colonies and sites	
Flamborough Head SSSI (ornithology features)	Negligible to minor adverse cumulative impact - as for construction see Tables 6.4, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Forth Islands SPA - component SSSIs (see Table 4.4)	Negligible to minor adverse cumulative impact - as for construction see Tables 6.4, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Foula SSSI	Negligible to minor adverse cumulative impact - as for construction see Tables 6.4, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Fowlsheugh SSSI	Negligible to minor adverse cumulative impact - as for construction see Tables 6.4, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Gamrie & Pennan Coast SSSI (Troup, Pennan and Lion's Heads SPA)	Negligible to minor adverse cumulative impact - as for construction see Tables 6.4, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Hermaness, Saxa Vord and Valla Field SPA - component SSSIs (see Table 4.4)	Negligible to minor adverse cumulative impact - as for construction see Tables 6.4, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Hoy SSSI	Negligible to minor adverse cumulative impact - as for construction see Tables 6.4, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Humber Estuary SAC and Ramsar - component SSSIs ¹	Assessed at the population level due to the wide range and intermingling of populations at colonies and sites	
Hunstanton Cliffs SSSI	Negligible cumulative impact - as for construction see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Isle of May SSSI (grey seal feature) ¹	Assessed at the population level due to the wide range and intermingling of populations at colonies and sites	
Marwick Head SSSI	Negligible to minor adverse cumulative impact - as for construction see Tables 6.4, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase

Designated site /species (with designation)	Cumulative decommissioning phase impact on designated site / species	
	Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D	Dogger Bank Teesside A & B and all other projects
North Berwick Coast SSSI	Negligible cumulative impact - as for construction see Tables 6.4,6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
North Caithness Cliffs SPA - component SSSIs (see Table 4.4)	Negligible to minor adverse cumulative impact - as for construction see Tables 6.4, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Northumbria Coast SPA and Ramsar - component SSSIs (see Table 4.4)	Negligible cumulative impact - as for construction see paragraphs 10.4.18 and 10.4.32 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Noss SSSI	Negligible to minor adverse cumulative impact - as for construction see Tables 6.4, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Papa Westray SPA - component SSSIs (see Table 4.4)	Negligible cumulative impact - as for construction see Tables 6.4, 6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Rousay SSSI	Negligible to minor adverse cumulative impact - as for construction see Tables 6.4, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
St Abb's Head to Fast Castle Head SSSI	Negligible to minor adverse cumulative impact - as for construction see Tables 6.4, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Sule Skerry and Sule Stack SPA - component SSSIs (see Table 4.4)	Negligible to minor adverse cumulative impact - as for construction see Tables 6.4, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Sumburgh Head SSSI	Negligible to minor adverse cumulative impact - as for construction see Tables 6.4, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Teesmouth and Cleveland Coast SPA and Ramsar - component SSSIs (see Table 4.4)	Negligible cumulative impact - as for construction see paragraphs 10.4.18 and 10.4.32 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
West Westray SSSI	Negligible to minor adverse cumulative impact - as for construction see Tables 6.4, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Weybourne Cliffs SSSI	Negligible cumulative impact - as for construction see Tables 6.4,6.6, 10.5, and 10.27 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Compass Rose rMCZ	No cumulative impact - as for construction see paragraph 10.3.3 in Chapter 12 Marine and Intertidal Ecology	No cumulative impact - as for construction see paragraph 10.3.3 in Chapter 12 Marine and Intertidal Ecology

Designated site /species (with designation)	Cumulative decommissioning phase impact on designated site / species	
	Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D	Dogger Bank Teesside A & B and all other projects
Runswick Bay rMCZ	No cumulative impact - as for construction see paragraph 10.3.3 in Chapter 12 Marine and Intertidal Ecology	No cumulative impact - as for construction see paragraph 10.3.3 in Chapter 12 Marine and Intertidal Ecology
Locally designated or non-statutorily designated sites and BAP priority habitats		
Redcar to Saltburn Coast LWS	No cumulative impact identified in Section 10.3 in Chapter 25 Terrestrial Ecology	No cumulative impact identified in Section 10.3 in Chapter 25 Terrestrial Ecology
Wilton Wood - Ancient Woodland	No cumulative impact identified in Section 10.3 in Chapter 25 Terrestrial Ecology	No cumulative impact identified in Section 10.3 in Chapter 25 Terrestrial Ecology
Hedgerows BAP priority habitat	No cumulative impact identified in Section 10.3 in Chapter 25 Terrestrial Ecology	No cumulative impact identified in Section 10.3 in Chapter 25 Terrestrial Ecology
Subtidal sands and gravels BAP priority habitat	Negligible cumulative impact - as for construction see paragraphs 10.2.6 and 10.3.3 in Chapter 12 Marine and Intertidal Ecology	Negligible cumulative impact - as for construction see paragraphs 10.2.6 and 10.3.3 in Chapter 12 Marine and Intertidal Ecology
Mud habitats in deep waters BAP priority habitat	Negligible cumulative impact - as for construction see paragraphs 10.2.6 and 10.3.3 in Chapter 12 Marine and Intertidal Ecology	Negligible cumulative impact - as for construction see paragraphs 10.2.6 and 10.3.3 in Chapter 12 Marine and Intertidal Ecology
Biodiversity Action Plan (BAP) species and legally protected species		
Harbour porpoise BAP priority species	Minor adverse cumulative impact - see paragraphs 10.2.58, 10.2.60, 10.2.62, and 10.2.65, in Chapter 14 Marine Mammals	Assessed in operation phase
Minke whale BAP priority species	Minor adverse cumulative impact - see paragraphs 10.2.58, 10.2.60, 10.2.62, and 10.2.65, in Chapter 14 Marine Mammals	Assessed in operation phase
White-beaked dolphin BAP priority species	Minor adverse cumulative impact - see paragraphs 10.2.58, 10.2.60, 10.2.62, and 10.2.65, in Chapter 14 Marine Mammals	Assessed in operation phase
Grey seal LBAP and legally protected species	Negligible to minor adverse cumulative impact - see paragraphs 10.2.58, 10.2.60, 10.2.62, and 10.2.65, in Chapter 14 Marine Mammals	Assessed in operation phase
Harbour (common) seal BAP priority species	Negligible to minor adverse cumulative impact - paragraphs 10.2.58, 10.2.60, 10.2.62, and 10.2.65, in Chapter 14 Marine Mammals	Assessed in operation phase
Bats BAP priority species	No cumulative impact identified in Section 10.3 in Chapter 25 Terrestrial Ecology	No cumulative impact identified in Section 10.3 in Chapter 25 Terrestrial Ecology

Designated site /species (with designation)	Cumulative decommissioning phase impact on designated site / species	
	Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D	Dogger Bank Teesside A & B and all other projects
Arctic skua BAP priority species	Negligible cumulative impact - as for construction see paragraph 10.4.1 and Table 10.5 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Black-tailed godwit BAP priority species	No cumulative impact - as for construction see paragraph 10.4.2 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Common scoter BAP priority species	No cumulative impact - as for construction see paragraph 10.4.2 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Eurasian curlew BAP priority species	No cumulative impact - as for construction see paragraph 10.4.2 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
European nightjar BAP priority species	No cumulative impact - as for construction see paragraph 10.4.2 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Great bittern BAP priority species	No cumulative impact - as for construction see paragraph 10.4.2 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Greater scaup BAP priority species	No cumulative impact - as for construction see paragraph 10.4.2 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Herring gull BAP priority species	No cumulative impact - as for construction see paragraph 10.4.2 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Northern lapwing BAP priority species	No cumulative impact - as for construction see paragraph 10.4.2 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
European eel BAP priority species	Minor adverse cumulative impact - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology
Sea lamprey BAP priority species	Minor adverse cumulative impact - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology
River lamprey BAP priority species	Minor adverse cumulative impact - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology
Atlantic salmon BAP priority species	Minor adverse cumulative impact - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology

Designated site /species (with designation)	Cumulative decommissioning phase impact on designated site / species	
	Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D	Dogger Bank Teesside A & B and all other projects
Sea trout BAP priority species	Minor adverse cumulative impact - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology
Smelt BAP priority species	Minor adverse cumulative impact - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology
Basking shark BAP priority species	Minor adverse cumulative impact - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology
Spotted ray BAP priority species	Minor adverse cumulative impact - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology
Spurdog BAP priority species	Minor adverse cumulative impact - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology
Tope BAP priority species	Minor adverse cumulative impact - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology
Raitt's sandeel BAP priority species	Minor adverse cumulative impact - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology
Herring BAP priority species	Minor adverse cumulative impact - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology
Cod BAP priority species	Minor adverse cumulative impact - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology
Whiting BAP priority species	Minor adverse cumulative impact - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology
Plaice BAP priority species	Minor adverse cumulative impact - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology
Mackerel BAP priority species	Minor adverse cumulative impact - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology
Sole BAP priority species	Minor adverse cumulative impact - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology

Designated site /species (with designation)	Cumulative decommissioning phase impact on designated site / species	
	Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D	Dogger Bank Teesside A & B and all other projects
Horse mackerel BAP priority species	Minor adverse cumulative impact - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology
Anglerfish BAP priority species	Minor adverse cumulative impact - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology
Common skate BAP priority species	Minor adverse cumulative impact - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology
Ling BAP priority species	Minor adverse cumulative impact - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology
Hake BAP priority species	Minor adverse cumulative impact - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology

¹ Given the wide scale movement of grey seals within the North Sea and between sites only a national level population has been undertaken and presented.

8.3. Cumulative impacts of Dogger Bank Teesside A & B and all other projects on designated and non-statutory designated sites and species

8.3.1. The summary of the assessment of the cumulative impacts predicted as a result of the construction, operation, and decommissioning phase for Dogger Bank Teesside A & B and all other projects is presented in **Tables 8.2, 8.3, and 8.4** respectively. Where no impacts were determined as a result of the construction, operation, and decommissioning of Dogger Bank Teesside A & B combined or individually (see **Tables 5.1, 6.1, and 7.1** respectively), these elements are not included in this table. All of the cumulative impacts on the designated sites' Valued Ecological Receptor's and all of the cumulative impacts predicted for each species are presented within the individual chapters listed in Section 1. For cumulative impacts (the 'in-combination' assessment) in relation to the European designated sites, refer to the Dogger Bank Teesside A & B **HRA Report**.

All phases

8.3.2. As summarised in **Tables 8.2 to 8.4**, the predicted cumulative impacts on designated sites and species as a result of all phases of Dogger Bank Teesside A & B and all other projects range from **no cumulative impact** to **minor adverse** cumulative impacts, with the exception of the following:

- A **moderate adverse** cumulative impact on grey seal (a legally protected and LBAP species) due to the cumulative PTS impact of Dogger Bank

Teesside A & B and all other projects during the construction phase, arising out of the area of piling noise that is predicted to arise from all projects piling operations in the North Sea. However, this assessment is based on the use of precautionary PTS thresholds, and does not take account of the ability of grey seal to hold their heads out of the water during exposure to loud noise. While it is recognised that a significant impact could arise at the cumulative scale, this is not influenced by the construction or operation of projects within Dogger Bank Zone, given the short-term duration of Dogger Bank Teesside A & B construction. Furthermore, the ability of the seal population to recover (or its robustness to the many activities taking place in the North Sea) is evident in the rapidly growing population in the North Sea region, and the population sensitivity is lower than that of other cetacean populations. No mitigation that could be applied within the Dogger Bank Zone would prevent potentially significant impacts from occurring elsewhere and, as such, no project specific mitigation is proposed.

- A **moderate adverse** cumulative impact on harbour porpoise (OSPAR and BAP priority species) due to disturbance from the combined underwater noise from pile driving, vessels, operational activities, extraction and cable laying (recognising that behavioural disturbance from pile driving noise at offshore wind farm developments is likely to be the greatest contributor to this cumulative impact) from Dogger Bank Teesside A & B and all other projects. This effect could result in over 5% of foraging habitat for the North Sea population being avoided by harbour porpoise (see **Chapter 14**). This determination is based on several assumptions and, therefore, there is a large amount of uncertainty in the assessment of significance. Consideration of ways to mitigate the noise impact of pile-driving will be undertaken during the detailed design stage and a Marine Mammal Mitigation Protocol (MMMP) will also be put in place.
- A **moderate adverse** cumulative impact on harbour seal (a legally protected and BAP priority species) due to the combined impacts of mortality due to collision (ducted propellers and hull impacts). However, it is considered that a significant element of this 'impact' derives from projects closer to the coast (and near to pupping and haul out sites or within the foraging range of these sites), to which Dogger Bank Teesside A & B contributes **Negligible** risk due to its distance over 100km offshore and, therefore, distant from sensitive sites (see **Chapter 14**). There are currently limited data to support ducted propellers as the root cause of these injuries, and therefore a high amount of uncertainty occurs for this assessment. Forewind will continue to keep informed of this issue, following new industry guidelines or mitigation measures should they be introduced in order to avoid or minimise potential injury to harbour seal.
- A **moderate adverse** cumulative impact on the Buchan Ness to Collieston Coast SPA (suite of SSSI sites as listed in **Table 4.4**), due to the combined disturbance / displacement and subsequent mortality and habitat loss and / or alteration on the site's common guillemot population as a result of Dogger Bank Teesside A & B and all other projects. Paragraph 10.4.45,

10.4.52, 10.4.53, and 12.2.7 in **Chapter 11** provide background information regarding the basis of the qualitative and quantitative conclusions and how they are considered to be over-estimates and an overly precautionary assessment.

- A **moderate adverse** cumulative impact on the East Caithness Cliffs SPA (suite of SSSI sites as listed in **Table 4.4**), due to the combined collisions as a result of Dogger Bank Teesside A & B and all other wind farm projects on the site's great black-backed gull population. Paragraph 10.4.49 and 12.2.8 in **Chapter 11** provide background information regarding the basis of the quantitative conclusions and how they are considered to be over-estimates.
- A **moderate adverse** cumulative impact on the Flamborough Head SSSI, due to the combined collisions as a result of Dogger Bank Teesside A & B and all other wind farm projects on the site's black-legged kittiwake population and northern gannet population. Paragraphs 10.4.47, 10.4.50, and 12.2.9 in **Chapter 11** provide background information regarding the basis of the quantitative conclusions and how they are considered to be over-estimates.
- A **moderate adverse** cumulative impact on the Forth Islands SPA (component SSSIs) due to the combined collisions as a result of Dogger Bank Teesside A & B and all other wind farm projects on the site's black-legged kittiwake population, and habitat loss and / or alteration as a result of Dogger Bank Teesside A & B and all other wind farm projects on the site's common guillemot and razorbill populations. Paragraphs 10.4.48, 10.4.52, 10.4.53, and 12.2.10 in **Chapter 11** provide background information regarding the basis of the qualitative and quantitative conclusions and how they are considered to be over-estimates and an overly precautionary assessment.
- A **moderate adverse** cumulative impact on the Fowlsheugh SSSI, due to the combined habitat loss and / or alteration and subsequent mortality on the site's common guillemot and razorbill populations as a result of Dogger Bank Teesside A & B and all other projects. Paragraph 10.4.452, 10.4.53, and 12.2.11 in **Chapter 11** provides background information regarding the basis of the qualitative conclusion and how it is considered to be an overly precautionary-assessment.
- A **moderate adverse** cumulative impact on the St Abb's Head to Fast Castle SSSI due to the combined habitat loss and / or alteration and subsequent mortality on the site's common guillemot and razorbill populations as a result of Dogger Bank Teesside A & B and all other projects. Paragraph 10.4.52, 10.4.53, and 12.2.12 in **Chapter 11** provides background information regarding the basis of the qualitative conclusion and how it is considered to be an overly precautionary-assessment

8.3.3. As with Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D cumulative assessment, the impacts during the decommissioning phase are temporary or short-term in nature and would cease on completion of decommissioning at Dogger Bank Teesside A & B.

9. Transboundary Effects

9.1. Introduction

- 9.1.1. This chapter has considered the potential for effects to occur on sites and species due to effects that extend outside of UK territorial waters, or on species that are part of European populations which are designated (i.e. the Natura 2000 network) or threatened (i.e. the OSPAR list of threatened species) as a result of the construction, operation and decommissioning of Dogger Bank Teesside A & B (and Dogger Bank Teesside A and Dogger Bank Teesside B individually), and cumulatively as a result of Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D, and Dogger Bank Teesside A & B and all other projects. These are referred to as transboundary sites or species.
- 9.1.2. The detailed assessment of the impacts and their effects on transboundary sites (and their features) and species as a result of Dogger Bank Teesside A & B is presented in the relevant chapters listed in Section 1 and, specifically for transboundary European designated sites, detailed in the Dogger Bank Teesside A & B **HRA Report**. Other than the European designated sites examined in the Dogger Bank Teesside A & B **HRA Report**, the only transboundary effects presented in this chapter and section are on a number of OSPAR threatened species which were screened in in Section 4.3.

9.2. The impacts arising from Dogger Bank Teesside A & B (and Dogger Bank Teesside A and Dogger Bank Teesside B individually) on transboundary sites and species

- 9.2.1. **Table 9.1** summarises the construction, operation, and decommissioning phase impacts on the OSPAR threatened habitats or species as a result of Dogger Bank Teesside A & B. The impacts for Dogger Bank Teesside A and Dogger Bank Teesside B individually are the same significance for all impacts and sites and their features, as well as being the same significance when combined (i.e. as Dogger Bank Teesside A & B); consequently, only one impact is stated.

Construction phase

- 9.2.2. As summarised in **Table 9.1** the predicted impacts on OSPAR threatened species in the construction phase range from **no impact** to **minor adverse** impacts.

Operation phase

- 9.2.3. As summarised in **Table 9.1**, the predicted impacts on OSPAR threatened species in the operation phase range from **no impact** to **minor adverse** impacts.

Table 9.1 Summary of impacts on transboundary species during the construction, operation, and decommissioning phase for Dogger Bank Teesside A & B (and Dogger Bank Teesside A and Dogger Bank Teesside B individually)

Species	Impact for phase		
	Construction	Operation	Decommissioning
OSPAR threatened or declining habitats and species			
Black-legged kittiwake	Negligible - see paragraphs 6.7.3, 6.7.6, and 6.7.9 in Chapter 11 Marine and Coastal Ornithology	Minor adverse - see paragraph 7.10.3, 7.10.7, 7.10.13, and Tables 7.3, 7.5, 7.9, 7.12, and 7.14 in Chapter 11 Marine and Coastal Ornithology	Negligible - as for construction see paragraphs 6.7.3, 6.7.6, and 6.7.9 in Chapter 11 Marine and Coastal Ornithology
Spotted ray	Negligible to minor adverse - see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology	Negligible to minor adverse - see Tables 7.1, 7.2, 7.8, 7.9, and 7.10 in Chapter 13 Fish and Shellfish Ecology	Negligible to minor adverse - as for construction see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Cod	Negligible to minor adverse - see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology	Negligible to minor adverse - see Tables 7.1, 7.2, 7.8, 7.9, and 7.10 in Chapter 13 Fish and Shellfish Ecology	Negligible to minor adverse - as for construction see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Thornback skate / ray	Negligible to minor adverse - see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology	Negligible to minor adverse - see Tables 7.1, 7.2, 7.8, 7.9, and 7.10 in Chapter 13 Fish and Shellfish Ecology	Negligible to minor adverse - as for construction see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
(North-east Atlantic) spurdog	Negligible to minor adverse - see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology	Negligible to minor adverse - see Tables 7.1, 7.2, 7.8, 7.9, and 7.10 in Chapter 13 Fish and Shellfish Ecology	Negligible to minor adverse - as for construction see Tables 6.4 and 6.9 in Chapter 13 Fish and Shellfish Ecology
Harbour porpoise	Minor adverse - see Table 6.22 and paragraphs 6.2.11, 6.3.10 and 6.5.8 in Chapter 14 Marine Mammals	Negligible to minor adverse - see paragraphs 7.1.8, 7.2.7, 7.3.7, 7.4.5, 7.5.12, 7.6.6, and 7.7.4 in Chapter 14 Marine Mammals	Negligible to minor adverse - see paragraphs 8.2.5, 8.3.5, 8.4.7, 8.5.6, and 8.6.8 in Chapter 14 Marine Mammals

Decommissioning phase

- 9.2.4. As summarised in **Table 9.1**, the predicted impacts on OSPAR threatened species in the decommissioning phase range from **no impact** to **minor adverse** impacts.

9.3. The impacts arising from Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D on transboundary sites and species

9.3.1. **Table 9.2** presents the summary of the cumulative impacts for all phases on the OSPAR threatened habitats or species as a result of Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D. Where no impacts were determined as a result of the construction, operation, and decommissioning of Dogger Bank Teesside A & B and Dogger Bank Teesside A or Dogger Bank Teesside B individually (see **Tables 5.1, 6.1, and 7.1** respectively), these elements are not included in these tables. All of the cumulative impacts are presented in detail in the individual assessment chapters listed in Section 1.

Table 9.2 Summary of impacts on transboundary species during the construction, operation, and decommissioning phase for Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D

Species	Impact for phase		
	Construction	Operation	Decommissioning
OSPAR threatened or declining habitats and species			
Black-legged kittiwake	No cumulative impact - see paragraph 10.4.11 in Chapter 11 Marine and Coastal Ornithology	Negligible to minor adverse cumulative impact - see paragraphs 10.4.12, 10.4.13, 10.4.14, and 10.4.15 in Chapter 11 Marine and Coastal Ornithology	No cumulative impact - as for construction see paragraph 10.4.11 in Chapter 11 Marine and Coastal Ornithology
Spotted ray	Minor adverse cumulative impact - see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	Minor adverse cumulative impact - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology
Cod	Minor adverse cumulative impact - see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	Minor adverse cumulative impact - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology
Thornback skate / ray	Minor adverse cumulative impact - see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	Minor adverse cumulative impact - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology
(North-east Atlantic) spurdog	Minor adverse cumulative impact - see Table 10.3 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	Minor adverse cumulative impact - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology
Harbour porpoise	Minor adverse cumulative impact - see paragraph 10.2.11, 10.2.32, 10.2.37, 10.2.39, 10.2.43, and 10.2.46 in Chapter 14 Marine Mammals	Minor adverse cumulative impact - see paragraphs 10.2.48, 10.2.50, 10.2.52, 10.2.54, and 10.2.56 in Chapter 14 Marine Mammals	Minor adverse cumulative impact - see paragraphs 10.2.58, 10.2.60, 10.2.62, and 10.2.65, in Chapter 14 Marine Mammals

Construction phase

- 9.3.2. As summarised in **Table 9.2**, the predicted cumulative impacts on OSPAR threatened species in the construction phase range from **no cumulative impact** to **minor adverse** cumulative impacts.

Operation phase

- 9.3.3. As summarised in **Table 9.2**, the predicted cumulative impacts on OSPAR threatened species in the operation phase range from **no cumulative impact** to **minor adverse** cumulative impacts.

Decommissioning phase

- 9.3.4. As summarised in **Table 9.2**, the predicted cumulative impacts on OSPAR threatened species in the decommissioning phase range from **no cumulative impact** to **minor adverse** cumulative impacts.

9.4. The impacts arising from Dogger Bank Teesside A & B and all other projects on transboundary sites and species

- 9.4.1. **Table 9.3** presents the summary of the cumulative impacts for all phases on the OSPAR threatened habitats or species as a result of Dogger Bank Teesside A & B and all other projects. Where no impacts were determined as a result of the construction, operation, and decommissioning of Dogger Bank Teesside A & B combined and individually (see **Tables 5.1, 6.1, and 7.1** respectively), these elements are not included in these tables. All of the cumulative impacts are presented in detail in the individual assessment chapters listed in Section 1.

Construction phase

- 9.4.2. As summarised in **Table 9.3**, the predicted cumulative impacts on OSPAR threatened species in the construction phase range from **no cumulative impact** to **minor adverse** cumulative impacts. A short-term **moderate adverse** cumulative impact on harbour porpoise (OSPAR threatened species and BAP priority species) due to the combined and overlapping noise impacts in the event of all offshore wind farms being constructed at the same time, which would result in over 5% of foraging habitat being avoided by harbour porpoise (for details see paragraph 8.2.3).

Operation phase

- 9.4.3. As summarised in **Table 9.3**, the predicted cumulative impacts on OSPAR threatened species in the operation phase range from **no cumulative impact** to **minor adverse** cumulative impacts. However, a **moderate adverse** cumulative impact on harbour porpoise (OSPAR threatened species and BAP priority species) due to the combined and overlapping noise impacts in the event of all offshore wind farms being constructed at the same time, which would result in over 5% of foraging habitat being avoided by harbour porpoise (for details see paragraph 8.3.2).

Table 9.3 Summary of impacts on transboundary species during the construction, operation, and decommissioning phase for Dogger Bank Teesside A & B and all other projects

Species	Impact for phase		
	Construction	Operation	Decommissioning
OSPAR threatened or declining habitats and species			
Black-legged kittiwake	Assessed in operation phase	Minor adverse cumulative impact - see paragraphs 10.4.39, 10.4.40, and 10.4.41 in Chapter 11 Marine and Coastal Ornithology	Assessed in operation phase
Spotted ray	No cumulative impact - see paragraphs 10.8.11 and 10.8.17 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - as for construction see Table 10. in Chapter 13 Fish and Shellfish Ecology
Cod	No cumulative impact - see paragraphs 10.8.11 and 10.8.17 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology
Thornback skate / ray	No cumulative impact - see paragraphs 10.8.11 and 10.8.17 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology
(North-east Atlantic) spurdog	No cumulative impact - see paragraphs 10.8.11 and 10.8.17 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - see Section 10 in Chapter 13 Fish and Shellfish Ecology	No cumulative impact identified - as for construction see Table 10.3 in Chapter 13 Fish and Shellfish Ecology
Harbour porpoise	Assessed in operation phase	Minor adverse to moderate adverse cumulative impacts - see paragraph 10.3.6, 10.3.10, 10.3.12, 10.4.13, 10.4.33, 10.4.43, and 10.4.47 in Chapter 14 Marine Mammals	Assessed in operation phase

Decommissioning phase

- 9.4.4. As summarised in **Table 9.3**, the predicted cumulative impacts on OSPAR threatened species in the decommissioning phase range from **no cumulative impact** to **minor adverse** cumulative impacts. No moderate adverse impacts have been predicted for the decommissioning phase for Dogger Bank Teesside A & B or cumulatively with other projects, although as above, it is noted that the cumulative assessment (all projects) for harbour porpoise considered disturbance from the combined underwater noise from activities all project phases.

10. Summary

10.1. Findings

- 10.1.1. The development of Dogger Bank Teesside A & B (and Dogger Bank Teesside A and Dogger Bank Teesside B individually) is predicted to result in **no impact** to **minor adverse** impacts on designated sites and species.
- 10.1.2. The development of Dogger Bank Teesside A & B, Dogger Bank Creyke Beck A & B and Dogger Bank Teesside C & D are predicted to result in **no cumulative** impact to **minor adverse** cumulative impacts on designated sites and species, with the following exception:
- A **moderate adverse** impact is predicted on the Flamborough Head SSSI due to the cumulative collisions on the black-legged kittiwake population (see paragraph 10.4.30 in **Chapter 11**).
- 10.1.3. The development of Dogger Bank Teesside A & B and all other projects are predicted to result in no cumulative impact to minor adverse cumulative impacts on designated sites and species, with the following exceptions:
- **Moderate adverse** cumulative impact on the grey seal population (a legally protected and LBAP species) due to the cumulative PTS impact of Dogger Bank Teesside A & B and all other projects during the construction phase, arising out of the area of piling noise that is predicted to arise from all projects piling operations in the North Sea. This assessment is based on the use of precautionary PTS thresholds, and also it does not take into account the ability of grey seal to hold their heads out of the water during exposure to loud noise. However, it is recognised that the significance of the impact is not influenced by the construction or operation of projects within the Dogger Bank Zone. No mitigation that could be applied within the Dogger Bank Zone would prevent potentially significant impacts from occurring as a result of other projects and, as such, no project specific mitigation is proposed. It is also noted though that the mitigation proposed for Dogger Bank Teesside A & B will effectively avoid the potential for PTS injury to the grey seal population.
 - **Moderate adverse** cumulative impact on harbour porpoise (OSPAR and BAP priority species) due to disturbance from the combined underwater noise from pile driving, vessels, operational activities, extraction and cable laying (recognising that behavioural disturbance from pile driving noise at offshore wind farm developments is likely to be the greatest contributor to this cumulative impact), see discussion in paragraph 10.1.2 above in relation to the Dogger Bank Zone projects.
 - **Moderate adverse** cumulative impact on harbour seal (a BAP priority species) due to the combined impacts of mortality due to collision (ducted propellers and hull impacts). However, it is considered that a significant element of this 'impact' derives from projects closer to the coast (and near

to pupping and haul out sites or within the foraging range of these sites), to which Dogger Bank Teesside A & B contributes **negligible** risk due to its distance over 100km offshore and, therefore, distant from sensitive sites (see **Chapter 14**). There are currently limited data to support ducted propellers as the root cause of these injuries, and therefore a high amount of uncertainty occurs for this assessment. Forewind will continue to keep informed of this issue, following new industry guidelines or mitigation measures should they be introduced in order to avoid or minimise potential injury to harbour seal.

- A **moderate adverse** cumulative impact on the Buchan Ness to Collieston Coast SPA (component SSSI sites are listed in **Table 4.4**) due to the combined habitat loss and / or alteration, and disturbance / displacement and subsequent mortality on the site's common guillemot population as a result of Dogger Bank Teesside A & B and all other projects. The quantitative conclusions are considered to be over-estimates (see paragraphs 10.4.45 and 12.2.7 in **Chapter 11**), whilst the qualitative assessment related to habitat loss and / or alteration arises from the moderate adverse impact identified in the Firth of Forth Alpha and Bravo project assessments whilst the Dogger Bank projects contribution is predicted to be negligible (see paragraph 10.4.53 and 12.2.7 in **Chapter 11**).
- A **moderate adverse** cumulative impact on the East Caithness Cliffs SPA (suite of SSSI sites as listed in **Table 4.4**) due to the combined collisions as a result of Dogger Bank Teesside A & B and other wind farm projects on the site's great black-backed gull population. The quantitative conclusions are considered to be over-estimates (see paragraphs 10.4.49 and 12.2.8 in **Chapter 11**).
- A **moderate adverse** cumulative impact on the Flamborough Head SSSI (and pSPA) due to the combined collisions as a result of Dogger Bank Teesside A & B and all other wind farm projects on the site's black-legged kittiwake population and northern gannet population. The quantitative conclusions are considered to be over-estimates (see paragraphs 10.4.47, 10.4.50 and 12.2.9 in **Chapter 11**).
- A **moderate adverse** cumulative impact on the Forth Islands SPA (component SSSIs as listed in **Table 4.4**) due to the combined collisions as a result of Dogger Bank Teesside A & B and all other wind farm projects on the site's black-legged kittiwake population, and due to the combined habitat loss and / or alteration on the site's common guillemot and razorbill populations as a result of Dogger Bank Teesside A & B and all other wind farm projects. The quantitative conclusions are considered to be over-estimates (see paragraphs 10.4.48 and 12.2.10), qualitative assessment related to habitat loss and / or alteration arises from the moderate adverse impact identified in the Firth of Forth Alpha and Bravo project assessments whilst the Dogger Bank projects contribution is predicted to be negligible (see paragraph 10.4.53 and 12.2.10 in **Chapter 11**).

- A **moderate adverse** cumulative impact on the Fowlsheugh SSSI (and SPA) due to the combined habitat loss and / or alteration on the site's common guillemot and razorbill populations as a result of Dogger Bank Teesside A & B and all other wind farm projects. The qualitative assessment related to habitat loss and / or alteration arises from the moderate adverse impact identified in the Firth of Forth Alpha and Bravo project assessments whilst the Dogger Bank projects contribution is predicted to be negligible (see paragraph 10.4.53 and 12.2.11 in **Chapter 11**).
- A **moderate adverse** cumulative impact on the St Abb's Head to Fast Castle SSSI (and SPA) due to the combined habitat loss and / or alteration on the site's common guillemot and razorbill populations as a result of Dogger Bank Teesside A & B and all other wind farm projects. The qualitative assessment related to habitat loss and / or alteration arises from the moderate adverse impact identified in the Firth of Forth Alpha and Bravo project assessments whilst the Dogger Bank projects contribution is predicted to be negligible (see paragraph 10.4.53 and 12.2.12 in **Chapter 11**).

10.2. Conclusions

- 10.2.1. Whilst **moderate adverse** cumulative impacts are predicted (see above), it should be noted that these impacts have been assessed as worst case, and as such are potentially unlikely to occur at the scale and magnitude assessed in this ES. Examples include the piling noise assessment which indicates moderate adverse impacts on harbour porpoise, and for harbour seal, where the assessment has assumed all offshore wind farms currently under consideration would be built at the same time. Consequently, it should be noted that these impacts are considered to be worst case and may well decrease when the actual Dogger Bank Teesside A & B proposal is completed.
- 10.2.2. Use of modelled data for the populations of black-legged kittiwake and northern gannet at the site's predicted to experience a moderate adverse impact due to collisions indicates that the populations of the species at the sites would not decline in number (see **Chapter 11**). Furthermore, the displacement impact on guillemot is on the basis of work examining the potential foraging area and value of that foraging area, not expected to result in a population level impact that would result in a population decline. In addition, the contribution of Dogger Bank Teesside A & B to the collision numbers for black-backed gull at East Caithness Cliffs SPA (component SSSIs) would be less than one bird (see **Chapter 11**). Consequently, the precautionary assessment using worst case scenarios indicates that these impacts would reduce in magnitude and would not be significant with respect to the long-term sustainability of the populations of these birds at the relevant designated sites.
- 10.2.3. Further details of the mitigation measures and the assumptions made in the assessments are presented in the receptor led chapters that informed this chapter, as identified in Section 1. However, mitigation has been introduced specifically with respect to the effect of collision risk for birds, which has entailed

reducing the maximum number of turbines within each project from 300 to 200, and raising the lower rotor tip height from 22m to 26m above highest astronomical tide.

- 10.2.4. It is considered that the mitigation measures that have been identified within this ES would reduce the significance of the predicted **moderate adverse** cumulative impacts on the marine mammal and bird features of the designated sites such that the long-term sustainability of the populations are maintained. It should be noted that the assessment has been based on the worst case scenario for all aspects and are therefore precautionary and conservative predictions.

11. References

DECC (2011a). Overarching National Policy Statements for Energy EN-1 [Online]. Available at:
http://www.decc.gov.uk/en/content/cms/meeting_energy/consents_planning/nps_en_infra/nps_en_infra.aspx [Accessed 4 May 2012].

DECC (2011b). Renewable Energy Infrastructure EN-3 [Online]. Available at
http://www.decc.gov.uk/en/content/cms/meeting_energy/consents_planning/nps_en_infra/nps_en_infra.aspx [Accessed 4 May 2012].

Institute of Ecology and Environmental Management (IEEM) (2010). [Online]. Guidelines for Ecological Impact Assessment in Britain and Ireland. Available at:
http://www.ieem.net/data/files/Resource_Library/Technical_Guidance_Series/EcIA_Guidelines/Final_EcIA_Marine_01_Dec_2010.pdf [Accessed 22 October 2012].

JNCC (2009). Threshold for designation of Special Areas of Conservation for harbour porpoise and other highly mobile, wide-ranging marine species. Annex 1 to JNCC Committee paper P10 Sept 08, amended 13 February 2009.

Natural England (2010). Local Nature Reserves in England: A guide to their selection and declaration. Booklet reference N