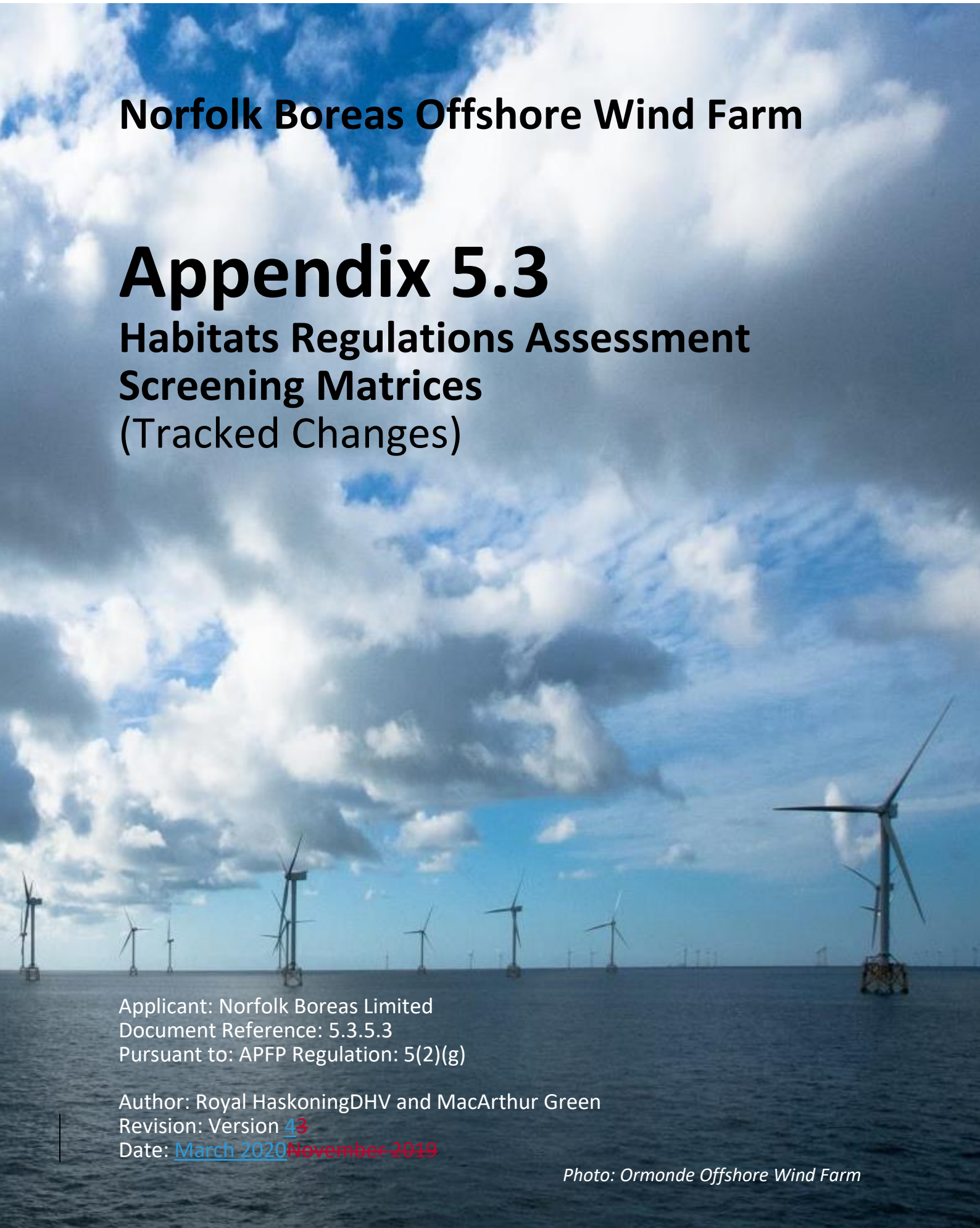
Norfolk Boreas Offshore Wind Farm

Appendix 5.3

Habitats Regulations Assessment Screening Matrices

(Tracked Changes)



Applicant: Norfolk Boreas Limited
Document Reference: 5.3.5.3
Pursuant to: APFP Regulation: 5(2)(g)

Author: Royal HaskoningDHV and MacArthur Green
Revision: Version 4~~3~~
Date: March 2020~~November 2019~~

Photo: Ormonde Offshore Wind Farm

Date	Issue No.	Remarks / Reason for Issue	Author	Checked	Approved
25/03/2019	01D	First draft for Norfolk Boreas Limited review	GS/JL/MT	DT	JL
15/05/2019	02D	Second draft for Norfolk Boreas Limited Review	GS/JL/MT	DT	JL
22/05/2019	01F	Final for DCO submission	GS/JL/MT	KC/DT	JL
02/08/2019	02F	Updated following PINS section 51 advice	GS/GC/MT/DT	CD/VR	EV
21/11/2019	03F	Updated for Examination Deadline 1	GC/MT	VR	JL
05/03/2020	04F	Updated for Deadline 6 following comments provided at Deadline 3 and Rule 17 letter	MT/ES	EV/DT	JL

Table of Contents

Glossary of Acronyms

BDMPS	Biologically Defined Minimum Population Scale
CRM	Collision Risk Modelling
EIA	Environmental Impact Assessment
EMF	Electromagnetic Fields
ES	Environmental Statement
HRA	Habitats Regulations Assessment
LSE	Likely Significant Effect
NE	Natural England
PVA	Population Viability Analysis
Ramsar	Wetland site designated to be of international importance under the Ramsar Convention
SAC	Special Area of Conservation
SCI	Site of Community Importance
SPA	Special Protection Area

1 INTRODUCTION

1. This document provides the Habitats Regulations Assessment (HRA) screening matrices for Norfolk Boreas Offshore Wind Farm.

2. Following submission of the Norfolk Boreas Offshore Wind Farm Development Consent Order application the Planning Inspectorate provided advice under Section 51 of The Planning Act regarding the details provided in the original screening matrices (APP-204) and how these related to the impact assessment presented in the Information to Support the Habitat Regulations Assessment (document reference 5.3). Following review of this advice, updated screening matrices were submitted (AS-002) which provided the additional information requested by The Planning Inspectorate.

3. In summary, the key changes in AS-002 included:

    a. For sites which are designated as both a Special Protection Area (SPA) feature and Ramsar site (criterion), separate rows have been provided under each designation with supporting footnotes for each feature and criterion;

    b. References to the screening information have been added to the footnotes;

    c. Updated the effects headings of the Norfolk Valley Fens Special Area of Conservation (SAC) River Wensum SAC and Paston Great Barn SAC; assessment to be consistent effect headings presented within the integrity matrices (document reference 5.3.6.1); and

    d. Updated screening matrix for Haisborough, Hammond and Winterton SAC.

4. The updated version of this~~The current~~ document submitted at deadline 1 [REP1-013] provide~~s~~d additional updates to the screening matrices following a review of the advice provided by Natural England in their Relevant Representation (REP-099), comments received from Natural England during discussions regarding the offshore ornithology Statement of Common Ground [AS-029] and an update to the offshore ornithology assessment undertaken by the Applicant which addresses the points raised by Natural England (to be submitted at Deadline 2). In summary the updates to the screening matrices include:

    a. Consideration of the seabird assemblage feature at Flamborough and Filey Coast SPA;

    b. Consideration of common scoter at the Greater Wash SPA; and

c. Updates to the Broadland SPA and Ramsar (onshore) to add Marsh harrier and screen in Bewick's Swan, Whooper Swan, Pink-footed Goose, Tundra Swan and Greylag goose.

5. At Deadline 5 the Examining Authority (ExA) issued a Rule 17 request for further information with regard to clarification of species listed as features of the SPA and/or Ramsar citations for those sites which are designated as both an SPA and Ramsar. The Applicant has reviewed the relevant tables in this document and updated the tables as appropriate. It should be noted that this update is not restricted to the SPA/Ramsar sites identified by the ExA and has included a review and update of all SPA/Ramsar sites.

2 SCREENING MATRICES

2.1 Effects considered

6. Potential effects upon the European sites and Ramsar sites which are considered within the submitted Information to Support HRA report are provided in Table 2.1.

Table 2.1 Potential Effects consider in Screening

Site Type	Feature(s)	Potential Effects
Special Protection Area (SPA)	All birds	Offshore effects • Collision mortality • Displacement/Disturbance • Barrier effect • Cumulative/ In-combination Onshore effects • Direct effects within SPA boundary • Direct effects on ex-situ habitats • Indirect effects within SPA boundary • Indirect effects on ex-situ habitats
Ramsars	All birds	Offshore effects • Collision mortality • Displacement/Disturbance • Barrier effect • Cumulative/ In-combination Onshore effects • Direct effects within Ramsar boundary • Direct effects on ex-situ habitats • Indirect effects within Ramsar boundary Indirect effects on ex-situ habitats
Special Area of Conservation/Site of Community Importance (SAC/SCI)	Benthic habitats	• Permanent loss (and introduction of new sediment where applicable) • Temporary physical disturbance • Smothering due to increased suspended sediment • Re- mobilisation of contaminated sediments • Underwater noise and vibration • Cumulative/ In-combination
	Marine mammals	• Underwater noise • Vessel Interactions • Indirect effects on prey • Changes to water quality • Cumulative/ In-combination
	Fish	• Permanent loss (and introduction of new sediment where applicable) • Temporary physical disturbance • Smothering due to increased suspended sediment • Re- mobilisation of contaminated sediments • Underwater noise and vibration • Electromagnetic fields (EMF) • Cumulative/ In-combination

Site Type	Feature(s)	Potential Effects
	Terrestrial	• Direct effects (e.g. habitat loss) • Impacts on ex-situ habitats functionally connected to the SAC • Impacts from alterations to geology and land contamination • Disturbance due to groundwater / hydrology changes • Impacts from noise disturbance • Impacts from changing air quality • Impacts from light disturbance • Impacts from visual disturbance

2.2 Sites considered

7. The methodology for screening of sites and effects is discussed in Appendix 5.1 of the Information to Support HRA report (document reference 5.3.5.1).

8. The following sites displayed in Table 2.2 were included in the Screening stage.

Table 2.2 Sites included in Screening

Norfolk Boreas Reference Number	Designated site	Ornithology	Marine Mammals	Benthic Habitats	Fish	Terrestrial
1	Abberton Reservoir SPA & Ramsar	✓				
2	Abers - Côtes des légendes SAC		✓			
3	Agger Tange, Nissum Bredning, Skibsted Fjord og Agerø SAC		✓			
4	Ålborg Bugt, Randers Fjord Og Mariager Fjord SAC		✓			
5	Alde, Ore and Butley Estuaries SAC			✓		
6	Alde-Ore Estuary SPA & Ramsar	✓				
7	Anholt og havet nord for SAC		✓			
8	Archipel des Glénan SAC		✓			
9	Baie De Canche Et Couloir Des Trois Estuaires SAC		✓		✓	
10	Baie de Morlaix SAC		✓			
11	Baie de Seine Occidentale SAC		✓			
12	Baie de Seine Occidentale SPA	✓				
13	Baie de Seine Orientale SAC	✓	✓			
14	Baie du Mont Saint-Michel SAC		✓			
15	Balgö SAC		✓			
16	Bancs Des Flandres SAC		✓	✓		
17	Bancs Des Flandres SPA	✓				
18	Bassurelle Sandbank SAC			✓		

Norfolk Boreas Reference Number	Designated site	Ornithology	Marine Mammals	Benthic Habitats	Fish	Terrestrial
19	Benfleet and Southend Marshes SPA & Ramsar	✓				
20	Berwickshire and North Northumberland Coast SAC		✓	✓		
21	Blackwater Estuary (Mid-Essex Coast Phase 4) SPA & Ramsar	✓				
22	Borkum-Riffgrund SCI		✓		✓	
23	Borkum-Riffgrund SPA	✓				
24	Braemar Pockmarks SAC			✓		
25	Breydon Water SPA & Ramsar	✓				
26	Broadland SPA & Ramsar	✓				
27	Bruine Bank pSPA	✓				
28	Buchan Ness to Collieston Coast SPA	✓				
29	Calf of Eday SPA	✓				
30	Cap Gris Nez SPA	✓				
31	Cap Sizun SAC		✓			
32	Chausey SAC	✓	✓			
33	Chaussée de Sein SAC		✓			
34	Chesil Beach and The Fleet SPA & Ramsar	✓				
35	Chichester and Langstone Harbours SPA & Ramsar	✓				
36	Colne Estuary (Mid-Essex Coast Phase 2) SPA & Ramsar	✓				
37	Copinsay SPA	✓				
38	Coquet Island SPA	✓				
39	Côte de Granit Rose-Sept Iles SAC	✓	✓			
40	Côtes de Crozon SAC		✓			
41	Cromarty Firth SPA & Ramsar	✓				
42	Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA & Ramsar	✓				
43	Deben Estuary SPA & Ramsar	✓				
44	Dengie (Mid-Essex Coast Phase 1) SPA & Ramsar	✓				
45	Doggerbank SCI		✓			
46	Doggersbank SCI		✓			
47	Dornoch Firth and Loch Fleet SPA & Ramsar	✓				
48	Dornoch Firth and Morrich More SAC		✓			
49	Dråby Vig SAC		✓			
50	Duinen Ameland SAC		✓			
51	Duinen en Lage Land Texel SAC		✓			

Norfolk Boreas Reference Number	Designated site	Ornithology	Marine Mammals	Benthic Habitats	Fish	Terrestrial
52	Duinen Goeree & Kwade Hoek SAC		✓			
53	Duinen Terschelling SAC		✓			
54	Duinen Vlieland SAC		✓			
55	Dünenlandschaft Süd-Sylt SAC		✓			
56	Dunes De La Plaine Maritime Flamande SAC		✓	✓		
57	Dunes de l'Authie et Mollières de Berck SAC		✓			
58	East Caithness Cliffs SPA	✓				
59	Essex Estuaries SAC			✓		
60	Estuaire de la Canche, dunes picardes plaquées sur l'ancienne falaise, forêt d'Hardelot et falaise d'Equihen SAC		✓			
61	Estuaire de la Seine SCI		✓			
62	Estuaires et Littoral Picards (baies de Somme et d'Authie) SAC		✓		✓	
63	Exe Estuary SPA & Ramsar	✓				
64	Fair Isle SPA	✓				
65	Falaise du Bessin Occidental SPA	✓				
66	Falaises du Cran Aux Oeufs et du Cap Gris-Nez, Dunes du Chatelet, Marais de Tardinghen et Dunes de Wissant SAC		✓	✓		
67	Falaises et Pelouses du Cap Blanc Nez, du Mont d'Hubert, des Noires Mottes, du Fond de la Forge et du Mont de couple SCI			✓		
68	Faray and Holm of Faray SAC		✓			
69	Farne Islands SPA	✓				
70	Fetlar SPA	✓				
71	Firth of Forth SPA & Ramsar	✓				
72	Firth of Tay & Eden Estuary SPA & Ramsar	✓				
73	Firth of Tay & Eden Estuary SAC		✓			
74	Flamborough and Filey Coast SPA	✓				
75	Flamborough Head SAC			✓		
76	Forth Islands SPA	✓				
77	Foula SPA	✓				
78	Foulness (Mid-Essex Coast Phase 5) SPA & Ramsar	✓				

Norfolk Boreas Reference Number	Designated site	Ornithology	Marine Mammals	Benthic Habitats	Fish	Terrestrial
79	Fowlsheugh SPA	✓				
80	Frisian Front pSPA	✓				
81	Gibraltar Point SPA & Ramsar	✓				
82	Great Yarmouth North Denes SPA	✓				
83	Greater Wash SPA	✓				
84	Grevelingen SAC		✓			
85	Gule Rev SCI		✓			
86	Gullmarsfjorden SAC		✓			
87	Haisborough, Hammond and Winterton SAC			✓		
88	Hallands Väderö SAC		✓			
89	Hamburgisches Wattenmeer SCI		✓			
90	Hamford Water SPA & Ramsar	✓				
91	Havet og kysten mellem Præstø Fjord og Grønsund SAC		✓			
92	Havet omkring Nordre Rønner SAC		✓			
93	Helgoland mit Helgoländer Felssockel SAC		✓			
94	Hermaness, Saxa Vord and Valla Field SPA	✓				
95	Hesselø med omliggende stenrev SAC		✓			
96	Hirsholmene, havet vest herfor og Ellinge Å's udløb SAC		✓			
97	Hornsea Mere SPA	✓				
98	Hoy SPA	✓				
99	Humber Estuary SAC		✓	✓	✓	
100	Humber Estuary SPA & Ramsar	✓				
101	Hund und Paapsand SCI		✓			
102	Imperial Dock Lock, Leith SPA	✓				
103	Inner Dowsing, Race Bank and North Ridge SCI			✓		
104	Inner Moray Firth SPA & Ramsar	✓				
105	Isle of May SAC		✓			
106	Klaverbank SAC		✓			
107	Kosterfjorden-Väderöfjorden SAC		✓			
108	Kungsbackafjorden SAC		✓			

Norfolk Boreas Reference Number	Designated site	Ornithology	Marine Mammals	Benthic Habitats	Fish	Terrestrial
109	Küsten- und Dünenlandschaften Amrums SAC		✓			
110	Lindisfarne SPA & Ramsar	✓				
111	Littoral Seino-Marin SPA	✓				
112	Loch of Strathbeg SPA & Ramsar	✓				
113	Løgstør Bredning, Vejlerne og Bulbjerg SAC		✓			
114	Lovns Bredning, Hjarbæk Fjord og Skals, Simested og Nørre Ådal, Skravad Bæk SAC		✓			
115	Malmöfjord SAC		✓			
116	Marais du Cotentin et du Bessin - Baie des Veys SAC		✓			
117	Margate and Long Sands SCI			✓		
118	Marwick Head SPA	✓				
119	Måseskär SAC		✓			
120	Medway Estuary and Marshes SPA & Ramsar	✓				
121	Minsmere-Walberswick SPA & Ramsar	✓				
122	Montrose Basin SPA & Ramsar	✓				
123	Moray and Nairn Coast SPA & Ramsar	✓				
124	Mousa SPA	✓				
125	Mousa SAC		✓			
126	Nationalpark Niedersächsisches Wattenmeer SAC		✓			
127	Nibe Bredning, Halkær Ådal og Sønderup Ådal SAC		✓			
128	Nidingen SAC		✓			
129	Noordzeekustzone SAC		✓	✓	✓	
130	Nordre älvs estuarium SAC		✓			
131	Nordvästra Skånes havsområde SAC		✓			
132	Norfolk Valley Fens SAC					✓
133	North Caithness Cliffs SPA	✓				
134	North Norfolk Coast SPA & Ramsar	✓				
135	North Norfolk Sandbanks and Saturn Reef SAC			✓		
136	Northumbria Coast SPA & Ramsar	✓				
137	Noss SPA	✓				

Norfolk Boreas Reference Number	Designated site	Ornithology	Marine Mammals	Benthic Habitats	Fish	Terrestrial
138	NTP S-H Wattenmeer und angrenzende Küstengebiete SAC		✓			
139	Oosterschelde SAC		✓			
140	Orfordness - Shingle Street SAC			✓		
141	Östliche Deutsche Bucht SPA	✓	✓			
142	Ouessant-Molène SAC		✓			
143	Outer Thames Estuary SPA	✓				
144	Papa Stour SPA	✓				
145	Papa Westray (North Hill and Holm) SPA	✓				
146	Paston Great Barn SAC					✓
147	Pater Noster-skärgården SAC		✓			
148	Pentland Firth Islands SPA	✓				
149	Portsmouth Harbour SPA & Ramsar	✓				
150	Presqu'ile de Crozon SAC		✓			
151	Ramsar-Gebiet S-H Wattenmeer und angrenzende Küstengebiete SPA	✓				
152	Récifs et marais arrière-littoraux du Cap Lévi à la Pointe de Saire SAC		✓			
153	Récifs Gris-Nez Blanc-Nez SAC		✓	✓		
154	Ridens et dunes hydrauliques du détroit du Pas-de-Calais SAC		✓	✓		
155	River Derwent SAC				✓	
156	River Wensum SAC					✓
157	Roches de Penmarch SAC		✓			
158	Ronas Hill - North Roe and Tingon SPA	✓				
159	Rousay SPA	✓				
160	Sälöfjorden SAC		✓			
161	Sanday SAC		✓			
162	SBZ 1 / ZPS 1 SAC		✓			
163	SBZ 2 / ZPS 2 SAC	✓				
164	SBZ 3 / ZPS 3 SAC	✓				
165	Scanner Pockmark SAC			✓		
166	Seevogelschutzgebiet Helgoland SPA	✓				
167	Skagens Gren og Skagerrak SAC		✓			
168	Solent and Southampton Water SPA & Ramsar	✓				
169	Soteskär SAC		✓			

Norfolk Boreas Reference Number	Designated site	Ornithology	Marine Mammals	Benthic Habitats	Fish	Terrestrial
170	Southern North Sea SAC		✓			
171	St Abb`s Head to Fast Castle SPA	✓				
172	Steingrund SAC		✓			
173	Store Rev SCI		✓			
174	Stour and Orwell Estuaries SPA & Ramsar	✓				
175	Strandenge på Læsø og havet syd herfor SAC		✓			
176	Sumburgh Head SPA	✓				
177	Sydlige Nordsø SAC		✓			
178	Sylter Außenriff SCI	✓	✓			
179	Teesmouth and Cleveland Coast SPA & Ramsar	✓				
180	Thames Estuary and Marshes SPA & Ramsar	✓				
181	Thanet Coast and Sandwich Bay SPA & Ramsar	✓				
182	Thanet Coast SAC			✓		
183	The Broads SAC					✓
184	The Swale SPA & Ramsar	✓				
185	The Wash and North Norfolk Coast SAC		✓	✓		
186	The Wash SPA & Ramsar	✓				
187	Tregor Goëlo SAC		✓			
188	Troup, Pennan and Lion`s Heads SPA	✓				
189	Unterems und Außenems SCI		✓			
190	Vadehavet med Ribe Å, Tved Å og Varde Å vest for Varde SAC		✓			
191	Venø, Venø Sund SAC		✓			
192	Vlaamse Banken SAC		✓	✓	✓	
193	Vlakte van de Raan SCI/SAC		✓		✓	
194	Voordelta SAC and SPA	✓	✓	✓	✓	
195	Vrångöskärgården SAC		✓			
196	Waddenzee SPA	✓				
197	Waddenzee SAC		✓	✓		
198	West Westray SPA	✓				
199	Westerschelde & Saeftinghe SAC				✓	
200	Winterton – Horsey Dunes SAC		✓			
201	Yell Sound Coast SAC		✓			
202	Ythan Estuary, Sands of Forvie and Meikle Loch SPA	✓				

2.3 Assessment of potential effects

9. A summary of the evidence presented in the determination of the risk of likely significant effects (LSE) on the relevant qualifying features of a site is detailed within the footnotes to the screening matrices below.
10. Features are presented either at the level of individual species (where these have been identified as qualifying features in their own right) or as an assemblage of species if that is the qualifying feature. For some non-UK sites it was unclear from the level of detail available whether the species listed are part of an assemblage feature or qualify separately. In these cases, where the potential for impacts is the same for all listed species, these have been assigned as an assemblage within a single row of the matrix.
11. Ornithological features of Ramsar sites are classified under Criterion 5 (assemblage) or Criterion 6 (named species) and each has been referenced accordingly in the footnotes.
12. The following abbreviations are used within the screening matrices:
    - Y = LSE **cannot** be excluded
    - N = LSE **can** be excluded
    - C = construction
    - O = operation
    - D = decommissioning
13. Where effects are not applicable to a particular feature they are greyed out.

Site	1											
Name of European Site:	Abberton Reservoir SPA and Ramsar											
Distance to Norfolk Boreas (km)	171											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Wigeon~~Golden Plover~~ *Anas penelope*~~*Pluvialis apricaria*~~		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Coot *Fulica atra*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Goldeneye *Bucephala clangula*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Great crested grebe *Podiceps cristatus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Mute swan *Cygnus olor*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Pochard *Aythya ferina*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Tufted duck *Aythya fuligula*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Teal *Anas crecca*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Shoveler *Anas clypeata*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Gadwall ~~*Mareca*~~*Anas strepera*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Cormorant *Phalacrocorax carbo*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Assemblage		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												
Shoveler *Anas clypeata*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)

Site	1											
Name of European Site:	Abberton Reservoir SPA and Ramsar											
Wigeon ~~*Mareca*~~*Anas penelope*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
Teal *Anas crecca*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
Coot *Fulica atra*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
Pochard *Aythya ferina*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
Tufted duck *Aythya fuligula*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
Cormorant *Phalacrocorax carbo*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Gadwall ~~*M*~~*Anas*~~*areca*~~ *strepera*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
Pochard *Mareca strepera*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
Mute swan *Cygnus o*~~*O*~~*lor*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
Assemblage		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)

(a) Survey data show no evidence of the SPA features found at that site occurring in the Norfolk Boreas site and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site (see Table 6.1 of offshore screening, document reference 5.3.5.1) and , in addition, the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Abberton Reservoir SPA.

(b) Maximum foraging range of breeding cormorants from their colonies is 35km (Thaxter et al. 2012); the Norfolk Boreas site is therefore located far beyond the maximum range and so has no breeding season connectivity. It is extremely unlikely that cormorants from Abberton Reservoir SPA would visit the Norfolk Boreas site in the nonbreeding season as they mostly overwinter in freshwater habitat in southern England.

(c) Ramsar criterion: predicted effects attributable to Norfolk Boreas are very small and not significant and also would not significantly contribute to or alter the overall in-combination assessment of these features at Abberton Reservior SPA and Ramsar.

Site	2														
Name of European Site:	Abers - Côtes Des Legendes SAC														
Distance to Norfolk Boreas (km)	684														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal *Halichoerus grypus*	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)	N (a)	N (a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	3														
Name of European Site:	Agger Tange, Nissum Bredning, Skibsted Fjord og Agerø SAC														
Distance to Norfolk Boreas (km)	509														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal *Phoca vitulina*	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)	N (a)	N (a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	4														
Name of European Site:	Ålborg Bugt, Randers Fjord og Mariager Fjord SAC														
Distance to Norfolk Boreas (km)	755														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)	N (a)	N (a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	5																	
Name of European Site:	Alde, Ore and Butley Estuaries SAC																	
Distance to Norfolk Boreas (km)	113																	
Site Features	Likely effect(s) of Norfolk Boreas																	
	Permanent loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminated sediments			Underwater noise and vibration			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Offshore habitats																		
Mudflats and sandflats not covered by seawater at low tide	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Estuaries	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)

(a) The distance between the offshore project area and the designated site is beyond the range of any potential LSE (see Table 4.1 of offshore screening, document reference 5.3.5.1).

Site	**6**											
Name of European Site:	**Alde-Ore Estuary SPA and Ramsar**											
Distance to Norfolk Boreas (km)	**117**											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Breeding lesser black-backed gulls *Larus fuscus*		**Y (a)**		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (h)	**Y (a)**	N (h)
Breeding marsh harrier *Circus aeruginosus*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (h)	N (h)	N (h)
Breeding avocet *Recurvirostra avosetta*		N (d)		N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (h)	N (h)	N (h)
Breeding little tern *Sternula albifrons*		N (e)		N (e)	N (e)	N (e)	N (e)	N (e)	N (e)	N (e)	N (e)	N (e)
Breeding Sandwich tern *Sterna sandvicensis*		N (f)		N (f)	N (f)	N (f)	N (f)	N (f)	N (f)	N (h)	N (h)	N (h)
Nonbreeding ruff *Philomachus pugnax*		N (g)		N (g)	N (g)	N (g)	N (g)	N (g)	N (g)	N (h)	N (h)	N (h)
Nonbreeding avocet *Recurvirostra avosetta*		N (d)		N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (h)	N (h)	N (h)
Nonbreeding redshank *Tringa totanus*		N (g)		N (g)	N (g)	N (g)	N (g)	N (g)	N (g)	N (h)	N (h)	N (h)
Ramsar features												
Breeding lesser black-backed gulls *Larus fuscus*		**Y (i)**		N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	**Y (i)**	N (j)
Breeding avocet *Recurvirostra avosetta*		N (d)		N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (j)	N (j)	N (j)
Nonbreeding avocet *Recurvirostra avosetta*		N (d)		N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (j)	N (j)	N (j)
Nonbreeding redshank *Tringa totanus*		N (j)		N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)

Site	6											
Name of European Site:	Alde-Ore Estuary SPA and Ramsar											
Distance to Norfolk Boreas (km)	117											
Breeding little tern *Sterna albifrons*		N (j)		N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)
Breeding marsh harrier *Circus aeruginosus*		N (j)		N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)
Breeding Sandwich tern *Sterna sandvicensis*		N (j)		N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)
Nonbreeding black-tailed godwit *Limosa limosa islandica*		N (j)		N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)
Nonbreeding shelduck *Tadorna tadorna*		N (j)		N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)
Nonbreeding shoveler *Anas clyptea*		N (j)		N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)
Nonbreeding Spotted redshank *Tringa eythropus*		N (j)		N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)
Nonbreeding teal *Anas crecca*		N (j)		N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)
Nonbreeding white-fronted goose *Anser albifrons albifrons*		N (j)		N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)
Nonbreeding wigeon *Anas penelope*		N (j)		N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)	N (j)

(a) Model predictions of collision mortality indicate that LSE cannot be ruled out at screening and so requires further consideration (Norfolk Boreas Appendix 13. Annex 4).
(b) Evidence indicates that lesser black-backed gulls are not affected by displacement, disturbance or barrier effects at offshore wind farms.
(c) Marsh harrier is a migrant species. Satellite tracking suggests that marsh harriers migrate overland to the south coast of England and over the Channel to France, rather than across the North Sea (Wright et. al. 2012*).
(d) Avocet has not been observed in the Norfolk Boreas site during bird surveys. It is highly unlikely that avocets from this SPA and Ramsar will migrate through the Norfolk Boreas site, and if they did, their flight height is likely not to be at collision risk height (see Table 6.1 of offshore screening, document reference 5.3.5.1).
(e) Breeding little tern has a maximum foraging range of 11km from colonies, so would have no connectivity with the Norfolk Boreas site. Migrating little terns are considered to be 'extremely coastal on passage with very few sightings in open ocean or inland' (Forrester et al. 2007), so are unlikely to pass through the Norfolk Boreas site.

Site	**6**
Name of European Site:	**Alde-Ore Estuary SPA and Ramsar**
Distance to Norfolk Boreas (km)	**117**

(f) Breeding Sandwich tern has a maximum foraging range of 54km from colonies, so would have no connectivity with the Norfolk Boreas site. Only very small numbers of terns of any species were observed in the Norfolk Boreas site in surveys. Migrating Sandwich terns from this SPA population will form a very small fraction of the very small total numbers of terns passing the site on passage.

(g) Ruff, avocet and redshank have not been observed during bird surveys at the Norfolk Boreas site. It is highly unlikely that these birds would migrate through the Norfolk Boreas site as their migration is likely to take a coastal route and cross sea at narrow points such as The English Channel. If they did migrate through the Norfolk Boreas site their flight height is likely not to be at collision risk height (Wright et al. 2012*).

(h) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Alde-Ore Estuary SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(i) Model predictions of collision mortality for lesser black-backed gull indicate that LSE cannot be ruled out at screening and so requires further consideration (Norfolk Boreas Appendix 13. Annex 4).

(j) These species are either not at risk ~~or~~from the potential impact (e.g. construction) or are not present on the wind farm and therefore are not at risk of an LSE.

* Wright, L.J., Ross-Smith, V.H., Massimino, D., Dadam, D., Cook, A.S.C.P. & Burton, N.H.K. 2012. Assessing the risk of offshore wind farm development to migratory birds designated as features of UK Special Protection Areas (and other Annex I species). Strategic Ornithological Support Services. Project SOSS-05. BTO Research Report No. 592.

Site	7														
Name of European Site:	Anholt og havet nord for SAC														
Distance to Norfolk Boreas (km)	812														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	8														
Name of European Site:	Archipel des Glénan SAC														
Distance to Norfolk Boreas (km)	838														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	**9**
Name of European Site:	**Baie de Canche et couloir des trois estuaires SAC**
Distance to Norfolk Boreas (km)	**240**

Marine Mammals

Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise *Phocoena phocoena*	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)	N (a)	N (a)
Grey seal	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)	N (a)	N (a)
Harbour seal	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)	N (a)	N (a)

Fish

Site Features	Likely effect(s) of Norfolk Boreas																				
	Permanent habitat loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminated sediments			Underwater noise and vibration			Electromagnetic fields (EMF)			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Salmon *Salmo salar*	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)

Site	**9**
Name of European Site:	**Baie de Canche et couloir des trois estuaires SAC**
Distance to Norfolk Boreas (km)	**240**

Site Features	Likely effect(s) of Norfolk Boreas																				
	Permanent habitat loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminated sediments			Underwater noise and vibration			Electromagnetic fields (EMF)			In-combination		
	C	O	D	C	O	C	O	C	O	C	O	D	C	O	D	C	O	D	C	O	D
Sea lamprey *Petromyzon marinus*	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
River lamprey *Lampetra fluviatilis*	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Allis shad *Alosa alosa*	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)

a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 and 5.1 of offshore screening, document reference 5.3.5.1).

Site	10														
Name of European Site:	Baie De Morlaix SAC														
Distance to Norfolk Boreas (km)	637														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	11														
Name of European Site:	Baie de Seine Occidentale SAC														
Distance to Norfolk Boreas (km)	422														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	12											
Name of European Site:	Baie de Seine Occidentale SPA											
Distance to Norfolk Boreas (km)	422											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding, wintering and passage waterbirds		N(a)		N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(b)	N(b)	N(b)

(a) Survey data show little or no evidence of Baie de Seine Occidentale SPA features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site, as most migrant waterfowl moving between northern breeding areas and southern wintering areas and using staging areas such as Baie de Seine Occidentale in France pass along the west European flyway along the continental coast rather than crossing the North Sea to the UK. At a distance of 422km, the chances of birds from this SPA moving through the Norfolk Boreas site are extremely small (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Baie de Seine Occidentale SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	13														
Name of European Site:	Baie de Seine Orientale SAC														
Distance to Norfolk Boreas (km)	398														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)

a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).

Site	14														
Name of European Site:	**Baie du Mont Saint-Michel SAC**														
Distance to Norfolk Boreas (km)	**569**														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	15														
Name of European Site:	**Balgö SAC**														
Distance to Norfolk Boreas (km)	**814**														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	16														
Name of European Site:	Bancs des Flandres SAC														
Distance to Norfolk Boreas (km)	152														
Marine Mammals															
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Benthic Habitats															
Site Features	Permanent loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminate d sediments			Underwater noise and vibration			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)		N (b)	N (b)		N (b)	N (b)	N (b)	N (b)

a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).

b) The distance between the offshore project area and the designated site is beyond the range of any potential LSE (see Table 4.1 of offshore screening, document reference 5.3.5.1).

Site	17											
Name of European Site:	Banc Des Flandres SPA											
Distance to Norfolk Boreas (km)	162											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Wintering and passage species: razorbill, brent goose, great skua, black tern, fulmar, red-throated diver, black-throated diver, Mediterranean gull, little gull, velvet scoter, common scoter, red-breasted merganser, gannet, Leach's storm petrel, great crested grebe, red-necked grebe, kittiwake, common eider, Arctic skua, pomarine skua, common tern, little tern, Sandwich tern, Arctic tern, guillemot		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Breeding little tern		N(c)		N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(b)	N(b)	N(b)

a) Many of the named species have not been recorded on the Norfolk Boreas site and are not ones associated with offshore locations. With respect to species named as nonbreeding features of the SPA, these consist of many of the seabird species which pass through the southern North Sea and English Channel on migration. As such the potential impacts on those species recorded at Norfolk Boreas has been assessed in terms of the wider Biologically Defined Minimum Population Scales (BDMPS) populations (see Furness 2015). The Applicant considers this to be the appropriate population scale for nonbreeding impacts on the species named at this SPA, since the majority of individuals will not be resident at the SPA but will instead pass through. Furthermore, given the relative size of the SPA population estimates for the migratory species compared with the total passage populations, the risks to the SPA populations due to Norfolk Boreas are very small (see Table 6.1 of offshore screening, document reference 5.3.5.1).

b) The predicted effect attributable to the proposed Norfolk Boreas project is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Bancs des Flandres SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

c) Breeding little tern has a maximum foraging range of 11km from colonies, so would have no connectivity with Norfolk Boreas. Migrating little terns are considered to be 'extremely coastal on passage with very few sightings in open ocean or inland' (Forrester et al. 2007), so are unlikely to pass through the Norfolk Boreas site.

Site	**18**
Name of European Site:	**Bassurelle Sandbank SAC**
Distance to Norfolk Boreas (km)	**269**

Site Features	Likely effect(s) of Norfolk Boreas																	
	Permanent loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminated sediments			Underwater noise and vibration			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)		N (a)	N (a)	N (a)	N (a)

(a) The distance between the offshore project area and the designated site is beyond the range of any potential LSE

Site	**19**
Name of European Site:	**Benfleet & Southend Marshes SPA and Ramsar**
Distance to Norfolk Boreas (km)	**202**

Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Wintering and passage waterbird assemblage		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ringed plover *Charadrius hiaticula*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Dark-bellied brent goose *Branta bernicla*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Grey plover *Pluvialis squatarola*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Knot *Calidris canutus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Dunlin *Calidris alpina*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												
Wintering and passage waterbird assemblage		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Ringed plover *Charadrius hiaticula*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Dark-bellied brent goose *Branta bernicla*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Grey plover *Pluvialis squatarola*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Knot *Calidris canutus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Dunlin *Calidris alpina*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

Site	**19**
Name of European Site:	**Benfleet & Southend Marshes SPA and Ramsar**
Distance to Norfolk Boreas (km)	**202**

(a) Survey data show little or no evidence of Benfleet & Southend Marshes SPA features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site during migration therefore these is no risk of an LSE (Norfolk Boreas Appendix 13. Annex 7) and, in addition, the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Benfleet & Southend Marshes SPA.

(b) Ramsar criterion: predicted effects attributable to Norfolk Boreas are very small and not significant and also would not significantly contribute to or alter the overall in-combination assessment (Norfolk Boreas Appendix 13. Annex 7).

Site	**20**
Name of European Site:	**Berwickshire and North Northumberland Coast SAC**
Distance to Norfolk Boreas (km)	**346**

Marine Mammals

Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)

Benthic Habitats

Site Features	Permanent loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminate d sediments			Underwater noise and vibration			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Coastal lagoons	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)		N (b)	N (b)		N (b)	N (b)	N (b)	N (b)

Site	20																	
Name of European Site:	Berwickshire and North Northumberland Coast SAC																	
Distance to Norfolk Boreas (km)	346																	
Submerged or partially submerged sea caves	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)		N (b)	N (b)		N (b)	N (b)	N (b)	N (b)

a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).

b) The distance between the offshore project area and the designated site is beyond the range of any potential LSE (see Table 4.1 of offshore screening, document reference 5.3.5.1).

Site	21											
Name of European Site:	Blackwater Estuary (Mid-Essex Coast Phase 4) SPA and Ramsar											
Distance to Norfolk Boreas (km)	185											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Little tern *Sterna albifrons*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Pochard *Aythya farina*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
~~Avocet *Recurvirostra avosetta*~~		~~N (b)~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~
~~Golden Plover *Pluvialis apricaria*~~		~~N (b)~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~
Hen harrier *Circus cyaneus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
~~Ruff *Philomachus pugnax*~~		~~N (b)~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~
Ringed plover *Charadrius hiaticula*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

Site Name of European Site: Distance to Norfolk Boreas (km)	21 Blackwater Estuary (Mid-Essex Coast Phase 4) SPA and Ramsar 185											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
~~Dunlin *Calidris alpina alpina*~~		~~N (b)~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~
Black-tailed Godwit *Limosa limosa islandica*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Grey Plover *Pluvialis squatarola*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
~~Redshank *Tringa totanus*~~		~~N (b)~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~
~~Ringed Plover *Charadrius hiaticula*~~		~~N (b)~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~
~~Shelduck *Tadorna tadorna*~~		~~N (b)~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~
~~Great Crested Grebe *Podiceps cristatus*~~		~~N (b)~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~
Dark-bellied Brent Goose *Branta bernicla bernicla*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
~~Shelduck *Tadorna tadorna*~~		~~N (b)~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~
Dunlin *Calidris alpina alpina*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
~~Redshank *Tringa totanus*~~		~~N (b)~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~
~~Curlew *Numenius arquata*~~		~~N (b)~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~
~~Cormorant *Phalacrocorax carbo*~~		~~N (b)~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~
~~Wigeon *Anas penelope*~~		~~N (b)~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~
~~Teal *Anas crecca*~~		~~N (b)~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~
~~Pintail *Anas acuta*~~		~~N (b)~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~

Site Name of European Site: Distance to Norfolk Boreas (km)	21 Blackwater Estuary (Mid-Essex Coast Phase 4) SPA and Ramsar 185											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
~~Shoveler *Anas clypeata*~~		~~N (b)~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~
~~Goldeneye *Bucephala clangula*~~		~~N (b)~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~
~~Red-breasted Merganser *Mergus serrator*~~		~~N (b)~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~
~~Lapwing *Vanellus vanellus*~~		~~N (b)~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~
Assemblage		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Ramsar features												
Pochard *Aythya ferina*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
Little tern *Sterna albifrons*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
Ringed plover *Charadrius hiaticuala*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
Cormorant *Phalacrocorax carbo*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
Gadwall *Anas Strepera*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
Teal *Anas crecca*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
Goldeneye *Bucephala clangula*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
Curlew *Numenius arquato*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
~~Golden Plover *Pluvialis apricaria*~~		~~N (c)~~		~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~
~~Dunlin *Calidris alpina alpina*~~		~~N (c)~~		~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~

Site Name of European Site: Distance to Norfolk Boreas (km)	21 Blackwater Estuary (Mid-Essex Coast Phase 4) SPA and Ramsar 185											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
~~Black-tailed Godwit *Limosa limosa islandica*~~		~~N (c)~~		~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~
~~Grey Plover *Pluvialis squatarola*~~		~~N (c)~~		~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~
~~Dark-bellied Brent Goose *Branta bernicla bernicla*~~		~~N (c)~~		~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~
Shelduck *Tadorna tadorna*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
~~Winter assemblage~~		~~N (c)~~		~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~

(a) Breeding little tern has a maximum foraging range of 11km from colonies, so would have no connectivity with the Norfolk Boreas site. Migrating little terns are considered to be 'extremely coastal on passage with very few sightings in open ocean or inland' (Forrester et al. 2007), so are very unlikely to pass through the Norfolk Boreas site (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Survey data show little or no evidence of Blackwater Estuary SPA occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(c) Ramsar criterion: predicted effects attributable to Norfolk Boreas are very small and not significant and also would not significantly contribute to or alter the overall in-combination assessment (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**22**
Name of European Site:	**Borkum-Riffgrund (Borkum Reef Ground) SCI**
Distance to Norfolk Boreas (km)	**219**

Marine mammals

Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)	N (a)	N (a)
Grey seal	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)	N (a)	N (a)
Harbour seal	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)	N (a)	N (a)

Fish

Site Features	Permanent habitat loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminated sediments			Underwater noise and vibration			Electromagnetic fields (EMF)			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Twaite shad *Alosa fallax*	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)

a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).

b) The distance between the offshore project area and the designated site is beyond the range of any potential LSE (see Table 5.1 of offshore screening, document reference 5.3.5.1).

Site	23											
Name of European Site:	Borkum-Riffgrund SPA											
Distance to Norfolk Boreas (km)	218											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Nonbreeding seabird assemblage including as named features black-throated diver *Gavia arctica*, red-throated diver *Gavia stellata*, common gull *Larus canus*, lesser black-backed gull, great black-backed gull *Larus marinus*, little gull *Larus minutus*, kittiwake *Rissa tridactyla*, common tern *Sterna hirundo*, Arctic tern *Sterna paradisaea*, Sandwich tern, gannet *Morus bassanus*, guillemot *Uria aalge*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)

a) Migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site during migration relative to the size of Biologically Defined Minimum Population Scale (BDMPS) regional populations. Not only are the sites 234km apart, but much of the seasonal movement of birds avoids crossing of the North Sea so that birds on the continental side of the North Sea are more likely to move along the continental coast rather than crossing to the UK.

b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Borkum-Riffgrund SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**24**
Name of European Site:	**Braemar Pockmarks SAC**
Distance to Norfolk Boreas (km)	**645**

Site Features	Likely effect(s) of Norfolk Boreas																	
	Permanent loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminated sediments			Underwater noise and vibration			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Submarine structures made by leaking gases	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)		N (a)	N (a)	N (a)	N (a)

a) The distance between the offshore project area and the designated site is beyond the range of any potential LSE (see Table 4.1 of offshore screening, document reference 5.3.5.1).

Site	**25**
Name of European Site:	**Breydon Water SPA and Ramsar**
Distance to Norfolk Boreas (km)	**76**

Site Features (SPA) / Criterion (Ramsar)	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Bewick's swan *Cygnus columbianus bewickii*		**Y (a)**		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	**Y (a)**	N (b)
Avocet *Recurvirostra avosetta*		**Y (a)**		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	**Y (a)**	N (b)
Golden Plover *Pluvialis apricaria*		**Y (a)**		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	**Y (a)**	N (b)
Ruff *Philomachus pugnax*		**Y (a)**		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	**Y (a)**	N (b)
Lapwing *Vanellus vanellus*		**Y (a)**		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	**Y (a)**	N (b)
Common tern *Sterna hirundo*		N (c)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (c)	N (b)
~~Black-tailed godwit *Limosa limosa islandica*~~		~~**Y (a)**~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~**Y (a)**~~	~~N (b)~~
~~Dunlin *Calidris alpina alpina*~~		~~**Y (a)**~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~**Y (a)**~~	~~N (b)~~
~~Shoveler *Anas clypeata*~~		~~**Y (a)**~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~**Y (a)**~~	~~N (b)~~
~~Wigeon *Anas penelope*~~		~~**Y (a)**~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~**Y (a)**~~	~~N (b)~~
~~White-fronted goose *Anser albifrons albifrons*~~		~~**Y (a)**~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~**Y (a)**~~	~~N (b)~~
~~Cormorant *Phalacrocorax carbo*~~		~~**Y (a)**~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~**Y (a)**~~	~~N (b)~~
Waterbird assemblage		**Y (a)**		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	**Y (a)**	N (b)

Ramsar features												
Bewick's swan *Cygnus columbianus bewickii*		**Y (a)**		N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	**Y (a)**	N (d)
Avocet *Recurvirostra avosetta*		**Y (a)**		N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	**Y (a)**	N (d)
Golden Plover *Pluvialis apricaria*		**Y (a)**		N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	**Y (a)**	N (d)
Ruff *Philomachus pugnax*		**Y (a)**		N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	**Y (a)**	N (d)
Lapwing *Vanellus vanellus*		**Y (a)**		N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	**Y (a)**	N (d)
Common tern *Sterna hirundo*		N (c)		N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (c)	N (d)
Black-tailed godwit *Limosa limosa islandica*		**Y (a)**		N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	**Y (a)**	N (d)
Shoveler *Anas clypeata*		**Y (a)**		N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	**Y (a)**	N (d)
Wigeon *Anas penelope*		**Y (a)**		N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	**Y (a)**	N (d)
White-fronted goose *Anser albifrons albifrons*		**Y (a)**		N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	**Y (a)**	N (d)
Cormorant *Phalacrocorax carbo*		**Y (a)**		N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	**Y (a)**	N (d)
Waterbird assemblage		**Y (a)**		N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	**Y (a)**	N (d)

(a) Natural England considers that there is potential for connectivity during migration and therefore LSE cannot be screened out.
(b) Survey data show no evidence of birds from Breydon Water SPA occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site during migration (see Table 6.1 of offshore screening, document reference 5.3.5.1).
(c) SPA is far beyond the maximum foraging range of common tern (30km) so has no breeding season connectivity. Numbers of SPA common tern migrating through the Norfolk Boreas site are likely to be extremely small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1).
(d) Ramsar criterion: The predicted effects attributable to Norfolk Boreas are so small that they would not significantly contribute to or alter the overall in-combination assessment for these features at Breydon Water SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site **Name of European Site:** **Distance to Norfolk Boreas (km)**	**26** **Broadland SPA and Ramsar** **4.5 (onshore project area)**											
Site Features/ Criterion	Likely effect(s) of Norfolk Boreas onshore project area											
	Direct effects within SPA / Ramsar site boundary			Direct effects on ex-situ habitats			Indirect effects within SPA / Ramsar site boundary			Indirect effects on ex-situ habitats		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Bewick's Swan (*Cygnus columbianus bewickii)*	N (a)	N (a)	N (a)	**Y (c)**	N (a)	**Y (c)**	N (a)	N (a)	N (a)	**Y (c)**	N (a)	**Y (c)**
Bittern ~~(~~*Botaurus stellaris*~~)~~	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Hen Harrier ~~(~~*Circus cyaneus*~~)~~	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Marsh harrier ~~(~~*Circus aeruginosus*~~)~~	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Ruff ~~(~~*Philomachus pugnax*~~)~~	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Whooper Swan ~~(~~*Cygnus cygnus*~~)~~	N (a)	N (a)	N (a)	**Y (c)**	N (a)	**Y (c)**	N (a)	N (a)	N (a)	**Y (c)**	N (a)	**Y (c)**

Site Name of European Site: Distance to Norfolk Boreas (km)	26 Broadland SPA and Ramsar 4.5 (onshore project area)											
Site Features/ Criterion	Likely effect(s) of Norfolk Boreas onshore project area											
	Direct effects within SPA / Ramsar site boundary			Direct effects on ex-situ habitats			Indirect effects within SPA / Ramsar site boundary			Indirect effects on ex-situ habitats		
	C	O	D	C	O	D	C	O	D	C	O	D
Gadwall ~~(~~*Anas strepera*~~)~~	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Shoveler ~~(~~*Anas clypeata*~~)~~	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Widgeon ~~(~~*Anas penelope*~~)~~	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Pink-footed Goose ~~(~~*Anser brachyrhynchus*~~)~~	N (a)	N (a)	N (a)	**Y (c)**	N (a)	**Y (c)**	N (a)	N (a)	N (a)	**Y (c)**	N (a)	**Y (c)**
Wildfowl assemblage	N (a)	N (a)	N (a)	**Y (c)**	N (a)	**Y (c)**	N (a)	N (a)	N (a)	**Y (c)**	N (a)	**Y (c)**
Ramsar features												
Tundra Swan ~~(~~*Cygnus columbianus*~~)~~	N (a)	N (a)	N (a)	**Y (c)**	N (a)	**Y (c)**	N (a)	N (a)	N (a)	**Y (c)**	N (a)	**Y (c)**
Eurasian wigeon ~~(~~*Anas penelope*~~)~~	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Gadwall ~~(~~*Anas strepera*~~)~~	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Northern shoveler ~~(~~*Anas clypeata*~~)~~	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Pink-footed goose ~~(~~*Anser brachyrhynchus*~~)~~	N (a)	N (a)	N (a)	**Y (c)**	N (a)	**Y (c)**	N (a)	N (a)	N (a)	**Y (c)**	N (a)	**Y (c)**
Greylag goose ~~(~~*Anser anser*~~)~~	N (a)	N (a)	N (a)	**Y (c)**	N (a)	**Y (c)**	N (a)	N (a)	N (a)	**Y (c)**	N (a)	**Y (c)**
a) The Broadland SPA and Ramsar is located 4.5km from the onshore project area, and so the SPA is beyond the range of potential impact (see Table 2.1 of onshore screening, document reference 5.3.5.2).												

Site	26											
Name of European Site:	Broadland SPA and Ramsar											
Distance to Norfolk Boreas (km)	4.5 (onshore project area)											
Site Features/ Criterion	Likely effect(s) of Norfolk Boreas onshore project area											
	Direct effects within SPA / Ramsar site boundary			Direct effects on ex-situ habitats			Indirect effects within SPA / Ramsar site boundary			Indirect effects on ex-situ habitats		
	C	O	D	C	O	D	C	O	D	C	O	D

b) Surveys recorded waterbird counts that are considered to not be of a scale of national or greater importance, or to be a significant component of the Broadland SPA and Ramsar (see Sections 3.3.5 and 4.6.1 of onshore screening, document reference 5.3.5.2). Consequently, these ex-situ habitats are not considered to be important habitats for the qualifying features of the Broadland SPA and Ramsar.

c) The Applicant's position is that there are no likely significant effects which are anticipated to arise in relation to the qualifying features of the Broadland SPA / Ramsar site. This position is set out with Appendix 5.2 of the Information to support HRA report (document reference 5.3), and this site is not assessed further within the Information to ~~s~~Support HRA report (document reference 5.3). Natural England's position is that LSE cannot be ruled out for swan and geese qualifying features of the site, due to the temporary loss of crop stubble which provides overwintering habitat for these species. Following consultation with Natural England during the Norfolk Vanguard examination process, an agreement has been reached to ~~undertake further surveys post-consent to confirm the conclusions (derived from survey data collected to date) that the qualifying species are absent from the potentially affected ex-situ habitats, and~~undertake mitigation ~~has been proposed should these surveys return evidence that these species are present~~to ensure that, if these species should be using arable land within the onshore project area, then effects upon these features is reduced as far as possible. This mitigation includes only working on one section of the onshore project located within the Broadland SPA study area at any one time, and providing an alternative food source (e.g. chopped sugar beet residue (tops)) in the section which is not subject to works.~~.~~ This approach is secured within the Outline Landscape and Ecological Management Strategy (document reference 8.7), which provides full details of this agreed mitigation.~~.~~

Site	27			
Name of European Site:	Bruine Bank (Brown Ridge) pSPA			
Distance to Norfolk Boreas (km)	ca.20km (a)			
Site Features	Likely effect(s) of Norfolk Boreas			
	Collision mortality	Displacement/Disturbance	Barrier Effect	Cumulative/In-combination

Site	27											
Name of European Site:	Bruine Bank (Brown Ridge) pSPA											
Distance to Norfolk Boreas (km)	ca.20km (a)											
	C	O	D	C	O	D	C	O	D	C	O	D
Common guillemot *Uria aalge*		N (b)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (d)	N (d)	N (d)
Razorbill *Alca torda*		N (b)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (d)	N (d)	N (d)

(a) It should be noted that the distance from the Norfolk Boreas site to the pSPA is uncertain as the boundaries of the pSPA are under consultation at present.
(b) The designated features of Bruine Bank pSPA are likely to be common guillemot and razorbill, species for which low flight height results in low risk of collision with offshore wind turbines. Furthermore, birds wintering on Bruine Bank are likely to remain at the pSPA because it is a high-quality feeding habitat (i.e. the reason why this concentration of birds is being proposed for SPA status), and so these birds are unlikely to be at risk of collision at the Norfolk Boreas site .
(c) Bruine Bank is high quality feeding habitat for nonbreeding piscivorous seabirds from breeding areas further north, so the birds in that pSPA are unlikely to pass through the Norfolk Boreas site on migration as it lies west rather than north of the pSPA. Therefore, displacement, disturbance and barrier effect at the Norfolk Boreas site will not be likely to affect birds on Bruine Bank pSPA.
(d) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Bruine Bank pSPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	28											
Name of European Site:	Buchan Ness to Collieston Coast SPA											
Distance to Norfolk Boreas (km)	553											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding seabird assemblage, including as named features kittiwake, shag *Phalacrocorax aristotelis*, fulmar, guillemot, herring gull *Larus argentatus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)

Site	**28**
Name of European Site:	**Buchan Ness to Collieston Coast SPA**
Distance to Norfolk Boreas (km)	**553**

(a) Buchan Ness to Collieston Coast SPA is beyond maximum foraging range of designated seabird species so has no breeding season connectivity. Proportions of these populations migrating through the Norfolk Boreas site are likely to be very small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Buchan Ness to Collieston Coast SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**29**
Name of European Site:	**Calf of Eday SPA**
Distance to Norfolk Boreas (km)	**753**

Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding seabird assemblage including as named features cormorant, fulmar *Fulmarus glacialis*, guillemot, kittiwake and great black-backed gull		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)

(a) Calf of Eday SPA is beyond maximum foraging range of designated seabird species so has no breeding season connectivity. Proportions of these populations migrating through the Norfolk Boreas site are likely to be very small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Calf of Eday SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	30											
Name of European Site:	Caps Gris Nez SPA											
Distance to Norfolk Boreas (km)	210											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Wintering and passage species: razorbill, kingfisher, pintail, white-fronted goose, greylag goose, short-eared owl, greater scaup, bittern, brent goose, sanderling, dunlin, purple sandpiper, Scopoli's shearwater, great skua, Kentish plover, little ringed plover, ringed plover, whiskered tern, black tern, white stork, marsh harrier, hen harrier, little egret, merlin, peregrine, puffin, fulmar, black-throated diver, great northern diver, red-throated diver, common crane, oystercatcher, black-winged stilt, storm petrel, red-backed shrike, Mediterranean gull, bar-tailed godwit, woodlark, velvet scoter, common scoter, smew, red-breasted merganser, black kite, red kite, gannet, curlew, whimbrel, osprey, honey buzzard, shag, cormorant, ruff, spoonbill, golden plover, grey plover, Slavonian grebe, great crested grebe, red-necked grebe,		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)

Site	**30**														
Name of European Site:	**Caps Gris Nez SPA**														
Distance to Norfolk Boreas (km)	**210**														
black-necked grebe, Manx shearwater, avocet, kittiwake, eider, long-tailed skua, Arctic skua, pomarine skua, little tern, roseate tern, common tern, Arctic tern, Sandwich tern, wood sandpiper, guillemot, lapwing															
a) Many of the named species have not been recorded on the Norfolk Boreas site and are not ones associated with offshore locations. With respect to seabird species named as nonbreeding features of the SPA, these consist of many of the seabird species which pass through the southern North Sea and English Channel on migration. As such the potential impacts on those species recorded at Norfolk Boreas has been assessed in terms of the wider Biologically Defined Minimum Population Scales populations (see Furness 2015). The Applicant considers this to be the appropriate population scale for nonbreeding impacts on the species named at this SPA, since the majority of individuals will not be resident at the SPA but will instead pass through. Furthermore, given the relative size of the SPA population estimates for the migratory species compared with the total passage populations, the risks to the SPA populations due to Norfolk Boreas are very small (see Table 6.1 of offshore screening, document reference 5.3.5.1). b) The predicted effect attributable to the proposed Norfolk Boreas project is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Caps Griz Nez SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).														

Site	**31**														
Name of European Site:	**Cap Sizun SAC**														
Distance to Norfolk Boreas (km)	**764**														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)

Site	**31**
Name of European Site:	**Cap Sizun SAC**
Distance to Norfolk Boreas (km)	**764**

a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).

Site	**32**
Name of European Site:	**Chausey SAC**
Distance to Norfolk Boreas (km)	**544**

Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)

a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).

Site	**33**
Name of European Site:	**Chaussée de Sein SAC**
Distance to Norfolk Boreas (km)	**762**

Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	**34**											
Name of European Site:	**Chesil Beach and The Fleet SPA & Ramsar**											
Distance to Norfolk Boreas (km)	**441**											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
~~Dark-bellied brent goose *Branta bernicla bernicla*~~Wigeon *Anas penelope*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Little tern *Sterna albifrons*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												
Dark-bellied brent goose *Branta bernicla bernicla*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Mute swan *Cygnus olor*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Wigeon *Anas penelope*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Red-breasted merganser *Mergus serrator*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Little tern *Sterna alibfrons*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

(a) Survey data show little or no evidence of features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site and, in addition, the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Chesil Beach & The Fleet SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at Chesil Beach and the Fleet SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**35**											
Name of European Site:	**Chichester and Langstone Harbours SPA & Ramsar**											
Distance to Norfolk Boreas (km)	**340**											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Little tern *Sterna albifrons*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Sandwich tern *Sterna sandvicensis*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
~~Little egret *Egretta garzetta*~~		~~N (a)~~		~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~
Bar-tailed godwit *Limosa lapponica*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Common tern *Sterna hirundo*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Curlew *Numenius arquata*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ringed plover *Charadrius hiaticula*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
~~Black-tailed Godwit *Limosa limosa islandica*~~		~~N (a)~~		~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~

Site	35											
Name of European Site:	Chichester and Langstone Harbours SPA & Ramsar											
Distance to Norfolk Boreas (km)	340											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Dark-bellied Brent Goose *Branta bernicla bernicla*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Dunlin *Calidris alpina alpina*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Grey Plover *Pluvialis squatarola*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Sanderling *Calidris alba*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Shoveler *Anas clyptea*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Turnstone *Arenaria interpres*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Teal *Anas crecca*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Shelduck *Tadorna tadorna*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Pintail *Anas acuta*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Red-breasted merganser *Mergus serrator*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Redshank *Tringa totanus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Wigeon *Anas penelope*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Assemblage		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												
Little tern *Sterna albifrons*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Common tern *Sterna hirundo*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

Site	35											
Name of European Site:	Chichester and Langstone Harbours SPA & Ramsar											
Distance to Norfolk Boreas (km)	340											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Ringed plover *Charadrius hiaticula*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Black-tailed Godwit *Limosa limosa islandica*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Dark-bellied Brent Goose *Branta bernicla bernicla*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Dunlin *Calidris alpina alpina*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Grey Plover *Pluvialis squatarola*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Redshank *Tringa totanus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Common shelduck *Tadorna tadorna*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Assemblage		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

(a) Survey data show little or no evidence of Chichester & Langstone Harbour SPA features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site and, in addition, the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at Chichester & Langstone Harbour SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	36
Name of European Site:	Colne Estuary (Mid-Essex Coast Phase 2) SPA and Ramsar
Distance to Norfolk Boreas (km)	164

Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Dark-bellied brent goose *Branta bernicla bernicla*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Redshank *Tringa totanus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Hen harrier *Circus cyaneus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
~~Avocet *Recurvirostra avosetta*~~Pochard *Aythya ferina*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ringed plover *Charadrius hiaticula*~~Golden plover *Pluvialis apricaria*~~		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Little tern *Sterna albifrons*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Assemblage		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												
Dark-bellied brent goose *Branta bernicla bernicla*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Redshank Tringa totanus		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Black-tailed godwit *Limosa limosa islandica*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Pochard *Aythya ferina*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

Site	36											
Name of European Site:	Colne Estuary (Mid-Essex Coast Phase 2) SPA and Ramsar											
Distance to Norfolk Boreas (km)	164											
Ringed plover *Charadrius hiaticula*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Little tern *Sterna albifrons*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Cormorant *Phalacrocorax carbo*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Mute swan *Cygnus olor*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Shelduck *Tadorna tadorna*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Goldeneye *Bucephala clangula*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Grey plover *Pluvialis squatarola*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Sanderling *Calidris alba*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Dunlin *Calidris alpina*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Curlew *Numenius arquata*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Assemblage		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

(a) Survey data show no evidence of these Colne Estuary SPA features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site and, in addition, the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at Colne Estuary SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	37											
Name of European Site:	Copinsay SPA											
Distance to Norfolk Boreas (km)	718											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding seabird assemblage including as named features fulmar, guillemot, kittiwake and great black-backed gull		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)

(a) Copinsay SPA is beyond maximum foraging range of designated seabird species so has no breeding season connectivity. Proportions of these populations migrating through the Norfolk Boreas site are likely to be very small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1).
(b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Copinsay SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	38											
Name of European Site:	Coquet Island SPA											
Distance to Norfolk Boreas (km)	373											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Roseate tern *Sterna dougallii*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Sandwich tern *Sterna sandvicensis*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Common tern *Sterna hirundo*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)

Site	38											
Name of European Site:	Coquet Island SPA											
Distance to Norfolk Boreas (km)	373											
Arctic tern *Sterna paradisaea*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Puffin *Fratercula arctica*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Assemblage		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)

(a) Coquet Island SPA is beyond maximum foraging range of designated seabird species (all less than 55km) so has no breeding season connectivity. Proportions of these populations migrating through the Norfolk Boreas site are likely to be very small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Coquet Island SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	39														
Name of European Site:	Côte De Granit Rose-Sept-Iles SAC														
Distance to Norfolk Boreas (km)	596														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)

a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).

Site	**40**														
Name of European Site:	**Côtes de Crozon SAC**														
Distance to Norfolk Boreas (km)	**744**														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	**41**											
Name of European Site:	**Cromarty Firth SPA & Ramsar**											
Distance to Norfolk Boreas (km)	**664**											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Osprey *Pandion haliaetus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Common tern *Sterna hirundo*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Bar-tailed godwit *Limosa lapponica*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Whooper swan *Cygnus cygnus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

Site	41											
Name of European Site:	Cromarty Firth SPA & Ramsar											
Distance to Norfolk Boreas (km)	664											
Greylag goose *Anser anser*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Assemblage		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Ramsar features												
Bar-tailed godwit *Limosa lapponica*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
Greylag goose *Anser anser*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
Assemblage		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)

(a) This species has not been observed in the Norfolk Boreas site and no migration is predicted through Norfolk Boreas site therefore these is no risk of an LSE (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) There is no indication from survey data that features from this SPA will occur in the Norfolk Boreas site and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(c) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at Cromarty Firth SPA and Ramsar

Site	42											
Name of European Site:	Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA & Ramsar											
Distance to Norfolk Boreas (km)	187											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Dark-bellied brent goose *Branta bernicla bernicla*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Assemblage		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												
Dark-bellied brent goose *Branta bernicla bernicla*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Assemblage		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

(a) Survey data show little or no evidence of Crouch & Roach Estuary SPA feature (brent goose) occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site and , in addition, the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at Crouch & Roach Estuaries SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	43											
Name of European Site:	Deben Estuary SPA & Ramsar											
Distance to Norfolk Boreas (km)	128											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Avocet *Recurvirostra avosetta*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Dark-bellied brent goose *Branta bernicla bernicla*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												
Dark-bellied brent goose *Branta bernicla bernicla*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Shelduck *Tadorna tadorna*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Avocet *Recurvirostra avosetta*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Grep plover *Pluvialis squatarola*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Black-tailed godwit *Limosa limosa*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Redshank *Tringa totanus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Assemblage		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

(a) Survey data show little or no evidence of SPA features occurring in the Norfolk Boreas site, and migrations of birds from the SPA are likely to result in negligible numbers passing through the Norfolk Boreas site and, in addition, the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at Deben Estuary SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	44											
Name of European Site:	Dengie (Mid-Essex Coast Phase 1) SPA & Ramsar											
Distance to Norfolk Boreas (km)	175											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Hen harrier *Circus cyaneus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
~~Bar-tailed godwit *Limosa lapponica*~~		~~N (a)~~		~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~
Knot *Calidris canutus islandica*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Grey plover *Pluvialis squatarola*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Dark-bellied brent goose *Branta bernicla bernicla*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Assemblage		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												
~~Bar-tailed godwit *Limosa lapponica*~~		~~N (b)~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~
Knot *Calidris canutus islandica*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Grey plover *Pluvialis squatarola*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Dark-bellied brent goose *Branta bernicla bernicla*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Assemblage		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

(a) Survey data show little or no evidence of Dengie SPA features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site and, in addition, the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment (see Table 6.1 of offshore screening, document reference 5.3.5.1)..

(b) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at Dengie SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**45**														
Name of European Site:	**Doggerbank SCI**														
Distance to Norfolk Boreeas (km)	**249**														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	**46**														
Name of European Site:	**Doggersbank SCI**														
Distance to Norfolk Boreas (km)	**128**														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	47											
Name of European Site:	Dornoch Firth and Loch Fleet SPA & Ramsar											
Distance to Norfolk Boreas (km)	668											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Osprey *Pandion haliaetus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Bar-tailed godwit *Limosa lapponica*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Greylag goose *Anser anser*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Wigeon *Anas penelope*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Assemblage		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												
Greylag goose *Anser anser*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Assemblage		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

(a) Survey data show little or no evidence of Dornoch Firth & Loch Fleet SPA features occurring in the Norfolk Boreas site and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site and, in addition, the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at Dornoch Firth & Loch Fleet SPA & Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	48														
Name of European Site:	Dornoch Firth and Morrich More SAC														
Distance to Norfolk Boreas (km)	696														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	49														
Name of European Site:	Dråby Vig SAC														
Distance to Norfolk Boreas (km)	572														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	50														
Name of European Site:	Duinen Ameland SAC														
Distance to Norfolk Boreas (km)	174														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	51														
Name of European Site:	Duinen en Lage Land Texel SAC														
Distance to Norfolk Boreas (km)	102														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	**52**														
Name of European Site:	**Duinen Goeree & Kwade Hoek SAC**														
Distance to Norfolk Boreas (km)	**132**														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	53														
Name of European Site:	Duinen Terschelling SAC														
Distance to Norfolk Boreas (km)	144														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	54														
Name of European Site:	Duinen Vlieland SAC														
Distance to Norfolk Boreas (km)	125														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	55														
Name of European Site:	Dünenlandschaft Süd-Sylt SAC														
Distance to Norfolk Boreas (km)	382														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	56														
Name of European Site:	Dunes De La Plaine Maritime Flamande SAC														
Distance to Norfolk Boreas (km)	182														
Marine Mammals															
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Benthic Habitats															

Site	56
Name of European Site:	Dunes De La Plaine Maritime Flamande SAC
Distance to Norfolk Boreas (km)	182

Site Features	Permanent loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminate d sediments			Underwater noise and vibration			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)		N (b)	N (b)		N (b)	N (b)	N (b)	N (b)
Mudflats and sandflats not covered by seawater at low tide	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)		N (b)	N (b)		N (b)	N (b)	N (b)	N (b)

a) The distance between the potential impact range of Norfolk Boreas and the site is beyond that of potential for direct or indirect effects (see Table 3.2 of offshore screening, document reference 5.3.5.1).

b) The distance between the offshore project area and the designated site is beyond the range of any potential LSE (see Table 4.1 of offshore screening, document reference 5.3.5.1).

Site	57														
Name of European Site:	Dunes de l'Authie et Mollières de Berck SAC														
Distance to Norfolk Boreas (km)	261														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	58											
Name of European Site:	East Caithness Cliffs SPA											
Distance to Norfolk Boreas (km)	682											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding seabird assemblage including as named features cormorant, guillemot, herring gull, puffin *Fratercula arctica*, razorbill, shag, fulmar and great black-backed gull		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (c)	N (c)	N (c)
Breeding peregrine *Falco peregrinus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

Site	**58**
Name of European Site:	**East Caithness Cliffs SPA**
Distance to Norfolk Boreas (km)	**682**

(a) East Caithness Cliffs SPA is beyond maximum foraging range of designated seabird species so has no breeding season connectivity. Proportions of these populations migrating through the Norfolk Boreas site are small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1).
(b) Peregrines breeding in the UK normally remain close to their breeding areas throughout the year and are therefore very unlikely to migrate offshore.
(c) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at East Caithness Cliffs SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**59**
Name of European Site:	**Essex Estuaries SAC**
Distance to Norfolk Boreas (km)	**164**

Site Features	Likely effect(s) of Norfolk Boreas																	
	Permanent loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminated sediments			Underwater noise and vibration			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Estuaries	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)		N (a)	N (a)	N (a)	N (a)
Mudflats and sandflats not covered by seawater at low tide	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)		N (a)	N (a)	N (a)	N (a)

(a) The distance between the offshore project area and the designated site is beyond the range of any potential LSE (see Table 4.1 of offshore screening, document reference 5.3.5.1).

Site	**60**														
Name of European Site:	**Estuaire De La Canche, Dunes Picardes Plaquees Sur L'ancienne Falaise, Foret D'hardelot Et Falaise D'equihen SAC**														
Distance to Norfolk Boreas (km)	**215**														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	61														
Name of European Site:	Estuaire de la Seine SCI														
Distance to Norfolk Boreas (km)	393														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	62														
Name of European Site:	Estuaires et littoral picards (baies de Somme et d'Authie) SAC														
Distance to Norfolk Boreas (km)	261														
Marine Mammals															
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)	N (a)	N (a)
Harbour seal	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)	N (a)	N (a)
Fish															

Site	**62**
Name of European Site:	**Estuaires et littoral picards (baies de Somme et d'Authie) SAC**
Distance to Norfolk Boreas (km)	**261**

Site Features	Likely effect(s) of Norfolk Boreas																				
	Permanent habitat loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminated sediments			Underwater noise and vibration			Electromagnetic fields (EMF)			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
River lamprey	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)

a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 and Table 5.1 of offshore screening, document reference 5.3.5.1).

Site	**63**
Name of European Site:	**Exe Estuary SPA & Ramsar**
Distance to Norfolk Boreas (km)	**491**

Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Avocet *Recurvirostra avosetta*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Dark-bellied goose *Branta bernicla bernicla*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)

Site	63											
Name of European Site:	Exe Estuary SPA & Ramsar											
Distance to Norfolk Boreas (km)	491											
Black-tailed godwit *Limosa limosa islandica*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Dunlin *Calidris alpina alpina*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Grey plover *Pluvialis squatarola*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Oystercatcher *Haematopus ostralegus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Slavonian grebe *Podiceps auritus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Assemblage		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												
Dark-bellied goose *Branta bernicla bernicla*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Avocet *Recurvirostra avosetta*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Dunlin *Calidris alpina alpina*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Grey plover *Pluvialis squatarola*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Oystercatcher *Haematopus ostralegus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Slavonian grebe *Podiceps auritus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Ringed plover *Charadrius hiaticula*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Greenshank *Tringa nebularia*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Black-tailed godwit *Limosa limosa islandica*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Assemblage		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

Site	**63**
Name of European Site:	**Exe Estuary SPA & Ramsar**
Distance to Norfolk Boreas (km)	**491**

(a) Survey data show little or no evidence of Exe Estuary SPA features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site and, in addition, the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Exe Estuary SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone, or contribute to a significant effect, or alter the overall in-combination assessment for these features at Exe Estuary SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**64**											
Name of European Site:	**Fair Isle SPA**											
Distance to Norfolk Boreas (km)	**750**											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding seabird assemblage including as named features Arctic skua *Stercorarius parasiticus*, fulmar, gannet, great skua *Stercorarius skua*, puffin, razorbill, Arctic tern, guillemot, kittiwake, shag		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (c)	N (c)	N (c)
Fair Isle wren		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

Site	**64**
Name of European Site:	**Fair Isle SPA**
Distance to Norfolk Boreas (km)	**750**

(a) Fair Isle SPA is beyond maximum foraging range of designated seabird species so has no breeding season connectivity. Proportions of these populations migrating through the Norfolk Boreas site are likely to be very small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1)..
(b) Fair Isle wren is a resident Shetland subspecies that is thought never to leave the island.
(c) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Fair Isle SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**65**
Name of European Site:	**Falaise du Bessin Occidental SPA**
Distance to Norfolk Boreas (km)	**463**

Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding kittiwake, herring gull, lesser black-backed gull, fulmar		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (g)	N (g)	N (g)
Nonbreeding red-throated diver		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (g)	N (g)	N (g)
Nonbreeding cormorant, shag, red-breasted merganser		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (g)	N (g)	N (g)
Nonbreeding guillemot, razorbill		N (d)		N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (g)	N (g)	N (g)
Nonbreeding peregrine, short-eared owl *Asio flammeus*		N (e)		N (e)	N (e)	N (e)	N (e)	N (e)	N (e)	N (g)	N (g)	N (g)
Breeding Dartford warbler *Sylvia undata*		N (f)		N (f)	N (f)	N (f)	N (f)	N (f)	N (f)	N (f)	N (f)	N (f)

(a) Falaise du Bessin Occidental SPA is far beyond maximum foraging range of designated seabird species so has no breeding season connectivity. Proportions of these populations migrating through the Norfolk Boreas site are likely to be extremely small relative to BDMPS, as these species are likely to migrate into the

Site	65											
Name of European Site:	Falaise du Bessin Occidental SPA											
Distance to Norfolk Boreas (km)	463											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D

Atlantic rather than northwards into the North Sea in autumn, and are unlikely to pass through the North Sea in spring (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Nonbreeding red-throated divers at this SPA are likely to include birds from Scandinavia and the UK, especially juveniles which winter further south than adults. Their migrations between breeding grounds and the SPA probably take most individuals along the continental coast of Europe rather than across the North Sea. Small numbers may cross the North Sea towards the UK or Icelandic breeding grounds. However, red-throated divers tend to fly low over the sea so will be at very low risk of collision. Red-throated divers strongly avoid disturbance and offshore wind farms and so may have to fly further by flying around the Norfolk Boreas site rather than through the wind farm. However, in the context of a migration of over 1000km, the extra distance flown to pass an offshore wind farm represents a negligible increase in energy expenditure for the very few individuals that might be affected (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(c) Cormorants, shags and red-breasted mergansers do not normally occur at the Norfolk Boreas site based on bird survey data. Furthermore, these species tend to fly low over the sea and so would be at negligible risk of collision, and do not show displacement or barrier effects. Indeed, cormorants seem to benefit from offshore wind farm structures permitting them to extend foraging range offshore, and the same may be true for shag and red-breasted merganser which may also benefit from foraging opportunities around turbine bases (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(d) Nonbreeding guillemots and razorbills fly low over the sea and so are at very low risk of collision. However, they are partially displaced from offshore wind farms and may fly around rather than through offshore wind farms. A very small proportion of the guillemots and razorbills from this SPA might migrate through the Norfolk Boreas site towards breeding areas further north, but the area of foraging habitat lost to these birds if they avoid the Norfolk Boreas site would be negligible in relation to the wider area of the North Sea and Channel over which they forage, and the increase in migration distance to fly around rather than through the wind farm would be negligible in relation to a migration distance of hundreds of kilometres (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(e) Peregrines in western Europe do not normally migrate, so would be extremely unlikely to move between this SPA and the Norfolk Boreas site. Short-eared owls are more migratory, and sometimes cross the North Sea, but since this SPA is 445km from the Norfolk Boreas site, the chances of a short-eared owl from the SPA passing through the Norfolk Boreas site are extremely small.

(f) Dartford warbler is a resident species that is unlikely to move from this SPA.

(g) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Falaise du Bessin Occidental SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**66**
Name of European Site:	**Falaises du Cran aux Oeufs et du Cap Gris-Nez, Dunes du Chatelet, Marais de Tardinghen et Dunes de Wissant SAC**
Distance to Norfolk Boreas (km)	**199**

Marine Mammals

Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)

Benthic Habitats

Site Features	Permanent loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminate d sediments			Underwater noise and vibration			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)		N (b)	N (b)		N (b)	N (b)	N (b)	N (b)
Mudflats and sandflats not covered by seawater at low tide	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)		N (b)	N (b)		N (b)	N (b)	N (b)	N (b)
Reefs	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)		N (b)	N (b)		N (b)	N (b)	N (b)	N (b)

Site	**66**
Name of European Site:	**Falaises du Cran aux Oeufs et du Cap Gris-Nez, Dunes du Chatelet, Marais de Tardinghen et Dunes de Wissant SAC**
Distance to Norfolk Boreas (km)	**199**
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).	
b) The distance between the offshore project area and the designated site is beyond the range of any potential LSE (see Table 4.1 of offshore screening, document reference 5.3.5.1).	

Site	**67**
Name of European Site:	**Falaises et Pelouses du Cap Blanc Nez, du Mont d'Hubert, des Noires Mottes, du Fond de la Forge et du Mont de couple SAC**
Distance to Norfolk Boreas (km)	**225**

Site Features	Likely effect(s) of Norfolk Boreas																	
	Permanent loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminated sediments			Underwater noise and vibration			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Mudflats and sandflats not covered by seawater at low tide	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)		N (a)	N (a)	N (a)	N (a)
Reefs	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)		N (a)	N (a)	N (a)	N (a)

(a) The distance between the offshore project area and the designated site is beyond the range of any potential LSE (see Table 4.1 of offshore screening, document reference 5.3.5.1).

Site	68														
Name of European Site:	Faray and Holm of Faray SAC														
Distance to Norfolk Boreas (km)	757														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	69											
Name of European Site:	Farne Islands SPA											
Distance to Norfolk Boreas (km)	397											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality		Displacement/Disturbance				Barrier Effect		Cumulative/In-combination			
	C	O	D	C	O	D	C	O	D	C	O	D
Arctic tern *Sterna paradisea*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Common tern *Sterna hirundo*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Sandwich tern *Sterna sandvicensis*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)

(a) Farne Islands SPA is beyond maximum foraging range of these designated seabird species so has no breeding season connectivity. Proportions of these populations migrating through the Norfolk Boreas site are likely to be very small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1).
(b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Farne Islands SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**70**											
Name of European Site:	**Fetlar SPA**											
Distance to Norfolk Boreas (km)	**844**											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding seabird assemblage including as named features Arctic skua, fulmar, great skua, Arctic tern		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (c)	N (c)	N (c)
Whimbrel *Numenius phaeopus*,		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Dunlin *Calidris alpina alpina*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Red-necked phalarope *Phalaropus lobatus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

(a) Fetlar SPA is beyond the maximum foraging range of designated seabird species so has no breeding season connectivity. Proportions of these populations migrating through the Norfolk Boreas site are small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Dunlin, whimbrel and red-necked phalarope have not been observed migrating through the Norfolk Boreas site. Red-necked phalaropes from Fetlar SPA have been tracked by geolocator and migrate from Shetland to the Pacific Ocean via Iceland, Greenland and Canada, and so would not pass near to Norfolk Boreas. Dunlin and whimbrel from Fetlar SPA migrate south, but are unlikely to pass through the Norfolk Boreas site (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(c) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Fetlar SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	71											
Name of European Site:	Firth of Forth SPA & Ramsar											
Distance to Norfolk Boreas (km)	468											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Sandwich tern *Sterna sandvicensis*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Bar-tailed godwit *Limosa lapponica lapponica*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Golden plover *Pluvialis apricaria*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Red-throated diver *Gavia stellata*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Slavonian grebe *Podiceps auratus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Knot *Calidris canutus islandica*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Pink-footed goose *Anser brachyrhynchus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Shelduck *Tadorna tadorna*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Redshank *Tringa tetanus tetanus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Turnstone *Arenaria interpres*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Assemblage		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												
Bar-tailed godwit *Limosa lapponica lapponica*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Slavonian grebe *Podiceps auratus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

Knot *Calidris canutus islandica*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Pink-footed goose *Anser brachyrhynchus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Shelduck *Tadorna tadorna*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Redshank *Tringa tetanus tetanus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Turnstone *Arenaria interpres*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Goldeneye *Bucephala clangula*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Goosander *Mergus merganser merganser*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Common tern *Sterna hirundo*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

(a) Migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site during migration. Therefore, proportions of these populations migrating through the Norfolk Boreas site are likely to be extremely small relative to BDMPS and, in addition, the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Firth of Forth SPA & Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at Firth of Forth SPA & Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1). .

Site	72											
Name of European Site:	Firth of Tay & Eden Estuary SPA & Ramsar											
Distance to Norfolk Boreas (km)	506											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Little tern *Sterna albifrons*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Marsh harrier *Circus aeruginosus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Bar-tailed godwit *Limosa lapponica*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Greylag goose *Anser anser*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Pink-footed goose *Anser brachyrhnchus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Redshank *Tringa totanus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Assemblage		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												
Bar-tailed godwit *Limosa lapponica*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
Greylag goose *Anser anser*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
Pink-footed goose *Anser brachyrhnchus*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
Redshank *Tringa totanus*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
Goosander *Mergus merganser merganser*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
Assemblage		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)

(a) Survey data show little or no evidence of Firth of Tay & Eden Estuary SPA features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Marsh harrier is a migrant species. Satellite tracking suggests that marsh harriers from Scotland migrate overland to the south coast of England and over the Channel to France, rather than across the North Sea, and so are unlikely to pass through the Norfolk Boreas site (Wright et al. 2012).
(c) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at Firth of Tay and Eden SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**73**														
Name of European Site:	**Firth of Tay & Eden Estuary SAC**														
Distance to Norfolk Boreas (km)	**487**														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)	N (a)	N (a)

(a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).

Site	74											
Name of European Site:	Flamborough and Filey Coast SPA											
Distance to Norfolk Boreas (km)	216											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding kittiwake		**Y (a)**		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (c)	**Y (a)**	N (c)
Breeding gannet		**Y (a)**		N (d)	**Y (d)**	N (d)	N (e)	N (e)	N (e)	N (c)	**Y (a)**	N (c)
Breeding common guillemot		N (f)		N (g)	**Y (h)**	N (g)	N (g)	N (i)	N (g)	N (c)	**Y (h)**	N (c)
Breeding razorbill		N (f)		N (g)	**Y (h)**	N (g)	N (g)	N (i)	N (g)	N (c)	**Y (h)**	N (c)
~~Breeding puffin~~		~~N (f)~~		~~N (g)~~	~~**Y (h)**~~	~~N (g)~~	~~N (g)~~	~~N (i)~~	~~N (g)~~	~~N (c)~~	~~**Y (h)**~~	~~N (c)~~
Seabird assemblage, including the above species which are also individual features plus herring gull, fulmar, puffin, shag and cormorant.		**Y (j)**		N (k)	**Y (j)**	N (k)	N (k)	N (k)	N (k)	N (k)	**Y (l)**	N (k)

(a) Band model estimates of collision mortality indicate that LSE cannot be ruled out at the Screening stage consideration (Norfolk Boreas Appendix 13. Annex 4).
(b) Kittiwakes are not considered to be at risk of disturbance and displacement or barrier effects at offshore wind farms therefore LSE can be ruled out out (see Table 6.1 of offshore screening, document reference 5.3.5.1).
(c) The predicted effect attributable to the proposed Norfolk Boreas project is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Flamborough and Filey Coast SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).
(d) Flamborough and Filey Coast SPA is 216km from Norfolk Boreas. Thaxter et al. (2012) report a mean foraging range of breeding gannets as 92.5km, and a maximum recorded distance of 590km. Norfolk Boreas is therefore considerably beyond the mean foraging range of breeding gannets, but within their maximum range. Breeding gannets from Flamborough & Filey Coast SPA may therefore be affected by displacement. Searle et al. (2014) found that even for offshore wind farms considerably closer to a gannet breeding colony than under consideration here, impacts of displacement were negligible for this species because of its very long foraging range and large area used for foraging. Similarly, impacts of displacement during migration are considered likely to be negligible. Nonetheless, Natural England consider that an LSE cannot be ruled out at the Screening stage.
(e) Gannets are not considered at risk of barrier effects due to their wide ranging habits (see (d)), and migrating gannets cover very large distances, extending from the North Sea to West Africa, so that slight local effects would be negligible in the context of their large migrations and area use, therefore LSE can be ruled out (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	74
Name of European Site:	Flamborough and Filey Coast SPA
Distance to Norfolk Boreas (km)	216

(f) Common guillemots, razorbills and puffins tend to fly low over the sea so have a very low risk of collision mortality, therefore LSE can be ruled out (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(g) Construction and decommissioning impacts are temporary and localised therefore LSE can be ruled out (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(h) Flamborough and Filey Coast SPA is 216km from Norfolk Boreas. Thaxter et al. (2012) report a mean foraging range of breeding common guillemots as 37.8km, and a maximum recorded distance of 135km. Thaxter et al. (2012) report a mean foraging range of breeding razorbills as 23.7km, and a maximum recorded distance of 95km. ~~Thaxter et al. (2012) report a mean foraging range of breeding puffin as 4km, and a maximum recorded distance of 200km.~~ Norfolk Boreas is therefore considerably beyond the normal foraging range of these species from Flamborough and Filey Coast SPA. It is therefore unlikely that any breeding adults from Flamborough and Filey Coast SPA will be present at Norfolk Boreas during the breeding season. During the nonbreeding season, birds from Flamborough and Filey Coast SPA are likely to be mixed with the large BDMPS populations of these species so that apportioning of the impact of the low level of displacement mortality generates a negligible impact to Flamborough and Filey Coast SPA. Nonetheless, Natural England consider that an LSE cannot be ruled out at the Screening stage.

(i) Since Norfolk Boreas is beyond the normal foraging range of breeding common guillemots and~~,~~ razorbills ~~and puffins~~ from Flamborough and Filey Coast SPA, there will be no breeding season barrier impact for those populations. During the nonbreeding period birds from Flamborough and Filey Coast SPA are likely to be mixed with the large BDMPS populations of these species so that apportioning of the impact of the low level of barrier effect to this very large BDMPS population apportions a negligible impact to Flamborough and Filey Coast SPA.

(j) Natural England advised that an LSE for the seabird assemblage feature of the Flamborough and Filey Coast SPA cannot be ruled out for the project alone. However, it should be noted that the individual features of the assemblage for which LSE could not be ruled out (gannet, kittiwake, guillemot and razorbill) have already been screened in for assessment individually, and the remaining species (fulmar, herring gull, puffin, shag and cormorant) were screened out on the basis that there is either virtually no likelihood of connectivity (e.g. shag and cormorant are coastal and herring gull foraging range does not extend as far as Norfolk Boreas, Thaxter et al. 2012), ~~on~~or site abundance was extremely low (e.g. puffin, with an apportioned SPA population of <0.1 individuals) or species are not considered at risk of wind farm impacts (e.g. fulmar).

(k) As for the individual species listed above, the component species of the seabird assemblage are not at risk of these impacts.

~~(i)~~(l) Natural England advised that an LSE for the seabird assemblage feature of the Flamborough and Filey Coast SPA cannot be ruled out for the project in-combination with other wind farms. However, it should be noted that the individual features of the assemblage for which LSE could not be ruled out (gannet, kittiwake, guillemot and razorbill) have already been screened in for assessment individually, and the remaining species (fulmar, herring gull, puffin, shag and cormorant) were screened out on the basis that there is either virtually no likelihood of connectivity (e.g. shag and cormorant are coastal and herring gull foraging range does not extend as far as Norfolk Boreas, Thaxter et al. 2012), ~~on~~or site abundance was extremely low (e.g. puffin, with an apportioned SPA population of <0.1 individuals) or species are not considered at risk of wind farm impacts (e.g. fulmar).

Site	**75**
Name of European Site:	**Flamborough Head SAC**
Distance to Norfolk Boreas (km)	**213**

Site Features	Likely effect(s) of Norfolk Boreas																	
	Permanent loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminated sediments			Underwater noise and vibration			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Submerged or partially submerged sea caves	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)		N (a)	N (a)	N (a)	N (a)

(a) The distance between the offshore project area and the designated site is beyond the range of any potential LSE (see Table 4.1 of offshore screening, document reference 5.3.5.1).

Site	**76**
Name of European Site:	**Forth Islands SPA**
Distance to Norfolk Boreas (km)	**476**

Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Arctic tern *sterna paradisea*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Common tern *Sterna hirundo*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)

Site	76											
Name of European Site:	Forth Islands SPA											
Distance to Norfolk Boreas (km)	476											
Sandwich tern *Sterna sandvicensis*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Roseate tern *Sterna dougallii*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Gannet *Morus bassanus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Lesser black-backed gull *Larus fuscus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Puffin *Fratercula arctica*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Shag *Phalacrocorax aristotelis*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Assemblage		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)

(a) Forth Islands SPA is beyond maximum foraging range of designated seabird species so has no breeding season connectivity. Proportions of these populations migrating through the Norfolk Boreas site are small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Forth Islands SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	77											
Name of European Site:	Foula SPA											
Distance to Norfolk Boreas (km)	822											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding seabird assemblage including as named features Arctic tern, fulmar, guillemot, razorbill, red-throated diver, Arctic skua, kittiwake, shag, Leach's storm-petrel *Oceanodroma leucorhoa*, great skua, puffin		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
(a) Foula SPA is beyond maximum foraging range of designated seabird species so has no breeding season connectivity. Proportions of these populations migrating through the Norfolk Boreas site are small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1). (b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Foula SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).												

Site	78											
Name of European Site:	Foulness (Mid-Essex Coast Phase 5) SPA and Ramsar											
Distance to Norfolk Boreas (km)	186											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Avocet *Recurvirostra avosetta*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)

Site	78											
Name of European Site:	Foulness (Mid-Essex Coast Phase 5) SPA and Ramsar											
Distance to Norfolk Boreas (km)	186											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Common tern *Sterno hirundo*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Little tern *Sterno albifrons*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Sandwich tern *Sterno sandvicensis*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Bar-tailed godwit *Limosa lapponica*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
~~Golden~~ Ringed plover ~~*Pluvialis apricaria*~~*Charadrius hiaticula*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Hen harrier *Circus cyaneus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Redshank *Tringa tetanus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Dark-bellied brent goose *Branta bernicla bernicla*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Grey plover *Pluvialis squatarola*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Knot *Calidris canutus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Oystercatcher *Haematopus ostralegus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Assemblage		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												
Bar-tailed godwit *Limosa lapponica*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Redshank *Tringa tetanus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

Site	78											
Name of European Site:	Foulness (Mid-Essex Coast Phase 5) SPA and Ramsar											
Distance to Norfolk Boreas (km)	186											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Dark-bellied brent goose *Branta bernicla bernicla*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Grey plover *Pluvialis squatarola*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Knot *Calidris canutus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Oystercatcher *Haematopus ostralegus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Avocet *Recurvirostra avosetta*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Black-tailed godwit *Limosa limosa*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Curlew *Numenius arquata*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Dunlin *Calidris alpina*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Golden plover *Pluvialis apricaria*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Greenshank *Tringa nebularia*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Hen harrier *Circus cyaneus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Little grebe *Tachybaptus ruficollis*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Shelduck *Tadorna tadorna*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Spotted redshank *Tringa erythropus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Assemblage		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

Site	78											
Name of European Site:	Foulness (Mid-Essex Coast Phase 5) SPA and Ramsar											
Distance to Norfolk Boreas (km)	186											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D

(a) Survey data show little or no evidence of Foulness SPA features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site during migration and, in addition, the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Foulness SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at Foulness SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	79											
Name of European Site:	Fowlsheugh SPA											
Distance to Norfolk Boreas (km)	524											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding seabird assemblage including as named features fulmar, guillemot, kittiwake, razorbill, herring gull		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)

(a) Fowlsheugh SPA is beyond maximum foraging range of designated seabird species so has no breeding season connectivity. Proportions of these populations migrating through the Norfolk Boreas site are likely to be very small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1).
(b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Fowlsheugh SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	80											
Name of European Site:	Frisian Front pSPA											
Distance to Norfolk Boreas (km)	ca. 100km*											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Nonbreeding common guillemot, great skua, great black-backed gull, lesser black-backed gull		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)

Site	**80**
Name of European Site:	**Frisian Front pSPA**
Distance to Norfolk Boreas (km)	**ca. 100km***

*Distance from the Norfolk Boreas site is uncertain as the boundaries of the pSPA are under consultation at present.

(a) Migrations of birds from this pSPA are likely to result in negligible numbers passing through the Norfolk Boreas site during migration relative to the size of BDMPS regional populations (see Table 6.1 of offshore screening, document reference 5.3.5.1) .

(b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Frisian Front pSPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**81**											
Name of European Site:	**Gibraltar Point SPA and Ramsar**											
Distance to Norfolk Boreas (km)	**161**											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Little tern *Sterna albifrons*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Bar-tailed godwit *Limosa lapponica*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Grey plover *Pluvialis squatarola*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
~~Knot *Calidris canutus*~~		~~N (a)~~		~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~
Sanderling *Calidris alba*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Assemblage		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												
Bar-tailed godwit *Limosa lapponica*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

Site	**81**											
Name of European Site:	**Gibraltar Point SPA and Ramsar**											
Distance to Norfolk Boreas (km)	**161**											
Grey plover *Pluvialis squatarola*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Sanderling ~~Knot~~ *Calidris alba* ~~*canutus*~~		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Dark-bellied brent goose *Branta bernicla bernicla*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Little tern *Sterna albifrons*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

(a) Survey data show no evidence of Gibraltar Point SPA features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site during this period and, in addition, the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Gibraltar Point SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at Gibraltar Point SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**82**											
Name of European Site:	**Great Yarmouth and North Denes SPA**											
Distance to Norfolk Boreas (km)	**73**											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding little tern		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)

(a) Great Yarmouth & North Denes SPA is beyond the maximum foraging range of little tern (11km) and foraging tends to be coastal so has no breeding season connectivity. Proportions of this population migrating through the Norfolk Boreas site are likely to be small as the species is thought to remain close to shore during much of its migration through UK waters (see Table 6.1 of offshore screening, document reference 5.3.5.1).
(b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Great Yarmouth & North Denes SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**83**											
Name of European Site:	**Greater Wash SPA**											
Distance to Norfolk Boreas (km)	**ca. 59km***											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Little tern *Sterna albifrons*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Common tern *Sterna hirundo*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Sandwich tern *Stena sandvicensis*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Nonbreeding red-throated diver		N (b)		**Y (c)**	**Y (i)**	N (d)	N (b)	N (b)	N (b)	**Y (c)**	**Y (i)**	N (h)
Nonbreeding little gull		**Y (e)**		N (f)	N (f)	N (f)	N (f)	N (f)	N (f)	N (h)	**Y (e)**	N (h)
Nonbreeding common scoter		N (g)		**Y (i)**	N (g)	N (g)	N (g)	N (g)	N (g)	**Y (j)**	N (h)	N (h)

*Note that this distance refers to the Norfolk Boreas site. The export cable will pass through the SPA.
(a) Little tern, common tern and Sandwich tern have maximum foraging ranges from colonies of 11km, 30km and 54km respectively, which suggests potential connectivity between the SPA and the Norfolk Boreas site. However, the tern colonies are at locations along the Norfolk coast which are beyond these foraging distances from the Norfolk Boreas site. Therefore, connectivity between the SPA and Norfolk Boreas site is ruled out on the basis of distance. Furthermore, these species tend to forage in coastal waters rather than offshore. Hence, collision risk, displacement and barrier effects can be excluded (see Table 6.1 of offshore screening, document reference 5.3.5.1).
(b) Red-throated divers fly close to the sea surface and are therefore at extremely low risk of collisions or barrier effects (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**83**
Name of European Site:	**Greater Wash SPA**
Distance to Norfolk Boreas (km)	**ca. 59km***

(c) LSE cannot be ruled out at screening for impacts of Displacement/Disturbance to nonbreeding red-throated divers as a result of construction work (specifically for export cable laying operations through part of the Greater Wash SPA).

(d) Displacement/Disturbance of red-throated diver during operation and decommissioning is considered negligible as the increase in vessel traffic within the SPA due to Norfolk Boreas will be negligible compared to the current baseline (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(e) There is potential for little gull connectivity between the SPA and the Norfolk Boreas site, therefore LSE cannot be ruled out at screening for collision risk impacts to nonbreeding little gull consideration (Norfolk Boreas Appendix 13. Annex 4).

(f) Displacement of little gulls by offshore wind farms appears to be negligible**, indicating no LSE for this SPA feature as a consequence of displacement or barrier effects.

(g) Surveys found no common scoters in the Norfolk Boreas site since this species favours waters <20m in depth. Common scoter was also only present at very low densities along the export cable route, therefore no LSE for this SPA feature is predicted (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(h) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Greater Wash SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(i) Following advice from Natural England it is considered that Operations and Maintenance vessels may disturb red-throated divers whilst transiting through the SPA therefore an LSE cannot be screened out.

(j) Natural England advised that LSE could not be ruled out for displacement of common scoter due to cable installation through the SPA.

** Dierschke, V., Furness, R.W. and Garthe, S. 2016. Seabirds and offshore wind farms in European waters: Avoidance and attraction. Biological Conservation 202, 59-68.

Site	**84**														
Name of European Site:	**Grevelingen SAC**														
Distance to Norfolk Boreas (km)	**132**														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	**85**														
Name of European Site:	**Gule Rev SCI**														
Distance to Norfolk Boreas (km)	**541**														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)

Site	**85**
Name of European Site:	**Gule Rev SCI**
Distance to Norfolk Boreas (km)	**541**
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).	

Site	**86**														
Name of European Site:	**Gullmarsfjorden SAC**														
Distance to Norfolk Boreas (km)	**769**														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	**87**
Name of European Site:	**Haisborough, Hammond and Winterton SAC**
Distance to Norfolk Boreas (km)	**0**

Site Features	Likely effect(s) of Norfolk Boreas														
	Temporary physical disturbance			Permanent Habitat loss			Introduction of new substrate			Increased suspended sediment and smothering			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	**Y (a)**	**Y (a)**	**Y (a)**	N (b)	**Y (a)**	N (b)	N (b)	**Y (a)**	N (b)				**Y (a)**	**Y (a)**	**Y (a)**
Reefs	**Y (a)**	**Y (a)**	**Y (a)**	N (b)	**Y (c)**	N (b)	N (b)	**Y (a)**	N (b)	**Y (a)**		**Y (a)**	**Y (a)**	**Y (a)**	**Y (a)**

(a) Site overlaps with the Norfolk Boreas offshore cable corridor and therefore LSE cannot be ruled out at the screening stage (see Table 4.1 of Offshore HRA Screening (document reference 5.3.5.1) and potential effects have been assessed in sections 7.4.1 (sandbanks) and section 7.4.2 (reefs) of the Information to Support HRA Report, document reference 5.3.

(b) Any permanent habits loss is considered as part of the operational phase of the development and therefore have been screened out for the construction or decommissioning phases (section 7.3.3 Worst case scenario of the Information to Support HRA Report, document reference 5.3).

(c) The Applicant's position is that permanent habitat loss for *Sabellaria spinulosa* reef should be screened out because if cable protection is required there is evidence to suggest that it could be colonised by *Sabellaria spinulosa* reef therefore the installation of cable protection would not represent a loss of habitat. Furthermore, it Annex I reef will be avoided by micro siting any permanent seabed infrastructure such as cable protection and cable crossings to avoid reef features. Therefore, the Information to support HRA report (document reference 5.3) does not assess impacts of habitat loss on *Sabellaria Spinulosa* reef. Natural England disputes this position and therefore impacts of habitat loss have been screened in here (see Table 3.1 of the Haisborough Hammond and Winterton SAC ~~site integrity plan~~control document, document reference 8.20).

Site	88														
Name of European Site:	Hallands Väderö SAC														
Distance to Norfolk Boreas (km)	885														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	89														
Name of European Site:	Hamburgisches Wattenmeer SCI														
Distance to Norfolk Boreas (km)	350														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)

Site	**89**
Name of European Site:	**Hamburgisches Wattenmeer SCI**
Distance to Norfolk Boreas (km)	**350**
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).	

Site	**90**											
Name of European Site:	**Hamford Water SPA and Ramsar**											
Distance to Norfolk Boreas (km)	**146**											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Little tern *Sterna albifrons*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Avocet *Curvirostra avosetta*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
~~Golden plover~~Shelduck *Tadorna tadorna* ~~*Pluvialis apricaria*~~		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
~~Ruff *Philomachus pugnax*~~		~~N (a)~~		~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~
Ringed plover *Charadrius hiaticula*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Black-tailed godwit *Limosa limosa islandica*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Dark-bellied brent goose *Brenta bernicla bernicla*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)

Site	**90**											
Name of European Site:	**Hamford Water SPA and Ramsar**											
Distance to Norfolk Boreas (km)	**146**											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Grey plover *Pluvialis squatarola*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Teal *Anas crecca*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Redshank *Tringa totanus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Assemblage		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												
Ringed plover *Charadrius hiaticula*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Little tern *Sterna albifrons*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Avocet *Curvirostra avosetta*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Redshank *Tringa totanus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Black-tailed godwit *Limosa limosa islandica*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Dark-bellied brent goose *Brenta bernicla bernicla*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Grey plover *Pluvialis squatarola*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

Site	90											
Name of European Site:	Hamford Water SPA and Ramsar											
Distance to Norfolk Boreas (km)	146											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D

(a) Survey data show little or no evidence of Hamford Water SPA features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site during migration and, in addition, the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Foulness SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at Hamford Water SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	91														
Name of European Site:	Havet og kysten mellem Præstø Fjord og Grønsund SAC														
Distance to Norfolk Boreas (km)	1,036														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)

a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).

Site	**92**														
Name of European Site:	**Havet omkring Nordre Rønner SAC**														
Distance to Norfolk Boreas (km)	**739**														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	**93**														
Name of European Site:	**Helgoland mit Helgolander Felssockel SAC**														
Distance to Norfolk Boreas (km)	**330**														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D

Site	93														
Name of European Site:	Helgoland mit Helgolander Felssockel SAC														
Distance to Norfolk Boreas (km)	330														
Harbour porpoise	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	94											
Name of European Site:	Hermaness, Saxa Vord and Valla Field SPA											
Distance to Norfolk Boreas (km)	886											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding seabird assemblage including as named features gannet, guillemot, red-throated diver, puffin, fulmar, kittiwake, great skua, shag		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)

(a) Hermaness, Saxa Vord & Valla Field SPA is beyond the maximum foraging range of designated seabird species so has no breeding season connectivity. Proportions of these populations migrating through the Norfolk Boreas site are likely to be very small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1).
(b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Hermaness, Saxa Vord & Valla Field SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**95**														
Name of European Site:	**Hesselø med omliggende stenrev SAC**														
Distance to Norfolk Boreas (km)	**878**														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	**96**
Name of European Site:	**Hirsholmene, havet vest herfor og Ellinge Å's udløb SAC**
Distance to Norfolk Boreas (km)	**719**
Site Features	Likely effect(s) of Norfolk Boreas

Site	96														
Name of European Site:	Hirsholmene, havet vest herfor og Ellinge Å's udløb SAC														
Distance to Norfolk Boreas (km)	719														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	97											
Name of European Site:	Hornsea Mere SPA											
Distance to Norfolk Boreas (km)	215											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Gadwall *Anas strepera*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)

Nonbreeding gadwall, Mute swan *Cygnus olor*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)

(a) Survey data show no evidence of Hornsea Mere SPA features (gadwall, mute swan) occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site (see Table 6.1 of offshore screening, document reference 5.3.5.1).
(b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Hornsea Mere SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**98**											
Name of European Site:	**Hoy SPA**											
Distance to Norfolk Boreas (km)	**728**											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding seabird assemblage including as named features Arctic skua, great black-backed gull, guillemot, kittiwake, red-throated diver, fulmar, puffin, great skua		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (c)	N (c)	N (c)
Breeding peregrine		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

(a) Hoy SPA is beyond maximum foraging range of designated seabird species so has no breeding season connectivity. Proportions of these populations migrating through the Norfolk Boreas site are small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1).
(b) Peregrines breeding in the UK normally remain close to their breeding areas throughout the year, and are very unlikely to migrate offshore in the UK.
(c) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Hoy SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**99**
Name of European Site:	**Humber Estuary SAC**
Distance to Norfolk Boreas (km)	**112**

Marine Mammals

Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions and disturbance at seal haul outs			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	**Y (a)**	**Y (a)**	**Y (a)**	**Y (c)**	**Y (c)**	**Y (c)**	**Y (a)**	**Y (a)**	**Y (a)**	**Y (a)**		**Y (a)**	**Y (a)**	**Y (a)**	**Y (a)**

Site	**99**
Name of European Site:	**Humber Estuary SAC**
Distance to Norfolk Boreas (km)	**112**

Fish

Site Features	Likely effect(s) of Norfolk Boreas																				
	Permanent habitat loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminated sediments			Underwater noise and vibration			Electromagnetic fields (EMF)			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Sea Lamprey	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)
River lamprey	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)

Benthic habitats

Site Features	Permanent loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminate d sediments			Underwater noise and vibration			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Estuaries	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)
Mudflats and sandflats not covered by seawater at low tide	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)

Site	99																
Name of European Site:	Humber Estuary SAC																
Distance to Norfolk Boreas (km)	112																
Sandbanks which are slightly covered by sea water all the time	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)
Coastal lagoons	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)

a) Potential effects from underwater noise; vessel interactions; changes to water quality; changes to prey resources; and disturbance at seal haul-out sites cannot be ruled out and have been assessed in section 8.3.3 of the Information to Support Habitats Regulations Assessment Report, document reference 5.3).

b) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 5.1 of offshore screening, document reference 5.3.5.1).

c) Potential for vessel interactions and disturbance at seal haul-out sites if a port to the north of the offshore project area is selected and therefore LSE cannot be ruled out at the screening stage and have been assessed in section 8.3.3 of the Information to Support Habitats Regulations Assessment Report, document reference 5.3.

d) The distance between the offshore project area and the designated site is beyond the range of any potential LSE (see Table 4.1 of offshore screening, document reference 5.3.5.1).

Site	100										
Name of European Site:	Humber Estuary SPA and Ramsar										
Distance to Norfolk Boreas (km)	190										
Site Features	Likely effect(s) of Norfolk Boreas										
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Avocet Recurvirostra *avosetta*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Bar-tailed godwit *Limosa lapponica*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Bittern *Botaurus stellaris*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Black-tailed godwit *Limosa limosa islandica*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Dunlin *Calidris alpine alpine*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Golden plover *Pluvialis apricaria*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Hen harrier *Circus cyaneus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Knot *Calidris canutus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Little tern *Sterna albifrons*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Marsh harrier *Circus aeruginosus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Redshank *Tringa totanus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ruff *Calidris pugnax*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Shelduck *Tadorna tadorna*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Assemblage		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												

Site	100											
Name of European Site:	Humber Estuary SPA and Ramsar											
Distance to Norfolk Boreas (km)	190											
Bar-tailed godwit *Limosa lapponica*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Black-tailed godwit *Limosa limosa islandica*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Dunlin *Calidris alpine alpine*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Golden plover *Pluvialis apricaria*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Knot *Calidris canutus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Redshank *Tringa totanus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Shelduck *Tadorna tadorna*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Assemblage		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

(a) Survey data show little or no evidence of Humber Estuary SPA features occurring in the Norfolk Boreas sites, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site during migration and, in addition, the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Humber Estuary SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at Humber Estuary SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	101														
Name of European Site:	Hund und Paapsand SCI														
Distance to Norfolk Boreas (km)	255														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	102											
Name of European Site:	Imperial Dock Lock, Leith SPA											
Distance to Norfolk Boreas (km)	498											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding common tern		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
(a) Imperial Dock Lock SPA is beyond the maximum foraging range of common tern (30km) so has no breeding season connectivity. The proportion of the population migrating through the Norfolk Boreas site is likely to be extremely small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1). (b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Imperial Dock Lock SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).												

Site	103																	
Name of European Site:	Inner Dowsing, Race Bank and North Ridge SCI																	
Distance to Norfolk Boreas (km)	44																	
Site Features	Likely effect(s) of Norfolk Boreas																	
	Permanent loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminated sediments			Underwater noise and vibration			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)		N (a)	N (a)	N (a)	N (a)
Reefs	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)		N (a)	N (a)	N (a)	N (a)
(a) The distance between the offshore project area and the designated site is beyond the range of any potential LSE (see paragraph see paragraph 135 of offshore screening, document reference 5.3.5.1).																		

Site	104			
Name of European Site:	Inner Moray Firth SPA & Ramsar			
Distance to Norfolk Boreas (km)	652			
Site Features	Likely effect(s) of Norfolk Boreas			
	Collision mortality	Displacement/Disturbance	Barrier Effect	Cumulative/In-combination

Site	104											
Name of European Site:	Inner Moray Firth SPA & Ramsar											
Distance to Norfolk Boreas (km)	652											
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Common tern *Sterna hirundo*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Osprey *Pandion haliaetus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Bar-tailed godwit *Limosa lapponica*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Greylag goose *Anser anser*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Red-breasted merganser *Mergus serrator*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Redshank *Tringa totanus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Scaup *Aytha marila*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Assemblage		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												
Bar-tailed godwit *Limosa lapponica*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Greylag goose *Anser anser*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Red-breasted merganser *Mergus serrator*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Redshank *Tringa totanus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Assemblage		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

Site	**104**
Name of European Site:	**Inner Moray Firth SPA & Ramsar**
Distance to Norfolk Boreas (km)	**652**

(a) Survey data show little or no evidence of Inner Moray Firth SPA features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site during migration and, in addition, the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Inner Moray Firth SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at Inner Moray Firth SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site Name of European Site: Distance to Norfolk Boreas (km)	105 Isle of May SAC 460														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site Name of European Site: Distance to Norfolk Boreas (km)	106 Klaverbank SAC 67														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)

Site	106														
Name of European Site:	Klaverbank SAC														
Distance to Norfolk Boreas (km)	67														
Grey seal	**Y(b)**	**Y(b)**	**Y(b)**	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	**Y(b)**	**Y(b)**	**Y(b)**	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)

a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE.

b) Screened in for grey and harbour seal as the site is within the identified foraging range for both species. The potential for disturbance to foraging seals as a result of underwater noise cannot be ruled out and has been assessed in section 8.3.5 of the Information to Support HRA Report, document reference 5.3).

Site	107														
Name of European Site:	Kosterfjorden-Väderöfjorden SAC														
Distance to Norfolk Boreas (km)	781														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)

a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).

Site	108														
Name of European Site:	Kungsbackafjorden SAC														
Distance to Norfolk Boreas (km)	831														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	109														
Name of European Site:	Küsten- und Dünenlandschaften Amrums SAC														
Distance to Norfolk Boreas (km)	380														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	110											
Name of European Site:	Lindisfarne SPA and Ramsar											
Distance to Norfolk Boreas (km)	403											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Bar-tailed godwit *Limosa lapponica*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Golden plover *Pluvialis apricaria*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ringed plover *Chardrius hiaticula*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Grey plover *Pluvialis squatarola*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Whooper swan *Cygnus cygnus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Knot *Calidris canutus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Greylag goose *Anser anser*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Light-bellied brent goose *Branta bernicla hrota*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Wigeon *Anas penelope*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Assemblage		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												
Bar-tailed godwit *Limosa lapponica*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Ringed plover *Chardrius hiaticula*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

Site	110											
Name of European Site:	Lindisfarne SPA and Ramsar											
Distance to Norfolk Boreas (km)	403											
Greylag goose *Anser anser*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Light-bellied brent goose *Branta bernicla hrota*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Wigeon *Anas penelope*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Redshank *Tringa totanus totanus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Pink-footed goose *Anser brachyrhnychus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Assemblage		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

(a) Survey data show little or no evidence of Lindisfarne SPA features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site during migration and, in addition, the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Lindisfarne SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at Lindisfarne SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	111											
Name of European Site:	Littoral Seino-Marin SPA											
Distance to Norfolk Boreas (km)	329											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Fulmar *Fulmarus glacialis*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (f)	N (f)	N (f)

Site	111										
Name of European Site:	Littoral Seino-Marin SPA										
Distance to Norfolk Boreas (km)	329										
Shag *Phalacrocorax aristotelis*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (f)	N (f)	N (f)
Gannet *Morus bassanus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (f)	N (f)	N (f)
Herring gull *Larus argentatus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (f)	N (f)	N (f)
Great black-backed gull *Larus marinus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (f)	N (f)	N (f)
Kittiwake *Rissa tridactyla*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (f)	N (f)	N (f)
Nonbreeding winter and passage seabird assemblage including as named features red-throated diver, black-throated diver, great crested grebe, fulmar, gannet, cormorant, shag, pomarine skua *Stercorarius pomarinus*, great skua, Mediterranean gull *Larus melanocephalus*, little gull, lesser black-backed gull, herring gull, great black-backed gull, kittiwake, Sandwich tern, common tern, guillemot, razorbill		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (f)	N (f)	N (f)
Little egret *Egretta garzetta*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
Spoonbill *Platalea leucorodia*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
honey buzzard *Pernis apivorus*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
Hen harrier *Circus cyaneus*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
merlin *Falco columbarius*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
Avocet *Recurvirostra avosetta*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)
Peregrine *Falco peregrinus*		N (d)		N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)

Site	111											
Name of European Site:	Littoral Seino-Marin SPA											
Distance to Norfolk Boreas (km)	329											
Woodlark *Lullula arborea*		N (e)		N (e)	N (e)	N (e)	N (e)	N (e)	N (e)	N (e)	N (e)	N (e)

(a) The Norfolk Boreas site is within the theoretical maximum foraging range of breeding gannets from the Littoral Seino-Marin SPA, but tracking data show that breeding gannets from the SPA do not reach the Norfolk Boreas site. The SPA is far beyond maximum foraging range of other designated seabird species so has no breeding season connectivity. Proportions of these populations migrating through the Norfolk Boreas site are likely to be extremely small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1).
(b) Proportions of these populations migrating through the Norfolk Boreas site are likely to be extremely small relative to BDMPS, not only because the SPA is 315km from the Norfolk Boreas site, but also because birds on the continental side of the Channel and North Sea are likely to tend to migrate up the continental coast rather than crossing the North Sea to the UK (see Table 6.1 of offshore screening, document reference 5.3.5.1).
(c) None of these species has been recorded during bird surveys at the Norfolk Boreas site. It is unlikely that birds from the SPA will migrate through the Norfolk Boreas site, as these species are generally scarce migrants in the UK, and their migrations tend to be coastal rather than over open sea (see Table 6.1 of offshore screening, document reference 5.3.5.1).
(d) Breeding peregrines in western Europe tend to remain close to their breeding site throughout the year so it is extremely unlikely that any from the SPA would reach Norfolk Boreas site.
(e) Woodlark is a very scarce migrant to the UK, so it is very unlikely that individuals from the SPA would reach the Norfolk Boreas site.
(f) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Littoral Seino-Marin SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	112											
Name of European Site:	Loch of Strathbeg SPA & Ramsar											
Distance to Norfolk Boreas (km)	576											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Sandwich tern *Sterna sandvicensis*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)

Site	112											
Name of European Site:	Loch of Strathbeg SPA & Ramsar											
Distance to Norfolk Boreas (km)	576											
Barnacle goose *Branta leucopsis*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Whooper swan *Cygnus Cygnus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Greylag goose *Anser anser*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Pink-footed goose *Anser brachyrhynchus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Assemblage		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												
Barnacle goose *Branta leucopsis*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Whooper swan *Cygnus Cygnus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Greylag goose *Anser anser*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Pink-footed goose *Anser brachyrhynchus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Assemblage		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

(a) Survey data show little or no evidence of Loch of Strathbeg SPA features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site during migration and, in addition, the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Loch of Strathbeg SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at Loch of Strathbeg SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**113**														
Name of European Site:	**Løgstør Bredning, Vejlerne og Bulbjerg SAC**														
Distance to Norfolk Boreas (km)	**582**														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	114														
Name of European Site:	Lovns Bredning, Hjarbæk Fjord og Skals, Simested og Nørre Ådal, Skravad Bæk SAC														
Distance to Norfolk Boreas (km)	610														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	115														
Name of European Site:	Malmöfjord SAC														
Distance to Norfolk Boreas (km)	764														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	116														
Name of European Site:	Marais du Cotentin et du Bessin - Baie des Veys SAC														
Distance to Norfolk Boreas (km)	442														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	117																
Name of European Site:	Margate and Long Sands SAC																
Distance to Norfolk Boreas (km)	136																
Site Features	Likely effect(s) of Norfolk Boreas																
	Permanent loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminated sediments			Underwater noise and vibration			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)		N (a)	N (a)	N (a)	N (a)

Site	117
Name of European Site:	Margate and Long Sands SAC
Distance to Norfolk Boreas (km)	136

covered by sea water all the time																		

(a) The distance between the offshore project area and the designated site is beyond the range of any potential LSE (see Table 4.1 of offshore screening, document reference 5.3.5.1).

Site	118
Name of European Site:	Marwick Head SPA
Distance to Norfolk Boreas (km)	761

Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding seabird assemblage including as named features guillemot and kittiwake		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)

(a) Marwick Head SPA is beyond maximum foraging range of designated seabird species so has no breeding season connectivity. Proportions of these populations migrating through the Norfolk Boreas site are small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Marwick Head SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	119														
Name of European Site:	Måseskär SAC														
Distance to Norfolk Boreas (km)	752														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	120											
Name of European Site:	Medway Estuary & Marshes SPA and Ramsar											
Distance to Norfolk Boreas (km)	210											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Avocet *Recurvirostra avosetta*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Dark-bellied brent goose *Branta bernicla bernicla*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)

Site	120											
Name of European Site:	Medway Estuary & Marshes SPA and Ramsar											
Distance to Norfolk Boreas (km)	210											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Dunlin *Calidris alpine alpine*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Grey plover *Pluvialis squatarola*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Knot *Calidris canutus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Little tern *Sterna albifrons*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Pintail *Anas acuta*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Redshank *Tringa totanus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ringed plover *Charadrius hiaticula*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Shelduck *Tadorna tadorna*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Assemblage		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												
Dark-bellied brent goose *Branta bernicla bernicla*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Dunlin *Calidris alpine alpine*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Grey plover *Pluvialis squatarola*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Knot *Calidris canutus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Pintail *Anas acuta*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Redshank *Tringa totanus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

Site	**120**											
Name of European Site:	**Medway Estuary & Marshes SPA and Ramsar**											
Distance to Norfolk Boreas (km)	**210**											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Ringed plover *Charadrius hiaticula*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Shelduck *Tadorna tadorna*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Black-tailed godwit *Limosa limosa islandica*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Avocet *Recurvirostra avosetta*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Common tern *Sterna hirundo*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Little terns *Sterna albifrons*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Cormorant *Phlacrocorax carbo*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Curlew *Numenius arquata*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Greenshank *Tringa nebularia*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Little grebe *Tachybaptus ruficollis*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Oystercatcher *Haematopus ostralegus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Spotted redshank *Tringa erythropus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Teal *Anas crecca*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Wigeon *Anas penelope*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Assemblage		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

Site	120											
Name of European Site:	Medway Estuary & Marshes SPA and Ramsar											
Distance to Norfolk Boreas (km)	210											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D

(a) Survey data show little or no evidence of Medway Estuary and Marshes SPA features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site during migration and, in addition, the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Medway Estuary and Marshes SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at Medway Estuary and Marshes SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	121											
Name of European Site:	Minsmere - Walberswick SPA and Ramsar											
Distance to Norfolk Boreas (km)	96											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Avocet Recurvirostra *avosetta*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Bittern *Botaurus stellaris*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Gadwall *Anas strepera*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)

Site	121											
Name of European Site:	Minsmere - Walberswick SPA and Ramsar											
Distance to Norfolk Boreas (km)	96											
Greater white-fronted goose *Anser albifrons albifrons*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Little tern *Sterna albifrons*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Marsh harrier *Circus aeruginosus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Nightjar *Caprimulgus europaeus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
~~Woodlark~~ Shoveler *Anas clypeata*~~*Lullula arborea*~~		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Teal *Anas crecca*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Hen harrier *Circus cyaneus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												
Bittern *Bottarus stellaris*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Marsh harrier *Circus aeruginosus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Avocet *Recurvirostra avosetta*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Little tern *Sterna albifrons*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Nightjar *Caprimulgus europeaeus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Bearded tit *Panurus biarmicus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Assemblage		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

Site	**121**
Name of European Site:	**Minsmere - Walberswick SPA and Ramsar**
Distance to Norfolk Boreas (km)	**96**

(a) Survey data show little or no evidence of Minsmere - Walberswick SPA features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site during migration and, in addition, the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Minsmere - Walberswick SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at Minsmere - Walberswick SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**122**
Name of European Site:	**Montrose Basin SPA & Ramsar**
Distance to Norfolk Boreas (km)	**520**

Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Greylag goose *Anser anser*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Knot *Calidris canutus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Pink-footed goose *Anser brachyrhynchus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Redshank *Tringa totanus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Assemblage		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												
Greylag goose *Anser anser*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

Site	122											
Pink-footed goose *Anser brachyrhynchus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Redshank *Tringa totanus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Assemblage		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

(a) Survey data show little or no evidence of Montrose Basin SPA occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site during migration and, in addition, the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Montrose Basin SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at Montrose Basin SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	123											
Name of European Site:	Moray and Nairn Coast SPA & Ramsar											
Distance to Norfolk Boreas (km)	622											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Osprey *Pandion haliaetus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Bar-tailed godwit *Limosa lapponica*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Greylag goose *Anser anser*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Pink-footed goose *Anser brachyrhynchus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Redshank *Tringa totanus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Assemblage		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)

Site	123											
Ramsar features												
Greylag goose *Anser anser*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Pink-footed goose *Anser brachyrhynchus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Redshank *Tringa totanus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Long-tailed duck *Clangula hyemalis*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Assemblage		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

(a) Survey data show little or no evidence of Moray and Nairn Coast SPA features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site during migration and, in addition, the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Moray and Nairn Coast SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at Moray and Nairn Coast SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	124											
Name of European Site:	Mousa SPA											
Distance to Norfolk Boreas (km)	793											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding Arctic tern		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (c)	N (c)	N (c)
Breeding European storm-petrel *Hydrobates pelagicus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

(a) Mousa SPA is beyond maximum foraging range of Arctic tern (30km, Thaxter et al. 2012) so has no breeding season connectivity. The proportion of the population migrating through the Norfolk Boreas site is likely to be extremely small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1).
(b) European storm-petrels were not observed in the Norfolk Boreas site, and are rarely seen anywhere in the southern North Sea, so evidence suggests that this species migrates from its breeding site on Mousa into the North Atlantic and not normally through the North Sea (see Table 6.1 of offshore screening, document reference 5.3.5.1).
(c) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Mousa SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**125**														
Name of European Site:	**Mousa SAC**														
Distance to Norfolk Boreas (km)	**794**														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site Name of European Site: Distance to Norfolk Boreas (km)	126 Nationalpark Niedersächsisched Wattenmeer SAC 240														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site Name of European Site: Distance to Norfolk Boreas (km)	127 Nibe Bredning, Halkær Ådal og Sønderup Ådal SAC 608														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	128
Name of European Site:	Nidingen SAC
Distance to Norfolk Boreas (km)	790

Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)

a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).

Site	129
Name of European Site:	Noordzeekustzone SAC
Distance to Norfolk Boreas (km)	94

Marine Mammals

Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions and disturbance at seal haul outs			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)	N (a)	N (a)
Grey seal	**Y (b)**	**Y (b)**	**Y (b)**	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)	N (a)	N (a)

Site	**129**																				
Name of European Site:	**Noordzeekustzone SAC**																				
Distance to Norfolk Boreas (km)	**94**																				
Harbour seal	N (a)		N (a)		N (a)		N (a)		N (a)		N (a)		N (a)			N (a)		N (a)		N (a)	
Fish																					
Site Features	Likely effect(s) of Norfolk Boreas																				
	Permanent habitat loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminated sediments			Underwater noise and vibration			Electromagnetic fields (EMF)			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Sea Lamprey	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)
Allis Shad	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)
Twaite Shad	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)
Benthic habitats																					
Site Features	Permanent loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminate d sediments			Underwater noise and vibration			In-combination				
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D			

Site	129																		
Name of European Site:	Noordzeekustzone SAC																		
Distance to Norfolk Boreas (km)	94																		
Sandbanks which are slightly covered by sea water all the time	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)
Mudflats and sandflats not covered by seawater at low tide	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)

a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 paragraph 145 of offshore screening, document reference 5.3.5.1).
b) Screened in for grey seal as the site is within the identified foraging range of 100km. The potential for disturbance to foraging seals as a result of underwater noise has been assessed in section 8.3.5 of the Information to Support Habitats Regulations Assessment Report, document reference 5.3.
c) The distance between the offshore project area and the designated site is beyond the range of any potential LSE (see Table 4.1 of offshore screening, document reference 5.3.5.1).

Site Name of European Site: Distance to Norfolk Boreas (km)	130 Nordre älvs estuarium SAC 761														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site Name of European Site: Distance to Norfolk Boreas (km)	131 Nordvästra Skånes havsområde SAC 860														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	132
Name of European Site:	Norfolk Valley Fens SAC
Distance to Norfolk Boreas (km)	0.6+ (17 sites, with 5 sites within 5km of the onshore project area)

	Likely effect(s) of Norfolk Boreas														
	Direct effects (e.g. habitat loss) on land within SAC boundary			Direct effects on ex-situ habitats functionally connected to the SAC			Indirect effects on land within SAC boundary			Indirect effects on ex-situ habitats functionally connected to the SAC			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Alkaline fens	N(a)		N(a)	N(b)		N(b)	N(a)	N(a)	N(a)	**Y(c)**	**Y(c)**	**Y(c)**	**Y(e)**		**Y(e)**
Northern Atlantic wet heaths with *Erica tetralix*	N(a)		N(a)	N(b)		N(b)	N(a)	N(a)	N(a)	**Y(c)**	**Y(c)**	**Y(c)**	**Y(e)**		**Y(e)**
European dry heaths	N(a)		N(a)	N(b)		N(b)	N(a)	N(a)	N(a)	**Y(c)**	**Y(c)**	**Y(c)**	**Y(e)**		**Y(e)**
Semi-natural dry grassland and scrubland facies on calcareous substrates (*Festuco-Brometalia*)	N(a)		N(a)	N(b)		N(b)	N(a)	N(a)	N(a)	N(d)	N(d)	N(d)	N(a, b, d)~~Y(e)~~		N(a, b, d)~~Y(e)~~
Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)	N(a)		N(a)	N(b)		N(b)	N(a)	N(a)	N(a)	**Y(c)**	**Y(c)**	**Y(c)**	**Y(e)**		**Y(e)**

Site	**132**
Name of European Site:	**Norfolk Valley Fens SAC**
Distance to Norfolk Boreas (km)	**0.6+ (17 sites, with 5 sites within 5km of the onshore project area)**

	Likely effect(s) of Norfolk Boreas														
	Direct effects (e.g. habitat loss) on land within SAC boundary			Direct effects on ex-situ habitats functionally connected to the SAC			Indirect effects on land within SAC boundary			Indirect effects on ex-situ habitats functionally connected to the SAC			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Calcareous fens with Cladium mariscus and species of the Caricion davallianae	N(a)		N(a)	N(b)		N(b)	N(a)	N(a)	N(a)	**Y(c)**	**Y(c)**	**Y(c)**	**Y(e)**		**Y(e)**
Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	N(a)		N(a)	N(b)		N(b)	N(a)	N(a)	N(a)	**Y(c)**	**Y(c)**	**Y(c)**	**Y(e)**		**Y(e)**
Narrow-mouthed whorl snail	N(a)		N(a)	N(b)		N(b)	N(a)	N(a)	N(a)	N(d)~~Y(c)~~	N(d)~~Y(c)~~	N(d)~~Y(c)~~	N(a, b,d)~~Y(e)~~		N(a, b,d)~~Y(e)~~
Desmoulin's whorl snail *Vertigo moulinsiana*	N(a)		N(a)	N(b)		N(b)	N(a)	N(a)	N(a)	N(d)	N(d)	N(d)	N(a, b,d)		N(a, b,d)

a) Direct impacts on features within the SAC boundary and within 5km of the onshore project area have been screened out as they are beyond the range of potential direct impact (see Table 2.1 of onshore screening, document reference 5.3.5.2).

Site	132
Name of European Site:	Norfolk Valley Fens SAC
Distance to Norfolk Boreas (km)	0.6+ (17 sites, with 5 sites within 5km of the onshore project area)

	Likely effect(s) of Norfolk Boreas														
	Direct effects (e.g. habitat loss) on land within SAC boundary			Direct effects on ex-situ habitats functionally connected to the SAC			Indirect effects on land within SAC boundary			Indirect effects on ex-situ habitats functionally connected to the SAC			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D

b) Effects of the project on ex-situ habitats functionally connected to the SAC and within 5km of the SAC boundary have been screened out from further assessment as qualifying features of the SAC are all habitats or non-mobile species (see Section 4.4.2 of onshore screening, document reference 5.3.5.2).

c) Potential indirect effects of Norfolk Boreas on the Norfolk Valley Fens SAC include alterations to the groundwater/hydrology regime and air quality effect upon qualifying habitats of the SAC present within 5km of the onshore project area (5 component SSSIs have therefore been screened in to further assessment) (see section 9.3.3 of the Information to Support the HRA Report, document reference 5.3). The qualifying features of the Norfolk Valley Fens SAC are not sensitive to noise, visual or light disturbance and these have been screened out (see Table 4.4 and 4.5 of onshore screening, document reference 5.3.5.2).

d) Feature is not located within the 5 sites within 5km of the onshore project area, therefore is not screened in for further assessment (see footnote (b)) (see Table 4.4 of onshore screening, document reference 5.3.5.2).

e) As LSE cannot be ruled out, an in-combination assessment will be undertaken with respect to this site (see section 9.3.3 of the Information to Support the HRA Report, document reference 5.3).

Site	**133**											
Name of European Site:	**North Caithness Cliffs SPA**											
Distance to Norfolk Boreas (km)	**703**											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding seabird assemblage including as named features fulmar, guillemot, kittiwake, razorbill, puffin		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (c)	N (c)	N (c)
Breeding peregrine		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

(a) North Caithness Cliffs SPA is far beyond the maximum foraging range of designated seabird species so has no breeding season connectivity. Proportions of these populations migrating through the Norfolk Boreas site are small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1).
(b) Peregrines breeding in the UK normally remain close to their breeding areas throughout the year and are very unlikely to migrate offshore from the UK.
(c) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at North Caithness Cliffs SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**134**											
Name of European Site:	**North Norfolk Coast SPA and Ramsar**											
Distance to Norfolk Boreas (km)	**142**											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Avocet *Recurvirostra avosetta*		**Y (a)**		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	**Y (a)**	N (b)
Bittern *Botaurus stellaris*		**Y (a)**		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	**Y (a)**	N (b)

~~Golden Plover *Pluvialis apricaria*~~		**~~Y (a)~~**		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	**~~Y (a)~~**	~~N (b)~~
~~Ruff *Philomachus pugnax*~~		**~~Y (a)~~**		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	**~~Y (a)~~**	~~N (b)~~
Common tern *Sterna hirundo*		**Y (a)**		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	**Y (a)**	N (b)
Little tern *Sterna hirundo*		**Y (a)**		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	**Y (a)**	N (b)
Marsh harrier *Circus aeruginosus*		**Y (a)**		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	**Y (a)**	N (b)
Montagu's harrier *Circus pygargus*		**N (b)**		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
~~Mediterranean gull *Larus melanocephalus*~~		**~~Y (a)~~**		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	**~~Y (a)~~**	~~N (b)~~
~~Roseate tern *Sterna dougallii*~~		**~~Y (a)~~**		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	**~~Y (a)~~**	~~N (b)~~
Sandwich tern *Sterna sandvicensis*		**Y (a)**		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	**Y (a)**	N (b)
~~Bar-tailed godwit *Limosa lapponica*~~		**~~Y (a)~~**		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	**~~Y (a)~~**	~~N (b)~~
~~Hen harrier *Circus cyaneus*~~		**~~Y (a)~~**		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	**~~Y (a)~~**	~~N (b)~~
~~Redshank *Tringa totanus*~~		**~~Y (a)~~**		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	**~~Y (a)~~**	~~N (b)~~
~~Ringed plover *Charidrius hiaticula*~~		**~~Y (a)~~**		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	**~~Y (a)~~**	~~N (b)~~
Dark-bellied brent goose *Branta bernicla bernicla*		**Y (a)**		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	**Y (a)**	N (b)
Knot *Calidris canutus*		**Y (a)**		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	**Y (a)**	N (b)
Pink-footed goose *Anser brachyrhynchus*		**Y (a)**		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	**Y (a)**	N (b)
Wigeon *Anas penelope*		**Y (a)**		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	**Y (a)**	N (b)
~~Pintail *Anas acuta*~~		**~~Y (a)~~**		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	**~~Y (a)~~**	~~N (b)~~
Assemblage		**Y (a)**		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	**Y (a)**	N (b)
Ramsar features												
~~Common tern *Sterna hirundo*~~		**~~Y (a)~~**		~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	**~~Y (a)~~**	~~N (c)~~
Little tern *Sterna* ~~*hirundo*~~*albifrons*		**Y (a)**		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	**Y (a)**	N (c)

Sandwich tern *Sterna sandvicensis*		**Y (a)**		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	**Y (a)**	N (c)
Bar-tailed godwit *Limosa lapponica*		**Y (a)**		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	**Y (a)**	N (c)
~~Ringed plover *Charidrius hiaticula*~~		~~**Y (a)**~~		~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~**Y (a)**~~	~~N (c)~~
Dark-bellied brent goose *Branta bernicla bernicla*		**Y (a)**		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	**Y (a)**	N (c)
Knot *Calidris canutus*		**Y (a)**		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	**Y (a)**	N (c)
Pink-footed goose *Anser brachyrhynchus*		**Y (a)**		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	**Y (a)**	N (c)
Wigeon *Anas penelope*		**Y (a)**		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	**Y (a)**	N (c)
Pintail *Anas acuta*		**Y (a)**		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	**Y (a)**	N (c)
~~Sanderling *Calidris alba*~~		~~**Y (a)**~~		~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~N (c)~~	~~**Y (a)**~~	~~N (c)~~
Assemblage		**Y (a)**		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	**Y (a)**	N (c)

(a) Following advice from Natural England there is potential for connectivity during migration therefore LSE cannot be ruled out.
(b) Survey data show little or no evidence of North Norfolk Coast SPA features being at risk of these effect whilst on migration (see Table 6.1 of offshore screening, document reference 5.3.5.1).
(c) Ramsar criterion: survey data show little or no evidence of North Norfolk Coast SPA and Ramsar features being at risk of these effect whilst on migration (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**135**
Name of European Site:	**North Norfolk Sandbanks and Saturn Reef SAC**
Distance to Norfolk Boreas (km)	**23**

Site Features	Likely effect(s) of Norfolk Boreas					
	Permanent loss	Temporary physical disturbance	Smothering due to increased suspended sediment	Re- mobilisation of contaminated sediments	Underwater noise and vibration	In-combination

	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)		N (a)	N (a)	N (a)	N (a)
Reefs	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)		N (a)	N (a)	N (a)	N (a)

(a) The magnitude of any impact on the features of this site is negligible and would result in no potential for LSE (see paragraph 135 of offshore screening, document reference 5.3.5.1).

Site	**136**											
Name of European Site:	**Northumbria Coast SPA and Ramsar**											
Distance to Norfolk Boreas (km)	**319**											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Little tern *Sterna albifrons*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Arctic tern *Sterna paradisaea*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Purple sandpiper *Calidris maritima*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Turnstone *Arenaria interpres*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												
Little tern *Sterna albifrons*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Purple sandpiper *Calidris maritima*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Turnstone *Arenaria interpres*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

(a) Survey data show little or no evidence of Northumbria Coast SPA features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site during migration and the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Northumbria Coast SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at Northumbria Coast SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	137											
Name of European Site:	Noss SPA											
Distance to Norfolk Boreas (km)	802											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding seabird assemblage including as named features gannet, fulmar, guillemot, kittiwake, puffin, great skua		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)

(a) Noss SPA is beyond maximum foraging range of designated seabird species so has no breeding season connectivity. Proportions of these populations migrating through the Norfolk Boreas site are likely to be extremely small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1).
(b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Noss SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	138														
Name of European Site:	NTP S-H Wattenmeer und angrenzende Kustengebiete SAC														
Distance to Norfolk Boreas (km)	360														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)

Site	**138**
Name of European Site:	**NTP S-H Wattenmeer und angrenzende Kustengebiete SAC**
Distance to Norfolk Boreas (km)	**360**
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).	

Site	**139**														
Name of European Site:	**Oosterschelde SAC**														
Distance to Norfolk Boreas (km)	**141**														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	**140**
Name of European Site:	**Orfordness - Shingle Street SAC**
Distance to Norfolk Boreas (km)	**114**

Site Features	Likely effect(s) of Norfolk Boreas																	
	Permanent loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminated sediments			Underwater noise and vibration			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Coastal lagoons	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)		N (a)	N (a)	N (a)	N (a)

(a) The distance between the offshore project area and the designated site is beyond the range of any potential LSE (see Table 4.1 of offshore screening, document reference 5.3.5.1).

Site	**141**
Name of European Site:	**Östliche Deutsche Bucht SPA**
Distance to Norfolk Boreas (km)	**329**

Ornithology												
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Nonbreeding seabirds (razorbill, fulmar, black-throated diver, red-throated diver, herring gull, common gull, lesser black-backed gull, great black-backed		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)

Site	141
Name of European Site:	Östliche Deutsche Bucht SPA
Distance to Norfolk Boreas (km)	329

gull, little gull, black-headed gull *Chroicocephalus* *ridibundus*, common scoter, great crested grebe, kittiwake, common tern, Arctic tern, sandwich tern, gannet, guillemot)														

(a) Migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site relative to the size of BDMPS regional populations, not only because the sites are 345km apart, but also because seabirds and waterbirds from this SPA are likely to migrate predominantly along the continental coast of the North Sea towards northern breeding grounds rather than across the southern North Sea (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at östliche Deutsche Bucht SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Marine Mammals

Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	C	O	D	C	O	C	O	D	C	O
Harbour porpoise	N(c)	N(c)	N(c)				N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)
Grey seal	N(c)	N(c)	N(c)				N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)
Harbour seal	N(c)	N(c)	N(c)				N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)

a) Migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site relative to the size of BDMPS regional populations, not only because the sites are 345km apart, but also because seabirds and waterbirds from this SPA are likely to migrate predominantly along the continental coast of the North Sea towards northern breeding grounds rather than across the southern North Sea.

Site	**141**
Name of European Site:	**Östliche Deutsche Bucht SPA**
Distance to Norfolk Boreas (km)	**329**

b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Östliche Deutsche Bucht SPA.

c) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).

Site	**142**
Name of European Site:	**Ouessant-Molene SAC**
Distance to Norfolk Boreas (km)	**712**

Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)

a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).

Site	143											
Name of European Site:	Outer Thames Estuary SPA and pSPA extension											
Distance to Norfolk Boreas (km)	40											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Nonbreeding red-throated divers		N (a)		N (b)	**Y (f)**	N (c)	N (a)	N (a)	N (a)	N (e)	**Y (f)**	N (e)
Breeding little tern and common tern		N (d)		N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)

(a) Red-throated divers fly close to the sea surface and are therefore at extremely low risk of collisions or barrier effects. Survey data indicate a negligible risk of collision mortality or of a barrier effect (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Great Yarmouth may be used as a port for construction vessels for the Norfolk Boreas site; this port is located very close to the northern extent of the SPA however is outside the main concentrations of red-throated divers. This, together with the extent of existing vessel movements in the area means the addition of construction traffic as a result of Norolk Boreas will make little difference to the existing baseline and therefore the potential for LSE is considered to be negligible (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(c) Displacement/Disturbance during operation and decommissioning is considered negligible as the increase in vessel traffic within the SPA due to Norfolk Boreas will be negligible compared to the existing baseline (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(d) Little tern and common tern have maximum foraging ranges from colonies of 11km and 30km respectively (Thaxter et al. 2012), which suggests there could be connectivity between the SPA and Norfolk Boreas site, however this is the distance to the seaward edge of the SPA, and the coastal colonies are beyond foraging range of the Norfolk Boreas OWF sites. Furthermore, these species tend to forage in coastal waters rather than offshore and since the breeding colonies are beyond foraging range connectivity can be ruled out. Therefore, collision risk, displacement and barrier effects can be excluded (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(e) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Outer Thames Estuary SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(f) Following advice from Natural England it is considered that Operations and Maintenance vessels may disturb red-throated divers whilst transiting through the SPA therefore an LSE cannot be screened out (see section 6.3.4 of the Information to Support the HRA Report, document reference 5.3).

Site	144											
Name of European Site:	Papa Stour SPA											
Distance to Norfolk Boreas (km)	839											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding Arctic tern		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (c)	N (c)	N (c)
Breeding ringed plover		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

(a) Papa Stour SPA is beyond maximum foraging range of Arctic tern so has no breeding season connectivity. The proportion of the population migrating through the Norfolk Boreas site is very small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1).
(b) Ringed plovers breeding in Scotland 'tend to winter locally or move only short distances' (Forrester *et al*. 2007) so birds from Papa Stour are extremely unlikely to reach the Norfolk Boreas site (see Table 6.1 of offshore screening, document reference 5.3.5.1).
(c) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Papa Stour SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	145											
Name of European Site:	Papa Westray (North Hill and Holm) SPA											
Distance to Norfolk Boreas (km)	770											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding Arctic tern		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Breeding Arctic skua		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)

Site	**145**
Name of European Site:	**Papa Westray (North Hill and Holm) SPA**
Distance to Norfolk Boreas (km)	**770**

(a) Papa Westray SPA is beyond the maximum foraging range of Arctic tern or Arctic skua so has no breeding season connectivity. Proportions of these populations migrating through the Norfolk Boreas site are likely to be extremely small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Papa Westray SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**146**
Name of European Site:	**Paston Great Barn SAC**
Distance to Norfolk Boreas (km)	**3**

	Likely effect(s) of Norfolk Boreas														
	Direct effects (e.g. habitat loss) on barbastelle present in habitats within the SAC boundary			Direct effects on ex-situ habitats functionally connected to the SAC which support barbastelle			Indirect effects on barbastelle present within SAC boundary			Indirect effects on ex-situ habitats functionally connected to the SAC which support barbastelle			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Barbastelle bats	N(a)	N(a)	N(a)	**Y(b)**	**Y(b)**	**Y(b)**	N(a)	N(a)	N(a)	**Y(c,d)**	**Y(c,d)**	**Y(c,d)**	**Y(e)**	**Y(e)**	**Y(e)**

a) Paston Barn SAC is located 3km from the onshore project area; the SAC is therefore beyond the range of direct or indirect impact (see Table 2.1 of onshore screening, document reference 5.3.5.2).

b) Areas within the onshore infrastructure are known to be foraging areas for the barbastelle colony at Paston Great Barn. As these habitats will be directly affected by the project construction and operation phases, potential impacts on ex situ habitats have been screened in for further assessment (see section 9.3.2 of the Information to Support the HRA report, document reference 5.3).

Site	**146**
Name of European Site:	**Paston Great Barn SAC**
Distance to Norfolk Boreas (km)	**3**

c) Watercourses identified as core foraging areas for the Paston Great Barn barbastelle colony (i.e. drains at Ridlington Street) may be subject to trenching works during the project construction phase, and as such there may be effects upon this ex-situ habitat. Therefore LSE cannot be ruled out and these effects have been screened in for further assessment (see section 9.3.2 of the Information to Support the HRA report, document reference 5.3). Qualifying features of Paston Great Barn SAC are not sensitive to potential effects from noise, visual disturbance or air quality and so indirect effects upon these qualifying features will not occur and these effects have been screened out of further assessment (see Table 4.3 of onshore screening, document reference 5.3.5.2). Barbastelle bats are associated with hedgerow, scrub, woodland and watercourse habitats which will not be affected by changes to the geology or land contamination regime (see Table 4.3 of onshore screening, document reference 5.3.5.2).

d) Barbastelle commuting and foraging habitat is located within the potential zone of influence of lighting from the onshore infrastructure and therefore LSE cannot be ruled out at the screening stage (see section 9.3.2 of the Information to Support the HRA report, document reference 5.3).

e) As LSE cannot be ruled out, an in-combination assessment will be undertaken with respect to this site (see section 9.3.2 of the Information to Support the HRA report, document reference 5.3).

Site	**147**
Name of European Site:	**Pater Noster-skärgården SAC**
Distance to Norfolk Boreas (km)	**751**

Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)

a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).

Site	**148**

Name of European Site:	**Pentland Firth Islands SPA**											
Distance to Norfolk Boreas (km)	**710**											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding Arctic tern		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)

(a) Pentland Firth Islands SPA is beyond maximum foraging range of Arctic tern so has no breeding season connectivity. The proportion of the population migrating through the Norfolk Boreas site is likely to be extremely small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1).
(b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Pentland Firth Islands SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**149**											
Name of European Site:	**Portsmouth Harbour SPA**											
Distance to Norfolk Boreas (km)	**347**											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Dark-bellied brent goose *Branta bernicla bernicla*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Dunlin *Calidris alpina*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Black-tailed godwit *Limosa limosa islandica*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
Red-breasted merganser *Mergus serrator*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)

(a) Survey data show little or no evidence of Portsmouth Harbour SPA features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Portsmouth Harbour SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**150**														
Name of European Site:	**Presqu'ile De Crozon SAC**														
Distance to Norfolk Boreas (km)	**749**														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	**151**											
Name of European Site:	**Ramsar-Gebiet S-H Wattenmeer und angrenzende Küstengebiete SPA**											
Distance to Norfolk Boreas (km)	**355**											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding seabirds including common gull, lesser black-backed gull, great black-backed gull, Mediterranean gull, black-headed gull, little tern, common tern,		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (e)	N (e)	N (e)

Site	151											
Name of European Site:	Ramsar-Gebiet S-H Wattenmeer und angrenzende Küstengebiete SPA											
Distance to Norfolk Boreas (km)	355											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Arctic tern, Sandwich tern, black tern, gull-billed tern *Gelochelidon nilotica*												
Nonbreeding seabirds including razorbill, black-throated diver, red-throated diver, common gull, lesser black-backed gull, great black-backed gull, Mediterranean gull, black-headed gull, little gull, kittiwake, little tern, common tern, Arctic tern, Sandwich tern, cormorant, guillemot		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (e)	N (e)	N (e)
Waterbirds including pintail, shoveler, teal, wigeon, mallard, garganey *Anas querquedula*, grey heron *Ardea cinerea*, turnstone, bittern, brent goose, barnacle goose, sanderling, dunlin, curlew sandpiper, ringed plover, Kentish plover *Charadrius alexandrinus*, Bewick's swan, whooper swan, snipe *Gallinago gallinago*, oystercatcher, black-winged stilt *Himantopus himantopus*, bar-tailed godwit, black-tailed godwit, common scoter, red-breasted merganser, curlew, whimbrel, ruff, spoonbill, golden plover, grey plover, red-necked grebe *Podiceps*		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (e)	N (e)	N (e)

Site	151											
Name of European Site:	Ramsar-Gebiet S-H Wattenmeer und angrenzende Küstengebiete SPA											
Distance to Norfolk Boreas (km)	355											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
grisegena, black-necked grebe *Podiceps nigricollis*, avocet, eider, shelduck, greenshank, redshank, lapwing												
Terrestrial birds (various species)		N (d)		N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)	N (d)

(a) The Norfolk Boreas site is beyond maximum foraging range of designated breeding seabird species from this SPA, so has no breeding season connectivity. Proportions of these populations migrating through the Norfolk Boreas site are likely to be extremely small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site relative to the size of BDMPS regional populations, not only because of the distance, but also because seabirds and waterbirds from this SPA are likely to migrate predominantly along the continental coast of the North Sea towards northern breeding grounds rather than across the southern North Sea (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(c) Survey data show little or no evidence of these waterbird features occurring in the Norfolk Boreas OWF sites, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site, as most of these birds are likely to remain on the continental side of the North Sea (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(d) Terrestrial birds from this SPA are very unlikely to migrate to the UK; those that do migrate are more likely to follow the west European flyway along the continental coast (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(e) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at this SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	152														
Name of European Site:	Récifs et marais arrière-littoraux du Cap Lévi à la Pointe de Saire SAC														
Distance to Norfolk Boreas (km)	425														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	153														
Name of European Site:	Recifs Gris-Nez Blanc-Nez SAC														
Distance to Norfolk Boreas (km)	192														
Marine Mammals															
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)

Site	153
Name of European Site:	Recifs Gris-Nez Blanc-Nez SAC
Distance to Norfolk Boreas (km)	192

Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)

Benthic Habitats

Site Features	Permanent loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminate d sediments			Underwater noise and vibration			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)		N (b)	N (b)		N (b)	N (b)	N (b)	N (b)
Reefs	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)		N (b)	N (b)		N (b)	N (b)	N (b)	N (b)

a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).

b) The distance between the offshore project area and the designated site is beyond the range of any potential LSE (see Table 4.1 of offshore screening, document reference 5.3.5.1).

Site	154
Name of European Site:	Ridens et dunes hydrauliques du detroit du Pas-de-Calais SAC
Distance to Norfolk Boreas (km)	192

Marine Mammals

Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)

Benthic Habitats

Site Features	Permanent loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminate d sediments			Underwater noise and vibration			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)		N (b)	N (b)		N (b)	N (b)	N (b)	N (b)
Reefs	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)		N (b)	N (b)		N (b)	N (b)	N (b)	N (b)

a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).

b) The distance between the offshore project area and the designated site is beyond the range of any potential LSE (see Table 4.1 of offshore screening, document reference 5.3.5.1).

Site	154
Site	155
Name of European Site:	River Derwent SAC
Distance to Norfolk Boreas (km)	257

	Permanent habitat loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminated sediments			Underwater noise and vibration			Electromagnetic fields (EMF)			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
River lamprey	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)

a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect from this site would result in no potential for LSE (see Table 5.1 of offshore screening, document reference 5.3.5.1).

Site	156
Name of European Site:	River Wensum SAC
Distance to Norfolk Boreas (km)	0

	Likely effect(s) of Norfolk Boreas														
	Direct effects (e.g. habitat loss) on land within the SAC boundary			Direct effects within ex-situ habitats functionally connected to the SAC			Indirect effects within SAC boundary			Indirect effects within ex-situ habitats functionally connected to the SAC			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation	~~N~~Y(a)		Y~~N~~(a)	Y(b)		Y(b)	Y(b)	Y(b)	Y(b)	Y(b)	Y(b)	Y(b)	Y(d)		Y(d)
Desmoulin's whorl snail	~~N~~Y(a)		Y~~N~~(a)	Y(b)		Y(b)	Y(b)	Y(b)	Y(b)	Y(b)	Y(b)	Y(b)	Y(d)		Y(d)
White-clawed (or Atlantic stream) crayfish *Austropotamobius pallipes*	N(c)~~N(a)~~		N(c)~~N(a)~~	N(c)		N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)		N(c)
Brook lamprey *Lampetra planeri*	N(c)~~N(a)~~		N(c)~~N(a)~~	N(c)		N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(~~a,~~ c)		N(~~a,~~ c)
Bullhead *Cottus gobio*	N(c)~~N(a)~~		N(c)~~N(a)~~	N(c)		N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(~~a,~~ c~~,~~)		N(~~a,~~ c)

a) ~~The use of trenchless crossing techniques will ensure no direct effects upon any of the qualifying features of the SAC (see Section 4.2.1 of onshore screening, document reference 5.3.5.2).~~The Applicant's position is that there are no direct likely significant effects which are anticipated to arise in relation to the qualifying features of the River Wensum SAC within the SAC boundary, due to the use of trenchless crossing techniques to install cables at this location. This position is set out with Appendix 5.2 of the Information to support HRA report (document reference 5.3), and direct effects are not assessed further within the Information to Support HRA report (document reference 5.3). Natural England's position is that LSE from direct effects upon qualifying features of the site cannot be ruled out, due to the potential effects which could arise during a drilling fluid breakout.

Site	**156**
Name of European Site:	**River Wensum SAC**
Distance to Norfolk Boreas (km)	**0**

Following consultation with Natural England during the Norfolk Boreas examination process, details of the likelihood and nature of possible effects from a drilling fluid breakout were provided by the Applicant to Natural England within a Clarification Note (document reference: ExA.AS-3.D1.V1; REP1-039) which supported the Applicant's view that no LSE is likely to arise from drilling fluid breakout. Following review of this note, Natural England confirmed that "*[we] are content with the detail currently provided in the Clarification Note and Method Statement [and] look forward to being consulted on the site specific water crossing plans post consent as specified within oCoCP.*". Appropriate site specific measures to contain the breakout will be detailed in the drilling fluid contingency plan once the specific design of the trenchless crossing is known and a contractor engaged, which will be included in the final Code of Construction Practice (CoCP), developed in consultation with Natural England and the Environment Agency. This commitment is secured within the outline Code of Construction Practice (OCoCP) (document reference: 8.1; REP1-018).

~~a)~~b) There may be potential effects on these qualifying features ~~which~~ as the ~~may be~~have the potential to be located within the SAC boundary but ~~located~~ upstream or downstream of the onshore project area, or outside of the SAC boundary but ~~are~~ within areas of land which are functionally connected to the River Wensum SAC, including floodplain and grazing marsh habitat ~~and~~. As such ~~therefore~~, LSE cannot be ruled out at the screening stage (see section 9.3.1 of the Information to Support the HRA report, document reference 5.3). ~~The remaining qualifying features of the River Wensum SAC are not sensitive to effects arising from these noise, air quality, light or visual disturbance sources (see Table 4.1 of onshore screening, document reference 5.3.5.2).~~

~~b)~~c) White-clawed crayfish was identified as absent at the trenchless crossing area at Elsing, therefore would not experience impacts associated with the construction in this area. ~~Ex-situ h~~Habitats, including ex-situ habitats, suitable for supporting brook lamprey and bullhead have not been identified within the onshore project area (see Sections 3.2.3 and 4.2.2 of onshore screening, document reference 5.3.5.2). These qualifying features are also not sensitive to effects arising from these noise, air quality, light or visual disturbance sources (see Table 4.1 of onshore screening, document reference 5.3.5.2).

~~c)~~d) As LSE cannot be ruled out for these qualyfing features, an in-combination assessment will be undertaken with respect to this site (see section 9.3.1 of the Information to Support the HRA report, document reference 5.3).

Site	**157**
Name of European Site:	**Roches de Penmarch SAC**
Distance to Norfolk Boreas (km)	**805**

Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)

a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).

Site	**158**
Name of European Site:	**Ronas Hill - North Roe and Tingon SPA**
Distance to Norfolk Boreas (km)	**852**

Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding great skua		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (d)	N (d)	N (d)
Breeding red-throated diver		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (d)	N (d)	N (d)
Breeding merlin		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (d)	N (d)	N (d)

(a) Ronas Hill, North Roe & Tingon SPA is beyond maximum foraging range of great skua so has no breeding season connectivity. The proportion of the population migrating through the Norfolk Boreas site is likely to be extremely small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Ronas Hill, North Roe & Tingon SPA is beyond maximum foraging range of red-throated diver so has no breeding season connectivity. The proportion of the population migrating through the Norfolk Boreas site is likely to be extremely small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(c) Merlins from this population are likely to migrate to wintering areas that are predominantly within the UK. A few, mostly young birds, may winter on the European continent so could possibly pass through the Norfolk Boreas site. However, no merlins have been seen during site specific surveys, and the chances of any from this SPA passing through the site are likely to be extremely low (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**158**
Name of European Site:	**Ronas Hill - North Roe and Tingon SPA**
Distance to Norfolk Boreas (km)	**852**

(d) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Ronas Hill, North Roe & Tingon SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**159**											
Name of European Site:	**Rousay SPA**											
Distance to Norfolk Boreas (km)	**756**											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding seabird assemblage including as named features guillemot, Arctic skua, Arctic tern, kittiwake, fulmar		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)

(a) Rousay SPA is beyond maximum foraging range of designated seabird species so has no breeding season connectivity. Proportions of these populations migrating through the Norfolk Boreas site are small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Rousay SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**160**
Name of European Site:	**Sälöfjorden SAC**
Distance to Norfolk Boreas (km)	**755**
Site Features	Likely effect(s) of Norfolk Boreas

	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	**161**
Name of European Site:	**Sanday SAC**
Distance to Norfolk Boreas (km)	**745**

Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	**162**
Name of European Site:	**SBZ 1 / ZPS 1 SAC (off Nieuwpoort)**
Distance to Norfolk Boreas (km)	**171**

Site Features	Likely effect(s) of Norfolk Boreas

	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	**163**
Name of European Site:	**SBZ 2 / ZPS 2 SPA**
Distance to Norfolk Boreas (km)	**168**

Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/disturbance			Barrier effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Wintering and passage species: red-throated diver, lesser black-backed gull, great black-backed gull, little gull, common scoter, great crested grebe, little tern, common tern, Sandwich tern	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(b)	N(b)	N(b)
a) Many of the named species have not been recorded on the Norfolk Boreas site and are not ones associated with offshore locations. With respect to species named as nonbreeding features of the SPA, these consist of many of the seabird species which pass through the southern North Sea and English Channel on												

Site	163
Name of European Site:	SBZ 2 / ZPS 2 SPA
Distance to Norfolk Boreas (km)	168

migration. As such the potential impacts on those species recorded at Norfolk Boreas has been assessed in terms of the wider Biologically Defined Minimum Population Scales (BDMPS) populations (see Furness 2015). The Applicant considers this to be the appropriate population scale for nonbreeding impacts on the species named at this SPA, since the majority of individuals will not be resident at the SPA but will instead pass through. Furthermore, given the relative size of the SPA population estimates for the migratory species compared with the total passage populations, the risks to the SPA populations due to Norfolk Boreas are very small (see Table 6.1 of offshore screening, document reference 5.3.5.1).

b) The predicted effect attributable to the proposed Norfolk Boreas project is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	164
Name of European Site:	SBZ 3 / ZPS 3 SPA
Distance to Norfolk Boreas (km)	166
Site Features	Likely effect(s) of Norfolk Boreas

Site	**164**											
Name of European Site:	**SBZ 3 / ZPS 3 SPA**											
Distance to Norfolk Boreas (km)	**166**											
	Collision mortality			Displacement/disturbance			Barrier effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Wintering and passage species: red-throated diver, lesser black-4backed gull, great black-backed gull, little gull, common scoter, great crested grebe, little tern, common tern, Sandwich tern	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(b)	N(b)	N(b)

a) Many of the named species have not been recorded on the Norfolk Boreas site and are not ones associated with offshore locations. With respect to species named as nonbreeding features of the SPA, these consist of many of the seabird species which pass through the southern North Sea and English Channel on migration. As such the potential impacts on those species recorded at Norfolk Boreas has been assessed in terms of the wider Biologically Defined Minimum Population Scales (BDMPS) populations (see Furness 2015). The Applicant considers this to be the appropriate population scale for nonbreeding impacts on the species named at this SPA, since the majority of individuals will not be resident at the SPA but will instead pass through. Furthermore, given the relative size of the SPA population estimates for the migratory species compared with the total passage populations, the risks to the SPA populations due to Norfolk Boreas are very small (see Table 6.1 of offshore screening, document reference 5.3.5.1).

b) The predicted effect attributable to the proposed Norfolk Boreas project is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	165
Name of European Site:	Scanner Pockmark SAC
Distance to Norfolk Boreas (km)	576

Site Features	Likely effect(s) of Norfolk Boreas																	
	Permanent loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminated sediments			Underwater noise and vibration			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Submarine structures made by leaking gases	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)		N (a)	N (a)	N (a)	N (a)

(a) The distance between the offshore project area and the designated site is beyond the range of any potential LSE (see Table 4.1 of offshore screening, document reference 5.3.5.1).

Site	166
Name of European Site:	Seevogelschutzgebiet Helgoland SPA
Distance to Norfolk Boreas (km)	329

Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding seabird assemblage including as named features razorbill, fulmar, herring gull, lesser black-backed gull, kittiwake, gannet, guillemot		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (c)	N (c)	N (c)

Site	166											
Name of European Site:	Seevogelschutzgebiet Helgoland SPA											
Distance to Norfolk Boreas (km)	329											
Nonbreeding seabird assemblage including razorbill, black-throated diver, red-throated diver, common gull, lesser black-backed gull, little gull, kittiwake, common scoter, red-necked grebe, eider, common tern, Arctic tern, Sandwich tern, gannet, guillemot		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (c)	N (c)	N (c)

(a) Tracking data from gannets breeding on Helgoland show these birds do not travel in the direction of or as far as the Norfolk Boreas site despite this site being within theoretical maximum foraging range of gannet. Norfolk Boreas is beyond the maximum foraging range of other seabird species at Seevogelschutzgebeit Helgoland SPA. Proportions of these populations migrating through Norfolk Boreas are likely to be very small relative to BDMPS regional populations (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site during migration relative to the size of BDMPS regional populations, not only because the sites are 343km apart, but also because nonbreeding seabirds from this SPA are likely to migrate predominantly along the continental coast of the North Sea towards northern breeding grounds rather than across the southern North Sea (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(c) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Seevogelschutzgebeit Helgoland SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	167

Name of European Site:	**Skagens Gren og Skagerrak SAC**														
Distance to Norfolk Boreas (km)	**650**														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	**168**											
Name of European Site:	**Solent & Southampton Water SPA & Ramsar**											
Distance to Norfolk Boreas (km)	**351**											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Common tern *Sterna hirundo*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Little tern *Strna albifrons*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Mediterranean gull *Larus melanochephalus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Roseate tern *Sterna dougallii*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Sandwich tern *Sterna sandvicensis*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Black-tailed godwit *Limsa limosa islandica*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)

Site	168											
Name of European Site:	Solent & Southampton Water SPA & Ramsar											
Distance to Norfolk Boreas (km)	351											
Dark-bellied brent goose *Branta bernicla bernicla*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ringed plover *Charadrius hiaticula*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Teal *Anas crecca*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Assemblage		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												
Black-tailed godwit *Limsa limosa islandica*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Dark-bellied brent goose *Branta bernicla bernicla*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
~~Ringed plover *Charadrius hiaticula*~~		~~N (b)~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~
Teal *Anas crecca*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Assemblage		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

(a) Survey data show little or no evidence of Solent & Southampton Water SPA features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site during migration and the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Solent & Southampton Water SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at Solent & Southampton Water SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	169

Name of European Site:	**Soteskär SAC**														
Distance to Norfolk Boreas (km)	**768**														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	**170**														
Name of European Site:	**Southern North Sea SAC**														
Distance to Norfolk Boreas (km)	**0**														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	**Y(a)**	**Y(a)**	**Y(a)**	**Y(a)**	**Y(a)**	**Y(a)**	**Y(a)**	**Y(a)**	**Y(a)**	**Y(a)**		**Y(a)**	**Y(a)**	**Y(a)**	**Y(a)**
a) The offshore project area is within the SAC and therefore LSE cannot be ruled out at the screening stage. It is assumed that all harbour porpoise in this area are associated with this SAC (see paragraph 64 of offshore screening, document reference 5.3.5.1). Potential effects from underwater noise; vessel interactions; changes to water quality; changes to prey resources; and disturbance at seal haul-out sites cannot be ruled out, and have therefore been assessed in section 8.3.1 of the Information to Support Habitats Regulations Assessment Report, document reference 5.3).															

Site	**171**
Name of European Site:	**St Abb's Head to Fast Castle SPA**

Distance to Norfolk Boreas (km)	441											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding seabird assemblage including as named features herring gull, kittiwake, razorbill, guillemot, shag		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)

(a) St Abbs Head to Fast Castle SPA is beyond maximum foraging range of designated seabird species so has no breeding season connectivity. Proportions of these populations migrating through the Norfolk Boreas site are likely to be very small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at St Abbs Head to Fast Castle SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	172														
Name of European Site:	Steingrund SAC														
Distance to Norfolk Boreas (km)	345														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)

a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).

Site	**173**														
Name of European Site:	**Store Rev SCI**														
Distance to Norfolk Boreas (km)	**625**														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	**174**											
Name of European Site:	**Stour & Orwell Estuaries SPA and Ramsar**											
Distance to Norfolk Boreas (km)	**140**											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
~~Hen harrier *Circus cyaneus*~~Avocet *Recurvirostra avosetta*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Black-tailed godwit *Limosa imosa islandica*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)

Site	174											
Name of European Site:	Stour & Orwell Estuaries SPA and Ramsar											
Distance to Norfolk Boreas (km)	140											
Dunlin *Calidris alpine alpina*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Grey plover *Pluvialis squatarola*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Pintail *Anas acuta*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Redshank *Tringa totanus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
~~Ringed plover *Charadrius hiaticula*~~Dark bellied brent goose *Branta bernicla bernicla*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Knot *Calidris canuta*~~Shelduck *Tadorna tadorna*~~		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
~~Turnstone *Arenaria interpres*~~		~~N (a)~~		~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~
Assemblage		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												
Black-tailed godwit *Limosa limosa islandica*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Dunlin *Calidris alpina~~e~~ alpina*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Grey plover *Pluvialis squatarola*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
~~Pintail *Anas acuta*~~		~~N (b)~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~
Redshank *Tringa totanus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Dark-bellied brent goose *Branta bernicla bernicla*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Knot *Calidris canutus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

Site	**174**
Name of European Site:	**Stour & Orwell Estuaries SPA and Ramsar**
Distance to Norfolk Boreas (km)	**140**

(a) Survey data show little or no evidence of Stour and Orwell Estuaries SPA features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site during migration and the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Stour and Orwell Estuaries SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at Stour and Orwell Estuaries SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**175**														
Name of European Site:	**Strandenge på Læsø og havet syd herfor SAC**														
Distance to Norfolk Boreas (km)	**749**														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	176											
Name of European Site:	Sumburgh Head SPA											
Distance to Norfolk Boreas (km)	778											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding seabird assemblage including as named features kittiwake, fulmar, guillemot, Arctic tern		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)

(a) Sumburgh Head SPA is beyond maximum foraging range of designated seabird species so has no breeding season connectivity. Proportions of these populations migrating through the Norfolk Boreas site are likely to be very small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Sumburgh Head SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	177														
Name of European Site:	Sydlige Nordsø SAC														
Distance to Norfolk Boreas (km)	342														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)

a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).

Site	**178**
Name of European Site:	**Sylter Außenriff SCI**
Distance to Norfolk Boreas (km)	**286**

Ornithology

Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Nonbreeding seabird assemblage including black-throated diver, red-throated diver, common gull, lesser black-backed gull, great black-backed gull, little gull, gannet, kittiwake, common tern, Arctic tern, Sandwich tern, guillemot		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)

a) Migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site relative to the size of BDMPS regional populations, not only because the sites are 311km apart, but also because nonbreeding seabirds from this SPA are likely to migrate predominantly along the continental coast of the North Sea towards northern breeding grounds rather than across the southern North Sea (see Table 6.1 of offshore screening, document reference 5.3.5.1).

b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Sylter Außenriff SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

c) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE.

Site	**178**
Name of European Site:	**Sylter Außenriff SCI**
Distance to Norfolk Boreas (km)	**286**

Marine mammals

Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)		N (c)	N (c)	N (c)	N (c)
Grey seal	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)		N (c)	N (c)	N (c)	N (c)
Harbour seal	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)		N (c)	N (c)	N (c)	N (c)

Fish

Site Features	Likely effect(s) of Norfolk Boreas																				
	Permanent habitat loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminated sediments			Underwater noise and vibration			Electromagnetic fields (EMF)			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
River lamprey	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)

Site	178
Name of European Site:	Sylter Außenriff SCI
Distance to Norfolk Boreas (km)	286

Twaite shad	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)

Site	179											
Name of European Site:	Teesmouth and Cleveland Coast SPA and Ramsar											
Distance to Norfolk Boreas (km)	301											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA Features												
Little tern *Sterna albifrons*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Sandwich tern *Sterna sandvicensis*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
~~Ringed plover *Charadrius hiaticula*~~		~~N (a)~~		~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~
Knot *Calidris canutus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Redshank *Tringa totanus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Assemblage		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar Features												
Sandwich tern *Sterna sandvicensis*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Ringed plover *Charadrius hiaticula*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

Site	179											
Name of European Site:	Teesmouth and Cleveland Coast SPA and Ramsar											
Distance to Norfolk Boreas (km)	301											
Sanderling *Calidris alba*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Shelduck *Tadorna tadorna*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Teal *Anas crecca*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Little tern *Sterna albifrons*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Knot *Calidris canutus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Redshank *Tringa totanus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Assemblage		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

(a) Survey data show little or no evidence of Teesmouth & Cleveland Coast features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site during migration and the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Teesmouth & Cleveland Coast SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at Teesmouth & Cleveland Coast SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	180											
Name of European Site:	Thames Estuary and Marshes SPA and Ramsar											
Distance to Norfolk Boreas (km)	210											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												

Site	180											
Name of European Site:	Thames Estuary and Marshes SPA and Ramsar											
Distance to Norfolk Boreas (km)	210											
Site Features	Likely effect(s) of Norfolk Boreas											
Avocet Recurvirostra *avosetta*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Black-tailed godwit *Limosa limosa islandica*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Dunlin *Calidris alpina alpina*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Grey plover *Pluvialis squatarola*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Hen harrier *Circus cyaneus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Knot *Calidris canutus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Redshank *Tringa totanus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ringed plover *Charadrius hiaticula*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Assemblage		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												
Ringed plover *Charadrius hiaticula*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Black-tailed godwit *Limosa limosa islandica*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
~~Grey plover *Pluvialis squatarola*~~		~~N (b)~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~
Knot *Calidris canutus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Dunlin *Calidris alpina alpina*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
~~Redshank *Tringa totanus*~~		~~N (b)~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~
Assemblage		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

Site	**180**
Name of European Site:	**Thames Estuary and Marshes SPA and Ramsar**
Distance to Norfolk Boreas (km)	**210**
Site Features	**Likely effect(s) of Norfolk Boreas**

(a) Survey data show little or no evidence of Thames Estuary and Marshes SPA features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site during migration and the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Thames Estuary and Marshes SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at Thames Estuary and Marshes SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**181**
Name of European Site:	**Thanet Coast and Sandwich Bay SPA and Ramsar**
Distance to Norfolk Boreas (km)	**187**

Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Turnstone *Arenaria interpres*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Golden plover *Pluvialis apricaria*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Little tern *Sterna albifrons*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												
Turnstone *Arenaria interpres*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

Site	**181**											
Name of European Site:	**Thanet Coast and Sandwich Bay SPA and Ramsar**											
Distance to Norfolk Boreas (km)	**187**											
Little tern *Sterna albifrons*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Ringed plover *Charadrius hiaticula*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Grey plover *Pluvialis squatarola*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Sanderling *Calidris alba*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

(a) Survey data show little or no evidence of Thanet Coast and Sandwich Bay SPA features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site during migration and the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Thanet Coast and Sandwich Bay SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at Thanet Coast and Sandwich Bay SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**182**																	
Name of European Site:	**Thanet Coast SAC**																	
Distance to Norfolk Boreas (km)	**186**																	
Site Features	Likely effect(s) of Norfolk Boreas																	
	Permanent loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminated sediments			Underwater noise and vibration			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D

Site	182																	
Name of European Site:	Thanet Coast SAC																	
Distance to Norfolk Boreas (km)	186																	
Sandbanks which are slightly covered by sea water all the time	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)		N (a)	N (a)	N (a)	N (a)
Mudflats and sandflats not covered by seawater at low tide	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)		N (a)	N (a)	N (a)	N (a)
Reefs	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)		N (a)	N (a)	N (a)	N (a)
(a) The distance between the offshore project area and the designated site is beyond the range of any potential LSE (see Table 4.1 of offshore screening, document reference 5.3.5.1).																		

Site	183																	
Name of European Site:	The Broads SAC																	
Distance to Norfolk Boreas (km)	4.5																	
Site Features	Likely effect(s) of Norfolk Boreas																	
	Direct effects within SAC boundary			Direct effects on ex-situ habitats			Indirect effects within SAC boundary			Indirect effects on ex-situ habitats			In-combination				
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D		

Site	**183**														
Name of European Site:	**The Broads SAC**														
Distance to Norfolk Boreas (km)	**4.5**														
Hard oligo-mesotrophic waters with benthic vegetation of *Chara spp.*	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)	**Y (e)**	**Y (e)**	**Y (e)**	N (b)	N (b)	N (b)	**Y(f)**	**Y(f)**	**Y(f)**
Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)	**Y (e)**	**Y (e)**	**Y (e)**	N (b)	N (b)	N (b)	**Y(f)**	**Y(f)**	**Y(f)**
Transition mires and quaking bogs	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)	**Y (e)**	**Y (e)**	**Y (e)**	N (b)	N (b)	N (b)	**Y(f)**	**Y(f)**	**Y(f)**
Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae* [Priority feature]	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)	**Y (e)**	**Y (e)**	**Y (e)**	N (b)	N (b)	N (b)	**Y(f)**	**Y(f)**	**Yf()**
Alkaline fens	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)	**Y (e)**	**Y (e)**	**Y (e)**	N (b)	N (b)	N (b)	**Y(f)**	**Y(f)**	**Y(f)**
Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) [Priority feature]	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)	**Y (e)**	**Y (e)**	**Y (e)**	N (b)	N (b)	N (b)	**Y(f)**	**Y(f)**	**Y(f)**
Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)	**Y (e)**	**Y (e)**	**Y (e)**	N (b)	N (b)	N (b)	**Y(f)**	**Y(f)**	**Y(f)**
Desmoulin's whorl snail	N (a)	N (a)	N (a)	N (c)	N (c)	N (c)	**Y (e)**	**Y (e)**	**Y (e)**	N (c)	N (c)	N (c)	**Y(f)**	**Y(f)**	**Y(f)**
Fen orchid	N (a)	N (a)	N (a)	N (c)	N (c)	N (c)	**Y (e)**	**Y (e)**	**Y (e)**	N (c)	N (c)	N (c)	**Y(f)**	**Y(f)**	**Y(f)**
Ramshorn snail	N (a)	N (a)	N (a)	N (c)	N (c)	N (c)	**Y (e)**	**Y (e)**	**Y (e)**	N (c)	N (c)	N (c)	**Y(f)**	**Y(f)**	**Y(f)**
Otter	N (a)	N (a)	N (a)	**Y (d)**	**Y (d)**	**Y (d)**	**Y (e)**	**Y (e)**	**Y (e)**	**Y (d)**	**Y (d)**	**Y (d)**	**Y(f)**	**Y(f)**	**Y(f)**

Site	**183**
Name of European Site:	**The Broads SAC**
Distance to Norfolk Boreas (km)	**4.5**

a) The Broads SAC is located 4.5km from the onshore project area; the SAC is therefore beyond the range of potential impact (see Table 2.1 of onshore screening, document reference 5.3.5.2).

b) The Annex I qualifying features of The Broads SAC are habitats and not mobile species, and as such are restricted primarily to the SAC boundary. As such, these are beyond the range of potential impact (see Section 4.5.4 of onshore screening, document reference 5.3.5.2).

c) Habitats within the onshore project area and within 5km of The Broads SAC are not suitable for supporting these species (see Section 4.5.4 of onshore screening, document reference 5.3.5.2).

d) Suitable habitats for supporting otter were recorded within the project area and within 5km of The Broads SAC. Otters have large ranges and may commute from The Broads SAC into the onshore project area and therefore LSE cannot be ruled out at the screening stage (see Sections 3.3.6 and 4.5.4 of onshore screening, document reference 5.3.5.2).

e) The potential zone of influence for effects arising from local changes in surface and groundwater encompasses watercourses located within 5km of the Broads SAC (see Section 4.5.3 of onshore screening, document reference 5.3.5.2). Therefore, indirect effects upon qualifying features of The Broads SAC within the onshore project area arising from local changes in surface and groundwater hydrology are screened in for further assessment.

f) As LSE cannot be ruled out, an in-combination assessment will be undertaken with respect to this site (see section 9.3.4 of the Information to Support the HRA report, document reference 5.3).

Site	184											
Name of European Site:	The Swale SPA & Ramsar											
Distance to Norfolk Boreas (km)	205											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Avocet Recurvirostra *avosetta*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Marsh harrier *Circus aeruginosus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Mediterranean gull *Larus melanocephalus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Bar-tailed godwit *Limosa lapponica*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Golden plover *Pluvialis apricaria*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Hen harrier *Circus cyaneus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ringed plover *Charadrius hiaticula*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Black-tailed godwit *Limosa limosa islandica*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Grey plover *Pluvialis squatarola*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Knot *Calidris canutus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Pintail *Anas acuta*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Redshank *Tringa totanus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Shoveler *Anas clypeata*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Assemblage		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												

Site	184											
Name of European Site:	The Swale SPA & Ramsar											
Distance to Norfolk Boreas (km)	205											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Black-headed gull *Larus ridibundus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Little tern *Sterna albifrons*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Mediterranean gull *Larus melanocephalus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Ringed plover *Charadrius hiaticula*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Greenshank *Tringa nebularia*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Curlew *Numenius arquata*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Little egret *Egretta garzetta*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Spotted redshank *Tringa erythropus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Whimbrel *Numenius phaeopus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Shelduck *Tadorna tadorna*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Dunlin *Calidris alpina*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Oystercatcher *Haematopus ostralegus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Teal *Anas crecca*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Golden plover *Pluvialis apricaria*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Greater white-fronted goose *Anser albifrons albifrons*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Little grebe *Tachybaptus ruficollis*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

Site	184											
Name of European Site:	The Swale SPA & Ramsar											
Distance to Norfolk Boreas (km)	205											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
~~Ringed plover *Charadrius hiaticula*~~Lapwing Vanellus vanellus		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
~~Black-tailed godwit *Limosa limosa islandica*~~Avocet *Recurvirostra avosetta*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Knot *Calidris* canuta ~~Grey plover *Pluvialis squatarola*~~		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Pintail *Anas acuta*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Black-tailed godwit *Limosa limosa islandica*~~Redshank *Tringa totanus*~~		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Shoveler *Anas clypeata*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Wigeon *Anas penelope*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
~~Dark-bellied bent goose *Branta bernicla bernicla*~~Ruff *Philomachus pugnax*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

(a) Survey data show little or no evidence of The Swale SPA and Ramsar features occurring in the Norfolk Boreas site, and migrations of birds from this SPA and Ramsar are likely to result in negligible numbers passing through the Norfolk Boreas site during migration and the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at The Swale SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at The Swale SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	185
Name of European Site:	The Wash and North Norfolk Coast SAC
Distance to Norfolk Boreas (km)	110 (33km from offshore cable corridor)

Marine Mammals

Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions/ disturbance at seal haul out sites			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	**Y (a)**	**Y (a)**	**Y (a)**	**Y (a)**	**Y (b)**	**Y (b)**	**Y (a)**	**Y (a)**	**Y (a)**	**Y (a)**		**Y (a)**	**Y (a)**	**Y (a)**	**Y (a)**
~~Grey seal~~	~~**Y (a)**~~	~~**Y (a)**~~	~~**Y (a)**~~	~~**Y (b)**~~	~~**Y (b)**~~	~~**Y (b)**~~	~~**Y (a)**~~	~~**Y (a)**~~	~~**Y (a)**~~	~~**Y (a)**~~		~~**Y (a)**~~	~~**Y (a)**~~	~~**Y (a)**~~	~~**Y (a)**~~

Benthic Habitats

Site Features	Permanent loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminate d sediments			Underwater noise and vibration			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)		N (c)	N (c)		N (c)	N (c)	N (c)	N (c)
Mudflats and sandflats not	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)		N (c)	N (c)		N (c)	N (c)	N (c)	N (c)

Site	185																	
Name of European Site:	The Wash and North Norfolk Coast SAC																	
Distance to Norfolk Boreas (km)	110 (33km from offshore cable corridor)																	
covered by seawater at low tide																		
Large shallow inlets and bays	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)		N (c)	N (c)		N (c)	N (c)	N (c)	N (c)

a) Potential effects from underwater noise; vessel interactions; changes to water quality; changes to prey resources; and disturbance at seal haul-out sites for foraging grey and harbour seal cannot be ruled out, and have therefore been assessed in section 8.3.2 of the Information to Support Habitats Regulations Assessment Report, document reference 5.3).

b) Potential for vessel interactions and disturbance at seal haul-out sites if a port to the north of the offshore project area is selected and therefore LSE cannot be ruled out, and has been assessed in sections 8.3.2.2 and 8.3.2.3 of the Information to Support Habitats Regulations Assessment Report, document reference 5.3.

c) The distance between the offshore project area and the designated site is beyond the range of any potential LSE (see Table 4.1 of offshore screening, document reference 5.3.5.1).

Site	186											
Name of European Site:	The Wash SPA and Ramsar											
Distance to Norfolk Boreas (km)	150											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
SPA features												
Common tern *Sterna hirundo*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)

Site	186											
Name of European Site:	The Wash SPA and Ramsar											
Distance to Norfolk Boreas (km)	150											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Little tern *Sterno albifrons*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
~~Marsh harrier *Circus aeruginosus*~~		~~N (a)~~		~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~
~~Avocet *Recurvirostra avosetta*~~		~~N (a)~~		~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~
Bar-tailed godwit *Limosa lapponica*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Bewick's swan *Cygnus colombianus bewickii*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Common scoter *Melanitta nigra*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Wigeon *Anas penelope*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
~~Golden plover *Pluvialis apricaria*~~		~~N (a)~~		~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~
~~Whooper swan *Cygnus cygnus*~~		~~N (a)~~		~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~
~~Ringed plover *Charadrius hiaticula*~~		~~N (a)~~		~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~	~~N (a)~~
Sanderling *Calidris alba*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Black-tailed godwit *Limosa limosa islandica*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Curlew *Numenius arquata*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Dark-bellied brent goose *Branta bernicla bernicla*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)

Site	186											
Name of European Site:	The Wash SPA and Ramsar											
Distance to Norfolk Boreas (km)	150											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Dunlin *Calidris alpina alpina*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Gadwall *Anas strepera*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Goldeneye *Bucephala clangula*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Grey plover *Pluvialis squatarola*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Knot *Calidris canutus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Oystercatcher *Haematopus ostralegus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Pink-footed goose *Anser brachyrhynchus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Pintail *Anas acuta*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Redshank *Tringa totanus*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Shelduck *Tadorna tadorna*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Turnstone *Arenaria interpres*		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Assemblage		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Ramsar features												
Bar-tailed godwit *Limosa lapponica*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Black-headed gull *Larus ridibundus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Golden plover *Pluvialis apricaria*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

Site	186
Name of European Site:	The Wash SPA and Ramsar
Distance to Norfolk Boreas (km)	150

Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Eider *Somateria mollissima*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Ringed plover *Charadrius hiaticula*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Sanderling *Calidris alba*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Black-tailed godwit *Limosa limosa islandica*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Curlew *Numenius arquata*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Dark-bellied brent goose *Branta bernicla bernicla*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Dunlin *Calidris alpina alpina*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Grey plover *Pluvialis squatarola*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Knot *Calidris canutus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Common tern *Sterna hirundo*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Lesser black-backed gull *Larus fuscus graellsii*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Little tern *Sterna albifrons*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Greenshank *Tringa nebularia*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Cormorant *Phalacrocorax carbo*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

Site	**186**											
Name of European Site:	**The Wash SPA and Ramsar**											
Distance to Norfolk Boreas (km)	**150**											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Avocet *Recurvirostra avosetta*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Ruff *Philomachus pugnax*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Whimbrel *Numenius phaeopus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Bean goose *Anser fabalis fabalis*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Common scoter *Melanitta nigra*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Oystercatcher *Haematopus ostralegus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Pink-footed goose *Anser brachyrhynchus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Greater white-fronted goose *Anser albifrons albifrons*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Red-throated diver *Gavia stellata*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
Spotted redshank *Tringa erythropus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
~~Pintail *Anas acuta*~~		~~N (b)~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~
Redshank *Tringa totanus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)
~~Shelduck *Tadorna tadorna*~~		~~N (b)~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~
~~Turnstone *Arenaria interpres*~~		~~N (b)~~		~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~	~~N (b)~~
Lapwing *Vanellus vanellus*		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

Site	**186**
Name of European Site:	**The Wash SPA and Ramsar**
Distance to Norfolk Boreas (km)	**150**

Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D

(a) Survey data show little or no evidence of The Wash SPA features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site during migration and, in addition, the predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at The Wash SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Ramsar criterion: the predicted effects attributable to Norfolk Boreas are so small that they would not have a significant effect alone or contribute to a significant effect or alter the overall in-combination assessment for these features at The Wash SPA and Ramsar (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	**187**
Name of European Site:	**Tregor Goëlo SAC**

Distance to Norfolk Boreas (km)	**594**														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	**188**											
Name of European Site:	**Troup, Pennan and Lion`s Heads SPA**											
Distance to Norfolk Boreas (km)	**593**											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding seabird assemblage including as named features razorbill, fulmar, guillemot, kittiwake, herring gull		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)
(a) Troup, Pennan & Lion's Heads SPA is beyond maximum foraging range of designated seabird species so has no breeding season connectivity. Proportions of these populations migrating through the Norfolk Boreas site are likely to be very small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1). (b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Troup, Pennan & Lion's Heads SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).											

Site	189														
Name of European Site:	Unterems und Außenems SCI														
Distance to Norfolk Boreas (km)	259														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	190														
Name of European Site:	Vadehavet med Ribe Å, Tved Å og Varde Å vest for Varde SAC														
Distance to Norfolk Boreas (km)	397														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)

Site	190
Name of European Site:	Vadehavet med Ribe Å, Tved Å og Varde Å vest for Varde SAC
Distance to Norfolk Boreas (km)	397
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).	

Site	191														
Name of European Site:	Venø, Venø Sund SAC														
Distance to Norfolk Boreas (km)	531														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	192
Name of European Site:	Vlaamse Banken SAC
Distance to Norfolk Boreas (km)	136
Marine Mammals	
Site Features	Likely effect(s) of Norfolk Boreas

Site	192
Name of European Site:	Vlaamse Banken SAC
Distance to Norfolk Boreas (km)	136

	Underwater noise			Vessel Interactions and disturbance at seal haul outs			Indirect effects on prey			Changes to water quality				In-combination							
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	
Harbour porpoise	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)	N (a)	N (a)							
Grey seal	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)	N (a)	N (a)							
Harbour seal	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)	N (a)	N (a)							

Fish

Site Features	Likely effect(s) of Norfolk Boreas																					
	Permanent habitat loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminated sediments			Underwater noise and vibration			Electromagnetic fields (EMF)			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Sea Lamprey	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)
Twaite Shad	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)

Benthic habitats

Site Features	Permanent loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminated sediments			Underwater noise and vibration			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D

Site	192																	
Name of European Site:	Vlaamse Banken SAC																	
Distance to Norfolk Boreas (km)	136																	
Reefs	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)
Sandbanks which are slightly covered by sea water all the time	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)	N(b)

a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 and Table 5.1 of offshore screening, document reference 5.3.5.1).

b) The distance between the offshore project area and the designated site is beyond the range of any potential LSE (see Table 4.1 of offshore screening, document reference 5.3.5.1).

Site	193				
Name of European Site:	Vlakte van de Raan SCI/SAC				
Distance to Norfolk Boreas (km)	153				
Marine Mammals					
Site Features	Likely effect(s) of Norfolk Boreas				
	Underwater noise	Vessel Interactions	Indirect effects on prey	Changes to water quality	In-combination

Site	193
Name of European Site:	Vlakte van de Raan SCI/SAC
Distance to Norfolk Boreas (km)	153

	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)	N (a)	N (a)
Grey seal	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)	N (a)	N (a)
Harbour seal	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)		N (a)	N (a)	N (a)	N (a)

Fish

Site Features	Likely effect(s) of Norfolk Boreas																				
	Permanent habitat loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminated sediments			Underwater noise and vibration			Electromagnetic fields (EMF)			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Sea Lamprey	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
River lamprey	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Twaite Shad	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)

a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 and Table 5.1 of offshore screening, document reference 5.3.5.1).

Site	**194**
Name of European Site	**Voordelta SPA and SAC**
Distance to Norfolk Boreas (km)	**118**

Ornithology

Site Features	Likely effect(s) of Norfolk Boreas											
		Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
		C	O	D	C	O	D	C	O	D	C	O	D
Wintering and passage waterbirds including cormorant, shelduck, ringed plover, dunlin, goldeneye, sanderling, little gull, eider, great crested grebe, greylag goose, Sandwich tern, avocet, gadwall, Slavonian grebe, spoonbill, red-breasted merganser, pintail, red-throated diver, bar-tailed godwit, oystercatcher, shoveler, wigeon, turnstone, scaup, redshank, common tern, teal, curlew, grey plover, common scoter			N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N(a)	N (b)	N (b)	N (b)

Marine mammals

Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Underwater noise			Underwater noise			Underwater noise			Underwater noise		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)		N (c)	N (c)	N (c)	N (c)

Site	**194**														
Name of European Site	**Voordelta SPA and SAC**														
Distance to Norfolk Boreas (km)	**118**														
Grey seal	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)		N (c)	N (c)	N (c)	N (c)
Harbour seal	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (c)		N (c)	N (c)	N (c)	N (c)

Fish																					
Site Features	Likely effect(s) of Norfolk Boreas																				
	Permanent habitat loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminated sediments			Underwater noise and vibration			Electromagnetic fields (EMF)			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Sea lamprey	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)
River lamprey	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)
Allis shad	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)
Twaite shad	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)	N(c)

Benthic Habitats	
	Likely effect(s) of Norfolk Boreas

Site	**194**
Name of European Site	**Voordelta SPA and SAC**
Distance to Norfolk Boreas (km)	**118**

Site Features		Permanent loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminate d sediments			Underwater noise and vibration			In-combination		
		C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time		N(d)	N(d)	N(d)	N(d)	N(d)	N(d)	N(d)	N(d)	N(d)	N(d)	N(d)	N(d)	N(d)	N(d)	N(d)	N(d)	N(d)	N(d)

a) Survey data show little or no evidence of Voordelta SPA features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site (see Table 6.1 of offshore screening, document reference 5.3.5.1).
b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Voordelta SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).
c) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 and 5.1 of offshore screening, document reference 5.3.5.1).
d) The distance between the offshore project area and the designated site is beyond the range of any potential LSE (see Table 4.1 of offshore screening, document reference 5.3.5.1).

Site	**195**
Name of European Site:	**Vrångöskärgården SAC**
Distance to Norfolk Boreas (km)	**768**

Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D

Site	195														
Name of European Site:	**Vrångöskärgården SAC**														
Distance to Norfolk Boreas (km)	**768**														
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	196											
Name of European Site:	**Waddenzee (Wadden Sea) SPA**											
Distance to Norfolk Boreas (km)	**105**											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding seabird assemblage including as named features lesser black-backed gull, little tern, common tern, Arctic tern, Sandwich tern		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (d)	N (d)	N (d)
Breeding waterbirds including Kentish plover, ringed plover, marsh harrier, spoonbill, avocet		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (d)	N (d)	N (d)
Wintering and passage waterbirds including pintail, shoveler, teal, wigeon, mallard, gadwall, greylag goose, bean goose *Anser fabalis*, turnstone, scaup, brent goose, barnacle goose, goldeneye,		N (c)		N (c)	N (c)	N (c)	N (c)	N (c)	N (c)	N (d)	N (d)	N (d)

Site	196											
Name of European Site:	Waddenzee (Wadden Sea) SPA											
Distance to Norfolk Boreas (km)	105											
sanderling, dunlin, knot, curlew sandpiper, ringed plover, black tern *Chlidonias niger*, hen harrier, Bewick's swan, oystercatcher, bar-tailed godwit, black-tailed godwit, red-breasted merganser, goosander, curlew, cormorant, spoonbill, golden plover, grey plover, great crested grebe, avocet, eider, shelduck, greenshank, redshank, lapwing												

(a) The Norfolk Boreas site is far beyond the mean maximum foraging range of designated breeding seabird species from this SPA, so has no breeding season connectivity. Proportions of these populations migrating through the Norfolk Boreas site are likely to be extremely small relative to BDMPS, not only because of the distance, but also because birds from this SPA are likely to use the west European flyway along the continental coast rather than crossing the southern North Sea. Lesser black-backed gull tracking has shown breeding birds do not cross the North Sea therefore no connectivity is expected for this species (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Survey data show little or no evidence of Waddenzee SPA breeding waterbird features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(c) Survey data show little or no evidence of Waddenzee SPA nonbreeding waterbird features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(d) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Waddenzee SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	197
Name of European Site:	Waddenzee SAC
Distance to Norfolk Boreas (km)	106

Marine Mammals

Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Grey seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)

Benthic Habitats

Site Features	Permanent loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminated sediments			Underwater noise and vibration			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)		N (b)	N (b)		N (b)	N (b)	N (b)	N (b)
Estuaries	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)		N (b)	N (b)		N (b)	N (b)	N (b)	N (b)
Mudflats and sandflats not covered by seawater at low tide	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)		N (b)	N (b)		N (b)	N (b)	N (b)	N (b)

a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).

Site	**197**
Name of European Site:	**Waddenzee SAC**
Distance to Norfolk Boreas (km)	**106**

b) The distance between the offshore project area and the designated site is beyond the range of any potential LSE (see Table 4.1 of offshore screening, document reference 5.3.5.1).

Site	**198**											
Name of European Site:	**West Westray SPA**											
Distance to Norfolk Boreas (km)	**766**											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Breeding seabird assemblage including as named features kittiwake, Arctic tern, fulmar, razorbill, Arctic skua, guillemot		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (b)	N (b)	N (b)

a) West Westray SPA is beyond maximum foraging range of designated seabird species so has no breeding season connectivity. Proportions of these populations migrating through the Norfolk Boreas site are likely to be very small relative to BDMPS (see Table 6.1 of offshore screening, document reference 5.3.5.1).

b) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at West Westray SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).

Site	199																			
Name of European Site:	Westerschelde & Saeftinghe SAC																			
Distance to Norfolk Boreas (km)	156																			
Fish																				
Site Features	Likely effect(s) of Norfolk Boreas																			
	Permanent habitat loss			Temporary physical disturbance			Smothering due to increased suspended sediment			Re- mobilisation of contaminated sediments			Underwater noise and vibration			Electromagnetic fields (EMF)			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
River lamprey	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
Twaite Shad	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 5.1 of offshore screening, document reference 5.3.5.1).																				

~~Site~~ ~~Name of European Site:~~ ~~Distance to Norfolk Boreas (km)~~	~~200~~ ~~Winterton – Horsey Dunes SAC~~ ~~74 (3.2 from cable corridor)~~														
~~Site Features~~	~~Likely effect(s) of Norfolk Boreas~~														
	~~Underwater noise~~			~~Vessel Interactions~~			~~Indirect effects on prey~~			~~Changes to water quality~~			~~In-combination~~		
	~~C~~	~~O~~	~~D~~	~~C~~	~~O~~	~~D~~	~~C~~	~~O~~	~~D~~	~~C~~	~~O~~	~~D~~	~~C~~	~~O~~	~~D~~
~~Grey seal~~	~~Y(a)~~	~~Y(a)~~	~~Y(a)~~	~~Y(a)~~	~~Y(a)~~	~~Y(a)~~	~~Y(a)~~	~~Y(a)~~	~~Y(a)~~	~~Y(a)~~		~~Y(a)~~	~~Y(a)~~	~~Y(a)~~	~~Y(a)~~
~~a) The grey seal haul-out site less than 5km from cable landfall site. Potential effects from underwater noise in cable corridor; vessel interactions in cable corridor; changes to water quality in cable corridor; changes to prey resources in cable corridor; and disturbance at seal haul-out sites cannot be ruled out and have been assessed in section 8.3.4 of the Information to Support Habitats Regulation Assessment Report (document reference 5.3).~~															

Site **Name of European Site:** **Distance to Norfolk Boreas (km)**	**201** **Yell Sound Coast SAC** **832**														
Site Features	Likely effect(s) of Norfolk Boreas														
	Underwater noise			Vessel Interactions			Indirect effects on prey			Changes to water quality			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)	N(a)		N(a)	N(a)	N(a)	N(a)
a) The distance between the potential impact range of Norfolk Boreas and the extent of any effect on individuals from this site would result in no potential for LSE (see Table 3.2 of offshore screening, document reference 5.3.5.1).															

Site	**202**
Name of European Site:	**Ythan Estuary, Sands of Forvie and Meikle Loch SPA**

Distance to Norfolk Boreas (km)	**553**											
Site Features	Likely effect(s) of Norfolk Boreas											
	Collision mortality			Displacement/Disturbance			Barrier Effect			Cumulative/In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Wintering and passage waterbird assemblage including as named features lapwing, eider, pink-footed goose, redshank		N (a)		N (a)	N (a)	N (a)	N (a)	N (a)	N (a)	N (c)	N (c)	N (c)
Breeding little tern, common tern, Sandwich tern		N (b)		N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)	N (b)

(a) Survey data show little or no evidence of Ythan Estuary, Sands of Forvie & Meikle Loch SPA features occurring in the Norfolk Boreas site, and migrations of birds from this SPA are likely to result in negligible numbers passing through the Norfolk Boreas site (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(b) Little tern, common tern and Sandwich tern have maximum foraging ranges from colonies of 11km, 30km and 54km respectively, so there is no connectivity between the SPA and Norfolk Boreas site which are 556km apart. Furthermore, these species tend to forage in coastal waters rather than offshore. Therefore, collision risk, displacement and barrier effects can be excluded (see Table 6.1 of offshore screening, document reference 5.3.5.1).

(c) The predicted effect attributable to Norfolk Boreas is so small that it would not significantly contribute to or alter the overall in-combination assessment for these features at Ythan Estuary, Sands of Forvie & Meikle Loch SPA (see Table 6.1 of offshore screening, document reference 5.3.5.1).