# Written Representations

# for the

# Royal Society for the Protection of Birds

**Submitted for Deadline 1**

**19 October 2021**

**Planning Act 2008 (as amended)**

**In the matter of:**

**Application by Alternative Use Boston Projects Limited for an Order Granting Development Consent for the Boston Alternative Energy Facility**

**Planning Inspectorate Ref: EN010095**

**Registration Identification Ref: 20028367**

## Contents


1. Introduction ..... 8

a) The RSPB ..... 8

b) Scope of Written submissions ..... 8

2. Summary of the RSPB's position with respect to the Application ..... 9

3. Overview of the nature conservation interest of the area affected by the proposed Facility ..... 12

a) Introduction to Special Protection Areas ..... 15

Selection criteria of SPAs ..... 15

Site conservation objectives for SPAs ..... 15

Marine Conservation Advice Packages for SPAs ..... 15

b) Greater Wash SPA ..... 16

Reasons for classification of the Greater Wash SPA ..... 16

Site conservation objectives for the Greater Wash SPA ..... 16

Marine conservation advice for the Greater Wash SPA ..... 17

Summary of the RSPB's position regarding the Greater Wash SPA ..... 17

c) The Wash SPA ..... 17

Reasons for classification of The Wash SPA ..... 17

Site conservation objectives for The Wash SPA ..... 18

Marine Conservation Advice Package for The Wash SPA ..... 18

Implications of the UK SPA Review ..... 20

Features of The Wash SPA impacted at the Application site and the mouth of The Haven ..... 21

Features of The Wash SPA impacted at the anchorage site in The Wash ..... 26

d) Introduction to SACs affected by the Application ..... 27

Site selection criteria for SACs ..... 27

Site conservation objectives for SACs ..... 27

Marine Conservation Advice Packages for SACs ..... 27

e) The Wash & North Norfolk Coast SAC ..... 28

Reasons for classification of The Wash & North Norfolk Coast SAC ..... 28

Site conservation objectives for The Wash & North Norfolk Coast SAC SPA ..... 28

Marine Conservation Advice Package for The Wash & North Norfolk Coast SAC ..... 29

Features of The Wash & North Norfolk Coast SAC impacted by the Application ..... 29

f) Introduction to Ramsar sites ..... 30

Site selection criteria ..... 30

g) The Wash Ramsar ..... 30

Reasons for classification of The Wash Ramsar ..... 30

Features of The Wash Ramsar impacted by the Application ..... 30

h) Introduction to Sites of Special Scientific Interest (SSSIs) ..... 31

Site selection criteria ..... 31
i) The Wash SSSI ..... 32
Overview of breeding redshank on The Wash ..... 32
Relevance to the Application ..... 33
j) Introduction to the Lincolnshire Wash reserves ..... 33
RSPB Freiston Shore ..... 33
RSPB Frampton Marsh ..... 34
k) Summary of consideration of SPAs, SACs, Ramsars and SSSIs ..... 35
4. Overview of the Wetland Bird Survey data and its use in assessing impacts on The Wash ..... 36
a) About the Wetland Bird Survey ..... 36
b) Conservation and Monitoring of Migratory Waterbirds ..... 37
c) Alerts 2016/17 summary for The Wash SPA ..... 37
d) Review of WeBS Alerts for species that could be significantly impacted by the Application ..... 39
Introduction to WeBS Alerts accounts for species affected by the Application ..... 39
Dark-bellied brent goose ..... 39
Shelduck ..... 40
Curlew 40
Black-tailed Godwit ..... 40
Turnstone ..... 40
Dunlin 41
e) Review of WeBS Alerts for species that we consider will not be significantly impacted at the Application site or mouth of The Haven ..... 41
Introduction to WeBS Alerts for species not observed at the Application site or mouth of The Haven ..... 41
Bewick's swan ..... 41
Gadwall ..... 41
Pintail 42
Common scoter ..... 42
Goldeneye ..... 42
Grey plover ..... 42
f) Implications of WeBS Alerts ..... 43
g) Key WeBS sectors that are applicable to the assessment of the Boston Alternative Energy Facility ..... 43
5. The RSPB's engagement with the Application ..... 44
a) Engagement with the Application through 2019 ..... 44
b) Engagement with the Application through 2020 ..... 45
c) Engagement with the Application through 2021 ..... 45
d) Conclusions in respect to engagement with the Application ..... 46

6. The RSPB's concerns regarding the quality and limitations of the survey data collected to inform conclusions about the impact of the Facility on The Wash SPA/Ramsar/SSSI ..... 46
a) Failure to collect bird data to inform the PEIR ..... 46
b) Limited bird data gathered to inform the Application ..... 46
c) Limitations of the available evidence to inform the Application ..... 47
d) Note about cold weather periods ..... 48
7. The RSPB's concerns regarding impacts arising from the Application ..... 48
a) Introduction to the RSPB's concerns ..... 48
b) Habitat loss - Loss of saltmarsh and intertidal mudflat at the wharf site ..... 50
Predicted losses of saltmarsh and intertidal mudflat ..... 50
Impact to foraging birds associated with The Wash SPA/Ramsar/SSSI ..... 50
Loss of redshank roost and foraging area ..... 52
Mitigating impacts to the redshank roost ..... 54
c) Construction and operational noise - Effect of noise on birds using The Haven ..... 56
Introduction the consideration of noise impacts associated with the Application ..... 56
Definitions of daytime and night-time ..... 56
Impulsive noise disturbance threshold ..... 57
Lack of noise maps to understand sound levels along The Haven ..... 58
Consideration of noise associated with the operation of the Wharf ..... 58
Proposed mitigation of noise impacts during construction ..... 59
Conclusions regarding the impact of noise associated with construction and operation of the Facility ..... 60
d) Visual disturbance on birds using The Haven adjacent to the Application site ..... 60
Introduction to visual disturbance adjacent the Application site ..... 60
Clarity on the numbers of vessels using the wharf ..... 61
Visual disturbance arising from construction and operation activities at the Application site ..... 61
Impact of vessel movements on birds at wharf area ..... 62
e) Visual disturbance on birds at the mouth of The Haven and its approaches ..... 64
Introduction to visual disturbance at the mouth of The Haven and its approaches ..... 64
Clarity on vessel movements on rising and falling tides along The Haven and within The Wash ..... 66
Impact from pilot vessels ..... 66
Assessing impacts of vessel movements across the tidal cycle ..... 67
Assessing the impact of successive vessel movements ..... 68
Consideration of the number of birds using The Wash SPA ..... 69
Assessing the effect of displacement on qualifying features of The Wash SPA/Ramsar ..... 70
Energy budget ..... 73
Displacement around the shipping lane ..... 73
Variation in vessel numbers over time ..... 74

Understanding the dynamics of birds at the mouth of The Haven ..... 75
The need to better understand the trend in bird numbers and distribution ..... 76
Vessel movements ..... 77
f) Lighting impacts during construction and operation ..... 77
g) Potential impacts on water arising from the Application ..... 78
Pollution impacts and control measures associated with the increased vessel movement ..... 78
Water discharge, run-off and control measures ..... 79
Water supply for the Facility ..... 81
h) Concerns about the quality of proposed mitigation and the lack of compensation measures identified to ensure the integrity of The Wash SPA/Ramsar/SSSI is maintained ..... 81
Comments on the proposed mitigation for impacts on terrestrial ecology ..... 81
Reliance on the RSPB's reserves at Freiston Shore and Frampton Marsh to deliver compensation ..... 82
The need to better understand the potential for the fishing fleet might need to relocate south of the facility with the Environmental Statement and Habitats Regulations Assessment ..... 82
i) Assessment of alternative options ..... 83
j) Summary of the RSPB's position ..... 83
8. Policy and Legislation Background ..... 84
a) The Ramsar Convention ..... 84
b) The Birds Directive ..... 84
SPA tightly drawn boundaries ..... 86
c) The Habitats Directive ..... 86
d) Uncertainty and the Precautionary Approach ..... 87
e) The Habitats Regulations ..... 87
SPA and SAC Conservation Objectives ..... 88
Principles for Undertaking an Appropriate Assessment ..... 88
Site Integrity ..... 89
Functionally linked land ..... 90
Mitigation Measures ..... 90
f) Habitats Regulations General Duties ..... 91
g) The Wildlife and Countryside Act 1981 ..... 93
Sites of Special Scientific Interest ..... 93
h) Energy Policy Background ..... 94
i) The Biodiversity Duty ..... 95
j) The EIA Requirements ..... 95
EIA Directive Preamble ..... 95
k) The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 ..... 96
The Worst Case Scenario ..... 98

All Aspects of the Proposed Development ..... 98
l) The Development Consent Order - Initial Concerns ..... 98
m) Legal Conclusions ..... 99
9. The RSPB's concerns regarding failure to provide an in-principle derogation case ..... 99
10. RSPB's approach to evaluating compensation measures under the Conservation of Habitats and Species Regulations 2017 (as amended) ..... 100
a) The need to submit an "in principle" derogation package for public scrutiny ..... 100
b) The RSPB's approach to assessing compensation proposals ..... 102
c) What level of detail is required on proposed compensation measures? ..... 106
11. Assessment of cumulative and in combination impacts ..... 108
12. The RSPB's concerns regarding the significant reliance on developing plans to address impacts post-consent. ..... 109
13. Biodiversity Net Gain ..... 110
a) Summary of biodiversity net gain comments ..... 110
b) Approach to BNG and direct adverse impact on The Wash ..... 111
c) Inclusion of mitigation and compensation measures ..... 114
d) Biodiversity metric 2.0 ..... 115
e) Mechanism for securing net gain ..... 115
f) Baseline ..... 116
g) The time for habitats to reach target condition (temporal risk) ..... 117
h) Net % change calculation ..... 118
i) Evidence base for on-site habitat creation ..... 118
j) Evidence base for off-site habitat creation ..... 119
k) Replacement of higher distinctiveness habitats with those of lower distinctiveness ..... 119
l) Conclusions regarding the Applicant's approach to BNG ..... 120
14. CONCLUSIONS ..... 120
Appendix 1: Species Accounts to Written Representations ..... 123
a) Redshank (*Tringa totanus*) ..... 123
b) Black-tailed Godwit (*Limosa limosa*) ..... 125
c) Dark-bellied brent goose (*Branta bernicla*) ..... 126
d) Golden plover (*Pluvialis apricaria*) ..... 127
e) Lapwing (*Vanellus vanellus*) ..... 128
f) Curlew (*Numenius arquata*) ..... 129
g) Oystercatcher (*Haematopus ostralegus*) ..... 131
h) Shelduck (*Tadorna tadorna*) ..... 132
i) Turnstone (*Arenaria interpres*) ..... 133
j) Ruff (*Philomachus pugnax*) ..... 134

k) Lesser black-backed gull (*Larus fuscus*) ..... 135
l) Common Tern (*Sterna hirundo*) ..... 136
Appendix 2: Detailed Account of Engagement with the Applicant ..... 138
a) Engagement with the Application regarding their Preliminary Environmental Information Report ..... 138
b) Engagement with Applicant prior to the initial DCO submission ..... 142
c) Engagement with the Applicant following the withdrawal of the initial DCO application ..... 147
d) Engagement with the Applicant post-DCO resubmission ..... 151
Appendix 3: Data table of bird disturbances from bird survey reports to inform impacts of increased vessel movements on qualifying features of The Wash SPA/Ramsar/SSSI ..... 156
Appendix 4: Reference list of the Written Representations ..... 159
a) Citations/Conservation Objectives/Supplementary Advice/Operations Likely to Damage/Views About Management ..... 159
b) Environmental Statement References ..... 159
c) References ..... 160

# 1. Introduction

1.1 The RSPB has engaged with the proposed Boston Alternative Energy Facility (the Facility) Development Consent Order (DCO) Application (the Application) since 2019. We have sought to engage constructively in pre-application discussions with Alternative Use Boston Projects Limited (the Applicant) and, in particular, their consultant Royal Haskoning DHV (RHDHV), in respect of the Application. The following sets out information about the RSPB, and the scope of our Written Representations.

## a) The RSPB

1.2 The Royal Society for the Protection of Birds (the RSPB) was set up in 1889. It is a registered charity incorporated by Royal Charter and is Europe's largest wildlife conservation organisation, with a membership of 1.1 million (RSPB, 2021)[1]. The RSPB manages 220 nature reserves in the UK covering 158,725 hectares.

1.3 The principal objective of the RSPB is the conservation of wild birds and their habitats. The RSPB therefore attaches great importance to all international, EU and national law, policy and guidance that assist in the attainment of this objective. It campaigns throughout the UK and in international fora for the development, strengthening and enforcement of such law and policy. In so doing, it also plays an active role in the domestic processes by which development plans and proposals are scrutinised and considered, offering ornithological and other wider environmental expertise. This includes making representations to, and appearing at, public inquiries and hearings during the examination of applications for development consents.

1.4 Inappropriately designed and/or sited developments can cause serious and irreparable harm to biodiversity. Such impacts are avoidable, and the RSPB spends considerable time working with stakeholders to ensure that decisions about new developments take account of environmental constraints and seek to avoid or minimise impacts wherever possible. The RSPB therefore strongly advocates the use of rigorous, participative environmental assessments to inform the development of projects.

## b) Scope of Written submissions

1.5 This Written Submission covers the following:

- A summary of the RSPB's concerns regarding the proposed Facility.
- An overview of the Protected Sites and RSPB reserves that could be impacted by the Application.
- A review of the Wetland Bird Survey: what it is, and how its findings help understand the status of bird species associated with The Wash. Detailed species accounts are provided in Appendix 1.
- An overview of our engagement with the Application. A detailed account of our engagement with the application is provided in Appendix 2.
- An overview of our concerns regarding the methodology of the ornithological surveys and the limitations they have in drawing conclusions about the impact of the Application on The Wash.
- A review of our concerns regarding direct impacts on birds using The Haven from the Application.
- A review of our concerns regarding indirect or knock-on impacts on birds using The Haven from the Application.

[redacted]

- A note on our concerns that an in-principle derogation case has not been submitted to date.
- A note on our concerns regarding the cumulative and in-combination assessment of impacts on The Haven and its approaches.
- A note on our concerns about the development of detailed plans post-consent without having full scrutiny by the Examining Authority and Interested Parties during the Examination.
- An overview of the policy and legislation relevant to the Application.
- An overview of our position on the approach the Applicant must take to developing suitable compensation measures to address adverse effects on the bird interest of The Wash, including their supporting habitat.
- An overview of our position with respect to Biodiversity Net Gain and the approach required by the Applicant.
- A summary of our concerns and position regarding the Application.

1.6 The RSPB is at an early stage of working with the Applicant on a Statement of Common Ground (SoCG) covering all relevant ecological issues that have formed the focus of our engagement with the Application. We will endeavour to work with the Applicant to provide an initial SoCG for Deadline 2 (11 November 2021).

## 2. Summary of the RSPB's position with respect to the Application

2.1 The Wash is home to an array of internationally important wildlife and an important stop off point for passage birds travelling along the East Atlantic flyway. The Wash itself is the most extensive bay in England, home to the UK's largest gathering of wintering waterbirds and one of the most important wetlands for wildlife in Europe. The Wash provides countless homes for nature and a plethora of services for people, including natural flood defences and wellbeing benefits. These benefits, however, are intrinsically linked to a healthy coast which we know is at risk from the effects of growing recreational disturbance, intensive farming, development, and climate change.

2.2 The RSPB is working with partners such as the Environment Agency, Natural England, and Lincolnshire Wildlife Trust to deliver a bigger, better, and more connected coastal landscape around The Wash, which is protected from damaging impacts, valued, and respected by local communities and visitors, and is better equipped to cope with climate change. Our nature reserves are the 'engines of landscape restoration' and provide important havens for local residents, as well as supporting tourism within the area. By working closely in partnership with private landowners, conservation organisations, government, and local communities we focus on protecting, restoring, and creating new habitat so that threatened species and habitats which are often isolated and fragmented, can become more resilient to pressures. The work we and our partners are undertaking will make a significant contribution to ensuring that more than 30% of land in England will be well-managed for nature by 2030.

2.3 Where development and activities are proposed in areas that could impact on The Wash, our reserves and other important sites managed by our partners, we will seek to defend them to ensure that they continue to support their important wildlife and habitats and that the wider benefits that they bring are maintained. A fundamental principle of the mitigation hierarchy is to avoid damage to such sites in the first instance. All efforts must be made to minimise [redacted] The Wash and functionally linked sites that support its conservation objectives.

2.4 The Wash covers 62,211.66ha (around 615km$^2$, or 15 by 15 miles) and is of international importance for the numbers of waders, wildfowl, terns, and gulls that it supports, as well as important

proportions of threatened habitats. This is reflected in its classification as a Ramsar site and as a Special Protection Area (SPA) within the National Site Network[2] for the significant numbers of birds it supports. Its important habitats and other wildlife populations, such as harbour seals, are recognised within The Wash & North Norfolk Coast Special Area of Conservation (SAC). The Wash is therefore of international and European importance. Consequently, The Wash is also a nationally important site for the species populations and habitats its supports and is classified as a Site of Special Scientific Interest (SSSI) that underpins the former designations.

2.5 The current condition of the SSSI units within The Wash is considered to be 68% favourable, 31.5% unfavourable recovering, and 0.5% unfavourable declining. However, there are also a range of species which have shown considerable declines in number and are of increasing concern, with many of these declines not currently reflected in the condition assessment for The Wash. For example, The Wash SSSI's Favourable Condition Table, states that "*the site should be judged unfavourable if the baseline mean peak breeding density of redshank within the mature saltmarsh declines by 25% or more*." The decline for this species is much greater than 25%, with breeding redshank numbers having declined by 56% across The Wash and by 79% on saltmarsh around our Frampton Marsh reserve.

2.6 There are a range of threats that need to be carefully managed around The Wash to ensure that the important wildlife and habitats that it supports are maintained. Increased development and recreational disturbance are major threats. These can cause disturbance to the many birds that The Wash provides an important site for breeding, wintering and as a place to refuel on migration. This can affect the success of birds to find safe nest sites and successfully rear their chicks. If wintering and migrating waterbirds cannot find quiet foraging and roosting sites, this can increase their energy expenditure which can reduce their survival or ability to breed the following year. If there are fewer young birds successfully leaving the nest and overwinter survival increases this will lead to population declines. This is of serious concern for the proposed Facility, especially given the increase in vessel movements which have been observed to cause disturbance to roosting birds on The Haven, as well as some foraging birds. Increases in noise and lighting during construction and operation are also concerns. Understanding the scale of disturbance that the proposed Facility will generate both during the day and at night is critical to inform possible measures to address the impacts.

2.7 New development can also remove water from the environment, reduce water quality, impact on coastal processes, and affect flood risk. All these issues need to be carefully managed year-round, especially against the backdrop of climate change that is already impacting on the wildlife and habitats of The Wash. Evidence of such pressures causing declines in bird numbers using The Wash comes from the Wetland Bird Survey, which has highlighted a number of species that have declined and as the trend is against that of the wider UK strongly suggests that there are specific issues around The Wash that need to be managed. It is important that the proposed Facility does not exacerbate any of these effects, as even small additional impacts can reduce survival and compromise efforts to restore species and habitats.

2.8 Despite its size, The Wash is vulnerable to such impacts. This is in part due to certain areas of The Wash having greater importance for different species, and also seasonally. The area affected by the Facility is one that supports a large number of birds and important intertidal habitats. In such areas impacts that result in the disturbance and displacement of significant numbers of birds that are features of The Wash will undermine the conservation objectives of the protected sites and make any restoration targets more difficult, or even impossible, to achieve.

[2] Formerly the Natura 2000 network of sites of European importance.

2.9 The loss of habitat associated with the Facility will also undermine the conservation objectives of The Wash. The direct loss of the redshank roost as a result if the wharf construction is a serious concern and must be compensated. With respect to the loss of intertidal habitat (saltmarsh and mudflat), whilst it is possible to recreate such losses, newly created habitat is typically of a lower quality with respect to the amount of food that is available. The structure of the new habitat also takes time to develop and means that the overall number of species is typically lower, at least until the habitat matures. It is therefore critical that the mitigation hierarchy is strictly applied. Protected habitats should be avoided in the first instance, and only when it is demonstrated that no other less damaging alternatives exist, compensation be provided at a greater than 1:1 ratio. Any habitat lost must be minimised.

2.10 It is of serious concern that as the Examination starts, the Applicant has not developed a full baseline of the ecological importance of the whole of The Haven, which could be impacted both from the Facility and the c.150% increase in vessel movements. It is also unclear what impact will occur from capital dredging, and most importantly, future maintenance dredging needed to maintain navigation to the facility (impact on erosion of intertidal habitats and impact on foraging and roosting features of The Wash SPA/Ramsar/SSSI). There has been no assessment of the disturbance and displacement of birds due to vessel movements along the entirety of The Haven. There has been no assessment work to understand the effect of recreational pressure and other activities along the whole of The Haven that could cause disturbance to birds using The Haven. This means that a full understanding of the numbers of birds affected and their distribution (i.e. important locations for foraging and roosting) along the length of The Haven are not known. No evidence of the impact of vessels on roosting and foraging birds in the approaches to The Haven and the vessel anchorage area has also been presented to understand the baseline extent of vessel disturbance to features pf The Wash SPA/Ramsar/SSSI within The Wash and therefore assess the effect of increased vessel movements. Consequently, the full extent of measures to compensate for impacts of the Application alone or in-combination with other projects/activities or plans remain unknown at this time. We therefore consider the current assessments are inadequate and that there has been a lack of consideration of the full suite of conservation objectives for The Wash SPA/Ramsar/SSSI that could be adversely affected by the Application. We do not consider the Application demonstrates that the population and distribution of each qualifying feature will be maintained or restored, or the extent, distribution, structure, and function of the supporting habitats will be maintained or restore.

2.11 Given the international importance of The Wash, the RSPB has concerns with the approach that the Applicant is taking to the Facility to ensure that this exceptional site is not irreparably damaged. We have therefore set out our expectations with respect to the policy and legal framework governing the Application. With respect to the mitigation hierarchy, we also set out the criteria against which the Application must be judged and against which we are assessing the proposal. Of key concern is that the Applicant has provided limited justification for the development to be sited in the identified location, with no alternative options detailed to demonstrate that there are no less environmentally damaging alternatives. This also applies to consideration of compensation habitat areas to ensure that the most appropriate and deliverable options can be developed. Whilst the Applicant has confirmed that an in-principle derogation case is being developed, no details have yet been submitted for Interested Parties to review and provide comments. We welcome the Applicant's intention to provide this information at Deadline 2 (11 November 2021) which we consider essential if interested parties are to have sufficient time to evaluate and respond during the course of the Examination. A more detailed options appraisal relating to the choice of site and is also required.

2.12 The provision of the Applicant's in-principle derogation is also essential. This will set out the measures the Applicant would take to address adverse impacts arising from the Application on qualifying

features of The Wash SPA/Ramsar/SSSI. This is necessary to ensure such measures can be secured and delivered, along with an appropriate monitoring package to ensure HRA conclusions are appropriate and that any compensation measures do maintain or restore populations of the qualifying features impacted by the Application.

2.13 We also set out our expectations with respect to determining Biodiversity Net Gain. It is critical that such proposals "*…provide an increase in appropriate natural habitat and ecological features over and above that being affected in such a way it is hoped that the current loss of biodiversity through development will be halted and ecological networks can be restored*."[3] We do not consider current proposals show that proposed Biodiversity Net Gain is above and beyond measures needed to compensate for impacts on qualifying features of The Wash SPA/Ramsar/SSSI, or that the full benefits of Biodiversity Net Gain measures have been explored fully, and we support the views of Boston Borough Council and the Environment Agency in their Relevant Representations.[4] [5]

2.14 In summary, we do not consider it possible to construct the facility at this location without significant effects on The Wash SPA/Ramsar/SSSI and The Wash & North Norfolk Coast SAC and, potentially, the RSPB's reserves at Frampton Marsh and Freiston Shore. The proposals have the potential to damage highly protected wildlife sites and to impact nationally and internationally important populations of rare species, which are valued in their own right, by those that live near and visit The Wash, and all who care about nature conservation across the UK and beyond.

2.15 Despite ongoing discussions with the Applicant, our concerns have not been allayed. The RSPB, therefore, does not consider the Applicant has provided sufficient and/or appropriate evidence to demonstrate, beyond reasonable scientific doubt, that there will not be an adverse effect on the integrity of The Wash SPA/Ramsar. Similarly, we cannot conclude that The Wash SSSI will not be adversely affected. The RSPB supports the views of Natural England and the Lincolnshire Wildlife Trust with respect to concerns about The Wash & North Norfolk Coast SAC, due to the potential adverse effects on harbour seal.

## 3. Overview of the nature conservation interest of the area affected by the proposed Facility

3.1 The RSPB's concerns with the proposed Facility are its potential adverse effects on the integrity of:

- The Wash Special Protection Area (SPA),
- The Wash Ramsar site,
- The Wash & North Norfolk Coast Special Area of Conservation (SAC),
- The Wash Site of Special Scientific Interest (SSSI).

3.2 For completeness, we have also considered the potential impacts on the Greater Wash SPA. Vessels travelling to the Facility will need to transit the Greater Wash SPA. We accept that this is an already heavily used area for navigation and impacts on this site area unlikely. We therefore accept the

[3] CIEEM – Biodiversity Net Gain – Principles and Guidance for UK Construction and Developments: https://cieem.net/i-am/current-projects/biodiversity-net-gain/

[4] Boston Borough Council Relevant Representation [redacted]

[5] Environment Agency Relevant Representation [redacted]

Applicant's statement of no significant impacts on this site within their Habitats Regulations Assessment (HRA), based on the currently available information [6].

3.3 The boundaries of these protected sites overlap, and they extend 4.3km upstream of the mouth of The Haven to the area near the Hobhole sluice[7] (Figure 1). The Application site is a further 2.8km upstream of Hobhole (see also Figure 13.1 from Chapter 13 that provides an overview of the drainage network in the area and identifies the Hobhole area).[8] The Application site is therefore functionally linked to The Wash due to The Haven river.

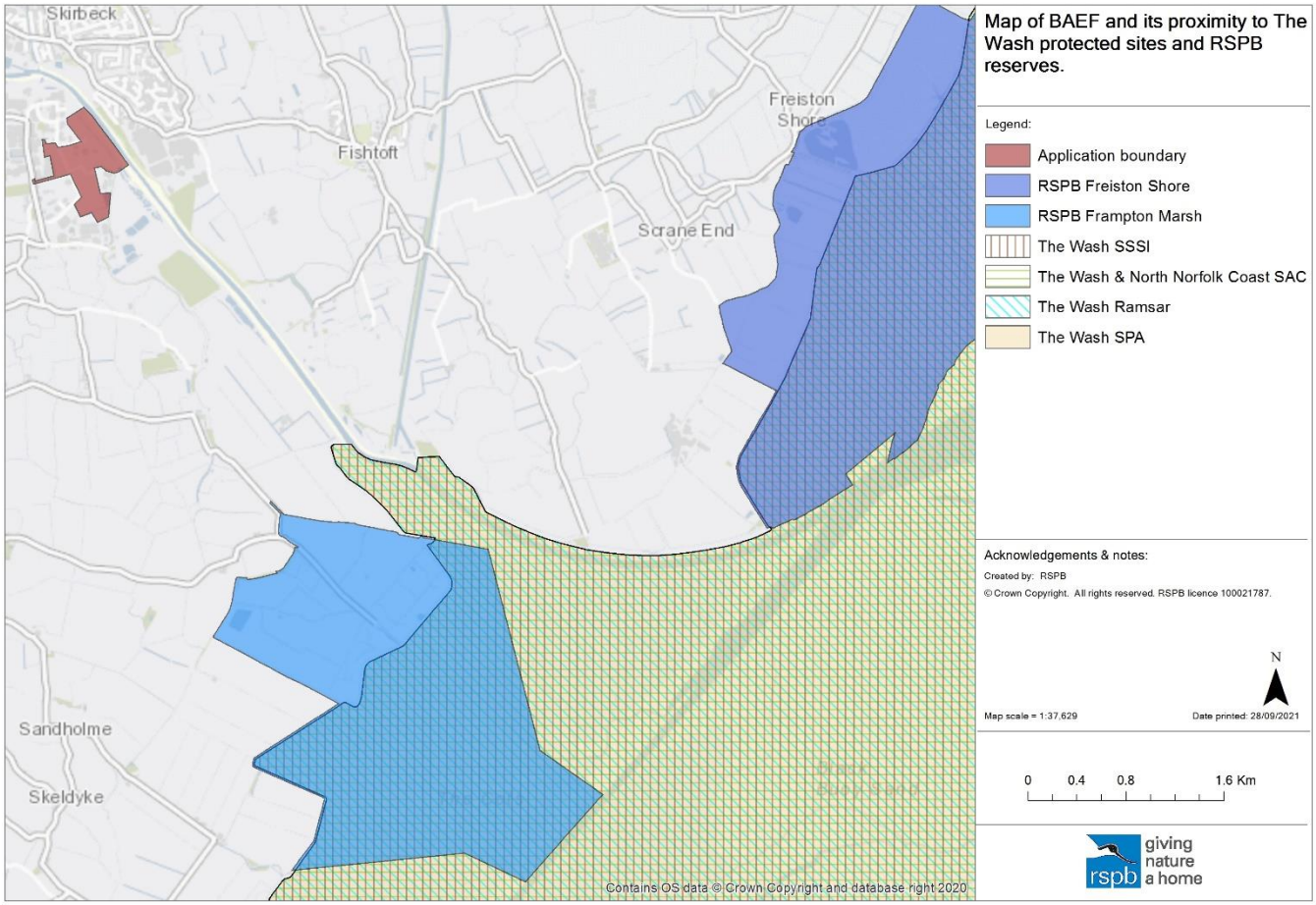


Figure 1: Map showing the application site and its proximity to The Wash protected areas and RSPB reserves.

3.4 SPAs and SACs collectively form the UK's National Site Network, as defined by the Conservation of Species and Habitats Regulations 2017 (as amended). Ramsar sites are considered as part of the National Site Network. Generic conservation targets have been set for SPAs and SACs. Natural England have also developed 'Supplementary Advice on Conservation Objectives' for SPAs and SACs, of which The Wash is such a site. These targets are important to ensure that the site features remain in Favourable Conservation Status. We provide more detail on these designations in Sections 3a, 3b and 8 below.

[6] Paragraph A17.3.3 (pp. 4-5) of 6.4.18 Environmental Statement - Appendix 17.1 - Habitats Regulations Assessment (APP-111).

[7] See [redacted] for more detail on the Hobhole sluice.

[8] [redacted] APP-084)

3.5 Sites of Special Scientific Interest are designated by Natural England in accordance with the Wildlife and Countryside Act 1981 (as amended). They are sites that support an important proportion of the UK's wildlife and habitats, as well as special geology and landform features. We provide more detail on the background to SSSIs in Sections 3h and 8 below.

3.6 Below we provide a brief summary of each affected site and their relevant qualifying features.

3.7 In addition to the protected sites that could be impacted by the Application, the RSPB's Frampton Marsh and Freiston Shore reserves are near to the site (Figure 1). These too are functionally linked to the SPA and Ramsar site. Our reserves could be indirectly impacted by disturbance affecting birds that forage and roost on the reserves. There is also the potential for any run-off from the Facility to indirectly impact RSPB Frampton Marsh nature reserve, as we abstract up to 500,000m$^3$ per annum from the local drainage network before water is discharged to The Haven via the Wyberton Marsh pumping station (Figure 2). The Application, therefore, has the potential to affect the species and habitats for which we manage the reserves. We provide a brief summary of the reserves and their interest features below.

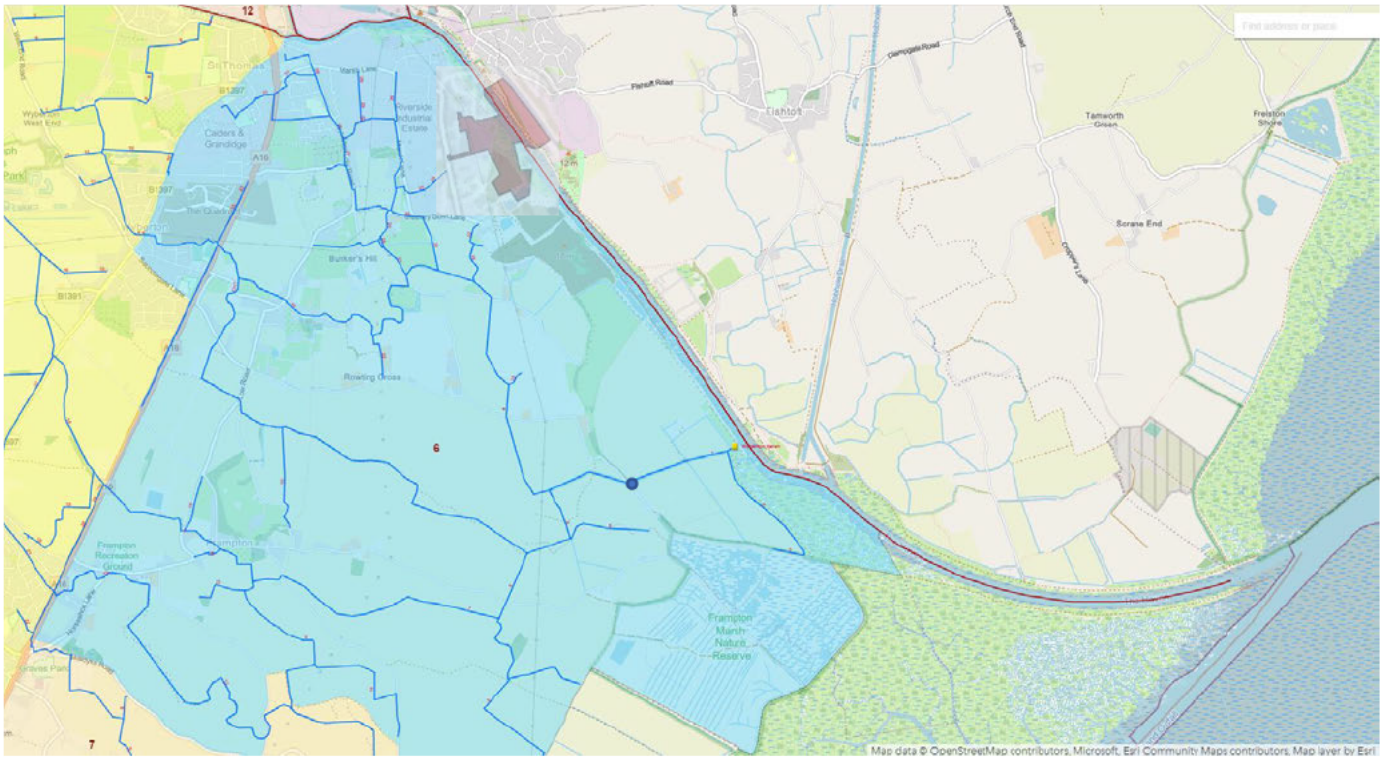


Figure 2: This map shows the drainage network within the Black Sluice Internal Drainage Board (IDB) catchment. The Application site has been added and shows the drains flowing from the site. Water moves south through the drainage network and is pumped into The Haven from Wyberton Marsh (yellow marker). Water is pumped from the drainage network and into Frampton Marsh at the blue marker. Taken from [redacted]

## a) Introduction to Special Protection Areas

*Selection criteria of SPAs*

3.8 The Joint Nature Conservation Committee (JNCC) oversees the classification of SPAs[9] Sites are first identified where:

- An area is used regularly by 1% or more of the Great Britain (or in Northern Ireland, the all-Ireland) population of a species listed in Annex I of the Birds Directive (79/409/EEC as amended) in any season.
- An area is used regularly by 1% or more of the biogeographical population of a regularly occurring migratory species (other than those listed in Annex I) in any season.
- An area is used regularly by over 20,000 waterfowl (waterfowl as defined by the Ramsar Convention) or 20,000 seabirds in any season.
- An area which meets the requirements of one or more of the Stage 2 guidelines in any season, where the application of Stage 1 guidelines 1, 2 or 3 for a species does not identify an adequate suite of most suitable sites for the conservation of that species.

3.9 Such sites that may qualify as SPAs are also considered against the following criteria (known as Stage 2):

- *Population size and density*: Areas holding or supporting more birds than others and/or holding or supporting birds at higher concentrations are favoured for selection.
- *Species range*: Areas selected for a given species provide as wide a geographic coverage across the species' range as possible.
- *Breeding success*: Areas of higher breeding success than others are favoured for selection.
- *History of occupancy*: Areas known to have a longer history of occupation or use by the relevant species are favoured for selection.
- *Multi-species areas*: Areas holding or supporting the larger number of qualifying species under Article 4 of the Directive are favoured for selection.
- *Naturalness*: Areas comprising natural or semi-natural habitats are favoured for selection over those which do not.
- *Severe weather refuges*: Areas used at least once a decade by significant proportions of the biogeographical population of a species in periods of severe weather in any season, and which are vital to the survival of a viable population, are favoured for selection.

*Site conservation objectives for SPAs*

3.10 To support the management of SPAs, Natural England has set out conservation objectives. These are generic to all SPAs.

*Marine Conservation Advice Packages for SPAs*

3.11 For The Wash SPA, Natural England has also prepared detailed marine conservation advice packages.[10] These support the site conservation objectives described above and identify a range of

[9] Special Protection Area overview at [redacted]

[10] The Wash SPA Marine Conservation Advice Package - [redacted]

attributes that need to be managed to ensure that the sites and their features remain in, or are restored to, favourable conservation status. The Application documents must consider the full suite of conservation objectives **and** associated conservation advice for The Wash. Importantly, the Applicant must demonstrate that any restoration targets will not be compromised. These should be read in conjunction with the high-level site conservation objectives.

3.12 There are two SPAs that need to be considered in the Application: the Greater Wash SPA and The Wash SPA. We provide an overview of the site features, conservation objectives and supplementary advice on conservation objectives below.

### b) Greater Wash SPA

*Reasons for classification of the Greater Wash SPA*

3.13 The Greater Wash SPA was classified under Articles 4(1) and 4(2) of the Birds Directive as a SPA in 2018 due to its importance for Annex 1 and regularly occurring migratory species.[11] It covers an area of c.3,536km$^2$ from Bridlington Bay in the north to Great Yarmouth in the south. The northern section (Bridlington to the Humber) contains primarily coarse sediments, with occasional areas of sand, mud, and mixed sediments, as well as subtidal sandbanks comprised of sand and coarse sediments. Offshore, soft sediments dominate, with extensive areas of subtidal sandbanks off The Wash, as well as north and east Norfolk coasts. Closer inshore at The Wash and north Norfolk coast, sediments comprise a mosaic of sand, muddy sand, mixed sediments, and coarse sediments, as well as occasional Annex I reefs. It qualifies by regularly supporting the following qualifying features:

- Red-throated diver (*Gavia stellata*), non-breeding
- Common scoter (*Melanitta nigra*), non-breeding
- Little gull (*Hydrocoloeus minutus*), non-breeding
- Sandwich tern (*Sterna sandvicensis*), breeding
- Common tern (*Sterna hirundo*), breeding
- Little tern (*Sternula albifrons*), breeding

*Site conservation objectives for the Greater Wash SPA*

3.14 Natural England has set site conservation objectives for the Greater Wash SPA as follows:

"*With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;*

***Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;***

- ***The extent and distribution of the habitats of the qualifying features***
- ***The structure and function of the habitats of the qualifying features***
- ***The supporting processes on which the habitats of the qualifying features rely***

[redacted]

[11] Greater Wash SPA citation and conservation objectives:
[redacted]

- ***The population of each of the qualifying features, and,***
- ***The distribution of the qualifying features within the site."***[12]

*Marine conservation advice for the Greater Wash SPA*

3.15 There is no marine conservation advice package developed for the Greater Wash SPA.

*Summary of the RSPB's position regarding the Greater Wash SPA*

3.16 The RSPB recognises that the Greater Wash SPA is some distance from the BAEF. The main pathway for the site to be impacted will be the additional large vessel movements associated with the delivery of construction materials, the delivery of Refuse Derived Fuel (RDF), and the removal of the created construction aggregate. These vessels will become part of the large number of vessels that transit the Greater Wash annually. We accept that for this DCO application the potential impact on features of the Greater Wash SPA will be limited and will consequently not form a focus of our comments. The site information is provided for completeness and to ensure clarity on the RSPB's position on all sites within the National Site Network that could potentially be affected by the proposed BAEF development. The RSPB therefore accepts the Applicant's position set out in their HRA, based on the currently available information (APP-111).[13]

## c) The Wash SPA

*Reasons for classification of The Wash SPA*

3.17 The Wash SPA was classified under Articles 4(1) and 4(2) of the EU Birds Directive[14,15] in 1988. It supports the highest number of wintering wildfowl in Britain and is also the most important area for moulting waders in early autumn. The site is composed of tidal rivers, estuaries, lagoons, mud, and sand flats and, in the centre, deep channels surrounded by shallower waters. These areas predominantly consist of saltmarsh, intertidal banks of sand and mud, sandy and shingle beaches, and subtidal sandy sediments. The shallow waters support small fish, and the intertidal mud and sandflats support a variety of polychaete worms, bivalve molluscs and algae that provide rich foraging grounds for a range of bird species. Inland saltmarsh and adjacent agricultural and pasture also provide important foraging and roosting areas. The Wash SPA qualifies by regularly supporting the following qualifying features:

- Bar-tailed godwit (*Limosa lapponica*), Non-breeding
- Bewick's swan (*Cygnus columbianus bewickii*), Non-breeding
- Black-tailed godwit (*Limosa limosa islandica*), Non-breeding
- Common scoter (*Melanitta nigra*), Non-breeding
- Common tern (*Sterna hirundo*), Breeding
- Curlew (*Numenius arquata*), Non-breeding

[12] Greater Wash SPA citation and conservation objectives [redacted] (APP-111).

[14] And implemented domestically within reg 15, Conservation of Habitats and Species Regulations 2017.

[15] The Wash SPA citation and conservation objectives: [redacted]

- Dark-bellied brent goose (*Branta bernicla bernicla*), Non-breeding
- Dunlin (*Calidris alpina alpina*), Non-breeding
- Gadwall (*Mareca strepera*), Non-breeding
- Goldeneye (*Bucephala clangula*), Non-breeding
- Grey plover (*Pluvialis squatarola*), Non-breeding
- Knot (*Calidris canutus*), Non-breeding
- Little tern (*Sternula albifrons*), Breeding
- Oystercatcher (*Haematopus ostralegus*), Non-breeding
- Pink-footed goose (*Anser brachyrhynchus*), Non-breeding
- Pintail (*Anas acuta*), Non-breeding
- Redshank (*Tringa totanus*), Non-breeding
- Sanderling (*Calidris alba*), Non-breeding
- Shelduck (*Tadorna tadorna*), Non-breeding
- Turnstone (*Arenaria interpres*), Non-breeding
- Waterbird assemblage, Non-breeding
- Wigeon (*Mareca penelope*), Non-breeding

### *Site conservation objectives for The Wash SPA*

3.18 Natural England has set Conservation Objectives for The Wash SPA as follows:

"*With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;*

***Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;***

- ***The extent and distribution of the habitats of the qualifying features***
- ***The structure and function of the habitats of the qualifying features***
- ***The supporting processes on which the habitats of the qualifying features rely***
- ***The population of each of the qualifying features, and,***
- ***The distribution of the qualifying features within the site.*"[16]**

### *Marine Conservation Advice Package for The Wash SPA*

3.19 Natural England's Supplementary Advice on the Conservation Objectives for The Wash SPA sets out attributes for each of the qualifying features necessary for the SPA to meet its conservation objectives. The attributes that need to be considered for the qualifying features of The Wash SPA are:

- Assemblage of species
  - abundance
  - diversity
- Connectivity with supporting habitats
- Disturbance caused by human activity
- Non-breeding population: abundance

[16] The Wash SPA citation and conservation objectives:

- Supporting habitat:
  - air quality
  - conservation measures
  - extent and distribution of supporting habitat for the non-breeding season
  - food availability (bird)
  - habitat structure
  - hydrology/flow within grassland (marsh)
  - hydrology/flow within intertidal
  - landform
  - landscape
  - quality of supporting non-breeding habitat
  - vegetation characteristics for feeding
  - vegetation characteristics for nesting
  - vegetation characteristics for roosting
  - water area
  - water depth
  - water quality – contaminants
  - water quality – dissolved oxygen
  - water quality – nutrients
  - water quality - turbidity

3.20 It is essential that the Applicant demonstrate that these attributes will not be compromised. This is particularly important given the following species have been identified as having a restoration target (i.e. their conservation status is unfavourable), which could be compromised by even small additional impacts associated with the proposed Facility (alone or in-combination with other projects and plans):

- redshank,
- turnstone,
- shelduck,
- oystercatcher, and,
- dunlin.

3.21 This is especially important given that all these species were recorded being disturbed at the mouth of The Haven (Table 1 below). We note the Applicant asserts in their HRA[17] that there is sufficient habitat available to accommodate birds displaced by vessel movements in The Haven and its approaches. There has, however, been no evidence presented that demonstrates that such habitat is available to accommodate all birds displaced, with respect to habitat sites and the capacity of any such sites to support displaced birds, or that there will not be ecological consequences for the birds displaced such as reduced survival or fitness for migration and breeding. As such the Applicant has not demonstrated that the populations and distribution of qualifying features of The Wash SPA listed above will be maintained let alone restored. We discuss this point in Section 7 below.

[17] [redacted] (APP-111)

Table 1: Summary of bird species observed during the BAEF ornithological surveys. Species are divided according to the location where they were observed. Species highlighted yellow are SPA features and species highlighted in blue form part of the SPA waterbird assemblage. Species denoted by * are listed on Annex 1 of the EU Birds Directive and have special protection.[18]

| Species observed at the Application site only | Species observed at the mouth of The Haven only | Species observed at both locations |
|---|---|---|
| Canada goose | Golden plover* | Ringed plover |
| Greylag goose | Avocet* | Dunlin |
| | Knot | Lapwing |
| | Common Sandpiper | Turnstone |
| | Whimbrel | Redshank |
| | Wigeon | Oystercatcher |
| | Dark-bellied brent goose | Black-tailed godwit |
| | Teal | Bar-tailed godwit* |
| | Common tern* | Curlew |
| | Eider | Grey plover |
| | Great northern diver* | Ruff* |
| | Red-breasted merganser | Little egret* |
| | Great-crested grebe | Cormorant |
| | | Mallard |
| | | Shelduck |
| | | Black-headed gull |
| | | Common gull |
| | | Herring gull |
| | | Lesser black-backed gull |
| | | Great black-backed gull |
| **2 species** | **13 species** | **20 species** |

3.22 Impacts on SPA features will form the main focus of the RSPB's Representations.

*Implications of the UK SPA Review*

3.23 As part of the UK SPA Review[19], The Wash SPA has been identified for the inclusion of additional features that may or may not be affected by the Facility. There are also proposals to review the SPA boundary to ensure that key features that utilise habitat around the margin of The Wash are adequately protected. The implications of this will need to be considered for this Application.

[18] Annex 1 species are those that are:

- in danger of extinction;
- vulnerable to specific changes in their habitat;
- considered rare because of small populations or restricted local distribution;
- requiring particular attention for reasons of the specific nature of habitat.

[19] See: [redacted]

*Features of The Wash SPA impacted at the Application site and the mouth of The Haven*

3.24 Having reviewed the bird survey reports, 35 species were observed at the Application site and the mouth of The Haven. Of the species observed, 57% occurred at both the Application site and the mouth of The Haven (Table 1).

3.25 Of the species observed, 14 are features of The Wash SPA, with another 12 species included under The Wash SPA waterbird assemblage feature. These observations, therefore, demonstrate the functional link between the Application site and The Wash SPA, and the importance of The Haven for supporting the features of The Wash.

3.26 The RSPB recognises that for some species they were typically present in low numbers. For some species, however, the numbers observed to be affected by vessel movements exceeded 1% of the population and are therefore clearly of significance[20] (Table 2).

Table 2: Overview of the population targets and current status of species observed at the Application site and mouth of The Haven. Species denoted by * are listed on Annex 1 of the EU Birds Directive and have special protection

| Species | SPA pop. | Ramsar pop. | Latest WeBS 5-year peak mean (2019/20) | Peak count | % SPA pop (Blue = % Ramsar pop.; brown = % WeBS counts) | Supplementary Conservation Advice target pop M = maintain R = restore |
|---|---|---|---|---|---|---|
| Ringed plover | | 1,500 | 1,315 | 40 | 2.6/3.0 | |
| Dunlin | 29,000 | 36,600 | 26,150 | 180 | | R |
| Lapwing | N/A | 46,422 | 12,967 | 1,100 | 2.4/8.5 | |
| Turnstone | 980 | 888 | 755 | 22 | 2.2/2.5/2.9 | R |
| Redshank (breeding) | | | | | | |
| Redshank (non-breeding) | 4,331 | 6,373 | 5,087 | 220 | 5.1/3.5/4.3 | M/R |
| Golden plover* | | 22,033 | 15,212 | 2,500 | 11.3/16.4 | |
| Oystercatcher | 24,000 | 15,616 | 26,586 | 825 | 3.4/5.3/3.1 | R |
| Black-tailed godwit | 260 | 6,849 | 8,597 | 2,000 | 769.2/29.2/23.3 | |
| Bar-tailed godwit* | 12,374 | 16,546 | 17,509 | 10 | | M |
| Curlew | 3,700 | 9,438 | 6,061 | 55 | 1.5/0.9 | M |

[20] Where 1% or more of a population of international or national importance is impacted by a plan or project, the impact is deemed to be significant, and measures are needed to both maintain the population on the site and to compensate for those individuals that will be affected. The ORNIS Committee (European Commission, 1993, Second report on the application of Directive No 79/409/EEC on the conservation of wild birds, p.10) determined that 1% or less was an appropriate threshold to use as:

*"5) In order to determine an exact figure for the threshold, two approaches are possible:*

- *the figure must be much lower, by at least an order of size, than those figures characteristic of the taking of birds under Article 7. A figure of 1% meets this condition the taking must have a negligeable effect on the population dynamics of the species concerned.*
- *A figure of 1% or less meets this condition as the parameters of population dynamics are seldom known to within less than one percentage point and bird taking amounting to less than less than 1 % can be ignored from a mathematical point of view in model studies."*

*Taken from* [redacted]

| Species | SPA pop. | Ramsar pop. | Latest WeBS 5-year peak mean (2019/20) | Peak count | % SPA pop (Blue = % Ramsar pop.; brown = % WeBS counts) | Supplementary Conservation Advice target pop M = maintain R = restore |
|---|---|---|---|---|---|---|
| Grey plover | 5,500 | 13,129 | 8,313 | 5 | | M |
| Avocet* | | 422 | 448 | 1 | | |
| Ruff* | | 25 | 80 | 1 | 4/1.3 | |
| Knot | 75,000 | 68,987 | 188,838 | 500 | | M |
| Common Sandpiper | | | 33 | 3 | 9 | |
| Whimbrel | | 191 | 154 | 1 | | |
| Little egret* | | | 463 | 3 | | |
| Cormorant | | 367 | 550 | 10 | 1.8 | |
| Wigeon | 3,900 | | 9,763 | 100 | 2.6/1.0 | M |
| Mallard | | | 958 | 55 | 5.7 | |
| Dark-bellied brent goose | 17,000 | 20,861 | 11,221 | 1,150 | 6.8/5.5/10.2 | M |
| Teal | | | 2,791 | 54 | 1.9 | |
| Shelduck | 16,000 | 9,746 | 2,374 | 36 | 1.5 | R |
| Canada goose | | | 522 | 8 | 1.5 | |
| Greylag goose | | | *1,363* | 2 | | |
| Black-headed gull | | 31,403 | 14,541 | 34 | | |
| Common gull | | | 1,489 | 3 | | |
| Common tern* | 220 | 152 | 583 | 10 | 4.5/6.6/1.7 | |
| Eider | | 1109 | 1,049 | 2 | | |
| Great northern diver* | | | 1 | 1 | 100 | |
| Red-breasted merganser | | | 80 | 1 | 1.3 | |
| Great-crested grebe | | | 84 | 1 | 1.2 | |
| Herring gull | | | 5,420 | 12 | | |
| Lesser black-backed gull (breeding) | | 1,378 | | 52 | 3.8 | |
| Lesser black-backed gull (non-breeding) | | 1,993 | 454 | 52 | 2.6/11.4 | |
| Great black-backed gull | | | 499 | 1 | | |

3.27 Of the species observed at the Application site and mouth of The Haven, the RSPB considers the following species to be of particular concern due to the numbers observed to be affected by vessel movements, with over 1% of their population having been disturbed by vessel movements. Even small increases in disturbance could affect the ability to restore populations of qualifying features that have declined on The Wash. The species that we have concerns about are:

- Redshank
- Dark-bellied brent goose
- Shelduck

- Oystercatcher
- Black-tailed godwit
- Lapwing
- Golden plover
- Curlew
- Ruff
- Common tern
- Turnstone

3.29 Whilst they are not listed as qualifying features of The Wash SPA, the RSPB has included golden plover in this list as it is a Ramsar feature (see 3f below) and ruff (as an Annex 1 species) for completeness in this list. They are Annex 1 species and will form part of the SPA waterbird assemblage. A significant number of these species were present. We note that the energy budget of golden plover has been reviewed in more detail by the Applicant and we discuss this in paragraphs 7.98 and 7.103 to 7.105 below.

Table 3: This sets out the seasonal presence of species recorded during surveys for the Application that are features of The Wash SPA. This is taken from The Wash Marine Conservation Advice Package.

| Feature name | Life stage | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bar-tailed godwit | Non-breeding | | | | | | | | | | | | |
| Black-tailed godwit | Non-breeding | | | | | | | | | | | | |
| Common tern | Breeding | | | | | | | | | | | | |
| Curlew | Non-breeding | | | | | | | | | | | | |
| Dark-bellied brent goose | Non-breeding | | | | | | | | | | | | |
| Dunlin | Non-breeding | | | | | | | | | | | | |
| Grey plover | Non-breeding | | | | | | | | | | | | |
| Knot | Non-breeding | | | | | | | | | | | | |
| Oystercatcher | Non-breeding | | | | | | | | | | | | |
| Redshank | Non-breeding | | | | | | | | | | | | |
| Shelduck | Non-breeding | | | | | | | | | | | | |
| Turnstone | Non-breeding | | | | | | | | | | | | |
| Wigeon | Non-breeding | | | | | | | | | | | | |

3.30 The Marine Conservation Advice Packages provide information on the seasonal use of The Wash SPA by the qualifying features.[21] Table 3 below highlights that features of The Wash SPA can be present in any month. October to March are the main months supporting wintering birds. From March

21 [redacted]

through to May birds move through The Wash as they head to their breeding grounds, either on The Wash or further north. There is a brief hiatus in peak wader and wildfowl numbers on The Wash in May and June due to many of the features having moved away to their breeding sites, often upland areas, or areas within the Arctic circle. From July to October non-breeding birds move back into The Wash, either on route to warmer wintering grounds in southern Europe or Africa, or to spend the winter. The Wash is therefore one of the most important sites supporting birds along the East Atlantic Flyway.[22] We note there are discrepancies with Table 17-8 presented in the Marine and Coastal Ecology chapter (pp.56),[23] with some species being present in more months in the Marine Conservation Advice Package seasonality information.

3.31 Detailed species accounts are provided in Appendix 1: this sets out an overview of the current status of each of these species in the context of the UK and The Wash. We also reflect on the more local importance of The Haven area. This information is reviewed in later sections with respect to the impact of construction noise, visual disturbance during construction and operation (most notably from increased vessel movements), as well as the loss of important roosting sites and foraging habitat (see Section 7 below).

3.32 The species accounts are, however, unable to determine the importance of The Haven along its entire length due to data limitations. WeBS sectors only extend part way up The Haven to the Hobhole area (Figure 1). No data have been collected by the Applicant between the Hobhole area and the Application site to enhance the understanding of species use along the entirety of The Haven.

3.33 The Marine Conservation Advice Package for The Wash SPA considers the types of activities (termed operations) that could adversely impact the site features.[24] The following identified activities are of relevance to the Application, although the full list for consideration will need to be confirmed with Natural England:

- Commercial Shipping (operation) – vessel anchorages, vessel discharges/emissions, vessel moorings and vessel movements
- Ports and harbours (construction) – capital dredging, piling
- Ports and harbours (maintenance) – maintenance dredging, maintenance of port and harbour structures
- Ports and harbours (operation) – berths/moorings/anchorages, cargo operations and landward transportation, shoreside industry and operations, vessel maintenance.

3.34 With respect to activities related to the Application that generate loud noise onshore or offshore such as construction, vessel movements and any other activities, the 'Advice on Operations' highlight that these may disturb birds and reduce time spent in feeding or breeding areas (Table 4). The following information expands on this further to include roosting birds:

[22] The East Atlantic flyway links a discontinuous band of arctic breeding grounds that stretch from Canada east to central Siberia with wintering grounds in Western Europe and West Africa. See [redacted] (APP-055)

[24] [redacted]

"*Pressure description: This pressure relates to any loud noise made onshore or offshore by construction, vehicles (including aircraft), vessels, tourism, mining, blasting etc. that may disturb birds and reduce time spent in feeding or breeding area.*

*Justification: Wading bird species can be directly impacted by above water noise causing a disturbance. Depending on the sound intensity birds may react by being alerted or taking flight. There are indications that feeding waders are not as strongly affected by loud noises than roosting birds and that there are species-specific tolerance levels (Cutts et al. 2009). Wright et al. (2010) pointed out that impulsive sound in particular may result in disturbance."*[25]

Table 4: Justification explaining why noise and visual disturbance are considered significant issues in relation to the construction and operation of the Facility. Taken from the activity justification for the Advice on Operations for The Wash SPA and is relevant to all :

[redacted]

| Pressure | Activity justification listed for all activities relevant to the construction and operation of the Facility | Sensitivity |
|---|---|---|
| **Above water noise** | Noise can arise from many activities in the marine environment, the use of machinery, vessels, equipment, explosives, and people will generate airborne (above water) noise. Port construction, maintenance, and operation activities generate airborne noise and can increase noise above background/ambient noise levels; this can result in disturbance particularly to mobile receptors such as fish, bird, mammals [redacted] Examples of noise sources vessels, construction plant/operations, piling, operational use of machinery [redacted]. However, the magnitude of pressure would depend on the scale, intensity, and duration of the activity, and relative increase in noise above the natural ambient background noise levels and the type of noise generated [redacted] | medium-high |
| **Visual disturbance** | Ports and harbour (from construction, maintenance or operational ) activities including vessel, vehicle movement, plus people presence and movement can create visual stimuli which can evoke a disturbance response in mobile species such as fish, marine mammals, seabirds and coastal birds [redacted] The magnitude of the pressure will depend on the nature and scale/intensity of the activity, plus other factors such as species present and age, weather conditions, degree of habituation to disturbance source [redacted] | medium-high |

[25] This is taken from the explanation of the sensitivity of black-tailed godwit to above water noise and is replicated for all wading species. From [redacted]

3.35 We also note that the attributes relating to 'Disturbance caused by human activity' states:

"*The nature, scale, timing and duration of some human activities can result in bird disturbance (defined as any human-induced activity sufficient to disrupt normal behaviours and / or distribution of birds in the absence of the activity) at a level that may substantially affect their behaviour, and consequently affect the long-term viability of the population. Such disturbing effects can for example result in changes to feeding or roosting behaviour, increases in energy expenditure due to increased flight, abandonment of nest sites and desertion of supporting habitat (both within or outside the designated site boundary where appropriate). This may undermine successful nesting, rearing, feeding and/or roosting, and/or may reduce the availability of suitable habitat as birds are displaced and their distribution within the site contracts.*

*Disturbance associated with human activity may take a variety of forms including noise, light, sound, vibration, trampling, presence of people, animals and structures.*

*'Significant' disturbance is defined by AEWA* [redacted]

*"Disturbance should be judged as significant if an action (alone or in combination with other effects) impacts on (water)birds in such a way as to be likely to cause impacts on populations of a species through either*

*I. changed local distribution on a continuing basis; and/or*
*II. changed local abundance on a sustained basis; and/or*
III. *the reduction of ability of any significant group of birds to survive, breed, or rear their young.*"

[redacted][26]

3.36 We note that paragraph A17.4.9 of the HRA (p.19)[27] identifies that during operation of the Facility increases in vessel movements can generate noise and visual disturbance to birds. This can cause disturbance, but the HRA should also make it clear that birds will also be permanently displaced as a result of the ongoing operations. The redshanks roosting will be permanently displaced and there will be an area that is currently used by foraging birds that will no longer be available due to mudflats being built on, the presence of noise and vessels displacing birds and ongoing maintenance activities to enable access to the wharf. This needs to be set out within the Application as it will have a direct impact on the amount of habitat that is needed to be provided as compensation (see Section 8 for our position on provision of compensation).

### *Features of The Wash SPA impacted at the anchorage site in The Wash*

3.37 Figure 17.6 of Chapter 17 (Marine and Coastal Ecology)[28] shows the location of the anchorage area for vessels waiting for tidal conditions to be acceptable to allow them to safely navigate The Haven and its approaches. Whilst data on seal haul out sites has been provided, no data are available to consider the bird use of the area around the anchorage area. Given its location further out into The

[26] This is taken from the [redacted]. This is taken from the attribute associated with redshank but is also repeated for other wading species such as black-tailed godwit.

[27] [redacted]

Wash it is likely to be used by a large number of foraging birds. It is also likely that features of The Wash SPA not observed at the mouth of The Haven or the Application site could be present. For example, ducks such as common scoter and goldeneye will be more likely to be present where there are areas of open water. The Application does not consider the potential impacts regarding the anchorage area or the approaches to The Haven. The Marine Conservation Advice on operations likely to impact on features of The Wash SPA makes it clear that vessel movements are an operation of concern and therefore appropriate assessment is essential. We consider this in more detail in Section 7 below and recommend the Applicant provides more detail on how they address this issue.

## d) Introduction to SACs affected by the Application

*Site selection criteria for SACs*

3.38 The JNCC oversee the designation of SACs[29]. As with SPAs, there is a two-stage process for considering their designation. Firstly,

- Habitats:
  a. degree of representativity;
  b. area;
  c. degree of conservation of habitat structure and functions and restoration possibilities;
  d. global assessment of conservation value (i.e. an overall assessment, based on a-c above).

- Species:
  a. population size and density;
  b. degree of conservation of the features of the habitat that are important for the species, and restoration possibilities;
  c. degree of isolation of the population in relation to the species‟ natural range;
  d. global assessment of conservation value (i.e. an overall assessment, based on a-c above).

3.39 Such sites that may qualify as SACs are also considered against the following:

- relative value of the site at national level,
- relationship of the site to migration routes or its role as part of an ecosystem on both sides of one or more Community frontiers,
- total area of the site,
- number of Annex I habitat types and Annex II species present,
- global ecological value of the site at the level of the biogeographical region and/or EU as a whole.

*Site conservation objectives for SACs*

3.40 To support the management of SACs, Natural England has set out conservation objectives. These are generic to all SACs.

*Marine Conservation Advice Packages for SACs*

[29] McLeod, CR, Yeo, M, Brown, AE, Burn, AJ, Hopkins, JJ, & Way, SF (eds.) (2005) The Habitats Directive: selection of Special Areas of Conservation in the UK. 2nd edn. Joint Nature Conservation Committee, Peterborough.

3.41 For The Wash & North Norfolk Coast SAC, Natural England has also prepared a detailed marine conservation advice package.[30] This supports the site conservation objectives described above and identify a range of attributes that need to be managed to ensure that the site and its features remain in, or are restored to, favourable conservation status. The Application documents must consider the full suite of conservation objectives **and** associated conservation advice for The Wash. Importantly, the Applicant must demonstrate that any restoration targets will not be compromised. These should be read in conjunction with the high-level site conservation objectives.

3.42 There is one SAC that could be impacted by the Application: The Wash & North Norfolk Coast SAC. We provide an overview of the site features, conservation objectives and supplementary advice on conservation objectives below.

## e) The Wash & North Norfolk Coast SAC

*Reasons for classification of The Wash & North Norfolk Coast SAC*

3.43 The Wash & North Norfolk Coast SAC was classified under the Habitats Directive as an SAC in 2005. The Wash SAC qualifies by supporting internationally important areas and numbers of:

- Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)
- Coastal lagoons
- Harbour (common) seal (*Phoca vitulina*)
- Large shallow inlets and bays
- Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*)
- Mudflats and sandflats not covered by seawater at low tide
- Otter (*Lutra lutra*)
- Reefs
- *Salicornia* and other annuals colonising mud and sand
- Sandbanks which are slightly covered by sea water all the time

*Site conservation objectives for The Wash & North Norfolk Coast SAC SPA*

3.44 Natural England has set conservation objectives for The Wash & North Norfolk Coast SAC as follows:

"*With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change;*

***Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;***

- ***The extent and distribution of qualifying natural habitats and habitats of qualifying species***
- ***The structure and function (including typical species) of qualifying natural habitats***
- ***The structure and function of the habitats of qualifying species***

[30] The Wash & North Norfolk Coast SAC Marine Conservation Advice Package -

- ***The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely***
- ***The populations of qualifying species, and,***
- ***The distribution of qualifying species within the site***."[31]

*Marine Conservation Advice Package for The Wash & North Norfolk Coast SAC*

3.45 Natural England's Supplementary Advice on the Conservation Objectives for The Wash & North Norfolk Coast SAC sets out attributes for each of the qualifying features necessary for the SAC to meet its conservation objectives. The attributes of particular relevance to the Application that need to be considered for the harbour seal qualifying features of the SAC are:

- Population: population size
- Population: recruitment and reproductive capability
- Presence and spatial distribution of the species
- Structure and function: biological connectivity
- Structure: non-native species and pathogens (species)
- Supporting habitat: extent and distribution
- Supporting habitat: food availability (species)
- Supporting processes: physico-chemical properties (species)
- Supporting processes: sediment movement and hydrodynamic regime (species)
- Supporting processes: water quality – contaminants (species)
- Supporting processes: water quality – nutrients (species)
- Supporting processes: water quality – turbidity (habitat & species)

3.46 It is essential that the Applicant demonstrate that these attributes will not be compromised. This is particularly important where features have been identified as having a restoration target, which could be compromised by even small additional impacts associated with the proposed Facility (alone or in-combination with other projects and plans). The approach to review and assessing all the key attributes needs to be agreed with Natural England, as well as identifying if additional features or attributes need to be assessed.

*Features of The Wash & North Norfolk Coast SAC impacted by the Application*

3.47 The main features of The Wash & North Norfolk Coast SAC affected by the Application are:

- Harbour (common) seal (*Phoca vitulina*)

3.48 The RSPB will defer comments on the SAC features to Natural England, the Environment Agency and Lincolnshire Wildlife Trust due to their experience. We support fully their position, especially in respect to the harbour seal feature, but will focus our submissions on The Wash SPA features.

[31] [redacted]

## f) Introduction to Ramsar sites

*Site selection criteria*

3.49 Internationally important wetland sites are designated as Ramsar sites. These sites have been established under The Convention on Wetlands of International Importance especially as Waterfowl Habitat ('Ramsar Convention' or 'Wetlands Convention'), which came into force in December 1975. It is Government policy to afford Ramsar sites equivalent status to the National Sites Network (formerly known as the 'Natura 2000' network and made up of Special Protection Areas (SPAs) and Special Areas of Conservation (SACs)). Therefore, the Habitats Regulations should be applied in the same way and to the same standards. More detail on the legal status of Ramsar sites is provided in Section 8.

## g) The Wash Ramsar

*Reasons for classification of The Wash Ramsar*

3.50 The Wash Ramsar was classified in 1988[32] on the basis of supporting:

- very extensive saltmarshes, major intertidal banks of sand and mud, shallow water and deep channels.
- the inter-relationship between its various components including saltmarshes, intertidal sand and mud flats and the estuarine waters. The saltmarshes and the plankton in the estuarine water provide a primary source of organic material which, together with other organic matter, forms the basis for the high productivity of the estuary.
- An overwintering waterfowl assemblage of international importance (the Ramsar Information Sheet cites 292,541 individuals for the period 1998/99-2002/03).
- Birds occurring at international importance with peak counts in spring/autumn: Eurasian oystercatcher, grey plover, red knot, sanderling, Eurasian curlew, common redshank, ruddy turnstone.
- Birds occurring at international importance with peak counts in winter: pink-footed goose, dark-bellied brent goose, common shelduck, northern pintail, dunlin, bar-tailed godwit.
- Birds occurring at international importance identified subsequent to designation with peaks in spring/autumn: ringed plover, black-tailed godwit.
- Birds occurring at international importance identified subsequent to designation with peaks in winter: European golden plover, northern lapwing.
- Birds currently occurring at levels of national importance during the breeding season: lesser black-backed gull, common tern, little tern.
- Birds currently occurring at levels of national importance during the spring/autumn: great cormorant, pied avocet, ruff, whimbrel, common greenshank, lesser black-backed gull.
- Birds currently occurring at levels of national importance during the winter: red-throated diver, bean goose, greater white-fronted goose, common eider, common scoter, spotted redshank, black-headed gull.
- Mammals currently occurring at levels of international importance: harbour seal

*Features of The Wash Ramsar impacted by the Application*

[32] The Wash Ramsar citation:

3.51 The main features of The Wash Ramsar affected by the Application are wildfowl, waders, and harbour seals. Of relevance to the Application is that golden plover is a Ramsar feature and over 1% of The Wash Ramsar population has been observed to be disturbed by vessel movements at the mouth of The Haven (Table 2). We welcome the additional assessment that the Applicant has undertaken on this species but have concerns that their conclusion that an increase in energy use as a result of increased disturbance from vessel movements would not be significant. We discuss this in more detail in Section 7 below.

## h) Introduction to Sites of Special Scientific Interest (SSSIs)

*Site selection criteria*

3.52 SSSIs represent the most important areas for wildlife in the UK. The Guidelines for Designating SSSIs emphasises that they are "…*the fundamental units of our network of protected areas for nature conservation in terrestrial and coastal*…"[33]. All such sites are of national interest and many also support species and habitats of international importance. The Guidelines (paragraph 2.8, p.7) also state that:

"*The purpose of biological SSSIs is to safeguard the diversity and geographic range of habitats and species throughout Great Britain, within which the viable populations of all our threatened native species will be represented; as well as the full range of natural, near-natural and semi-natural ecosystems. To do this effectively, the principle behind the designation must be to protect all the component parts of the habitat within an SSSI, and all the species within those habitats in the SSSI. The SSSI series should therefore include our most important natural heritage sites*."

3.53 To determine if a site is of special interest, "…*the biological attributes and controlling physical environmental features of an area*…"[34] are recorded. This information is then assessed against a set of evaluation criteria to determine if a site justifies classification as a SSSI. The key selection criteria that are used are as follows, with greater weight now given to the latter two criteria than previously:

- typicalness
- fragility
- size
- diversity
- naturalness
- rarity
- recorded history position in an ecological / geographical unit (ecological coherence)
- potential value.

3.54 More detail on the legal status of SSSIs is provided in Section 8 below.

[33] [redacted]

[34] Paragraph 3.4 (p.9) of the SSSI guidelines.

## i) The Wash SSSI

3.55 The Wash was classified as an SSSI under Section 28 of the Wildlife & Countryside Act 1981 (as amended) in 1983/84 and is England's largest SSSI.[35] The [redacted] for designating the site state that "*The whole area is of exceptional biological interest*", including the UK's largest numbers of wintering waterbirds and Europe's second biggest population of harbour seals. It also contains the largest area of saltmarsh in Britain, which is a refuge for one of our most charismatic but threatened bird species, the redshank.

3.56 The SSSI underpins The Wash SPA/Ramsar and The Wash & North Norfolk Coast SAC.

*Overview of breeding redshank on The Wash*

3.57 Great Britain is internationally important for breeding redshanks, supporting around 20% of the pairs in North West Europe. 45% of Great Britain's redshanks breed in saltmarshes. Saltmarshes are mosaics of land and water, where tides bring daily inundations of sea water creating unique conditions for plants and animals.

3.58 Non-breeding redshanks are a feature of The Wash SPA/Ramsar and there is a restore target in the Supplementary Conservation Advice for The Wash non-breeding redshank population[36], as discussed in Section 3c above. Non-breeding and breeding redshanks are a feature of The Wash SSSI. We provide more detailed information on breeding redshanks below as they are the key breeding species on The Wash SPA that we currently consider could be significantly affected by the proposed development based on the currently available evidence.

3.59 Known as the "sentinel of the marsh" for their habit of[redacted] as soon as they spot an intruder, the redshank is a quintessential part of our watery landscapes, but it is now falling silent. According to the National Saltmarsh Redshank Surveys carried out between 1985 and 2011, saltmarsh breeding redshanks have declined by 53% over this period and at the current rate of decline are likely to have disappeared from most British saltmarshes within the next 25 years unless conservation action is urgently taken[37]. An updated survey of breeding redshank on The Wash is scheduled for 2022.

3.60 Despite the international importance of Britain's saltmarsh breeding redshanks, we are only aware of three SSSIs in England that have been designated to protect them: The Wash, the Ribble Estuary, and the Dee Estuary.

3.61 According to guidance from the JNCC (the Government advisor on nature conservation) and targets set by Natural England for these SSSIs, a decline of 25% or more in breeding redshank numbers should automatically trigger the SSSIs to be classed as in unfavourable condition.

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[35] [redacted]

[37] Malpas, L., Smart, J. & Garbutt, A. (2011) The abundance of redshank *Tringa totanus* breeding on saltmarshes in Great Britain: results of a 2011 survey. *Unpublished RSPB Report to Natural England*. RSPB, and Malpas, L.R., Smart, J., Drewitt, A.L., Sharps, E. & Garbutt, A. (2013) Continued declines of Redshank *Tringa totanus* breeding on saltmarsh in Great Britain: is there a solution to this conservation problem? *Bird Study*, 60, 370-383 [redacted]

3.62 Natural England's Favourable Condition Table (FCT) for The Wash SSSI sets out the targets that will be used to judge whether The Wash is in favourable condition. It states that "*the site should be judged unfavourable if the baseline mean peak breeding density of Redshank within the mature saltmarsh declines by **25% or more**. The current baseline of **85 pairs/km$^2$** was established in 1985*". We recommend this be provided by Natural England.

Table 5: Latest redshank breeding densities in The Wash SSSI and % change from FCT baseline

| SSSI unit in The Wash | Most recent breeding density and the year the data relates to (pairs/km$^2$) | % change compared to FCT baseline (85 pairs/km$^2$) |
|---|---|---|
| 11 (Frampton) | 33.0 (2019) | - 61% |
| 12 (Kirton) | 23.7 (2017) | - 72% |
| 15 (Dawsmere) | 26.0 (2017) | - 69% |
| 16 (Dawsmere) | 26.0 (2017) | - 69% |
| 17 (Gedney) | 85.6 (2017) | + 1% |
| 18 (Terrington) | 13.8 (2017) | - 84% |
| 20 (Wolferton) | 56.2 (2011) | - 34% |
| Average | 37.8 | - 56% |

3.63 Table 5 above shows the most recent breeding densities that we are aware of for 7 units in The Wash SSSI (those sites which have been regularly monitored) and the percentage change compared to the baseline in the FCT. The red and green colours show whether the unit should be favourable / unfavourable according to the FCT target.

3.64 Annual monitoring on our Frampton Marsh reserve (mostly in unit 11) shows that the population has fallen from around 450 pairs in 1988 to 95 pairs in 2019, which is a **decline of 79%**.

3.65 The above data leaves no doubt that The Wash is in unfavourable condition as a consequence of observed declines in its breeding redshanks.

*Relevance to the Application*

3.66 This is of direct relevance to the Application, as any impacts from the project alone or in-combination with other activities that affect the redshanks using The Haven therefore has serious implications for restoring both the non-breeding and breeding populations. The currently available evidence to draw conclusions regarding the full potential impact to The Wash redshank population is limited. The evidence that is available demonstrates the potential for significant impacts to occur on this species and it is essential the Precautionary Principle is therefore applied (See Section 8 below for more detail on the Precautionary Principle).

## j) Introduction to the Lincolnshire Wash reserves

*RSPB Freiston Shore*

3.67 The RSPB's Freiston Shore nature reserve is located to the north of The Haven and c.5km from the application site. The reserve was acquired in 2000. This site comprises 865ha of saltmarsh, mudflats, wet grasslands, saline lagoon and arable that support a range of waterbirds year-round.

3.68 The reserve's terrestrial habitats were developed from agricultural land, which itself was formerly intertidal land.

3.69 The reserve boundary is partly inside and partly outside The Wash SSSI, SPA, Ramsar site and The Wash and North Norfolk Coast SAC. Many of the species that use the reserve are, therefore, features of The Wash SPA/Ramsar and SSSI. The reserve provides an important role in supporting the conservation objectives of the protected sites. Bird usage of the reserve has increased significantly over time as the created habitats have matured.

3.70 The reserve now features a regular high tide wader roost, including up to 1,000 redshanks, 2,000 oystercatchers and 10,000 knots. Breeding wader numbers include up to 30 pairs of redshanks, 45 pairs of avocets and 10 pairs of oystercatchers. Many of these species feed and winter on the adjacent mudflats, although some (e.g. avocets) winter elsewhere. Some species breed further north (e.g. knots) but use The Wash to refuel on migration between breeding and wintering grounds, or spend the winter. The Wash is therefore an integral component of the East Atlantic Flyway for these species.

3.71 There is also a large seabird colony that breeds on the reserve, with up to 1,500 pairs of black-headed gulls and 150 pairs of common terns. In winter, the site has a very high density of feeding waterbirds with up to 7,000 wigeon, 2,000 brent geese and a UK site record of over 10,000 black-tailed godwits.

3.72 The main inputs to the **saline lagoon** is from rainfall and regulated tidal exchange. The lagoon is allowed to draw down slowly over late spring and summer, to provide suitable conditions for breeding avocets, terns and gulls. The water levels are lowered further in late summer to allow management of vegetation on islands and are maintained at varying higher depths in autumn and winter to provide a range of feeding and loafing conditions for waders and wildfowl.

3.73 The main input to the **wet grassland** is from rainfall. The water levels are held as high as possible during spring and summer, to provide suitable conditions for breeding lapwings and redshanks. In late summer the wet grassland naturally dries out due to evapotranspiration. Through the autumn and winter, water levels are raised and kept high to provide a range of feeding and loafing conditions for waders and wildfowl.

*RSPB Frampton Marsh*

3.74 The RSPB's Frampton reserve is located at the mouth of The Haven, abutting The Haven's southern bank, and is c.3km from the application site. This site comprises 566ha of saltmarsh, mudflat, reedbed, freshwater lagoons and wet grassland that support a range of waterbirds year-round.

3.75 The reserve boundary is partly inside and partly outside The Wash SSSI, SPA, Ramsar site and The Wash and North Norfolk Coast SAC. Many of the species that use the reserve are, therefore, features of The Wash SPA/Ramsar and SSSI. The reserve provides an important role in supporting the conservation objectives of the protected sites. The reserve has very high numbers of breeding, passage and wintering waterbirds, the latter at one of the highest densities for any wetland site in the UK.

3.76 Average waterbird numbers of 20,000 birds are common throughout the winter, which includes up to 12,000 each of golden plover and lapwing, 7,000 wigeon, 2,000 brent geese and 2,000 teal. In summer, up to 200 pairs of redshanks breed, along with over 100 pairs of avocets, 70 pairs of lapwings and many other species, including several rare species such as 19 pairs of little ringed plovers (more

than any other RSPB nature reserve in the UK) and black-necked grebes (5% of the UK breeding population).

3.77 The hydrological management of the reserve is dependent on our ability to pump water from the Wyberton Pump Drain onto the reserve. This relies on water availability within the Black Sluice IDB catchment and ensuring that the water is of a suitable quality. The site has strict targets for water levels which has been agreed with Natural England and the Environment Agency. Water quality is currently acceptable, although any pollutants are a concern due to the potential impact on the fragile freshwater ecology of the reserve.

3.78 The main input to the **reedbed** is via a pump on the Wyberton Pump drain and rainfall. Water levels within the reedbed/reservoir are raised to capacity during the winter. Levels here lower due to use of this reservoir water to supply other habitats during spring and summer and the impact of evapotranspiration loss. Levels are lowered between September and December when reed-cutting and engineering management is taking place. The reedbed water level management is principally to benefit key breeding bird species such as bitterns, bearded tits and a gull colony within the reedbed reservoir but primarily to supply the freshwater lagoons and wet grassland habitats elsewhere on site.

3.79 The main inputs to the **freshwater lagoons** are from rainfall and from the reedbed reservoir. The freshwater lagoons are allowed to draw down slowly over late spring and summer, to provide suitable conditions for breeding waders including avocets, ringed and little ringed plovers, terns and gulls. They are lowered in late summer to allow management of vegetation on islands, and are raised and maintained at varying depths in autumn and winter to provide a range of feeding and loafing conditions for waders and wildfowl.

3.80 The main inputs to the **wet grassland** are from rainfall and water supply from the reedbed reservoir. The water levels are held high over late spring and summer, to provide suitable conditions for breeding lapwings and redshanks. In late summer levels drop naturally due to evapotranspiration. Through the autumn and winter, water levels are raised and maintained at varying depths to provide a range of feeding and loafing conditions for waders and wildfowl.

## k) Summary of consideration of SPAs, SACs, Ramsars and SSSIs

3.83 Understanding the implications of the Application for the SPA (and SAC) site conservation objectives is a key requirement of the Habitats Regulations tests (See Section 8 for more detail), which will also need to be applied to the Ramsar site.

3.84 Anything that impacts overwintering survival, as well as breeding success and recruitment into the population, could therefore compromise the ability to restore the feature. For this reason, it is important to understand even apparently small effects that when considered in-combination with additional factors affecting a site or feature could significantly affect the ability to achieve the site's conservation objectives.

# 4. Overview of the Wetland Bird Survey data and its use in assessing impacts on The Wash

4.1 In Section 3, we have set out the protected sites and the RSPB reserves that could be affected by the proposed Application. For The Wash SPA/Ramsar/SSSI, we have identified a number of species of which we have specific concerns due to the potential disturbance and displacement that could occur to these species when roosting or feeding. Our conclusions are based on data that has been collected through the Wetland Bird Survey (WeBS). In order to aid the Examination, the following provides an overview of:

- What WeBS is?
- What WeBS Alerts are?
- The current trend for monitored species within The Wash and why some SPA species have restoration targets.

## a) About the Wetland Bird Survey

4.2 The WeBS is the principal scheme for monitoring the UK's wintering waterbird populations, providing an important indicator of their status and the health of wetlands.

4.3 The UK is of outstanding international importance for waterbirds. Lying on some of the major flyways for Arctic-nesting species, large numbers of waterbirds are attracted, especially during winter, by the relatively mild climate and extensive areas of wetland, notably estuaries. The UK thus has both moral and legal obligations to conserve both these waterbirds and the wetlands upon which they depend.

4.4 The WeBS is a partnership jointly funded by the British Trust for Ornithology (BTO), the RSPB and the Joint Nature Conservation Committee (JNCC), in association with the Wildfowl and Wetlands Trust (WWT); with fieldwork conducted by volunteers. Around 3,000 volunteer counters participate in synchronised monthly counts at wetlands of all habitat types, mainly during the winter period. These WeBS Core Counts are supplemented by occasional WeBS Low Tide Counts undertaken on estuaries, with the aim of identifying key feeding areas.

4.5 In the context of national and international obligations, WeBS has three primary objectives:

(i) assess the size of non-breeding waterbird populations in the UK,
(ii) assess trends in their numbers and distribution,
(iii) assess the importance of individual sites for waterbirds.

4.6 Species trends, peak counts and site summary data are accessible to all online, via the WeBS Annual Report (https://app.bto.org/webs-reporting/numbers.jsp). More detailed datasets for research, management, impact assessment and other uses are obtainable via the WeBS data request service.

4.7 Compared to many examples of biodiversity monitoring, the WeBS scheme is unique in that, as detailed, it aims to monitor both the non-breeding status of waterbird populations at the national scale and assess the health of individual sites in terms of bird numbers and assemblage. The latter site-based evaluation approach takes the form of a standardised assessment of protected sites undertaken every three years; the WeBS Alerts (https://app.bto.org/webs-reporting/alerts.jsp; see Section 4c below for more detail on WeBS Alerts).

4.8 All WeBS data represent an important contribution to periodic reviews of the Special Protection Area (SPA) network in the UK. WeBS data contribute to the process of designating statutory sites, reviewing consents and other management issues, as well as in the assessment of potential impacts of proposed industrial development and changes in recreational use. The data are used to undertake a variety of research and impact-related work at different spatial scales and also contribute to annual indicators of national wild bird populations and other reviews of biodiversity and conservation status.

4.9 Data from WeBS Core Counts in January are provided to the International Waterbird Census so that waterbirds status can be assessed at an international scale across the African-Eurasian flyway area (coordinated by Wetlands International) and are used in flyway scale research. Hence, WeBS is a core monitoring programme contributing to a variety of conservation and research initiatives, both in the UK and internationally. WeBS data are accessible to, and used by, a range of stakeholders including site practitioners, Government agencies, academic researchers, and representatives of regional bird clubs.

### b) Conservation and Monitoring of Migratory Waterbirds

4.10 The UK has ratified the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) of the 'Bonn' Convention on the Conservation of Migratory Species of Wild Animals. AEWA entered into force in 1999. It is a specific Agreement requiring nations to take coordinated measures to conserve migratory waterbirds given their particular vulnerability due to their migration over long distances and their dependence on networks that are decreasing in extent and becoming degraded through non-sustainable human activities. Article three of the Agreement requires, among other things, that sites and habitats for migratory waterbirds are identified, protected and managed appropriately, that parties initiate or support research into the ecology of these species, and exchange information and results. Explicit in this Agreement is that adequate monitoring programmes are set in place to fulfil these objectives and the Action Plan to the Agreement specifically requires that nations endeavour to monitor waterbird populations.

### c) Alerts 2016/17 summary for The Wash SPA

4.11 The status of the non-breeding waterbird features of SPAs and SSSIs around the UK is assessed periodically by the WeBS Alerts (Woodward *et al*. 2019). The Alerts System identifies species that have undergone major declines in numbers and flags these species by issuing an Alert. As such, Alerts are advisory, and are issued with the intention of promoting research to determine what pressures may be driving the underlying changes in numbers, leading to appropriate conservation action. Trends are assessed over the short-, medium- and long-terms (5, 10, and 25 years) and since site designation. Where declines exceed 50%, High Alerts are issued and where declines lie between 25% and 50% Medium Alerts are issued.

4.12 For The Wash SPA, Alerts have been triggered for 12 of the 18 species that were assessed. For four of these species, comparison of site trend with broadscale trends suggests that the decline underpinning Alerts status may be driven by site-specific pressures. These are summarised in Table .

Table 6: Overview of the WeBS Alerts data and their relationship with species potentially affected by the construction and operation of the BAEF.

| Species | High | | | | Medium | | | | Site specific concerns | Potentially affected by the Application |
|---|---|---|---|---|---|---|---|---|---|---|
| | ST | MT | LT | SB | ST | MT | LT | SB | | |
| Dark-bellied brent goose (*Branta bernicla bernicla*) | | | | | | 7 | -43 | | ✓ | ✓ |
| Bewick's swan (*Cygnus columbianus*) | -72 | -50 | -91 | -89 | | | | | | |
| Shelduck (*Tadorna tadorna*) | | -56 | -81 | -78 | -33 | | | | ✓ | ✓ |
| Gadwall (*Mareca strepera*) | | | | | **-32** | | | **-42** | **?** | |
| Wigeon (*Mareca penelope*) | | | | | | | | | | |
| Pintail (*Anas acuta*) | | | **-64** | **-50** | | **-32** | | | ✓ | |
| Common Scoter (*Melanitta nigra*) | | | | | **-40** | | | | **?** | |
| Goldeneye (*Bucephala clangula*) | | | **-56** | **-75** | **-36** | **-25** | | | | |
| Oystercatcher (*Haematopus ostralegus*) | | | | | | | | | | ✓ |
| Grey Plover (*Pluvialis squatarola*) | | | | | | | **-26** | | | |
| Curlew (*Numenius arquata*) | | | | | **-29** | | | | | |
| Bar-tailed Godwit (*Limosa lapponica*) | | | | | | | | | | |
| Black-tailed Godwit | | | | | **-31** | **-34** | | | ✓ | ✓ |

| Species | High | | | | Medium | | | | Site specific concerns | Potentially affected by the Application |
|---|---|---|---|---|---|---|---|---|---|---|
| | ST | MT | LT | SB | ST | MT | LT | SB | | |
| (Limosa limosa) | | | | | | | | | | |
| Turnstone (*Arenaria interpres*) | | | | | | | -29 | | | ✓ |
| Knot (*Calidris canutus*) | | | | | | | | | | |
| Sanderling (*Calidris alba*) | | | | | | | | | | |
| Dunlin (*Calidris alpina*) | | | | | | | -35 | | | |
| Redshank (*Tringa totanus*) | | | | | | | | | | ✓ |

***Key:***
***ST = short-term (5 years); MT = medium-term (10 years); LT = long-term (up to 25 years); SB = since 1982/83 baseline***

*Note that the % change since baseline has not been calculated for wader species on this site because prior to the formation of WeBS (1993/94, wader counts for The Wash WeBS site encompass The Wash SPA, the adjoining Gibraltar Point SPA and adjoining count sectors of the North Norfolk Coast SPA.*

## d) Review of WeBS Alerts for species that could be significantly impacted by the Application

*Introduction to WeBS Alerts accounts for species affected by the Application*

4.13 The following species have been observed in the surveys conducted to assess bird usage of the Application site and the mouth of The Haven. The evidence is that these species could be significantly affected during construction and operation of the Facility as a result of increased disturbance from vessel movements, loss of roosting sites, loss or displacement from optimal and favoured foraging habitat, and increases in noise levels.

*Dark-bellied brent goose*

4.14 Numbers of Brent Goose over-wintering on The Wash SPA have been decreasing in the long-term having previously increased. Consequently, Alerts have been triggered for the medium- and long-terms. Numbers of this species over-wintering within Anglian Region have fluctuated over the long-term following a previous increase. Numbers of this species over-wintering in Great Britain have fluctuated over the long-term following a previous increase. The trend on the site does not appear to be tracking that of the either the region or the British trend. The declining proportion of regional and country-wide numbers supported by this site suggest that site-specific pressures may be affecting numbers on this site. In conclusion, the contrast between the declining site trend and both the

regional and British trends suggests that declining numbers underpinning these Alerts are most likely due to site-specific pressures.

*Shelduck*

4.15 Numbers of Shelduck over-wintering on The Wash SPA have been decreasing in the long-term having previously peaked. Consequently, Alerts have been triggered for the long-, medium- and short-terms and the period since baseline. Numbers of this species over-wintering within Anglian Region have been decreasing in the long-term having previously peaked. Numbers of this species over-wintering in Great Britain have been decreasing in the long-term having previously peaked. The declining proportion of regional and country-wide numbers supported by this site suggest that site-specific pressures may be affecting numbers on this site.

*Curlew*

4.16 Numbers of Curlew over-wintering on The Wash SPA have been decreasing in the short-term having previously been relatively stable. Consequently, Alerts have been triggered for the short-term. Numbers of this species over-wintering within Anglian Region have been decreasing in the short-term having previously peaked. Numbers of this species over-wintering in Great Britain have been decreasing in the long-term having previously increased. The stable proportion of regional numbers supported by this site suggest the environmental conditions remain relatively favourable for this species. In conclusion, the similarity between the declining site trend and the regional and British trends suggests that the declining numbers underpinning these Alerts result from broad-scale population trends.

*Black-tailed Godwit*

4.17 Numbers of Black-tailed Godwit over-wintering on The Wash SPA have been decreasing in the medium-term having previously peaked. Consequently, Alerts have been triggered for the short- and medium-terms. Numbers of this species over-wintering within Anglian Region have been increasing long term. Numbers of this species over-wintering in Great Britain have been increasing long term. The trend on the site does not appear to be tracking that of the either the region or the British trend. The declining proportion of regional and country-wide numbers supported by this site suggest that site-specific pressures may be affecting numbers on this site. In conclusion, the contrast between the declining site trend and both the regional and British trends suggests that declining numbers underpinning these Alerts are most likely due to site-specific pressures.

*Turnstone*

4.18 Numbers of Turnstone over-wintering on The Wash SPA have been stable in the medium-term having previously declined. Consequently, Alerts have been triggered for the long-term. Numbers of this species over-wintering within Anglian Region have been decreasing long term. Numbers of this species over-wintering in Great Britain have been decreasing long term. The increasing proportion of regional numbers supported by this site suggest the environmental conditions remain relatively favourable and indicates that this site is becoming increasingly important on a regional scale for this species. In conclusion, the similarity between the declining site trend and the regional and British trends suggests that the declining numbers underpinning these Alerts result from broad-scale population trends.

*Dunlin*

4.19 Numbers of Dunlin over-wintering on The Wash SPA have been stable in the medium-term having previously declined. Consequently, Alerts have been triggered for the long-term. Numbers of this species over-wintering within Anglian Region have been decreasing in the long-term having previously increased. Numbers of this species over-wintering in Great Britain have been decreasing in the long-term having previously been relatively stable. The trend on the site appears to be tracking that of the region and British trends. The stable proportion of regional numbers supported by this site suggest the environmental conditions remain relatively favourable for this species. In conclusion, the similarity between the declining site trend and the regional and British trends suggests that the declining numbers underpinning these Alerts result from broad-scale population trends.

## e) Review of WeBS Alerts for species that we consider will not be significantly impacted at the Application site or mouth of The Haven

*Introduction to WeBS Alerts for species not observed at the Application site or mouth of The Haven*

4.20 The following species have not been observed in the surveys conducted to assess bird usage of the Application site and the mouth of The Haven. At this stage we do not hold any information that suggests the species do use this area of The Wash in significant numbers. We have included the WeBS Alerts accounts for completeness, and in case additional evidence emerges during the Examination that may cause us to reconsider our position on any of the following species.

4.21 However, some of these species will occur in greater numbers in other areas of The Wash. Figure 17.1 of the Marine and Coastal Ecology Chapter[38] identifies where the anchorage area is located within The Wash. It is unknown what species are using the area around the anchorage site in The Wash. No data have been presented to assess the potential importance for any of the species listed below. We are therefore unable to confirm whether this area could be of importance for non-breeding gadwalls, pintails, common scoters, goldeneyes or grey plovers. We request the Applicant to provide evidence to demonstrate that these species, or others including those mentioned above, will not be impacted by increased vessel use of the anchorage area.

*Bewick's swan*

4.22 Numbers of Bewick's Swan over-wintering on The Wash SPA have been decreasing long term. Consequently, Alerts have been triggered for the long-, medium- and short-terms and the period since baseline. Numbers of this species over-wintering within Anglian Region have been decreasing in the long-term having previously increased. Numbers of this species over-wintering in Great Britain have been decreasing in the long-term having previously increased. In conclusion, the similarity between the declining site trend and the regional and British trends suggests that the declining numbers underpinning these Alerts result from broad-scale population trends.

*Gadwall*

4.23 Numbers of Gadwall over-wintering on The Wash SPA have been decreasing in the short-term having previously peaked. Consequently, Alerts have been triggered for the short-term and the period since baseline. Numbers of this species over-wintering within Anglian Region have been decreasing in the

[38] [redacted])

short-term having previously peaked. Numbers of this species over-wintering in Great Britain have been stable in the short-term having previously increased. The trend on the site does not appear to be tracking that of the either the region or the British trend. The stable proportion of both regional and country-wide numbers supported by this site suggest the environmental conditions remain relatively favourable for this species. Although Alerts have been triggered they are difficult to interpret and so it would be prudent to closely monitor numbers of this species on this site in coming winters to assess whether these Alerts are due to fluctuations or local pressures.

*Pintail*

4.24 Numbers of Pintail over-wintering on The Wash SPA have been stable in the short-term having previously declined. Consequently, Alerts have been triggered for the medium- and long-terms and the period since baseline. Numbers of this species over-wintering within Anglian Region have been decreasing in the medium-term having previously been relatively stable. Numbers of this species over-wintering in Great Britain have been decreasing in the medium-term having previously peaked. The declining proportion of the regional numbers supported by this site suggest that site-specific pressures may be affecting this species. In conclusion, the contrast between the declining site trend and both the regional and British trends suggests that declining numbers underpinning these Alerts are most likely due to site-specific pressures.

*Common scoter*

4.25 Numbers of Common Scoter over-wintering on The Wash SPA have fluctuated markedly throughout the period recorded by WeBS making interpretation of the underlying trend impossible. Accordingly, although Alerts have been triggered for the short-term they should be viewed with caution. The change in numbers underpinning these Alerts are within the range of fluctuation typical for this site and so should not give particular cause for concern. Numbers of this species over-wintering within Anglian Region have fluctuated throughout the period recorded by WeBS making interpretation of the underlying trend difficult. Numbers of this species over-wintering in Great Britain have fluctuated throughout the period recorded by WeBS making interpretation of the underlying trend difficult. The high degree of variation at this site precludes comparison with broader scale trends.

*Goldeneye*

4.26 Numbers of Goldeneye over-wintering on The Wash SPA have been decreasing in the long-term having previously been relatively stable. Consequently, Alerts have been triggered for the long-, medium- and short-terms and the period since baseline. Numbers of this species over-wintering within Anglian Region have been decreasing in the medium-term having previously peaked. Numbers of this species over-wintering in Great Britain have been decreasing in the medium-term having previously peaked. The trend on the site does not appear to be tracking that of the either the region or the British trend. The declining proportion of the regional numbers supported by this site suggest that site-specific pressures may be affecting this species. In conclusion, the similarity between the declining site trend and the regional and British trends suggests that the declining numbers underpinning these Alerts result from broad-scale population trends.

*Grey plover*

4.27 Numbers of Grey Plover over-wintering on The Wash SPA have fluctuated throughout the period recorded by WeBS making interpretation of the underlying trend difficult. Accordingly, although Alerts have been triggered for the long-term they should be viewed with caution. Numbers of this

species over-wintering within Anglian Region have been stable in the long-term having previously increased. Numbers of this species over-wintering in Great Britain have been stable in the long-term having previously increased. The high degree of variation at this site precludes comparison with broader scale trends. The stable proportion of both regional and country-wide numbers supported by this site suggest the environmental conditions remain relatively favourable for this species.

### f) Implications of WeBS Alerts

4.28 When Alerts have already been issued for a species at a particular SPA it indicates the population is under pressure and any additional pressures could accelerate decline and would be of concern, particularly before the cause of the declines has been identified and appropriate remedies have been identified to reverse these trends. It will be challenging to meet one of the key Conservation Objectives for the SPA (to maintain the population of the species as a viable component of the site) if additional pressures are added to an already declining population.

### g) Key WeBS sectors that are applicable to the assessment of the Boston Alternative Energy Facility

4.29 The mouth of The Haven is regularly surveyed as part of the British Trust for Ornithology's Wetland Bird Survey. These surveys are conducted monthly through the winter to provide trend data on the total number of birds using a particular area (called sectors). The following sectors are of relevance to the BAEF application (Figure 3):

- Freiston 50
- Freiston 30
- Witham 60
- Witham 52
- Witham 51
- Witham 41
- Witham 40
- Witham 21[39]
- Witham 20
- Frampton North 60
- Frampton North 31
- Frampton North 27
- Frampton North 26
- Frampton North 25
- Frampton North 24
- Frampton North 23
- Frampton North 22
- Frampton North 21
- Slippery Gowt Pits

[39] This WeBS sector has not been previously included in data requests. This is a small sector on the saltmarsh adjacent to Freiston Shore reserve and has the potential to support significant numbers of birds. The Applicant has been made aware, although we appreciate that these data are unlikely to be included in information submitted for Deadline 1. The additional data, however, will need to be considered in future analyses of potential impacts from vessel movements at the mouth of The Haven.

4.30 All these sectors have the potential to experience disturbance from vessel movements. The RSPB acknowledges that the Applicant has now secured the appropriate WeBS sector data. Analyses of the data, however, are ongoing.

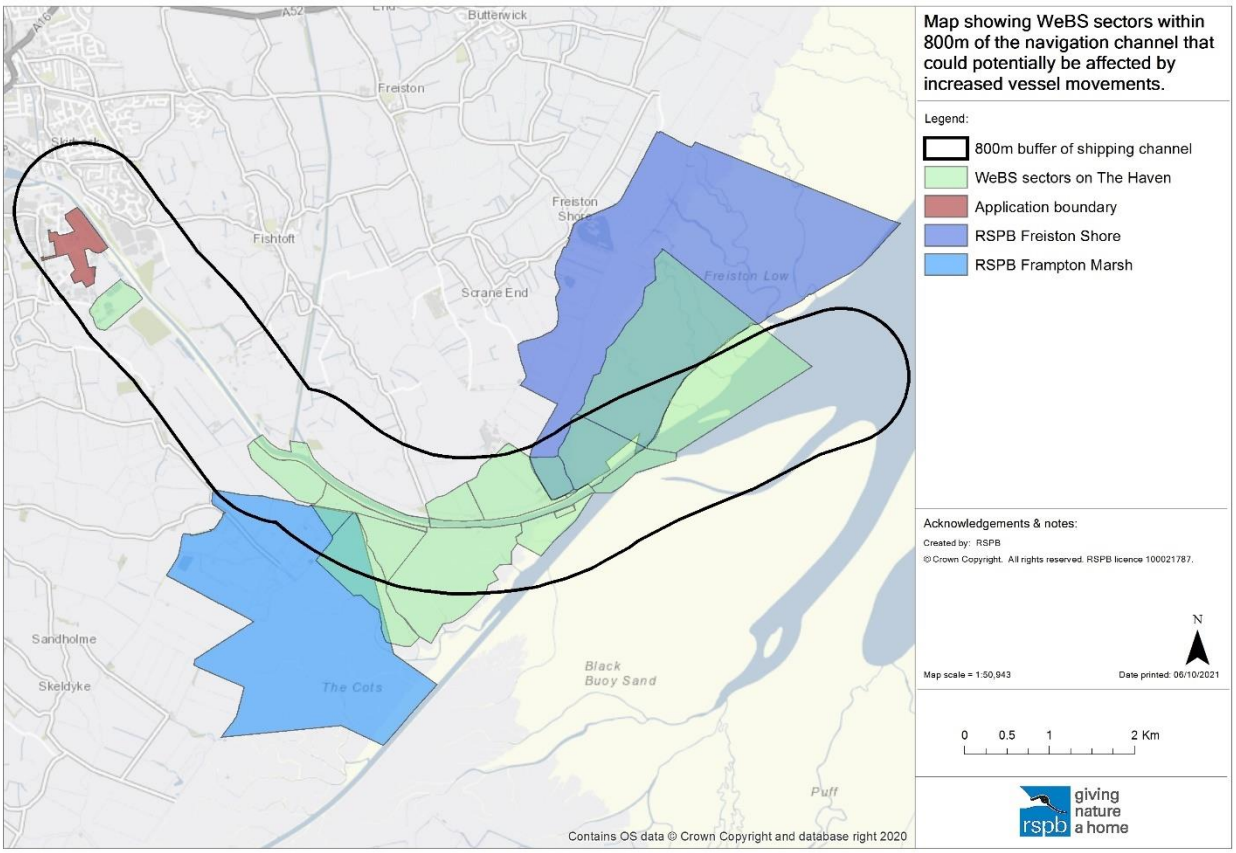


Figure 3: Map showing area affected by 800m displacement arising from disturbance vessels using The Haven.

## 5. The RSPB's engagement with the Application

5.1 The following summarises our engagement with the Application to date. A full overview of our engagement is set out in Appendix 2.

### a) Engagement with the Application through 2019

5.2 The RSPB has been engaged with the Application since June 2019 when the Applicant's consultants visited RSPB Frampton Marsh and discussed the project with the RSPB's Senior Site Manager. We responded to the Preliminary Environmental Information Report (PEIR) in August 2019, which identified serious deficiencies in the evidence base. We were concerned that the following areas either had sufficient data to make conclusions or evidence was completely lacking:

- The Haven as a winter refuge for The Wash SPA features.
- Bird distribution variability along the Haven.
- Impact of the planned wharf.

- Increase in container vessels transiting the Haven and The Wash.
- Impact on water quality.
- Managing invasive non-native species.
- Air pollution.
- Habitats Regulation Assessment (HRA).
- The level of mitigation and enhancement to address impacts and deliver biodiversity net gains in line with the National Planning Policy Framework.

5.3 The RSPB subsequently discussed our concerns with the Applicant in September 2019. We confirmed that the following information was required to be able to draw accurate conclusions on the potential environmental impacts of the Application:

- the non-breeding season ornithological interest around the Application site.
- the non-breeding season ornithological interest around the mouth of The Haven.
- the level of disturbance created by currently by different vessel types to inform the baseline understanding and inform conclusions to be made about the proposed level of increased vessel movements that would be generated during construction and operation of the BAEF.

5.4 As a result of these discussions, we welcomed the Applicant's decision to commission ornithological surveys for the Application site and the mouth of The Haven river.

### b) Engagement with the Application through 2020

5.5 Throughout 2020, the RSPB attended various meetings with the Applicant and provided our advice on the survey results. We provided high-level suggestions on potential mitigation and compensation options that the Applicant could explore and set out key principles against which we would assess the proposals to ensure that they would be appropriate and likely to be successful. The RSPB also agreed to undertake due diligence checks to identify whether there would be scope to provide such measures on our nearby reserves at Freiston Shore and Frampton Marsh.

5.6 Despite these meetings, the concerns we had expressed during the PEIR consultation remained and had failed to be addressed when the Application was first submitted in December 2020. The RSPB considered that these were fundamental issues with the Application that needed to be resolved prior to an examination starting. This was deemed necessary to not only ensure that there was a suitable evidence base to draw appropriate conclusions about impacts, but also to ensure that any proposed mitigation and compensation measures could be secured and were deliverable. We note the similar positions of Natural England, the Environment Agency and the Lincolnshire Wildlife Trust regarding the evidence supporting the Application.

### c) Engagement with the Application through 2021

5.7 Following the withdrawal of the initial Application in December 2020, the RSPB has attended meetings with the Applicant and continued to provide advice with respect to the Application through 2021. Following our due diligence checks, we have confirmed that we cannot accommodate compensation options on our reserves. We have continued to give advice to the Applicant regarding possible options as they develop their in-principle derogation case .

### d) Conclusions in respect to engagement with the Application

5.8 Despite the ongoing discussions with the Applicant, the RSPB remains concerned that many of the issues identified since the PEIR consultation in 2019 have not been resolved in the material submitted as part of the Application, or in additional information provided since the Planning Inspectorate (PINS) accepted the Application.

## 6. The RSPB's concerns regarding the quality and limitations of the survey data collected to inform conclusions about the impact of the Facility on The Wash SPA/Ramsar/SSSI

### a) Failure to collect bird data to inform the PEIR

6.1 Following the PEIR consultation, the RSPB was concerned that no ornithological data had been collected to assess the impact of the Application despite the proximity to The Wash SPA/Ramsar/SSSI and the anticipated increased in vessel movements. Given the Application was considered a Nationally Significant Infrastructure Project (NSIP) the limited approach to understanding the potential ecological impact of the Application was disappointing and was discussed with the Applicant at a meeting at RSPB Frampton Marsh on 11 September 2019. Decisions about the importance of the Application site and The Haven appears to have been clouded by evidence gathered for the Boston Barrier project and habitat quality data. We highlighted that the Boston Barrier project was a very different project and whilst some data collected for that project might be appropriate the Application needed to have more detailed data collected. We highlighted the need to gather data on:

- the non-breeding season ornithological interest around the Application site;
- the non-breeding season ornithological interest around the mouth of The Haven;
- the level of disturbance created currently by different vessel types to inform the baseline understanding and inform conclusions to be made about the proposed level of increased vessel movements that would be generated during construction and operation of the BAEF.

### b) Limited bird data gathered to inform the Application

6.2 Whilst the Applicant has collected data from the Application site and mouth of The Haven on bird numbers and observed the effect of vessel movements, the amount of data is still limited. Critically, the impact of shipping will extend along the entirety of The Haven, yet there are no WeBS sectors between the Hobhole area and the Application site (Figure 1), and the Applicant has not collected any data to understand the potential ornithological interest. The limited amount of data therefore means that the statistical power of such data is limited. Interpretation of the available evidence is therefore based on quantification of the numbers of birds observed, and the number and type of disturbance events recorded. Expert judgement is then used to draw conclusions. Such an approach necessarily means the application of the Precautionary Principle (see Section 8 on the use of the Precautionary Principle).

6.3 For an NSIP that affects an intertidal SPA, the RSPB would expect two full years of monthly high and low tide counts of all areas potentially affected to have been completed. The survey results should then be set in context of the WeBS counts over a 5-year period, and the conservation objectives for the site (i.e. populations at designation, where these are higher than recent WeBS counts). Ideally, the Applicant would also have completed through-the-tide counts and nocturnal surveys (since

waders feed actively at night and their habitat use is often different at night than in the day). Whilst we appreciate that these latter two pieces of work are not always done, these would have provided additional evidence of all impacts from vessel movements to inform assessments of the likely impact from an increase in vessel movements.

### c) Limitations of the available evidence to inform the Application

6.4 Having reviewed the survey data (as compiled in Appendix 3), the RSPB have identified a number of limitations with the approach that has been taken. These are:

- A full two years of data have not been completed. This is good practice for Nationally Significant Infrastructure Projects (NSIPs), especially where there are potential adverse effects on protected sites and species. This is necessary to enable variation across seasons and years to be better understood. The decision to submit the Application in November 2020 means that no data have been collected to understand the importance of the autumn passage period (August to October), or early winter (November to December) in 2020. The citation for The Wash SPA[40] specifically highlights the importance of the autumn for waders congregating to moult (see Section 3 above). The need to cover the Autumn passage period was communicated to the Applicant in our letter dated 1 October 2020 (key point highlighted):

  "*The RSPB is pleased that wintering bird surveys have been specifically conducted at the Haven mouth, as this is known to be an area where a high tide roost is present. We agree with the methodology that was used to conduct the surveys. However, the surveys do not capture the migration period in September or April. It therefore remains unclear how important the Haven is during the migration and early spring periods. This could potentially be important during poor weather and any late cold periods extending into the spring (e.g. as evidenced with the 'Beast from the east' in 2018). There are, therefore, gaps in the survey data.*" (Section 2, p.1)

- No high tide or low tide surveys have been conducted to assess disturbance to The Wash SPA/Ramsar/SSSI foraging and roosting birds along the entire length of The Haven (or its approaches out to the anchorage area). This is important to understand the full impact of the increased vessel movements and the overall scale of impact from the proposed development.

- Low tide counts have not been carried out to assess bird use and the implications for foraging birds during construction and operation of the facility. Increased levels of noise and activity could result in a significant area around the Application site being more disturbed and an area created that excludes birds from current foraging areas.

- No nocturnal surveys have been conducted to assess the potential impact of vessel movements and their impact on species such as redshank, lapwing and golden plover that will forage at night. This could be important given all navigable tides would be used by vessels[41] and it is understood that the Facility will operate for 24-hours per day (according to paragraph 5.6.2 of the Project Description, p.14).[42]

- There is a lack of wider assessment of baseline disturbance effects to assess cumulative and in-combination impacts. For example, there is no data available on the levels of recreational

[40] [redacted]

pressures along The Haven to inform the appropriateness of proposed mitigation and compensation measures.

- No data analyses have been completed to inform the conclusions being drawn in the submitted Application (notably the Marine & Coastal Ecology chapter[43] and the HRA[44]). This is important to ensure the impact of the proposal takes full account of the conservation objectives of The Wash SPA/Ramsar/SSSI.

6.5 These are not insignificant issues and are an artefact of the failure to establish a formal stakeholder engagement process, with Expert Topic Groups established to inform survey requirements, review data and inform additional work that would be required to ensure an appropriate evidence base would be in place. Such an approach is adopted as best practice for NSIPs. This is particularly worth noting given the surveys conducted by the Applicant have identified important numbers of birds using the Application site, which was not previously known.

6.6 Whilst the RSPB has reviewed the available evidence, our interpretation and conclusions are hindered by the survey approach adopted. Such data gaps also raise concerns about the adequacy of the Application and the ability for the Examining Authority and Secretary of State to assess the Application. Given the limitations of the data we do not consider that it can be concluded that there would not be an adverse effect on integrity beyond reasonable scientific doubt of The Wash SPA/ Ramsar and The Wash & North Norfolk Coast SAC. We discuss this in more detail in Section 8.

### d) Note about cold weather periods

6.7 It is also important to note that whilst colder months will have been surveyed, this is not the same as severe winter weather which has a specific definition and triggers voluntary restraints under the Wildlife and Countryside Act 1981 (as amended) (see [redacted]

6.8 Anecdotal evidence from local ornithologists indicates that birds can be used The Haven as a refuge in cold weather. This will increase the number of birds using The Haven at a time when they will be particularly vulnerable to disturbance. Whilst data have been collected on The Haven during winter 2019/2020 and early 2021, neither of these periods coincided with a formal cold weather period, therefore information on this aspect of the dynamics of bird use of The Haven is absent from the evidence set out in the current Application.

6.9 The full use of The Haven during severe winter weather therefore remains unknown and a precautionary approach must be adopted. This needs to be made clear within the Environmental Statement and HRA for clarity.

## 7. The RSPB's concerns regarding impacts arising from the Application

### a) Introduction to the RSPB's concerns

[redacted]

7.1 In order to comment on the potential impacts of the Application on nearby protected sites and our reserves the RSPB has reviewed a range of documents within the Environmental Statement. The key documents that we have considered are listed in Appendix 4 to this submission.

7.2 The Applicant's HRA report (from paragraph A17.6.4; p.29)[45] sets out a number of factors by which the Application could impact on birds associated with The Wash SPA/Ramsar/SSSI. We agree with the factors that have been identified for assessment and provide our comments against each of the factors identified, namely:

- Habitat loss.
- Construction (and operational) noise of the Facility – the significance of noise impacts during construction and operation on the non-breeding waterbirds using The Haven (functionally linked to The Wash SPA/Ramsar).
- Vessel disturbance (visual, presence and noise both during construction and operation).
- Lighting at the proposed development site and in transit through The Wash and The Haven - limited detail is presented regarding potential impacts of lighting on birds from the proposed facility and associated vessels. There is a lack of detailed assessment of the impacts of night-time operational noise and effects on designated sites, despite regular significant activity (including vessel deliveries and unloading) scheduled to take place at night.

7.3 We have also identified a number of additional areas by which significant and potentially adverse impacts could arise from the Application that will need to be considered in more detail. Some of these can be considered indirect impacts in some cases, or 'knock on' impacts. All of these are foreseen issues arising from the submitted Application and will need to be addressed in more detail by the Applicant. Additional areas of concern include:

- Impact on water within the drainage system adjacent the Application site which is pumped to RSPB Frampton Marsh to ensure any discharges do not reduce water quality or make improvements to water quality more difficult.
- Impact on water quantity within the within the drainage system adjacent the Application site to ensure there remains sufficient supply to RSPB Frampton Marsh.
- Consideration of pollution from vessels and ability to secure appropriate control measures.

7.4 Much of the information provided below has already been submitted to the Applicant following the resubmission of the Application and has been provided in the Annex to our Relevant Representation.[46] However, we have updated a number of the data tables and the subsequent analysis. We continue to wait for more detailed analyses from the Applicant in order to understand their assessment approach and interpretation of the evidence. We welcome more detailed analyses being submitted at Deadline 1 (19 October 2021) by the Applicant. We will review the additional information and endeavour to provide our comments, at Deadline 2 (11 November 2021). However, our ability to provide detailed feedback on the new evidence may be limited by the volume of information submitted by the Applicant and the currently unknown time we may need to secure from specialist colleagues to respond to the new evidence.

[45] [redacted]

## b) Habitat loss - Loss of saltmarsh and intertidal mudflat at the wharf site

*Predicted losses of saltmarsh and intertidal mudflat*

7.5 Paragraph A17.6.18 of the HRA (p.33) states that with respect to saltmarsh:

"*The loss is calculated as a maximum (worst case scenario) of 1 ha (this includes a small area of loss (0.17 ha) that could potentially be lost on the edge of Area B to indirect loss and scour protection in the upper zone).*"

7.6 The Applicant considers the saltmarsh to be of poor quality based on surveys conducted over 10 years ago for the Boston Barrier project undertaken by the Environment Agency (see Section 5 regarding our views on the use of the Boston Barrier data). We note that Natural England consider this area of saltmarsh to be of a much higher quality and that recent surveys have found saltmarsh communities in the area of the proposed wharf that are found in few locations around The Wash.[47] The RSPB supports the position of Natural England and considers the saltmarsh quality must be reassessed using the most recently available evidence.

7.7 We have also highlighted to the Applicant during recent meetings that the overall species-richness of the saltmarsh community is only one factor when considering the importance of the area of saltmarsh that will be lost. Such areas that may be considered "poor quality" may actually have higher ecological value when their support for other species is considered. In this instance, the saltmarsh will be an important area for roosting birds and will provide some opportunities for birds to forage. For example, p.139 of the HRA presents the minutes of the meeting with the Applicant on 8 February 2021 where it states that (emphasis added):

"… [X] *mentioned that species may find an area of importance even if the quality is low and noted that more counts there would be enlightening. As it is not used as much at low tide but is at high tide. suggested it could be used as a high tide roost area and suggested it could be disproportionately important for the redshank which are very site faithful and would question if it is the most important roost site in the area."*[48]

7.8 The full ecological importance of this habitat must, therefore, be fully considered when making judgements about the impact of lost saltmarsh.

7.9 It is unclear what scale of loss can be expected for mudflat. There will be a capital dredge requirement in the wharf area and there will be ongoing maintenance dredging. In addition, displacement of birds away from core feeding areas will also represent a loss of available habitat. We request the Applicant clarifies the extent of mudflat that will be lost, or become unavailable for foraging birds. This is important in order to assess the full scale and type of compensation habitat that will be required.

*Impact to foraging birds associated with The Wash SPA/Ramsar/SSSI*

7.10 Paragraph A17.6.14 (p.32) states that:

"*…a number of waterbirds use Area A for feeding and / or roosting, however, almost all species recorded were in numbers representing less than 1 % of The Wash population (based on the 5-year WeBS average counts for The Wash at the time of the survey, 2013/14 to 2017/18), and were*

[47] [redacted]

*therefore present in numbers not considered to be significant in the context of the wider Wash population*."

7.11 We accept that in the majority of cases low numbers of many species have been recorded using the area of The Haven adjacent the Application site. However, we refer back to the concerns we have identified with the survey methodology (Section 6) and are concerned that relatively few surveys have been undertaken to give confidence in these findings. We particular refer back to our comments on the lack of data during the autumn and the potential use of The Haven as a cold weather refuge during the winter (Section 6).

7.12 The Applicant concludes that they do not expect:

"…*that feeding birds would be adversely affected by habitat loss, due to the relatively low numbers using Area A, the small area lost and the continued availability of adjacent feeding areas*." (paragraph A17.6.17; p.33)

7.13 When considering the loss of feeding area, it is important to understand the range of factors that could limit use of current feeding areas. We discuss the effect that increased noise levels could have in Section 7c below. The presence of vessels using the wharf area will have an impact over an as yet undefined area, either through increased noise, visual disturbance or both (See Section 7d below). It is also not clear how ongoing maintenance dredging to the navigation channel will affect the extent of suitable habitat along The Haven or the number of birds that could be impacted by this activity. We anticipate that the significant increase in vessel numbers and the need to utilise all available navigable tides will increase the frequency that maintenance dredging is required, but this needs to be confirmed. We therefore seek clarity on the area around the proposed Facility and along The Haven that could be impacted and the extent of habitat that may become unsuitable for use by birds, to include updated noise mapping, updated evidence on visual impacts around wharfs and an update on how the maintenance dredging impacts are being considered by the Applicant in their assessments and the evidence used to underpin their conclusions.

7.14 In addition, paragraph A17.6.20 of the HRA (p.34) suggests that as saltmarsh near Area B is wider than the saltmarsh that will be lost at the proposed wharf site, all displaced roosting birds could simply use this as an alternative roosting. This may be the case, but the birds have demonstrated that they potentially use the wharf site and the limited numbers of surveys and lack of data to when redshanks roost in large number on the proposed wharf site and why means the loss of this site could be significant. This may be for a range of factors, such as being closer to their preferred feeding area, there may be less disturbance, and/or the aspect of the roost may also mean that it is more sheltered. There is also no evidence presented to demonstrate the carrying capacity of the adjacent saltmarsh or the impact displaced birds could have on birds that already use adjacent saltmarsh areas. All of these factors need to be taken account of when making judgements about the use of different areas of The Haven by roosting and feeding birds and the impact this could have on the integrity of The Wash SPA/Ramsar/SSSI. Whilst these points have been raised with the Applicant on a number of occasions, we see no new evidence presented to demonstrate that the statements about alternative areas being used by birds are appropriate.

7.15 The Applicant cannot avoid the fact that habitat for features of The Wash SPA/Ramsar/SSSI will be lost as a result of the Application. It is also important to note that the habitat being lost (saltmarsh and intertidal mudflat) are priority habitats.[49] Consequently, the RSPB considers the habitat must be compensated for, and that it should be of a scale, type and location to support features of The Wash

[49] Priority Habitats are those of Principal Importance as set out under Section 41 of the Natural Environment and Rural Communities Act 2006.

SPA/Ramsar/SSSI that will be both disturbed and displaced as a result of construction of the Facility and its subsequent operation. We note that the Applicant will submit an "in principle" derogation case for Deadline 2 (11 November 2021) and will be reviewing this information in accordance with our views set out in Section 9 and 10 below.

7.16 We are also concerned that the Applicant is making assumptions about the wider use of The Haven by foraging birds then is possible from the available evidence. For example, paragraph A17.6.16 of the HRA (p.33) states that:

"*Area B would remain available for feeding and at low tide there will be no vessel movements occurring. The opposite side of the river to the proposed Facility within Area A will also still be available for feeding.*"

7.17 Whilst some foraging may occur there is, to our knowledge no evidence presented to show that the mudflats across the wider area are of uniform importance for foraging birds and that there are no additional factors that could limit use of alternative areas, such as recreational pressure from the land (as suggested by paragraph A17.6.19 of the HRA, p.34) or even pressures from smaller vessels that can still navigate at the lower states of tide. Whilst it may be likely that birds could still use parts of Area B for foraging (paragraph A17.6.8 of the HRA, p.33) there is no consideration that this would mean this area of The Haven is accommodating a higher number of birds. It is not clear what densities of birds can be accommodated at particular locations within The Haven and whether any birds may be forced to forage further away and in less optimal areas that could impact on their winter survival and/or their fitness for migration and breeding. Where the Applicant makes such assertions we request that the evidence used to support these is presented.

*Loss of redshank roost and foraging area*

7.18 Table A17-6 provided in the HRA (p.32) reports all the data on the redshank roost near the application site up to February 2021. The Applicant's surveys have recorded over 1% of The Wash SPA/Ramsar population of redshank roosting and feeding adjacent to the application site. The redshank using The Haven during the non-breeding season (which includes the winter, and the autumn and spring migration periods) is likely to include some resident, breeding birds. Birds will move between the application site and The Wash SPA/Ramsar site at different times in the tidal cycle, in different weather conditions and potentially seasonally or between day and night. Therefore, the application site is functionally linked to The Wash SPA/Ramsar.

7.19 Table 7 below provides an update to the information presented within Table A17-6 of the HRA. We agree that birds are using both survey areas and that there is interchange between areas. Given this, we have added a combined column to reflect full use of the entire survey area.

7.20 Of the 8 months of survey reported, 5 months (62.5% of surveys) have recorded redshank in numbers exceeding 1% of The Wash population at high tide (7 months when data are combined or 87.5% of surveys). Whilst these surveys represent a brief snapshot (once per month), these limited data clearly highlight the importance of the area for roosting redshank.

7.21 Whilst numbers are less at low tide (as birds spread out to forage), 37.5% of low tide surveys exceeded the 1% threshold when Area counts were combined, with an additional 25% only just below the threshold. Given that this is a limited data set, the fact that such a high proportion of the observations exceeded the 1% threshold is significant.

*Table 7: This presents the Redshank data presented in Table 17-9 (p.61) of the HRA. These report the redshank counts from Survey Areas A and B. The proportion of the latest WeBS 5-year peak mean count is provided to understand the relative important of the area of The Haven where the wharf will be constructed. The combined count column has been added to reflect the full importance of this area of The Haven,*

| Redshank counts | Count Sector A (within proposed development area) | | Count Sector B (adjacent to proposed development area) | | Combined counts | |
|---|---|---|---|---|---|---|
| Survey month | Low tide | High tide | Low tide | High tide | Low tide | High tide |
| October 2019 | 18 (0.32%) | 20 (0.35%) | 25 (0.44%) | 78 (1.37%) | 43 (0.81%) | 98 (1.85%) |
| November 2019 | 26 (0.46%) | 19 (0.33%) | 61 (1.01%) | 38 (0.67%) | 87 (1.64%) | 57 (1.08%) |
| December 2019 | 14 (0.25%) | 27 (0.47%) | 19 (0.33%) | 33 (0.58%) | 33 (0.62%) | 60 (1.13%) |
| January 2020 | 27 (0.47%) | 162 (2.84%) | 36 (0.63%) | 3 (0.05%) | 63 (1.19%) | 165 (3.12%) |
| February 2020 | 26 (0.46%) | 29 (0.51%) | 21 (0.37%) | 93 (1.63%) | 47 (0.89%) | 122 (2.30%) |
| March 2020 | 17 (0.30%) | 13 (0.23%) | 31 (0.54%) | 73 (1.28%) | 48 (0.91%) | 86 (1.62%) |
| January 2021 | 29 (0.51%) | 44 (0.77%) | 34 (0.6%) | 61 (1.01%) | 63 (1.19%) | 105 (1.98%) |
| February 2021 | 18 (0.32%) | 18 (0.32%) | 16 (0.28%) | 21 (0.37%) | 34 (0.64%) | 39 (0.74%) |

7.22 With respect to these figures, it should be noted that the Supplementary Conservation Advice for The Wash SPA identifies that the redshank population should be maintained at >4,331 birds, but that the population had declined by 39% to 2,641 birds. A restoration objective for the redshank population of The Wash SPA has been set by Natural England. Based on these figures, even a count of as little as 27 redshanks would equate to 1% of the current population that is to be recovered. The maintenance of the redshank population in this area is therefore essential to achieve the restoration of The Wash SPA redshank population. This needs to be clearly addressed in the HRA.

7.23 The development of the proposed wharf will mean that the redshank roost will be lost and that there would be impacts to foraging birds. We provide an overview of the status of redshank in the UK and within the Wash in Appendix 1. Like other redshanks, the redshanks using The Haven are highly site faithful[50] during the non-breeding season and will be formed from a mixture of resident, breeding birds and migrants from breeding populations elsewhere in the UK and abroad (e.g. Iceland, continental Europe). Where roost sites have been lost from other sites (e.g. Cardiff Bay), even a relative short displacement distance of 4km has been found to reduce their body condition and survival rates[51]. In order to maintain the redshank population there would need to be an increase in

[50] Site faithful doesn't mean they stay in the same place all year round, it means they go back to the same non-breeding site every year (often within the same few 10m). This is likely due to birds getting to know where food and/or safety is at their regular wintering site.

[51] Burton, N.H.K., Rehfisch, M.M., Clark, N.A. & Dodd, S.G. 2006. Impacts of sudden winter habitat loss on the body condition and survival of redshank *Tringa totanus*. Journal of Applied Ecology 43: 464-473.

recruitment of young birds[52] to any new habitat created to replace that lost. For The Wash redshank population, however, there has been a decline in breeding numbers and therefore it is not clear that, if The Haven roost was lost, recruitment would be sufficient to compensate for a reduction in survival. This has implications for the restoration target for The Wash SPA redshank population. This highlights the complexity of understanding and addressing impacts for this species and is an area that requires significantly more attention. It also reinforces the importance of maintaining the redshank roost and feeding function of the adjacent mudflats.

7.24 We note that paragraph A17.6.21 of the HRA (pp.34-35) mentions work reported in Rehfisch *et al.* (1996) on redshank roosting on The Wash. Whilst this is a useful reference, it should not be used to assume that redshank will simply move roost sites from the proposed wharf site. As outlined above, redshanks are incredibly site faithful and will require roost locations to be free of disturbance, close to feeding areas as well as other potential factors such as the ability to shelter from strong winds. Many redshanks, whilst being site-faithful to their wintering home range, will have more than one roost site within their wintering home-range, and these alternative roost sites will be used in different conditions (e.g. day/night, wind direction). Removal of one roost site can therefore mean that birds are forced into using a site that is less optimal in certain conditions. The paper is, however, a helpful reference to guide search areas for compensation sites for the redshank roost, which should be looked at within 3.5km of the proposed wharf site (taking account of the evidence from Cardiff Bay on increased winter mortality of using alternative roost sites).

7.25 More information is needed to assess the full scale of impact on these SPA/Ramsar birds and demonstrate the proposed alternative roost would avoid the risk of an adverse effect on site integrity. This includes more detailed information on the alternative roost design, location, effectiveness, and long-term management to ensure it remains effective for the life of the project. Of particular importance is the need to clearly demonstrate that noise and visual disturbance during and post-construction, and recreational disturbance (for which no data have been collected), will be effectively managed to provide sufficient confidence that the proposed alternative roost will be effective for the full period of time that non-breeding redshank are present.

7.26 We are also concerned with the conclusions being made in paragraph A17.6.22 of the HRA (p.34). No surveys were conducted during the autumn and early winter period in 2020. This means that there is a gap in knowledge over the use of the roost site at this time of the year. We again highlight that monthly surveys only provide a snapshot of the use of the wharf area. The critical conclusion is that the area around the proposed wharf has been shown to support significant numbers of redshank. The loss of this area must therefore be compensated. This is especially important when increase of noise and vessel movements are taken into account and uncertainty over the impact this will have on the saltmarsh in Area B to accommodate birds during construction and operation of the Facility.

### *Mitigating impacts to the redshank roost*

7.27 Given the presence of such significant numbers of redshank linked to The Wash SPA/Ramsar site, any measures taken to create new habitat to address impacts must be considered compensation. It is proposed that the rock armour currently in place where the wharf will be constructed would be relocated downstream to enhance the roosting potential closer to Slippery Gowt Pits to accommodate the displaced redshanks (the area identified as the 'Habitat Mitigation Area'). It is also proposed that the saltmarsh area adjacent to where the rocks would be relocated could have pools

[52] Burton, N.H.K. & Armitage, M.J.S. 2008. Settlement of Redshank *Tringa totanus* following winter habitat loss: effects of prior knowledge and age. Ardea 96: 191-205.

created to provide some additional foraging habitat (Plate A1-3 in the Outline Landscape and Ecological Mitigation Scheme, p.41)[53].

7.28 Having reviewed the proposed 'Habitat Mitigation Area', we consider there are a number of factors that mean this option may not be viable. We are also concerned that the proposed deposition of rocks and any potential measures to dig out features within the saltmarsh would result in habitat loss that would also need to be compensated. The proposed increase in rocks will also need to be considered with respect to changes in the processes supporting the saltmarsh (for example, could there be increased erosion or accretion of the saltmarsh area that might affect this Priority Habitat?) and also by the Environment Agency with respect to flood risk and environmental permitting requirements. We have seen no options appraisal undertaken to determine that this is the best and most viable option to achieve the compensation for roosting redshank.

7.29 The alternative roost will also only be effective if:

- The noise from piling during construction has appropriate mitigation measures. The noise assessments indicate that there could be an effect on a significant proportion of the proposed 'Habitat Mitigation Area'. More information is required to determine the effect of noise (on a worst-case basis) to determine if the alternative roost site would be effective (see Sections 7c below regarding concerns about the noise assessments).
- It can be demonstrated that the increased vessel movements at high tide when birds would be using the alternative roost area will not reduce the viability of the proposed alternative roost, noting that this effect will be during the day and at night.
- The proposed mitigation area is suitably protected from recreational disturbance. Whilst some disturbance occurs this has not been surveyed to understand the current baseline pressures in detail and the likely increase in pressures that might arise from improvements to access routes proposed within the Application. It will be important that management measures such as fencing to keep people and dogs off the area and ongoing maintenance of such infrastructure will be required, yet no detail on this has been provided by the Applicant. Suitable signage will also need to be considered. Management and maintenance in perpetuity would need to be secured.
- Any impacts that might arise from the England Coast Path improving access to the area can be effectively managed to ensure any proposed mitigation would not be compromised.

7.30 As we set out in detail in Section 10 below, these issues need to be agreed pre-consent, and should have been addressed prior to the start of the Examination, as there needs to be confidence that any mitigation and compensation measures can be secured, created and maintained to support the features that will be affected in perpetuity. Significantly more detailed information needs to be presented to demonstrate that the proposed mitigation measures are viable and can be delivered at a suitable scale to ensure adverse effects on the redshank roost, as well as adjacent feeding areas, will be avoided. We provided guidance on a set of criteria for identifying mitigation in our letter dated 1 October 2020, but which are also appropriate for developing compensation measures. This should have enabled a suitable framework for developing both mitigation and compensation packages to be identified and discussed with interested parties. These remain appropriate and link to various comments made through section 2 of this letter and are therefore repeated below:

"*Having discussed the species of concern and based on our experience of the species identified and our engagement with large infrastructure projects, we consider the following criteria will need to be considered in order to develop appropriate mitigation proposals:*

[53] 7.4 Outline Landscape and Ecological Mitigation Strategy (APP-123)

- *The creation of habitat should be greater than the amount lost. The adopted ratio will need to be based on best practice from similar projects.*
- *Habitat created will need to be comparable in quality to that lost, principally, intertidal habitat for use by roosting and feeding waterbirds.*
- *Replacement habitat should be located as close to the current site as possible.*
- *Replacement habitat should be sited where it will be secured and managed in perpetuity.*
- *Factors such as predation, food availability and disturbance should be considered when assessing possible replacement habitat sites.*
- *Replacement habitat should be in place and ideally functioning before, or at least, simultaneously to, the construction phase.*
- *Biodiversity enhancement measures should be applied to maximise the environmental benefits that would be derived from the project.*" (Section 5, pp.4-5)

## c) Construction and operational noise - Effect of noise on birds using The Haven

*Introduction the consideration of noise impacts associated with the Application*

7.31 Our main concerns in relation to noise disturbance relate to the construction and operation phase of the development and in particular to impacts on bird features of The Wash SPA/Ramsar/SSSI present at the Application site and mouth of The Haven. Construction and operation activity may result in disturbance and/or displacement of birds, through responses to visual or acoustic stimuli, and the level and type of sensitivity varies by bird species and by season. In brief, disturbance as a result of construction activity may affect birds by causing:

- reduced food intake rates
- increased energy expenditure
- decreased breeding productivity
- physiological changes
- habitat loss due to displacement

7.32 Please note that birds generally use the most suitable habitats available to them at any point in time, therefore displaced birds are likely to be pushed into less suitable habitats, meaning displacement itself may also lead to other impacts listed above, with effects on reproductive success potentially leading to a population decrease Dias *et al*., 2009[54] and Alves *et al*. 2013[55] provide useful overviews on the foraging behaviour of waders and the impact reduced foraging may have on a range of species.

7.33 We acknowledge the limited research evidence available on noise impacts for the individual species affected by the Application, but we recommend that where evidence is available for the species in question or a closely related species, that this is discussed in the Application. We particularly welcome evidence specific to the individual species accounts rather than applying the generic evidence base to all species.

*Definitions of daytime and night-time*

7.34 Tables A17-7 and A17-8 of the HRA (p.36) make it clear that the noise assessment scenarios have been defined separately for daytime (07:00–23:00hrs) and night-time (23:00–07:00hrs) construction.

[54] Dias, M.P., Granadeiro, J.P., & Pameirim, J.M. (2009) Searching behaviour of foraging waders: does feeding success influence their walking? Animal Behaviour 77: 1203-1209.
[55] Alves, J.A., Gunnarsson, T.G., Hayhow, D.B., Appleton, G.F, Potts, P.M., Sutherland, W.J., & Gill, J.A. (2013) Costs, benefits and fitness consequences of different migratory strategies. Ecology 94: 11-17.

However, this means that "daytime" will include a significant proportion of dark hours particularly in winter. We are concerned regarding the potential for ecological impacts of noisy activities during dark hours e.g. potential displacement of foraging birds or those arriving to roost. Impacts under the daytime scenario could therefore be greater than predicted.

7.35 For ecological receptors 'day' is dawn to dusk and 'night' is dusk to dawn. Assessing impacts during those time periods would therefore be more relevant. This is equally important to assess for operational noise as well, given the Project description (paragraph 5.6.2, p.14)[56] states that the Facility will operate 24 hours a day.

*Impulsive noise disturbance threshold*

7.36 Paragraph 17.6.24 of the HRA (p.36) states that "Acceptable 'dose' levels are given as up to 70 dB(A)" for waterbirds, with mallard and redshank noted as the primary species to which this refers. When reviewing other DCO applications (for example, the Sizewell C nuclear power station), we have had some reservations around the use of a 70dB $L_{Amax}$ threshold for impulsive noise impacts, although we also acknowledge that there is limited evidence on which to challenge this. With reference to the Sizewell C nuclear power station DCO application, a lower threshold of 65dB $L_{Amax}$ was applied for the assessment of impacts on breeding waterbirds, while the 70dB $L_{Amax}$ threshold was used for wintering waterbirds.

7.37 Impulsive noises are those that are typically intermittent and therefore make it difficult for birds to habituate. They are therefore capable of causing considerably disturbance to birds using The Haven during the day and night. This will be true for noise both during construction and operation of the Facility.

7.38 Whilst $L_{Aeq}$ levels are useful in understanding the impact of baseline noise levels, the RSPB is concerned that there has been no focus of the $L_{Amax}$ levels within the HRA. These represent the loudest impulsive noise levels and are the noises likely to have the greatest impact on birds foraging and roosting within The Haven. Having reviewed Chapter 10 Noise and Vibrations[57] makes only one reference to $L_{Amax}$ with respect to World Health Organisation Guidelines on community noise (paragraph 10.2.31, p.9). The baseline noise report provides levels for $L_{AFmax}$ in Tables A10.2 to A10.13.[58] Whilst we recognise that there are a range of measurements of sound the $L_{AFmax}$ levels that are reported, these need to be able to assess the maximum impulsive sound levels to determine the full, worst-case impact that could occur from construction and operation of the Facility. The noise sample points recorded the following range of $L_{AFmax}$ levels:

- ST R1 – 66.7-88.4dB
- ST R2 – 56.8-83.2dB
- ST R3 – 64.6-87.5dB
- ST R4 – 76.1-90.8dB
- ST R5 – 77.1-91.9dB
- ST R6 – 64.7-110.5dB

7.39 All noise sample points, therefore, recorded levels above the 70dB level identified by the Applicant, as a threshold for waterbirds. We request the Applicant review the HRA conclusions with respect to the maximum impulsive noise levels that have been recorded as part of the baseline survey and

[56] [redacted]

provide an updated assessment on the percentage of time that these maximum impulsive noise levels will occur during construction and operation of the Facility. This is essential to ensure that the worst-case scenario has been assessed.

*Lack of noise maps to understand sound levels along The Haven*

7.40 Figure 10.2 that accompanies the Noise and Vibrations Chapter (Doc App-080) shows the noise monitoring stations that have been used to assess the baseline noise levels and to understand the effect that the Application could have on future noise levels. It is disappointing that no specific sampling points were included in either the area that is currently used by the roosting redshank or in the area proposed to provide an alternative roost. This information would inform the current levels of noise that the redshanks appear to tolerate and help inform the suitability of the alternative roost area.

7.41 Having reviewed the documents, there have been no noise maps provided to show the different sound levels across the Application site and surrounding area. Noise maps are a standard tool to help visualise how areas are affected, or could be affected, by new development and usually accompany planning applications where this is likely to be an issue of concern.[59] They are mentioned in the Environmental Noise (England) Regulations 2006 (as amended) that transposed the Environmental Noise Directive (Directive 2002/49/EC), highlighting their usefulness as a means for assessing how areas can be affected by different noise levels.

7.42 By creating noise contours based on both the baseline noise levels and predicted future noise levels for the Application, this would enable a more informed approach to considering the impact on birds using The Haven as well as adjacent habitats. The provision of such information will be important at understanding if the proposed development could effectively displace birds that not only roost at the Application site but forage adjacent to it. Understanding the area affected will also be critical to determining the level and type of mitigation and compensation needed to give certainty that adverse effects on integrity of The Wash SPA/Ramsar/SSSI will be avoided.

7.43 The provision of maps showing the sound contours will also be important to inform suitable search areas for where alternative roosting and foraging areas could be created. This is necessary to ensure that they will be effective. Providing these close to the areas that will be impacted will be important, especially for species such as redshank that are highly site faithful, but the must also be in areas that will be not be compromised by other factors that includes disturbance from high noise levels.

*Consideration of noise associated with the operation of the Wharf*

7.44 When considering changes in noise levels, it will also be important to consider the effect that increased vessel movements and operation of the wharf will have given the Project Description (paragraph 5.6.2, p.14)[60] states that the Facility will operate 24 hours a day. This will introduce disturbance between dusk and dawn which could have significant impacts on roosting birds and those that may attempt to feed at night. It is not clear that this has been considered in the Application. This will be particularly important at night when there may be reduced background noises and especially as 100% of navigable tides will be used.

[59] For example, see Shadow HRA Report Vol. 1 Part 3 with updates in the Shadow HRA Report Addendum Appendices 1A-10A Part 5 of the Sizewell C nuclear power station DCO application.

[60] [redacted]

7.45 Table 10-32 (pp.50-51) highlights that noise impacts arising from vessel movements and the wharf are considered under operational impacts. However, the wharf will be constructed and then used to bring in construction materials and infrastructure by vessel. It is therefore not clear why noise from vessel movements and the wharf are not considered during the construction phase of the Application. This has implications for birds foraging as well as roosting close to the Application and will need to be considered with respect to the scale and type of mitigation and compensation measures needed to address the impacts.

7.46 Paragraph 12.7.54 of Chapter 12 Terrestrial Ecology (p.50; Doc App-050) states that day and night noise levels from the Facility will not be greater than 55dB. Whilst some screening may be possible to attenuate noise impacts inland, it is not clear how this will limit noise impacts on The Haven given the operation of the wharf. Without noise contour maps it is also not possible to determine the ecological consequences that noise will have on the area surrounding the Facility. Indeed, it is not clear that sampling points have been located to enable appropriate conclusions on noise levels to be made at this time. More detail on the noise associated with this element of the Facility is required, to inform assessments of the full impact on birds using The Haven and assess whether potential mitigation measures are viable.

*Proposed mitigation of noise impacts during construction*

7.46 The Applicant appears to be relying heavily on mitigation measures that the Environment Agency have deployed along The Haven during Ground Investigation works (these are detailed in paragraph A17.6.8 of the HRA[61]). The Applicant considers that their construction works are comparable to the Ground Investigation works. However, the works will take place at the same location over a period of "*up to 18 months*".[62] This is not an insignificant period of time during which birds will be affected, and there must be more detail set out to show what activities were undertaken during the Environment Agency's Ground Investigation works, how long they remained in one location, the size of the works area, the type of equipment used etc. This is necessary to compare the similarity of the respective noise levels between the projects, as well as their visual impact.

7.48 Whilst the Applicant proposes to avoid piling works "…*between May and September to avoid effects on overwintering birds*"[63] this will not be the only activity introducing noise at the Application site. Whilst piling may be the noisiest activity during construction, it is unclear how this would compare to other "noisy activities" noted in the HRA. We recommend that the Applicant provide a detailed list of the activities and their potential noise levels. These should then be used to develop a predicted noise map to demonstrate how the construction would affect the area around the Application site during the construction period.

7.49 The Applicant has further indicated that they will implement a 250m zone where if the threshold of key species present within this zone is exceeded then works would be halted. The RSPB questions the validity of this approach for the following reasons:

- It is unclear if the nature of the construction activities would allow for them to be paused at unspecified times and for unknown durations to allow the birds access to the area without being disturbed. It is anticipated that the construction timeline will have some flexibility, but it is unclear how flexible it would be to enable this approach to work.

[61] [redacted]

- Any activity that is generating noise will have an effect on bird numbers using an area. Once noisy activities are happening it is unclear how monitoring will determine that they are not have an excluding effect.
- It is likely that the importance of this area of the area of The Haven for birds is now better understood and activities that may have been permissible previously may no longer be appropriate following updates of the evidence base. This will need to be confirmed with Natural England.

7.50 We are therefore unconvinced by the Applicant's proposed mitigation measures to limit impacts of noisy activities on birds at the Application site during construction.

*Conclusions regarding the impact of noise associated with construction and operation of the Facility*

7.51 Consequently, the RSPB considers more detailed noise monitoring and modelling is needed to inform the Application. We do not consider that the current evidence demonstrates that there will not be an adverse effect on integrity of The Wash SPA/Ramsar/SSSI.

7.52 The introduction of noise to the area of The Haven adjacent to the application site will impact on birds using the location to roost and forage. The addition of noisy activities into this environment has not been fully assessed against the likely behavioural responses of the species known to be present. It should also be noted that the evidence base on which to draw conclusions about the potential impact of features of The Wash SPA/Ramsar/SSSI are limited and still considered incomplete to draw firm conclusions at this time.

7.53 Given the significance of impulsive noise on waterbirds, we reiterate the importance of robust and demonstrably successful mitigation for any impacts.

## d) Visual disturbance on birds using The Haven adjacent to the Application site

*Introduction to visual disturbance adjacent the Application site*

7.54 The evidence base for the Applicant's assessment of visual disturbance impacts is set out in their HRA. Concerns primarily relate to the construction period and in particular to lighting of the construction site, however, the presence of human activity and large or moving machinery/infrastructure on the skyline may also have an effect. These factors require greater attention when considering the full scale of impacts on birds using The Haven and the distance over which disturbance and displacement may occur.

7.55 Our concerns primarily relate to potential impacts on wintering redshank at the Application site and non-breeding waterbirds of The Wash SPA/Ramsar/SSSI.

7.56 With respect to the impact from visual disturbance on waterbirds, the following from The Wash Bird Decline Investigation 2014[64] report (p.67) provides useful context:

"*Construction work on or adjacent to an estuary will also cause noise and visual disturbance. Major construction work can reduce densities, or exclude birds from some intertidal areas, during the construction phase (and sometimes after construction). At Cardiff Bay, construction work significantly*

[64] Woodward, I., Ross-Smith, V.H., Pérez-Domínguez, R., Rehfisch, M.M. & Austin, G.E. 2015. The Wash Bird Decline Investigation 2014. *BTO Research Report* No. 660. British Trust for Ornithology, Thetford.

*reduced the densities of a number of species on the adjacent mudflat – Teal, Oystercatcher, Curlew and Redshank (Burton et al. 2002[65]).*"

*Clarity on the numbers of vessels using the wharf*

7.57 We have reviewed Chapter 18 Navigational Issues and appreciate the additional detail that it provides, notably that up to three vessels would be using the wharf concurrently. However, paragraph A17.6.25 of the HRA (p.36) states that, with respect to the aggregate wharf "…*it is expected that there would be an average of 2 vessels per week*." This suggests that there could be occasions where the aggregate wharf may receive more or less vessels per week. If there are more vessels then this will cause greater impact on birds using The Haven. Whilst fewer vessels would cause less disturbance. This suggests the activities will be variable and not be regular in nature. This will mean that suggestions of birds getting habituated to the Facility over time are unlikely to be realised. This needs to be clarified as it is pertinent to conclusions being drawn in the HRA.

7.58 It is also important to ensure that the aggregate operation is considered cumulatively with the RDF deliveries. It is not clear from Paragraph A17.6.25 of the HRA (p.36) whether the two vessels per week accounts for the RDF deliveries as well as the aggregate loading. This should be clarified.

7.59 The Navigational Issues chapter (paragraph 18.7.90, p.43) highlights that up to three vessels could dock at the facility on each tide. Based on the information about vessels turning, it would appear the worst-case scenario would be that all three turn in the river channel, which could result in a 30-45 minute delay for other marine traffic using The Haven. This suggests that there could be a resultant stacking up of vessels along the Haven. No modelling has been undertaken to demonstrate that such an impact will be avoided. The Applicant is relying on a Navigation Management Plan to coordinate vessels and manage turning, however, an outline of such a plan has not been submitted. The measures proposed in such a plan need to be scrutinised prior to consent to ensure that they are workable and will effective. The impact of this happening does not appear to have been assessed in the HRA and needs to be assessed. This could have implications for foraging and roosting birds along the entire length of The Haven, as well as the potential effectiveness of any mitigation and/or compensation measures proposed to be implemented along The Haven. This issue needs to be considered against the conservation objectives for The Wash SPA and, in particular, the ability to maintain populations and their distribution, as well as meet restoration objectives. We request a draft Navigation Management Plan be submitted early in the examination.

*Visual disturbance arising from construction and operation activities at the Application site*

7.60 It is unclear in the Application how the impact of machinery/infrastructure on the skyline, coupled with the presence of human activity, has been considered. Birds are particularly sensitive to visual cues that might indicate the presence of a predator and different species will respond at different distances to such stimuli. We recommend the Applicant update its assessments to include a discussion on the distance at which species may experience disturbance effects from different machinery, infrastructure and human presence at the Application site both during construction and operation to ensure all potential impacts have been considered.

[65] Burton, N.H.K., Rehfisch, M.M. & Clark, N.A. 2002. Impacts of disturbance from construction work on the densities and feeding behaviour of waterbirds using the intertidal mudflats of Cardiff Bay, UK. *Environmental Management* 30: 865-871.

*Impact of vessel movements on birds at wharf area*

7.61 There has been a focus on the impact of vessel movements at the mouth of The Haven due to the increase in vessel movements associated with the construction and operation of the Facility. Having reviewed the latest Bird Disturbance Reports[66] [67], these have also identified that bird disturbance from vessel movements also occurs near the application site. There also appears to be an increased impact on birds due to the presence of vessels, including small vessels, near the application, although we appreciate that this is based only on a limited number of observations. The findings do, however, demonstrate disturbance does occur and potentially at significant levels

Table 8: Breakdown of vessel movements and their contribution to observed disturbance events between May to July 2021. The 'Reason for disturbance occurring' and 'bird activity impacted' columns exceed 100% of the total disturbance events recorded, as a single vessel may have had multiple effects e.g. presence and wash both had an effect, or disturbance affected roosting birds and those resting or feeding on water. The data used to create the table are presented in Appendix 3 and taken from all available bird reports produced by the Applicant[68].

| Vessel | Total vessel movements | | No. of disturbance events | | Reason for disturbance occurring | | | | No. of events impacting specific bird activity: F= foraging R = roosting OW = On Water B = Bathing | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. recorded | % | Total | % | Presence | % | Wash | % | F | R | OW | B |
| Cargo (large) | 3 | 19 | 3 | 100 | 3 | 10 | 2 | 67 | | 5 | | |
| Pilot (small) | 2 | 13 | 2 | 100 | 2 | 10 | | | | 2 | | |
| Fishing (small & medium) | 5 | 31 | 5 | 100 | 5 | 10 | | | 1 | 3 | 2 | |
| Recreation (small) | 6 | 38 | 3 | 50 | 3 | 10 | | | 1 | 2 | | 1 |
| **Total** | **16** | **-** | **13** | | **13** | **10** | **2** | | **2** | **12** | **2** | **2** |

7.62 Having reviewed the observations of vessel movements at the proposed wharf site[69] [70], we have looked at the disturbance incidents in more detail. It appears that every pilot vessel had a visual impact on birds (Table 8). At the wharf area, wash from large (cargo) vessels appears to have a greater

[66] Chick, A.P. & Bentley, A. (2021) Winter Bird Survey Results for land along The River Haven, Boston, Lincolnshire: January 2021 to July 2021. Report prepared for the Applicant.
[67] Bentley A (2021) Changes in Water Bird Behavior Due to River Traffic at the Mouth of The Haven and Haven River, Boston, Lincolnshire: January 2021 to July 2021. Report prepared for the Applicant.
[68] We note that not all of these have been submitted with the Application and the Applicant will need to provide these at Deadline 1.
[69] Chick, A.P. & Bentley, A. (2021) Winter Bird Survey Results for land along The River Haven, Boston, Lincolnshire. Report prepared for the Applicant.
[70] Bentley A (2021) Changes in Water Bird Behavior Due to River Traffic at the Mouth of The Haven and Haven River, Boston, Lincolnshire. Report prepared for the Applicant.

impact than at the mouth of The Haven, and disturbance from smaller vessels also occurs. The reasons for this need to be explored, as the impacts from vessels appear to be different than at the mouth of The Haven. It is possible that the narrower channel is enhancing vessel impacts and therefore causing high levels of disturbance. There may be other factors causing the birds to behave as they have been observed. More analysis is required to explore the data and understand the baseline situation before considering the impact of increased vessels. Critically, the data show that disturbance from vessels is occurring. This demonstrates the importance of robustly assessing the combined impact from all new and additional vessel activity associated with the proposed facility. Any conclusions regarding the baseline activity and future activity need to be set in the context of the conservation objectives for The Wash SPA/Ramsar/SSSI.

7.63 We have further assessed the data to understand the distances that birds moved when disturbed by vessels. Figure 5 shows that on five occasions birds moved 150m or less. However, on four occasions birds moved between 400m to 1000m from the source of the disturbance.

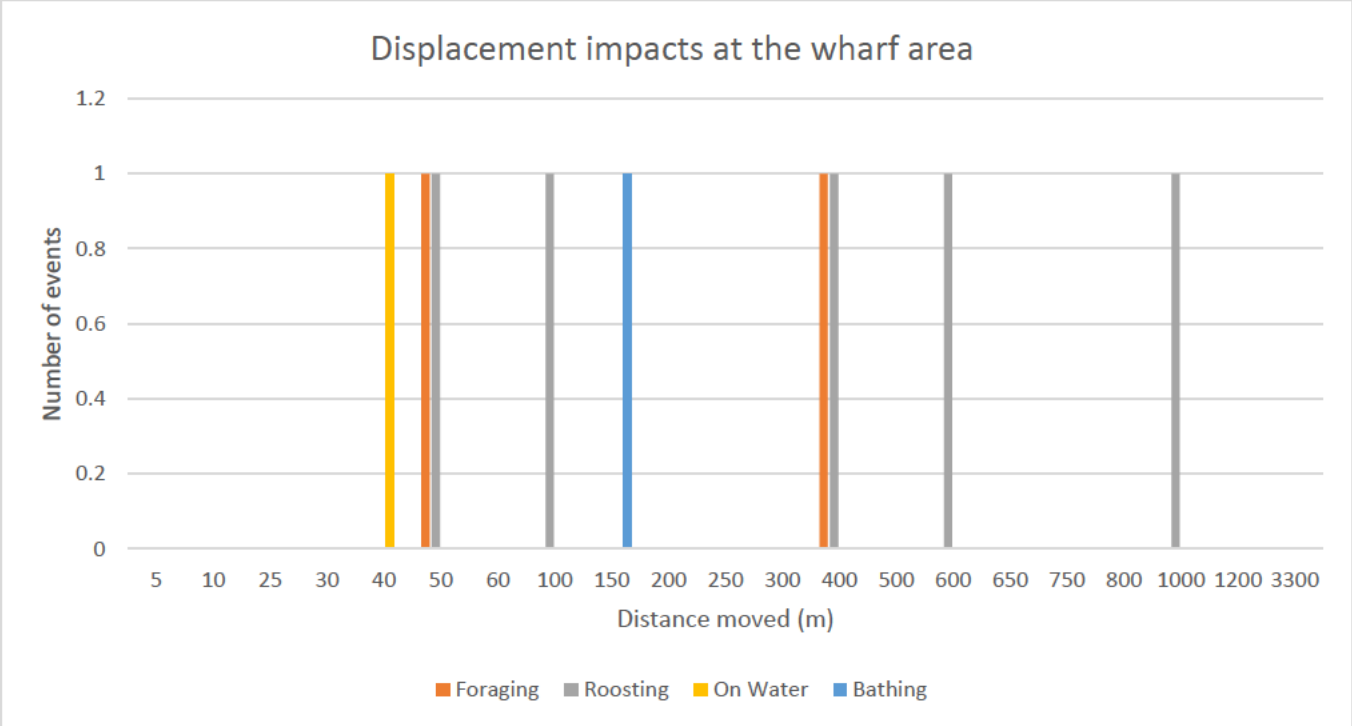


Figure 5: Breakdown of distances birds moved during all recorded displacement incidents during surveys at the wharf area between May 2021 and July 2021. The data used to create the table are presented in Appendix 3. and taken from all available bird reports produced by the Applicant[71]).

7.64 The Wash Bird Decline Investigation 2014 provides a useful reference regarding the complexities of assessing whether disturbance could have a harmful impact on waterbirds. The duration of disturbance activities and the timing of disturbance are important factors when making judgements, as is the ecology of the species affected. Of particular note, is:

[71] We note that not all of these have been submitted with the Application and the Applicant will need to provide these at Deadline 1.

"*The Redshank is particularly susceptible to disturbance in severe weather as it feeds on very small prey relative to its size (Clark et al. 1993; Mitchell et al. 2000).*"[72] [73] [74]

7.65 The Wash Bird Decline Investigation 2014 (p.68) also highlights that whilst the impact on birds being displaced from an area may not necessarily significant, it goes on to say that (emphasis added):

"…*sustained disturbance may result in the effective long term loss of an area of feeding habitat (Cayford 1993).*

*Regular disturbance may therefore cause a reduction in the number of birds that an area can support. Burton et al. (2002[75]) used generalized linear models to test whether the number of birds using different count sectors on six English estuaries varied according to a number of factors, including the proximity of the sector to the nearest footpath access point. Six of the nine species considered were found in significantly lower numbers where a footpath was close to the count sector (Shelduck, Knot, Dunlin, Black-tailed Godwit, Curlew and Redshank). Count numbers were also reduced by the proximity of railway lines (Brent Goose, Shelduck and Grey Plover) and roads (Ringed Plover, Grey Plover and Curlew). This suggests that disturbance can reduce the number of birds using sectors within the site.*

*The impact of disturbance may also be related to the carrying capacity of a site, i.e. the maximum number of birds an area can support. Where an area is close to its carrying capacity, the availability of prey may become a limiting factor, leading to a need to increase feeding time and to more competition between individuals, and hence the potential for disturbance to have more impact (Cayford 1993). Goss-Custard & Moser (1988 in Cayford 1993) demonstrated that feeding habitat was a major limiting factor for Dunlin in the UK, and that a decline between 1983-86 was linked to availability of such habitat (although in that instance, the loss of foraging area was attributed to the spread of cord-grass Spartina, rather than by disturbance).*"

7.66 Table 5 within The Wash Bird Decline Investigation 2014 (p.68) is also helpful at setting out the different species responses to disturbance. These can be highly variable and differences may be attributable to site-specific factors as much to species-specific behaviours. This highlights the importance of establishing an appropriate evidence base to understand how the species recorded typically respond at the site being considered, in this instance, The Haven and its approaches.

## e) Visual disturbance on birds at the mouth of The Haven and its approaches

### *Introduction to visual disturbance at the mouth of The Haven and its approaches*

7.67 The RSPB accepts that there is significant vessel movement currently taking place within The Wash, as identified in Plate A17.1-3 in the HRA (p.39). This activity will be having an impact on birds using The Wash and may already have a role in determining the distribution of birds across The Wash. As a result of the potential for the current baseline level of vessel movements and other activities across The Wash adversely affecting features of The Wash SPA/Ramsar/SSSI it is important that any conclusions relating to vessel movements is set in the context of the conservation objectives for these

[72] TWBDI 2014 p.68
[73] *Clark et al. 1993*
[74] *Mitchell et al. 2000*
[75] Burton, N.H.K., Armitage, M.J.S., Musgrove, A.J. & Rehfisch, M.M. 2002. Impacts of man-made landscape features on numbers of estuarine waterbirds at low tide. *Environmental Management* 30: 857-864.

sites, any associated supplementary advice (especially any restoration targets), and with particular reference to the WeBS Alerts for features of The Wash (see Sections 3 and 4 above for more detail).

7.68 Paragraph A17.6.31 references a review by Natural England in 2010 that is used to show that at the time that the report was produced there were no concerns from the impact of vessel movements on features of The Wash in the approaches to The Haven. Whilst that conclusion may have been appropriate at the time, since then the status of a number of features on The Wash has changed (see Section 3 above) and the WeBS Alerts has identified that there are factors operating within The Wash that have caused declines in some of the species populations (see Section 4 above). It is also worth noting that The Wash Bird Decline Investigation 2014[76] states in the Executive Summary (p.7; emphasis added):

"*Although there is considerable information relating to The Wash as a whole, some of it going into great detail, there is a paucity of information reported in a systematic manner that would allow trends in different parts of the site to be compared and contrasted. Whilst some of the source information may make reference to particular areas within The Wash, without a systematic approach throughout the site it is not possible to put those particular examples into context.*

*…*

*There are clearly many anthropomorphic activities that have a long history on The Wash. These are likely to be responsible, at least in part, for present day number and distribution of waterbirds. However, data from fine-scale long-term monitoring of these activities are not readily identifiable, and in many cases probably do not exist. Consequently, clear signals of potential anthropomorphic drivers of change in waterbird abundance and distribution do not emerge from the literature review.*"

7.69 Despite The Wash Bird Decline Investigation 2014 being published in 2015, many of the recommendations to better understand the impact of the anthropomorphic activities taking place in The Wash have still not been taken forward. As a result, our knowledge on trends in bird numbers allows conclusions to be draw about changes in bird population (especially declines), but the work needed to understand the drivers of these changes and the measures needed to manage them are still being investigated. Consequently, where birds are present at the mouth of The Haven and its approaches it cannot be assumed that the current baseline level of disturbance from vessel movements is not adversely affecting some species and a precautionary approach must be adopted (see Section 8 below on the Precautionary Principle).

7.70 We also note paragraph A17.6.32 of the HRA (p.40) indicates that there were vessel movements prior to designation of The Wash SPA were reported to be higher based on information from the Port of Boston. However, there is no evidence available to determine what impact those vessel movements had on birds using the area at that time. Since then, the numbers of birds and potential importance of the area of The Haven to support features of The Wash SPA will have changed. It is therefore critical that where such statements are made that they are set in their full context to ensure the most up to date evidence is used to draw conclusions. We also refer back to Section 3 which sets out the current conservation objectives for The Wash SPA and The Wash & North Norfolk Coast SAC, along with the relevant supplementary advice. This requires measures to be taken to restore features to their target populations and/or maintain those populations at current levels, even if these are greater than those set when the sites were classified.

[76] [redacted]

*Clarity on vessel movements on rising and falling tides along The Haven and within The Wash*

7.71 Paragraph A17.6.34 of the HRA (p.40) suggests that there will be no disturbance to foraging birds as vessels approach The Haven. What is not clear is whether foraging birds could be disturbed at the anchorage point within The Wash or as the vessels approach The Haven. This will be dependent on the precise state of tide that the vessels are using different areas of The Wash. We have not seen evidence in the Navigation chapter, Marine and Coastal Ecology Chapter or HRA that provides a clear overview of vessel movements from the anchorage area in The Wash to the application site, and vice versa. For example, will vessels leaving the Application site exit The Haven as the tide is falling and, if so, what area of mudflat would be exposed and how many birds may be attempting to feed as the tide recedes? This additional clarity is needed to determine the overall impact from the increased vessel movements and ensure appropriate conclusions are drawn. This could affect the level of compensation that may be required, so is important.

7.72 Whilst we appreciate that gathering data out into The Wash on bird number is difficult, observations from pilot or cargo vessels whilst they are transiting the area to observe how birds react to the vessel movements would be a potential way to gather such data. This must at the least be included as part of any monitoring package that will need to be discussed and agreed prior to any consent.

*Impact from pilot vessels*

7.73 We appreciate the additional detail on pilot vessels set out in paragraph A17.6.38 of the HRA (pp.41-42). It is helpful to know that up to 6 pilots could be transported at one time. However, the impact of the smaller vessel movements will still need to be captured in the impact assessment. Table 9 below highlights that out of 20 recorded pilot boat movements, 65% of these movements caused disturbance to birds present at the mouth of The Haven. Of the 13 recorded disturbance events, the presence of the pilot vessel was considered to be the cause of the disturbance 85% of the time, with wash being responsible for 31% of disturbance events. These are still a limited number of observations, but demonstrate the significant impact that the pilot vessels are having. It is important to note that the vessels also travel out to the anchorage area, but there is no evidence presented on the impact of the pilot vessel movements within The Wash.

7.74 Whilst paragraph A17.6.38 of the HRA (pp.41-42) also asserts that more pilot vessels will have operated historically within the area there is no evidence to support this. Equally, there is no evidence available to understand the baseline disturbance created at the time. Bird numbers will also have changed over time, potentially as a result of reduced vessel movements and therefore a comparison with the past where no data exist to draw firm conclusions with the current baseline is unhelpful.

7.75 Indeed, paragraph A17.6.45 of the HRA (p.43) states that "…*smaller vessels travelling relatively fast and causing disturbance through presence of the vessel or the wash created*" also occurred outside of the main window when larger vessels navigated The Haven and its approaches. It is assumed the smaller draught means they can utilise lower states of the tide. This would suggest that disturbance could occur for longer than the suggested 60-minute window. This is important as it raises questions about the worst-case scenario that is being used.

Table 9: Breakdown of vessel movements and their contribution to observed disturbance events between November 2019 and July 2021. The 'Reason for disturbance occurring' and 'bird activity impacted' columns exceed 100% of the total disturbance events recorded, as a single vessel may have had multiple effects e.g. presence and wash both had an effect, or disturbance affected roosting birds and those resting or feeding on water. The data used to create the table are presented in Appendix 3 and taken from all available bird reports produced by the Applicant[77].

| Vessel | Total vessel movements | | No. of disturbance events | | Reason for disturbance occurring | | | | No. of events impacting specific bird activity: F= foraging R = roosting OW = On Water B = Bathing | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. recorded | % | Total | % | Presence | % | Wash | % | F | R | OW | B |
| Cargo (large) | 22 | 30 | 20 | 91 | 19 | 95 | 1 | 5 | 7 | 18 | 5 | |
| Pilot (small) | 20 | 27 | 13 | 65 | 11 | 85 | 4 | 31 | 6 | 11 | 3 | 1 |
| Fishing (small) | 28^ | 38 | 2 | 7 | 2 | 100 | | | 1 | 1 | | |
| Recreation (small) | 3 | 4 | 2 | 67 | 2 | 100 | | | 1 | 2 | 1 | |
| Fishing/ pilot (small)* | 1 | 1 | 1 | 100 | 1 | 100 | | | 1 | 1 | | |
| Total | 74 | - | 38 | 51 | 35 | 92 | 5 | 13 | 16 | 33 | 9 | 1 |

*The impact observed may well have been due to the pilot vessel, based on the additional observations, but this could not be discerned from report.
^The number of fishing vessels observed was significantly skewed towards a signal survey date where c.20 vessels were recorded in a 30 minute period.

*Assessing impacts of vessel movements across the tidal cycle*

7.76 Paragraph A17.6.40 of the HRA (p.42) provides an overview of vessel movements across the tidal window. We are unsure by the statement that "*…all of the vessels arriving into/departing from The Haven will be travelling at the same time of day to take advantage of the high tide window…*" The tidal window will vary such that vessel movements will move with the tidal cycle. For example, high tide will not occur at 0600hrs and 1800hrs each day. This will mean that vessel movements may at times, particularly during the winter, occur more at night. This is important to understand as disturbance at different times of day may have different consequences for birds, especially during the colder winter months when the ability to feed and conserve energy is of greater importance. Such activity will also not be regular and, as the HRA states, birds will return to the area and not habituate to the activity. The current approach by the Applicant to understand the impacts of vessel movements around the tidal requires more detailed assessment.

7.77 In order to better assess the use of birds through the tidal range and the potential impact from vessel movements, through-the-tide surveys should have been conducted. This should also include assessment at night. We discuss this in more detail in Section 6 above.

[77] We note that not all of these have been submitted with the Application and the Applicant will need to provide these at Deadline 1.

*Assessing the impact of successive vessel movements*

7.78 We are also concerned by the statement in paragraph A17.6.40 of the HRA (p.42) that "…*The short tidal window also means that the risk of repeated flights by species exhibiting a flight and return response to disturbance is minimised*." Repeat disturbance events were recorded in the bird disturbance surveys, the gap between vessel movements allowing birds to return to the roost site prior to another vessel arriving (Table 8 below). Given that the current baseline evidence from limited survey effort has shown significant disturbance from vessel movements, the additional vessel movements during construction and operation will add to this impact. It is therefore critical that any conclusions are put in the context of the species affected and the conservation objectives and supplementary advice for The Wash SPA/Ramsar/SSSI.

7.79 Paragraph A17.6.75 of the HRA (p.54) notes that "….although the sensitivity of the birds is high to an initial disturbance, most of the birds fly off to alternative roost sites and are not disturbed again." Throughout the HRA the fact that birds are being displaced from roosting sites is seen as an acceptable impact and not one of concern. Waterbirds are clearly focussed on preferentially roosting and foraging at the mouth of The Haven. The displacement of birds away from these sites could have implications for their fitness, could increase risk from predation or have other ecological consequences. This may be impacting on the ability of the area to maintain its importance in supporting qualifying features of The Wash SPA. We note and support the position of Natural England on this issue in their Written Representation on Offshore Ornithology.

7.80 Whilst only a small sample of multiple disturbance events (a total of seven, noting that the data from January 2021 to July 2021 are not yet included; Table 10 below), these indicate:

- No clear pattern of time intervals between vessel movements, with a range of 5-118 minutes between successive movements.
- Where birds were disturbed by the first movement, birds were also disturbed on the second movement 71% of the time.
- Whilst the majority of first disturbance events affected higher numbers of birds (71%), there was one occasion where more birds were disturbed by the second vessel and one occasion where the number of birds displaced during the second event where equivalent to the number of birds recorded on the first event.

7.81 Based on the limited data, it would prove impossible to draw any significant conclusions on the impact successive disturbance events are having on birds at the mouth of The Haven and a precautionary approach must be adopted in any analyses. It does appear that vessel movements are not regular and would not allow for species to habituate as might be expected with routine patterns of activity. There is a trend towards birds being displaced by successive disturbance events, but there are occasions where birds displaced are equivalent or greater than on the first event (29% of events). Given the limited data available on which to base conclusions this further highlights that any conclusions being drawn on the impacts of increased shipping must be suitably precautionary. This is especially important in light of the lack of data for the 2020 autumn passage and the overall small sample size.

Table 10: Data from the Bird Disturbance report at the mouth of The Haven showing repeat vessel movements and the time interval between movements. Additional vessel movements have been recorded in surveys conducted between January 2021 and July 2021 and the table will be updated to reflect these additional movements. These data are reported in Section A17.1.2.4 of the HRA.

| Month | Vessel type | Time interval between movements (mins) | | | Birds displaced by multiple vessels | | |
|---|---|---|---|---|---|---|---|
| | | Vessels 1-2 | Vessels 2-3 | | Vessel 1 | Vessel 2 | Vessel 3 |
| Nov-19 | Cargo (large) | 20 | | | 60 | 372 | |
| Dec-19 | Cargo (large) | 58 | | | 6482 | 1588 | |
| Jan-20 | Cargo (large) | - | | | 1052 | | |
| Feb-20 | Cargo (large) | 5 | 24 | | 160 | 15 | 1 |
| Mar-20 | Cargo (large) | - | | | 375 | | |
| Nov-19 | Pilot (small) | - | | | 1 | | |
| Dec-19 | Pilot (small) | 118 | | | 1350 | 0 | |
| Jan-20 | Pilot (small) | 25 | | | 58 | 45 | |
| Jan-20 | Fishing (small) | 110 | | | 0 | 0 | |

*Consideration of the number of birds using The Wash SPA*

7.82 Paragraph A17.6.42 of the HRA (p.42) reflects on the change in numbers of birds using The Wash SPA. Whilst numbers have increased over time for some species, other species that are features of the site have declined. We set this out in Section 3 and 4 above, with information on the species of concern set out in Appendix 1. Any consideration of changes to bird numbers within The Wash must consider the Conservation Objectives for The Wash and the supplementary advice. This relates in particularly to maintaining or restoring the distribution of the qualifying features within the site.

7.83 It is critical to have a full understanding of the baseline importance of the mouth of The Haven with respect to the features it supports of The Wash SPA/Ramsar site. Some species may be disproportionately using this area of The Wash and some species may have seen declines (see Section 3). These pieces of information can be gained from a wider WeBS data assessment and will be critical in making judgements regarding impacts and the scale of compensation that will be required. The data for all the WeBS sectors highlighted in Section 4 above need to be collated and analysed.

7.84 All these sectors have the potential to experience disturbance from vessel movements, especially when an 800m buffer is applied (Figure 3). We first raised concerns about the WeBS sector data in our response to the Preliminary Environmental Information Report in August 2019 (key text highlighted):

*"**Bird distribution variability along the Haven.** It appears that WeBS data have been used to determine potential impacts from the proposal. It does not appear from Figure 17.3 that any WeBS*

*units cover the application area and therefore there does not appear to be an accurate assessment of species distribution along the Haven. Species will aggregate differently depending on habitat, prey availability and factors such as disturbance. Sufficient information must be presented to understand the importance of the intertidal habitat to be directly impacted by the proposal, as well as areas that will be exposed to increased disturbance around the planned wharf area. Greater information must be presented to demonstrate that the application site and its impact on adjacent intertidal areas will not adversely affect birds using the area and which are likely features of The Wash SPA. If data from the Boston Barrier works are being relied upon to fill in the WeBS data gaps the RSPB notes that the reports were written in 2014. The latest CIEEM guidance highlights any data that is over three years old would require updating to inform decisions on any projects. We request clarity on the full suite of data that has been used to inform decisions about the project and confirmation that all data are not more than three years old.* ***Irrespective of the age of the data, if no bird data is currently held for the area of intertidal habitat that will be directly impacted by the development the RSPB expects additional data to be collected in advance of a DCO application to ensure any decisions are based on up-to-date and appropriate evidence."***

7.85 We welcome the Applicant's commitment to review the WeBS data and look forward to reviewing their additional assessments following submission at Deadline 1.

### *Assessing the effect of displacement on qualifying features of The Wash SPA/Ramsar*

7.86 It is critical to understand whether increased vessel movements have the potential to redistribute roosting birds from the mouth of The Haven. This could compromise the Conservation Objectives of The Wash SPA and have fitness consequences for the species that are displaced.

7.87 Paragraph A17.6.48 of the HRA (p.48) concludes that as redshank, oystercatcher and black-tailed godwit are able to fly to other roost sites then the baseline level of disturbance is not an issue. We will continue to review the available evidence on species impacts, but any displacement of features of The Wash SPA/Ramsar must considered in the context of:

- The additional distance birds will need to move to return to their preferred feeding location. This will likely be as close to the roost site as possible, especially in winter when the ability for birds to be able to get back out feeding as soon as the mudflats re-emerge is critical.
- The impact that the displacement away from preferred foraging areas could have overall fitness through the winter and for the breeding season. We highlight the importance of this for redshank and Natural England have highlighted the importance of this for black-tailed godwit in their Relevant Representation/Written Representation.[78]
- The ability of additional roost sites to accommodate displaced birds without adding pressure to birds already using it.
- The needs of birds to use different roost sites in different conditions (for example at different times of the day/night, in different seasons, or in different weather conditions) such that a range of roost sites are needed for birds to survive the whole winter and allow resilience to changing conditions.
- The season when disturbance occurs. Impacts during the winter will be more severe than during the summer.

7.88 We consider that the species assessments set out in paragraphs A17.6.49 to A17.6. of the HRA do not accurately reflect the behavioural responses or ecological consequences for a number of species. There have only been 11 visits between 22 November 2019 and 14 July 2021; this represents

[78] [redacted] (RR-021)

considerably less than one survey per month. We question whether monthly surveys even represent an appropriate evidence base and discuss the limitation of the surveys in Section 6 above. Indeed, the lack of surveys during late summer and through the autumn are a significant limitation, as a full picture of the importance of The Haven and its approaches are not presented. We have provided additional information in the species accounts in Appendix 1.

7.89 For redshank, we note that no mention is made of the reduced winter survival of redshanks displaced to an alternative roost site on Cardiff Bay; this would be a similar distance (c.3km) from the mouth of The Haven to the lagoon at RSPB Freiston Shore. The species' site faithfulness is a fundamental consideration when assessing impacts and this is not mentioned. The account for redshank also suggests that ship wash may have a greater impact on this species than the presence of vessels. It should be noted that this is still a limited sample size, yet redshanks were displaced (paragraph A17.6.49 of the HRA, p.48). We do not consider proposed speed limits to reduce wash an appropriate or viable mitigation measure as there is no evidence that it would be enforceable, and the presence of vessels is still an important factor in causing disturbance. More evidence is needed to inform the assessment of this species.

7.90 For oystercatcher, the displacement of birds away from the site is deemed acceptable (paragraph A17.6.53 of the HRA, p.49). No evidence is presented to the likely impact this might have on oystercatcher fitness. The Applicant appears to be relying on sites such as RSPB Freiston Shore to accommodate additional birds, yet there could be a consequence for birds being forced away their preferred roosting location. More evidence is needed to inform the assessment of this species.

7.91 For black-tailed godwit, both displacement to another roost and a return flight were observed. Both of these involved a significant proportion of The Wash SPA population. Whilst it is suggested in paragraph A17.6.57 of the HRA (p.50) that birds would move to the lagoon at RSPB Freiston Shore and that would be acceptable. The evidence indicates that the black-tailed godwits could actual actively to seek to remain close to a foraging area. This choice may be determined by a number of factors such as how soon the mudflats might be exposed and allow birds to feed, lack of familiarity with other sites or other ecological cues. Of concern is the paper highlighted by Natural England about the energy budget of black-tailed godwits during the winter. This would indicate any additional disturbance could have serious consequences for wintering birds. Such evidence is not discussed in the HRA. More evidence is needed to inform the assessment of this species.

7.92 For turnstone, paragraph A17.6.59 of the HRA (p.50) indicates that they are a species that can habituate to disturbances. This might be the case in areas where noise and visual impacts. Where disturbances are infrequent and can occur without any build up, birds will not be able to habituate. It is therefore not appropriate to consider this concept with respect to vessel movements. It should be noted that turnstones are a feature that have a restoration target for The Wash SPA. Consequently, even small additional disturbance could have serious consequences for achieving the restoration target. This is not discussed in the HRA. More evidence is needed to inform the assessment of this species.

7.93 For shelduck, paragraph A17.6.60 of the HRA (pp.50-51) considers any disturbance would "…*be unlikely to materially alter the magnitude or frequency of disturbance.*" This statement reflects uncertainty about impacts on this species by the Applicant. No evidence is present to consider the behavioural response of shelduck to disturbances. Indeed, shelduck are a species of significant concern on The Wash due to their significant decline (see Section 4). The reasons for the decline is uncertain and therefore it is not possible at this time to conclude that disturbance from vessel movements is not impacting on this species on The Wash. More evidence is needed to inform the assessment of this species.

7.94 For dark-bellied brent goose, this species uses the lower reaches of The Haven (the Ground Investigation works carried out by the Environment Agency specifically mention dark-bellied brent goose as a species they need to avoid disturbing). Whilst they have been observed around the approaches to The Haven, it is likely large numbers occur further along The Haven. As no disturbance surveys have been conducted along The Haven there is no data available to understand how birds respond to vessel movements away from the mouth of The Haven. However, it is a species that the HRA recognises as being of high sensitivity to disturbance. The species has also declined on The Wash and the evidence from the WeBS Alerts (see Section X) is that site-specific factors are the cause. None of this detail is provided in the HRA account for this species. More evidence is needed to inform the assessment of this species.

7.95 For lapwing and golden plover, we agree with the need for the HRA (paragraphs A17.6.68 to A17.6.70, pp.52-53) to assess the energy costs from disturbance. Whilst it is calculated that with a theoretical four vessel transits a day there could be up to 2% increase in energy use this is not set in the context of any implications of this with respect to overwintering survival or ability to be in suitable condition for breeding. Whilst two percent may seem small, the ability to recover that lost energy also needs to be considered. Whilst it may be appropriate that this amount of energy expenditure is small, there is evidence that there may be a limited threshold for disturbance for wintering waders to accommodate repeated disturbance. For example, the evidence on black-tailed godwit energy budgets.[79] Further information is needed to demonstrate that this increased energy budget is a concern. Equally, the energy budget for black-tailed godwit should also be calculated. We also recommend that the worst case-scenario for vessel movements be used to assess the energy budget. This should include the current baseline vessel movements with the worst-case additional vessel movements added. More evidence is needed to inform the assessment of these species. We consider energy budgets in more detail in paragraphs 7.103 to 7.105 below.

7.96 We welcome the inclusion of an assessment of the waterbird assemblage. However, it is important to note that The Wash is important for non-breeding birds that are present in virtually all months of the year (see Section 3c above). It is therefore not appropriate to simply consider the winter period when consider impacts. Paragraph A17.6.73 recognises that the mouth of The Haven and its approaches has been shown to support a significant proportion of The Wash SPA waterbird assemblage. Whilst only recorded on one occasion we again highlight the limited number of surveys and that surveys have not been undertaken for late summer or autumn over two years to assess the full year-on-year variation of bird use of The Haven.

7.97 Paragraph A17.6.75 of the HRA (p.54) reiterates that for the waterbird assemblage additional disturbance is not considered an issue as birds will fly to alternative sites or if they are disturbed the energy expenditure will only be a "…*small percentage of additional use*." We have highlighted above why we consider this conclusion is overly simplistic and further evidence is needed. It is worth noting, however, that the increased vessel movements will mean that 100% of navigable tides would be used by large vessels and pilot boats. Paragraph A17.6.80 of the HRA (p.55) states that the number of days where vessels are using The Haven would increase from 137 days to 183 days for the "…*total overwintering period*). This would suggest that more days through the year would be used by vessels, which is important given that non-breeding birds can be found on The Wash in virtually every month of the year based on the Advice on Seasonality set out in the Marine Conservation Advice Package for The Wash SPA (see Table 3). It needs to be clarified whether the number of days being considered is appropriate.

[79] Alves, J.A, Guunarsson, T.G., Hayhow, D.B., Appleton, G.F., Potts, P.M., Sutherland., W.J., & Gill, J.A. (2013) Cost, benefits and fitness consequences of different migratory strategies. Ecology 94: 11-17.

7.98 We have already addressed why considering the historic vessel usage on The Wash is not appropriate (lack of evidence, change in bird number and distribution etc), but simply say with respect to paragraph A17.6.77 of the HRA (p.54) that the appropriate legal processes and tests of the Habitats Regulations must be applied in this instance (see Section 8). This requires an appropriate, up-to-date evidence base be collected and analysed to draw conclusions on impacts from the Application. In the absence of appropriate evidence then conclusions need to be made based on the Precautionary Principle (see Section 8). In this instance, we do not consider the presented evidence demonstrates that there will not be an adverse effect on the integrity of The Wash SPA/Ramsar beyond reasonable scientific doubt.

7.99 Paragraph A17.6.78 of the HRA (pp.54-55) reiterates that disturbance events will only occur around the high-water period. However, no surveys have been conducted through the tidal cycle to determine when disturbance does or doesn't occur, no surveys have been conducted into The Wash to understand disturbance around the anchorage area, and no surveys have been conducted to understand disturbance along The Haven. This work could be important to ensure that the increased disturbance particularly to roosting birds fully reflects the level of disturbance that they are subjected to throughout the day and night. This could be particularly important when considering energy budgets and the effect that even small increases in disturbance could have on features of The Wash SPA/Ramsar.

### *Energy budget*

7.100 The RSPB has reviewed the energy budget calculation for lapwing and golden plover. The conclusions drawn in paragraphs A17.6.69-A17.6.70 of the HRA depend on the assumptions made about the data and the area used by the birds. In this case, the assumption is that these birds are able to compensate for the small increase in energy requirements by increasing energy intake. Whilst it may be right that there will be enough flexibility in the system to allow birds to take in additional energy, this will only be the case if the site is not already at carrying capacity. By increasing the birds' energy requirements by 2% this will effectively reduce the carrying capacity of this part of the Wash by 2%. It is important that this issue is addressed in the HRA and other relevant documents.

7.101 It is also worth noting that whilst birds are sometimes displaced to alternative sites, this is often only after repeated disturbance events, implying that these alternative sites are less preferred. The conclusion that displacement means the birds have somewhere else to go so the only effect is the increased energy expenditure is simplistic and does not appear to be justified by the current evidence, as it is being assumed that there are no other effects impacting on the displaced birds. For example, the birds may have a higher chance of being predated at the alternative sites. Whilst it is difficult to quantify such effects it does need acknowledging that there may be additional impacts on these birds of moving to a less-preferred site that has not been measured in this assessment. This also justifies a precautionary approach being taken when drawing conclusions about the potential impacts at the mouth of The Haven.

7.102 Whilst the energy budget has been calculated and assessed for lapwing and golden plover this should also be undertaken for other species, notably redshank, black-tailed godwit and dark-bellied brent goose. Where this is not possible, a clear rationale for why this is the case should be provided. We request this be reviewed and a note provided on this issue.

### *Displacement around the shipping lane*

7.103 We are pleased that paragraph A17.6.39 of the HRA (p.42) recognises that displacement occurred up to 800m during surveys at the mouth of The Haven. However, it should be noted that the additional

surveys undertaken in 2021 recorded birds (most notably oystercatcher) flying up to 3300m to roost at Freiston Shore (Figure 6 below). This highlights that in certain situations or times of year (the longest flights were recorded in the late spring/early summer) birds may move greater distances. We recommend additional analysis of the data to better understand the differences in flight distances and the ecological consequences of these distances.

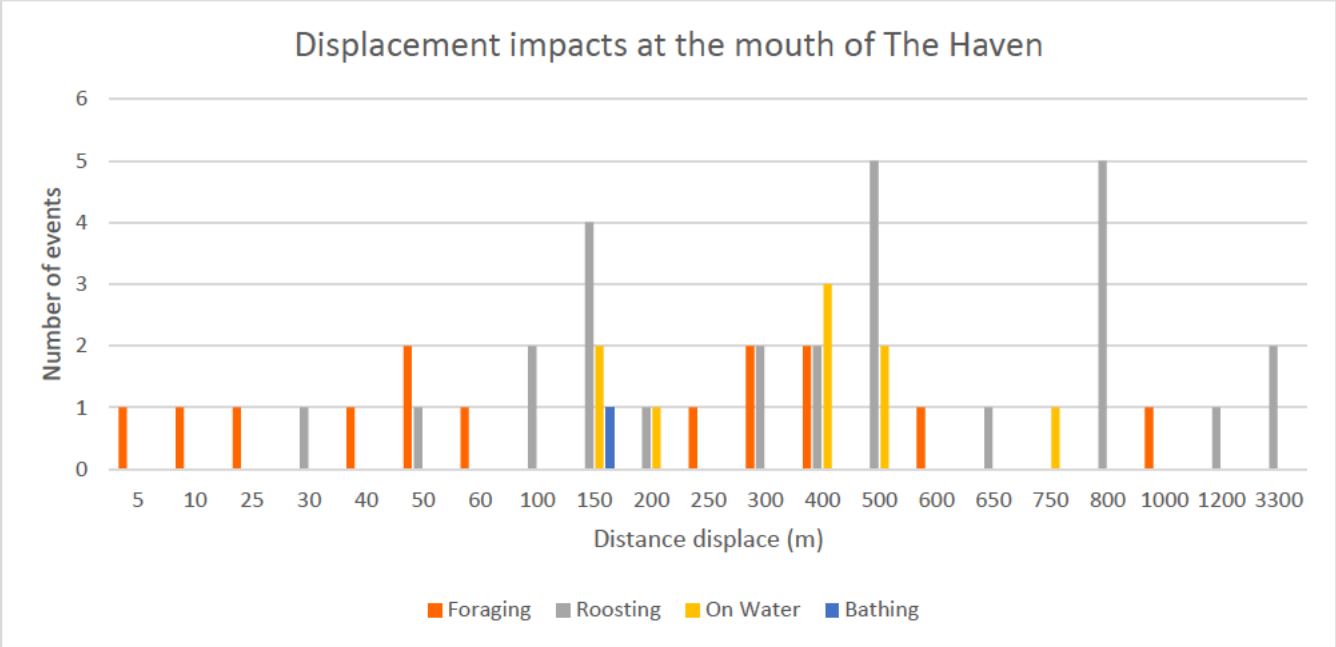


Figure 6: Breakdown of distances birds moved during all recorded displacement incidents during surveys at the mouth of The Haven between November 2019 and March 2021. The data used to create the table are presented in Appendix 3 and taken from all available bird reports produced by the Applicant[80].

7.104 It is also possible that birds will be displaced along the entirety of The Haven; this appears to be borne out by the limited disturbance data recorded at the Application site (Figure 5). There are no data available on this issue to understand the number of birds that could be impacted. We raised the need to consider disturbance along the whole of The Haven in our letter to the Applicant dated 1 October 2020 (key points highlighted):

"*The assessment also needs to extend along the entire length of the river up to the development site to understand disturbance and potential displacement for waterbirds, notably redshank. This extension of the assessment area is important given that high tide has been shown to support the highest concentrations of birds and the importance of the site could be increased during cold winters (for which no data is currently available for comparison).*" (Section 4, p.4)

7.105 We recommend strongly that additional work is undertaken to inform disturbance along the entire Haven channel. This will be necessary to inform the scale of mitigation and compensation measures that will be required.

*Variation in vessel numbers over time*

[80] We note that not all of these have been submitted with the Application and the Applicant will need to provide these at Deadline 1.

7.106 The RSPB notes the information on the variation in vessel numbers and accepts that the 420 vessels proposed as a baseline does seem suitable.

7.107 Whilst the number of vessels is based on available data from the Port of Boston, it does not appear that similar data have been used to inform how the additional vessel movements would impact on The Haven. Paragraph A17.6.40 (p.42) states that there is "*3.5 hour window during Spring tides*" and that it takes "*approximately 60 minutes"* to transit The Haven. This does not appear to have led to any precise modelling to accurately show time intervals between movements nor how the proposed increase in vessels would affect the current activity patterns. Given that vessel movements will increase on average from two to five vessels per available tide (as per e.g. Paragraph 18.7.62 (p.39) of the Navigational Issues Chapter) it is not clear that this can be taken to mean any extra vessels will only enter or leave The Haven within a 45-60 minute window. The additional movements will need to be staggered and account for a range of vessels entering and leaving The Haven. Greater and more detailed information is required to demonstrate how vessels would use The Haven throughout a full tidal cycle to enable robust conclusions on the impact on The Wash SPA/Ramsar site to be made.

7.108 Any vessel movements, for the purposes of the cumulative and in combination assessment of the HRA, also needs to set in the context of the improvements to the wet dock at the Port of Boston and any plans to increase vessel numbers to the Port. This will also need to consider larger vessels if they are to be encouraged to use the Port. Whilst the Ports plans have been highlighted in the Navigational Issues Chapter these have not been considered in the HRA. We request clarity on this issue and an update to the HRA to take account of the Port of Boston's plans.

### *Understanding the dynamics of birds at the mouth of The Haven*

7.109 Table 11 below (noting it does not contain the most recent data collected between January 2021 and July 2021 demonstrates that in all months surveyed there were significant proportions of The Wash SPA/Ramsar bird populations using the mouth of The Haven. Numbers build through the autumn passage period, peak in the middle of winter and then decline in late winter. Some species were observed to be impacted on several occasions, with a significant number of events involving greater than 1% of The Wash SPA population of qualifying features. The fact that disturbance impacted ≥1% of The Wash SPA species in all months is significant.

7.110 Whilst it is noted that there appeared to be fewer birds present in 2021 compared to the previous winter surveys there is no analysis to try and understand why this might be. For example, were conditions milder? Were there other disturbances causing birds to avoid the area? Had birds distributed differently, and can this be identified from data across The Wash? We look forward to reviewing the Applicant's more detailed analyses of these data.

Table 11: Breakdown of the number of occasions that disturbance events resulted in 1% of The Wash SPA features or waterbird assemblage being impacted. Taken from 'Changes in Water Bird Behavior [*sic*] Due to River Traffic at the Mouth of The Haven, Boston, Lincolnshire' Report (2021).[81]

| | Total number of species recorded during disturbance events | Number of species with counts over 1% threshold in observed disturbance events | Number of disturbance events where 1% threshold exceeded | | | | Number of species exceeding 1% threshold during disturbance event by month (counts with an * denote full data set not currently available) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4+ | Nov-19 | Dec-19 | Jan-20 | Feb-20 | Mar-20 | Jan-21 | Feb-21 |
| **SPA feature** | 13 | 8 | 1 | 4 | 2 | 1 | 2 | 4 | 5 | 1 | 2 | 1* | 1* |
| **Assemblage feature** | 8 | 3 | 2 | 1 | | | 1 | 1 | | 1 | | | |
| **Non-SPA** | 6 | | | | | | | | | | | | |
| | **27** | **11** | **3** | **5** | **2** | **1** | **3** | **5** | **5** | **2** | **2** | **1*** | **1*** |

*The need to better understand the trend in bird numbers and distribution*

7.111 Paragraph A17.6.77 of the HRA (p.54) states that:

> "*...Vessel movements have been taking place through The Haven for at least the last 100 years with numbers varying over the years. Therefore, it would seem reasonable to assume that the disturbance to birds at the mouth of The Haven is not having an overall effect on distribution and numbers of birds in the SPA. The fact that high bird numbers are still observed at the mouth of The Haven shows that the roost site is still used despite the disturbance events.*"

7.112 Such a statement is subjective and needs to be assessed objectively. The overall trend in bird numbers needs to be set out. Some species have declined over time (The Wash Bird Decline Investigation, 2014[82]) and these declines will need to be reviewed to determine if disturbance from vessels may be a factor. The assessment also needs to consider the foraging opportunity that is provided at the mouth of The Haven and whether displacement is forcing birds into less optimum areas. There is no assessment to show how prey availability may differ across the area. The following attributes from the Supplementary Conservation Advice for The Wash SPA[83] are directly applicable to these issues:

- **Maintain safe passage between roosting and feeding areas:** turnstone, shelduck, oystercatcher, dark-bellied brent goose, grey plover, knot, black-tailed godwit, bar-tailed godwit, dunlin, redshank, curlew, wigeon.

[81] Bentley A (2021) Changes in Water Bird Behavior Due to River Traffic at the Mouth of The Haven and Haven River, Boston, Lincolnshire: January 2021 to July 2021. Report prepared for the Applicant

[82] Woodward, I.D., Ross-Smith, V.H., Pérez-Dominguez, R., Rehfisch, M.M., & Austin, G.E. (2014). BTO Research Report No. 660: The Wash Bird Decline Investigation 2014. BTO.

[83] Supplementary Conservation Advice for The Wash SPA is available at: [redacted] Accessed 21 April 2021.

- **Reduce disturbance:** waterbird assemblage, turnstone, shelduck, oystercatcher, dark-bellied brent goose, grey plover, knot, black-tailed godwit, bar-tailed godwit, dunlin, redshank, curlew, wigeon.
- **Maintain extent and distribution of supporting habitat for moulting, roosting, loafing and feeding:** waterbird assemblage, turnstone, shelduck, oystercatcher, dark-bellied brent goose, grey plover, knot, black-tailed godwit, bar-tailed godwit, dunlin, redshank, curlew, wigeon.
- **Maintain supporting habitat: feeding:** dark-bellied brent goose, wigeon.
- **Maintain supporting habitat: roosting:** waterbird assemblage, turnstone, oystercatcher, grey plover, knot, black-tailed godwit, bar-tailed godwit, dunlin, redshank, curlew.
- **Maintain prey availability:** shelduck, oystercatcher, dark-bellied brent goose, grey plover, knot, black-tailed godwit, bar-tailed godwit, dunlin, redshank, curlew.

7.113 This is not necessarily a complete list. A complete list of objectives will need to be confirmed with Natural England.

7.114 Where SPA features have declined and are not achieving favourable conservation status, then it is important to recognise that there will be a restore objective for this feature. For example, this is the case for redshank around The Wash, with impacts on wintering birds affecting resident birds that would remain to breed. Anything that impacts overwintering survival for this species could therefore compromise the ability to restore the feature[84]. Having reviewed the Supplementary Conservation Advice for The Wash SPA there are also restore objectives for turnstone, shelduck, oystercatcher and dunlin; all of which were species recorded being disturbed at the mouth of The Haven.

*Vessel movements*

7.115 There is not a more detailed breakdown of vessel movements in the approaches to The Haven to determine what proportion of these vessels are smaller craft that have smaller impacts and how many are larger vessels that are known to cause the greatest disturbance. The overall increase in numbers of vessels needs to be set in the appropriate context. For example, if larger vessels only constituted 4,000 of the 11,000 vessel movements, there would be an actual increase of 14.5% of the most damaging vessels. This is before additional pilot boat movements are considered. The effect of fishing and recreation craft would remain unchanged, as they have not shown significant impact on birds at the mouth of The Haven (Table 7). Therefore, the impact on disturbance levels cannot be described as insignificant.

## f) Lighting impacts during construction and operation

7.116 Paragraph A17.6.11 of the HRA (p.31) states that lighting has the potential to impact birds at night. It suggests that lighting will only be needed when "essential" and at certain parts of the Facility. It is not defined what is meant by "essential" lighting, but we anticipate that this will involve the wharf area during unloading and loading which could be conducted at night. The worst-case scenario needs to be defined with respect to lighting: where would it be used and when would it be needed. This can then be used to make judgements on the potential significance of impacts on birds that could be roosting or feeding near the site at night.

7.117 Whilst some basic lighting considerations are present in the HRA and e.g. Paragraph 12.7.53 of the Terrestrial Ecology chapter (p.50), paragraph 1.4.5 of the Outline Lighting Strategy (p.5) states that:

[84] Defined as: "*Reduce the frequency, duration and/or intensity of disturbance affecting roosting and/or foraging birds so that they are not significantly disturbed*."

"*A lighting design with modelling to show illuminance levels (as lux contour lines) will be prepared, as part of the written scheme for the management and mitigation of operational external artificial light emissions before construction in accordance with DCO requirement 15, as approved by the relevant planning authority. This is to demonstrate that the external lighting levels will be kept within the obtrusive light limitations that are appropriate for the Application Site and immediate surrounding area*."

7.118 The Outline Lighting Strategy, therefore, fails to provide any detail that would demonstrate that there would not be an adverse impact on birds using The Haven. The full details of how lighting will be deployed across the site during construction and operation, when it would be used and how long for, alongside the lighting specifications must be set out. Of key concern is the impact that increased lighting around the wharf area during construction and operation could have for birds using The Haven.

7.119 Whilst the HRA has suggested that there could be lighting impacts arising from the increased vessel movements in The Wash (which we take to include transiting and using the anchorage area), it is not clear how this impact has been assessed. This will also need to be considered within the Lighting Strategy.

## g) Potential impacts on water arising from the Application

*Pollution impacts and control measures associated with the increased vessel movement*

7.120 Having reviewed the available documents, we are unable to identify any specific evidence presented by the Applicant to show that specific measures have been outlined to demonstrate that appropriate measures would be in place to avoid any potential harm from oil, fuel oil and rubbish pollution that could be caused by an additional 580 large vessels per annum using The Haven, as well as the anchorage area on The Wash. There are potential pathways that could result in Likely Significant Effects on The Wash SPA/Ramsar site and priority habitats and these topics must therefore be included in the HRA.

7.121 The marine and coastal chapter of the Environmental Statement mentions spillages from construction and vessels (paragraphs 17.7.4 & 17.7.6), yet no details are provided on the measures that will be used to prevent any incidents occurring. This could be a serious impact on The Haven, features of The Wash SPA/Ramsar site and priority habitats, however, this has not been considered in the HRA. It has not even been considered in the scoping matrices as a potential issue. The WFD Assessment (p.39) states vessels will be kept to a minimum, but that appears to be the only suggested measure.

7.122 Whilst it is proposed to develop a pollution plan in conjunction with nature conservation organisations, there is no plan in place and there is no information available to inform the HRA and ensure that adverse effects on integrity of The Wash SPA, The Wash & North Norfolk Coast SAC and The Wash Ramsar sites, or our reserves, would be avoided. It is vital that more detailed measures are outlined to ensure the sensitive habitats that are present in The Wash are protected from the catastrophic effects this could have on the wildlife that it supports. Details on how this will be managed must be provided prior to any consent to ensure appropriate measures can be secured. We request this information be provided to allow Interested Parties enough time to review and make judgements on the validity of the Applicants approach. This also links with the need to ensure that all consenting/permitting issues are addressed.

7.123 It is recognised in the navigation chapter (paragraph 18.7.123) that there is potential for material from the Refuse Derived Fuel (RDF) bales to potentially be released during unloading and land on surrounding land or in The Haven. It is not clear how material on the vessels would be managed or whether a catch net would be sufficient during moderate to strong winds. There has been a significant amount of work completed regarding the impact of plastics in the environment and the harm that this has on a range of species and habitats. We request more detail to be provided on measures to not only control possible RDF waste entering The Haven, but also what level of routine maintenance will be in place to capture any material that could escape.

7.124 The navigation chapter highlights that docked vessels will have aggregate loaded. It is not clear what measures will be in place to ensure that none of this material will enter The Haven during transfer. This could have implications for water quality, the benthic community and ultimately the foraging birds that use The Haven. This needs to be addressed in the Environmental Statement and HRA.

7.125 Paragraph A17.5.5 states that "…*only where the project alone was determined to have the potential for LSE on European sites and features have these sites and features been included in the in-combination assessment*." With respect to pollution sources, the RSPB considers that potential pathways exist and should be considered alongside other plans and projects. This should consider pollution plans for the Port of Boston and Environment Agency works. Wider activities may also need to be considered to ensure a full assessment of this issue is included in the application.

7.126 This information is essential to ensure that all aspects of the proposed development will not compromise the conservation objectives of The Wash SPA/Ramsar. The following objectives from the Supplementary Conservation Advice for The Wash SPA are directly applicable to pollutants; the features which could be affected are also listed:

- **Restrict aqueous contaminants to achieve High and Good WFD status:** waterbird assemblage, turnstone, shelduck, oystercatcher, dark-bellied brent goose, grey plover, knot, black-tailed godwit, bar-tailed godwit, dunlin, redshank, curlew, wigeon.
- **Maintain dissolved oxygen (≥5.7mg per litre for 95% of the year):** waterbird assemblage, turnstone, shelduck, oystercatcher, dark-bellied brent goose, grey plover, knot, black-tailed godwit, bar-tailed godwit, dunlin, redshank, curlew, wigeon.
- **Maintain water quality:** waterbird assemblage, turnstone, shelduck, oystercatcher, dark-bellied brent goose, grey plover, knot, black-tailed godwit, bar-tailed godwit, dunlin, redshank, curlew, wigeon.
- **Maintain turbidity:** waterbird assemblage, turnstone, shelduck, oystercatcher, dark-bellied brent goose, grey plover, knot, black-tailed godwit, bar-tailed godwit, dunlin, redshank, curlew, wigeon.
- **Maintain prey availability:** shelduck, oystercatcher, dark-bellied brent goose, grey plover, knot, black-tailed godwit, bar-tailed godwit, dunlin, redshank, curlew.
- **Maintain supporting habitat: feeding:** dark-bellied brent goose, wigeon.
- **Maintain supporting habitat: roosting:** waterbird assemblage, turnstone, oystercatcher, grey plover, knot, black-tailed godwit, bar-tailed godwit, dunlin, redshank, curlew.

7.127 This is not necessarily a complete list. A complete list of objectives will need to be confirmed with Natural England. A HRA update will then be required to ensure that all relevant conservation objectives and supplementary conservation advice have been robustly assessed.

*Water discharge, run-off and control measures*

7.128 Paragraph 5.6.118 of the Project Description (p.32) states that any surplus surface water that can't be stored and used on site will be"… *be managed by discharge (under an Environmental Permit) into*

*the drainage network or into The Haven…*" Chapter 13 Surface Water, Flood Risk and Drainage Strategy.

7.129 Paragraph 13.4.2 (p.23) of the Water Framework Directive (WFD) Assessment recognises that impacts from drainage on surface waters can have an effect away from the Application site that could impact "wetlands" and "WFD waterbody status". Whilst paragraph 13.6.5 of the WFD Assessment provides a useful overview of how the drainage system operates, there is no recognition that the RSPB abstracts 500,000$m^3$ per annum of water from the drainage network to maintain our Frampton Marsh reserve. Maintaining the quantity and quality of this water is therefore essential to avoid deterioration of the habitats on the reserve that support features of The Wash SPA/Ramsar/SSSI and The Wash & North Norfolk Coast SAC.

7.130 Paragraph 13.7.12 (p.37) states that the watercourses within or adjacent to the Application site "…*are artificial and have relatively poor water quality*". The Water Framework Directive Assessment provides the evidence setting out measures that will be in place to avoid construction and operation of the Facility impacting on the waterbodies. It is also important that the Facility should not make restoration of these waterbodies more difficult, even if only small additional impacts might occur that on the own may not be significant. This is of particular relevance to The Wash SPA/Ramsar/SSSI and The Wash & North Norfolk Coast SAC, as targets for SPAs and SACs (as well as SSSIs) are more stringent than the WFD targets.

7.131 Table 13-9 (pp.46-47) reviews any potential cumulative effects on water quality from other projects. No such projects are identified. However, an application has been submitted for a solar park adjacent the application site. The projects that could give rise to cumulative and in-combination impacts should be kept reviewed to ensure all projects that could have an effect are included in assessments.

7.132 It is also worth noting that paragraph 5.6.118 of the Project Description (p.32) and paragraph 12.7.44 (Chapter 12 Terrestrial Ecology; p.49; Doc App-050) state that the Facility will be operated in accordance within the conditions of the Environmental Permit that will be in place. Our understanding is that these discussions are still at an early stage and therefore there is no detail over what requirements will be in place to ensure drainage from the Facility is appropriately managed. Until these discussions have been completed we have no assurances that appropriate measures will be in place to protect water the adjacent watercourses and RSPB Frampton Marsh from increased levels of pollutants and reduced water quality.

7.133 This information is essential to ensure that all aspects of the proposed development will not compromise the conservation objectives of The Wash SPA/Ramsar. The following objectives from the Supplementary Conservation Advice for The Wash SPA are directly applicable to water run-off and discharge; the features which could be affected are also listed:

- **Restrict aqueous contaminants to achieve High and Good WFD status:** waterbird assemblage, turnstone, shelduck, oystercatcher, dark-bellied brent goose, grey plover, knot, black-tailed godwit, bar-tailed godwit, dunlin, redshank, curlew, wigeon.
- **Maintain dissolved oxygen (≥5.7mg per litre for 95% of the year):** waterbird assemblage, turnstone, shelduck, oystercatcher, dark-bellied brent goose, grey plover, knot, black-tailed godwit, bar-tailed godwit, dunlin, redshank, curlew, wigeon.
- **Maintain water quality:** waterbird assemblage, turnstone, shelduck, oystercatcher, dark-bellied brent goose, grey plover, knot, black-tailed godwit, bar-tailed godwit, dunlin, redshank, curlew, wigeon.
- **Maintain turbidity:** waterbird assemblage, turnstone, shelduck, oystercatcher, dark-bellied brent goose, grey plover, knot, black-tailed godwit, bar-tailed godwit, dunlin, redshank, curlew, wigeon.

- **Maintain prey availability:** shelduck, oystercatcher, dark-bellied brent goose, grey plover, knot, black-tailed godwit, bar-tailed godwit, dunlin, redshank, curlew.

7.134 This is not necessarily a complete list. A complete list of objectives will need to be confirmed with Natural England. A HRA update will then be required to ensure that all relevant conservation objectives and supplementary conservation advice have been robustly assessed.

*Water supply for the Facility*

7.135 Paragraph 13.7.45 (p.43) of Chapter 13 indicates that there will be a large water demand to supply the lightweight aggregate. Whilst the Project Description (paragraph 5.6.22, p/18) states that "*Water collected from the sealed drainage system would be used in the LWA*", paragraph 5.6.87 (p.28) suggest that collection of surface run-off will only "…*minimise any freshwater requirements*." It is, therefore, not clear if this will provide the full amount of water needed. We request clarity on the full water budget for this would be and whether additional water may need to be abstracted to enable the aggregate production to continue should less water be retained on site than predicted. Any water removed from the system could impact on flows within the drainage network and the volume of water available for supporting RSPB Frampton Marsh. This could have serious consequences for the species and habitats that use the reserve, many of which will be features of The Wash SPA/Ramsar/SSSI. We have not obviously seen this information and request either this is signposted or provided by the Applicant.

## h) Concerns about the quality of proposed mitigation and the lack of compensation measures identified to ensure the integrity of The Wash SPA/Ramsar/SSSI is maintained

*Comments on the proposed mitigation for impacts on terrestrial ecology*

7.136 The RSPB has reviewed Chapter 12 Terrestrial Ecology[85] the associated extend Phase 1 survey[86], and Chapter 17 Marine and Coastal Ecology[87].

7.137 The bird species recorded using the Application site are typical of the habitats present. However, we note that habitat loss will be varied and could be significant locally. The RSPB supports the proposed provision of options that would replace these lost habitats and ensure that the local population of species that are on the Birds of Conservation Concern red list will have suitable alternative habitat. This also offers a chance to enhance the wider area to provide benefits for species such as turtle dove that have declined significantly across England and which still have locally important populations close to the Application site. The RSPB recognises this approach is being advocated by the Applicant, but details on exactly what measures will be provided and where are still being discussed, as they link with consideration of compensation for impacts on The Wash SPA/Ramsar/SSSI and The Wash & North Norfolk Coast SAC, as well as priority habitats.

7.138 With respect to proposed measures to mitigate impacts on terrestrial ecology, there is specific detail set out how deposition of pollutants could be avoided, namely, dust management, management of earthworks, controlling construction and managing machinery. The same level of detail is not set out for impacts on the site's ecology. Whilst it is stated that for example, hedgerows will be planted, the extent of measures provided are not set out to determine if such measures are proposed at a scale

[redacted]

that will achieve the benefits that are intended. All such detail is being deferred to the Outline Landscape and Ecological Mitigation Scheme (OLEMS).

7.139 Paragraph 12.7.32 (p.46) states that pre-site checks for breeding birds will take place 24-48 hours prior to any works commencing. However, leaving such a time gap will not guarantee that there would not be any birds breeding as there is possible that nests could be started to be constructed following the site checks. This detail will need to be revised to ensure that activities associated with the construction of the Facility will be fully compliant with the Wildlife & Countryside Act 1981 (as amended). This was mentioned to the Applicant.

*Reliance on the RSPB's reserves at Freiston Shore and Frampton Marsh to deliver compensation*

7.140 Paragraph A17.7.6 of the HRA (p.78) indicates that the Applicant is looking to provide Biodiversity Net Gain options at the RSPB's nearby reserves.

7.141 For clarity, the RSPB confirms that high-level, in principle conversations took place with the Applicant in October 2020 regarding options that might be appropriate to consider as compensation (see para 17.3.2 (p.30) of Chapter 17 Marine and Coastal Ecology of the ES). These discussions included an update on work that the RSPB is looking to undertake at its Freiston Shore and Frampton Marsh reserves. However, no agreements were made regarding what measures the Applicant could take forward as compensation, as the discussions were only in principle to consider the type of measures that might be appropriate in the general location. We understand discussions may be starting with other possible landowners regarding alternative sites to deliver compensation measures, these are early stages and no secured, viable options have currently been presented by the Applicant.

7.142 We discuss the approach we expect the Applicant to take to identifying and securing appropriate compensation measures in Section X below.

*The need to better understand the potential for the fishing fleet might need to relocate south of the facility with the Environmental Statement and Habitats Regulations Assessment*

7.143 Table 18-1 of the Navigational Issues chapter (pp.14-15) records comments from the Boston and Fosdyke Fishing Society (BFFS) made in August 2020. They highlighted that should the facility be approved "*Relocation of the fishing fleet below the new proposed energy plant is the only way the industry could continue to work in a safe and viable way when the plant becomes operational and to some extent while under construction*." This issue is dismissed in the chapter as not needing be considered as part of the DCO application, as it would be captured through any future applications submitted by BFFS. However, this must be addressed in more detail, as this links to the wider indirect effects that could potentially arise from the development of the facility. It could force additional development that has the potential to cause an adverse effect on integrity of The Wash SPA/Ramsar and, therefore, exacerbate impacts arising from the facility development and its increased vessel movements. Any further development south of the facility could also compromise any mitigation and compensation measures being considered for this development. We request more information on how this issue is being addressed.

## i) Assessment of alternative options

7.144 The RSPB has reviewed Chapter 4 Site Selection and Alternatives.[88] This chapter identifies why the Application site is considered suitable for the type of development proposed. Chapter 4 also mentions the proposed 'Habitat Mitigation Area' that has been proposed to provide an alternative roost site for redshank.

7.145 Whilst the RSPB does not dispute the criteria used to identify the Application site as having potential for this type of development, we do not consider this Chapter adequately reviews the process by which the Applicant ensured that there were no alternative options. Paragraph 4.4.12 (p.7) states that "…*alternative sites in the similar area, regardless of availability are less preferable from a planning and development perspective*", however, there is no indication what other sites were considered. This must be specifically address whether there are any less environmentally damaging options. Chapter 4 does not provide any evidence that alternative sites were considered. If alternative sites were considered, then the Applicant's process for discounting these should be provided. This is essential to ensure the Habitats Regulations tests have been properly applied, as we set out in Section 8 below.

7.146 The Applicant has also set out only a single option to provide an alternative roost site for redshank that will be displaced by the development. Redshanks are extremely site faithful, as we have set out in Section 3, and displacement of only a few kilometres can significantly affect their survival. Knowing the distances over which this increased mortality occurs, however, enables a potential zone of investigation to be identified that the Applicant should have used to identify all possible options for siting a roost site. In accordance with the Habitats Regulations tests (as set out in Section 8), Chapter four should record all the options that have been explored and provide justification for why these alternatives have been discounted. This is critical given the proposed location for the alternative redshank roost has raised concerns about its potential effectiveness, namely:

- Its proximity to the navigation channel will mean that vessel movements are likely to cause disturbance to the new roost. The bird surveys have highlighted disturbances due to vessel movements that include even the smaller fishing vessels.
- The placing of additional rocks has the potential to impact saltmarsh and mudflat that will add to the habitat that will need to be compensated.
- The effect on erosion and deposition as a consequence of the additional rocks in this area are unknown.
- The area is close to the England coast path and currently has a significant amount of recreational pressure. Substantial management of these pressures will be needed to ensure that the alternative roost will be effective.

7.147 At this stage, the RSPB does not consider that an appropriate evidence has been presented by the Applicant to ensure that the Application is appropriate for this location and that no less environmentally damaging alternatives would be available.

## j) Summary of the RSPB's position

7.148 The RSPB considers the available evidence has shown there will be disturbance to birds using the Application site and the mouth of The Haven and its approaches. We consider that the surveys undertaken for this NSIP are limited and further evidence is needed to demonstrate that features of

[88] [redacted])

The Wash SPA/Ramsar/SSSI will be adversely affected. We are concerned by the outstanding gaps in evidence relating to noise, visual disturbance, lighting and water impacts. We also do not consider that proposed mitigation measures are either viable as there are concerns about their effectiveness, ability to secure them and ability to enforce them, or that they are properly compensation measures as defined by the Habitats Regulations (see Section 8 below). No alternative options have been fully explored in the Environmental Statement and neither have the potential impact on other activities, such as recreational pressures or the suggestion that the fishing fleet might have to relocate downstream of the Facility if constructed. Consequently, a full derogation case, including the case for Imperative Reasons of Overriding Public Interest, must be presented that includes compensation measures; this has not been provided to date. At this time, therefore, we do not consider that, based on the currently available evidence, it can be concluded that there will not be an adverse effect on integrity of The Wash SPA/Ramsar/SSSI beyond reasonable scientific doubt.

# 8. Policy and Legislation Background

8.1 Please note that although the domestic legislation has now amended due to the UK leaving the EU, the caselaw and most of the policy and guidance has not. Therefore, many of the quotes (particularly in caselaw) will have *old language*. We have left these as they are but tried to ensure new words, phrases etc are flagged in footnotes to ensure consistency with the legislation.

## a) The Ramsar Convention

8.2 Due to the presence of a Ramsar site, it is important to mention the Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat 1971[412], which is an intergovernmental treaty that provides the framework for the conservation, protection and wise use of wetlands and their resources. And the longstanding Government policy that Ramsar sites have the same level of protection as SACs and SPAs: see paragraph 118 of the National Planning Policy Framework[89].

## b) The Birds Directive

8.3 Due to the SSSI bird features and the SPA and its designated species, as well as the general duties set out below (including to ensure compliance with the Birds Directive), it is important to briefly consider the Birds Directive.

8.4 The main reasons for the Directive 2009/147/EC[90] on the conservation of wild birds (the Birds Directive) was the perilous state wild bird populations were in when the Directive was first introduced and the great need for the restoration of those populations. This represented a "serious threat to the conservation of the natural environment", with the measures to be taken needing to apply to *"the various factors which may affect the numbers of birds, namely the repercussions of man's activities".* The conservation of wild bird species was identified as necessary to meeting the Community's objectives regarding the improvement of living conditions and sustainable development, and aimed at the long-term protection and management of natural resources as an "*integral part of the heritage"* of the peoples of Europe and "to prevent commercial interests from exerting a possible harmful pressure on exploitation levels"[91].

[89] [redacted]

[91] Recital 6, 5, 7 and 9.

8.5 Hence the preambles/recitals to the Birds Directives so clearly including this great concern as well as the Directive's aims and objectives, in particular paragraphs 3 and 8[92].

8.6 Unfortunately we find ourselves in a similar perilous state with species and habitats declines[93].

8.7 Unlike most species' protection, the Birds Directive provides protection for all wild birds (Article 1). By Article 2, Member States *"shall take the requisite measures to maintain the population of the species referred to in Article 1 at a level which corresponds in particular to ecological, scientific and cultural requirements while taking account of economic and recreational requirements, or to adapt the population of these species to that level."*[94] Article 5 requires Member States to take "requisite measures" to establish a general system of protection for all species of birds referred to in Article 1 prohibiting (inter alia) deliberate killing or capture by any method, or deliberate disturbance particularly during the period of breeding and rearing in so far as disturbance would be significant having regard to the objectives of the Directive.

8.8 These, along with the substantive provisions which give effect to those Article 2 obligations – namely Articles 3 and 4 – are the main protection provisions.

8.9 Article 4 includes a specific requirement for Annex I and migratory species, namely the classification of their 'most suitable territories' as SPAs, but the overall requirement for *special conservation measures concerning their* habitat *in order to ensure their survival and reproduction in their area of distribution* should not be forgotten (as discussed further below and its relevance for the consideration of the use of the SPAs and SSSIs by species other than those for which the sites were designated and notified).

8.10 The Joint Nature Conservancy Council's[95] guidance to SPA designations[96] highlighting the requirement to choose the most important sites within the UK confirms this by stating: *"As noted in the recitals to the Birds Directive (especially (3), (7) and (8)) and is clear from the structure of the Directive itself the overriding purpose of it was to arrest the decline in bird populations in Europe by imposing generalised population maintenance duties on Member States (Article 2) and to identify and classify the 'most suitable territories' for Annex I and migratory birds, to deliver an ecologically coherent network of SPAs (Article 4(1) and 4(2)) "in order to maximise the contribution of the sites to achieving favourable conservation status at the national, biogeographical or European level": Commission Note on Setting Conservation Objectives for Natura 2000 Sites (23 December 2013)."*

8.11 Article 4 does not, however, displace the wider, more general obligations, contained in Articles 1-2 and 5-9, but rather makes specific provision for birds within Annex 1 and migratory birds: see §19 of the CJEU's judgment in *R v Secretary of State for the Environment* [1997] Env LR 55. 4.14 Those obligations are generally implemented through the protections contained in the Wildlife and

[92] (8) The preservation, maintenance or restoration of a sufficient diversity and area of habitats is essential to the conservation of all species of birds. Certain species of birds should be the subject of special conservation measures concerning their habitats in order to ensure their survival and reproduction in their area of distribution. Such measures must also take account of migratory species and be coordinated with a view to setting up a coherent whole.

[93] Hayhow et al (2019) The State of Nature 2019. The State of Nature partnership.

[redacted]

[94] There has not, as yet, been clear guidance on the interpretation of Article 2 (See, for example, what was said by Carnwath L.J. at §38 of *Sustainable Shetland v Scottish Ministers* [2015] UKSC 4, and at §17 identifying some apparent inconsistencies in CJEU case law. There are no set 'levels' in the UK for the purposes of Article 2.

[95] The JNCC is the public body that advises the UK Government and devolved administrations on UK-wide and international nature conservation, provide evidence, information and advice.

[96] The UK SPA network: its scope and content, Volume 1: Rationale for the selection of sites – with the start of section 4 setting out the site selection process, section 4.5 (pp. 11- 12)

Countryside Act 1981 (as amended), but are also given effect through the obligations on appropriate authorities, nature conservation bodies and, in relation to marine areas, competent authorities in regulations 9 and 10 of the Conservation of Habitats and Species Regulations 2017 (as amended)(as discussed further below).

8.12 Importantly, the preambles/recitals to the Birds Directive and the structure of the Directive itself, highlight its purpose - to arrest the decline in bird populations in Europe by imposing protection requirements generally as well as specifically for Annex I and migratory species including the creation and protection of SPAs. But the requirements of course do not stop there as explained below.

*SPA tightly drawn boundaries*

8.13 It is important to note that the UK has transposed and implemented Article 4 through the creation of Special Protection Areas (SPAs) **only**, and therefore its approach to SPAs is relevant.

8.14 It is therefore worth noting here that unlike other countries, the UK does not include any buffer zones in and around its SPAs (nor its SACs and Ramsar sites) and therefore everything within those sites is included for ecological reasons. It is also notable that the UK has one of the lowest amounts of area designated as SACs or SPAs compared to other member states[97].

8.15 This means that any loss will directly impact the reasons for which the site was designated which makes it difficult for decision makers to be able to conclude that there will be no *adverse effect* if even a small part of that designated site is to be lost to the development.

## c) The Habitats Directive

8.16 **The Habitats Directive**[98] requires EU Member States to maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of community interest, which are listed under Annex I, II, IV and/or V.

8.17 The Habitats Directive's aim is to promote the maintenance of biodiversity throughout the EU through the restoration and maintenance of natural habitats and of wild fauna and flora (listed in its Annex I and II). The Habitats Directive (and its implementing domestic regulations) must be interpreted and applied by reference to the Precautionary Principle, which reflects the high level of protection pursued by European policy on the environment and in the light of its broad objective – namely a high level of protection of the environment.

8.18 Unlike the Birds Directive the Habitats Directive protects specific habitats and species by way of the creation of protected sites for them (SACs) and further provisions in relation to both European Protected Species (e.g. Harbour seals present and therefore of relevance here) and additional protections for priority species.

8.19 We refer you to Natural England's advice in relation to European Protected Species legislative requirements including licensing. However, we do wish to stress the importance and need to consider all required consents, licences and permissions whether included within the DCO and Deemed Marine

[97] European Environment Agency Website, Natura 2000 barometer [redacted]his is an official EU barometer for SPAs and was last updated in February 2011 – table and then graph on page 2.

[98] Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (Habitats Directive) 1992

Licence or not. As discussed briefly below, applications must not be broken up into separate parts thus losing the vital need to consider cumulatively and in combination all possible effects arising out of the many moving parts of the proposed development. Therefore, it must be considered, when determining this Application, as to whether consents, licences and permissions also required are likely to be granted or not.

## d) Uncertainty and the Precautionary Approach

8.20 The Precautionary Principle exists for situations where scientific data does not exist or is incomplete and therefore it is not possible to complete a full evaluation of the possible risks a plan, project or activity may cause to the environment, including possible danger to humans, animal or plant health, or to the environment in general. The European Commission's Precautionary Principle guidance[99] states that it should apply when a phenomenon, product or process may have a dangerous effect, identified by a scientific and objective evaluation, if this evaluation does not allow the risk to be determined with sufficient certainty. As such the degree of precaution applied to an evaluation, or assessment, can be seen to be directly proportional to the extent of scientific uncertainty inherent in that assessment. As the guidance goes on to recommend:

"*The implementation of an approach based on the precautionary principle should start with a scientific evaluation, as complete as possible, and where possible, identifying at each stage the degree of scientific uncertainty*."

## e) The Habitats Regulations

8.21 In relation to plans and projects *likely to have an effect* on a European site (SPA, SAC and/or Ramsar site[100]), the Habitats Regulations set out the sequence of steps to be taken by the competent authority when considering authorisation for that plan or project before deciding to authorise that project. These are set out in regulation 63, as follows:

Step 1: consider whether the project is directly connected with or necessary to the management of the SPA. If not,

Step 2: consider, on a precautionary basis, whether the project is likely to have a significant effect on the SPA, either alone or in combination with other plans or projects.

Step 3: make an appropriate assessment of the implications for the SPA in view of its conservation objectives. Regulation 48(2) empowers the competent authority to require an applicant to provide information for the purposes of the appropriate assessment. There is no requirement or ability at this stage to consider extraneous (non-conservation e.g. economics) matters in the appropriate assessment.

Step 4: consider whether it can be ascertained that the project will not, alone or in combination with other plans or projects, adversely affect the integrity of the SPA, having regard to the manner in which it is proposed to be carried out, and any conditions or restrictions subject to which that authorisation might be given (the Integrity Test).

[99] [redacted]

[100] And due to long standing government policy – Ramsar sites too.

Step 5: In light of the conclusions of the assessment the competent authority shall agree to the project only after having ascertained that it will not adversely affect the integrity of the SPA, alone or in combination with other plans or projects.

Step 6: If, despite not being possible to ascertain that there will not be an adverse effect on the integrity of the site, there are no possible alternative solutions to the proposed development and there are imperative reasons of overriding public interest (IROPI) (which, subject to regulation 64(2), may be of a social or economic nature), for it, consent can still be granted if…

Step 7: any and all necessary compensation measures must be secured to ensure the overall coherence and protection of the National Sites Network[101]426. (consideration of the management objectives for the National Sites Network (as set out below) should be part of these considerations).

### *SPA and SAC Conservation Objectives*

8.22 Under the Habitats Regulations, a site's Conservation Objectives are intrinsic to the Integrity Test when considering whether to grant consent for a plan or project – see Habitats Regulations 63(1).

8.23 In order to understand the Conservation Objectives in the context of Regulation 63(1), it is important to remind oneself of the role of SPAs under the Birds Directive – as set out above. These protected sites are part of the Member State's requirement for special conservation measures in order to ensure that their contribution to national and international "conservation status" of the species[102] is maximised: as set out in the headline words at the start of all Conservation Objectives:

- Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;[103]

- The Conservation Objectives are to be an articulation of the contribution that it is appropriate for the SPA to make in an enduring way. It would be inconsistent with the purposes of the protection and the role of SPAs to have SPA Conservation Objectives (or the interpretation of them) aiming for lower populations.

8.24 The role of SAC Conservation Objectives are similar but slightly different to reflect the differences in SAC and SPA classification and designation.

### *Principles for Undertaking an Appropriate Assessment*

8.25 Taking a more detailed look at first Steps 3 and 4, the English and Welsh Court of Appeal in *R (on the application of Mynydd v Gwynt Ltd) v Secretary of State for Business, Energy and Industrial Strategy* [2018] EWCA Civ 231 has recently set out the following principles for appropriate assessments under Regulation 63(1) referring to other important caselaw in this area:

*"(1) The environmental protection mechanism in Article 6(3) is triggered where the plan or project is likely to have a significant effect on the site's conservation objectives: Landelijke: Vereniging tot Behoud van de Waddenzee v Staatsscretaris van Lanbouw (Case C-127/02) [2005] All ER (EC) 353 at [42] ("Waddenzee").*

[101] Formerly known as the Natura 2000 Network.
[102] Please see points below on the management objectives of the National Sites Network and the requirements for both SPAs and SACS to ensure that the species are maintained and/or restored across their natural range.
[103] The SPA generic Conservation Objectives [redacted]

*(2) In the light of the precautionary principle, a project is "likely to have a significant effect" so as to require an appropriate assessment if the risk cannot be excluded on the basis of objective information: Waddenzee at [44].*

*(3) As to the appropriate assessment, "appropriate" indicates no more than that the assessment should be appropriate to the task in hand, that task being to satisfy the responsible authority that the project will not adversely affect the integrity of the site concerned. It requires a high standard of investigation, but the issue ultimately rests on the judgement of the authority: R (Champion) v North Norfolk District Council [2015] UKSC 52; [2015] 1 WLR 3710, Lord Carnwath at [41] ("Champion").*

*(4) The question for the authority carrying out the assessment is: "What will happen to the site if this plan or project goes ahead; and is that consistent with maintaining or restoring the favourable conservation status of the habitat or species concerned?": Sweetman v An Bord Pleanàla (Case C-258/11); [2014] PTSR 1092, Advocate General at [50].*

*(5) Following assessment, the project in question may only be approved if the authority is convinced that it will not adversely affect the integrity of the site concerned. Where doubt remains, authorisation will have to be refused: Waddenzee at [56-57]."*

*(6) Absolute certainty is not required. If no certainty can be established, having exhausted all scientific means and sources it will be necessary to work with probabilities and estimates, which must be identified and reasoned: Waddenzee, Advocate General at [107] and [97], endorsed in Champion at [41] and by Sales LJ in Smyth v Secretary of State for Communities and Local Government [2015] EWCA Civ 174 at [78] ("Smyth").*

*(7) The decision-maker must consider secured mitigation and evidence about its effectiveness: Commission v Germany (Case C-142/16) at [38].*

*(8) It would require some cogent explanation if the decision-maker had chosen not to give considerable weight to the views of the appropriate nature conservation body: R (Hart District Council) v Secretary of State for Communities and Local Government [2008] EWHC 1204 (Admin) at [49].*

*(9) The relevant standard of review by the court is the Wednesbury rationality standard, and not a more intensive standard of review: Smyth at [80]."*

8.26 It is worth adding to this helpful review that an appropriate assessment requires all aspects of the project which could affect the site, its species and it's conservation objectives must be identified in the light of the best scientific knowledge in the field.[104]429 The competent authority, "taking account of the conclusions of the appropriate assessment of the implications…for the site concerned, in the light of the conservation objectives, are to authorise such activity *only if they have made certain* that it will not adversely affect the integrity of the site. That is the case where *no reasonable scientific doubt remains as to the absence of such effects*[105].

### *Site Integrity*

8.27 The approach to the integrity question and its relationship to the SPA (and SAC) Conservation Objectives was explained by in *R (RSPB) v Defra and BAe* [2015] EWCA Civ 227 [2015] Env LR 24. It referred to the ECJ case of *Sweetman*[106] [5] which established that in judging integrity:

[104] *Waddenzee* CJEU Case-127/02; [2004] ECR-7405 at [61].
[105] *Waddenzee* [59].
[106] *Sweetman v An Bord Pleanàla (Case C-258/11); [2014] PTSR 1092*

*"it is the essential unity of site that is relevant. To put it another way, the notion of "integrity" must be understood as referring to the continued wholeness and soundness of the constitutive characteristics of the site concerned.*

*The integrity that is to be preserved must be that "of the site". In the context of a natural habitat site which has been designated having regard to the need to maintain the habitat in question at (or to restore it to) a favourable conservation status….*

*It follows that the constitutive characteristics of the site that will be relevant are those in respect of which the site was designated and their associated conservation objectives. Thus, in determining the whether the integrity of the site is affected the essential question the decision-maker must ask is "why was this particular site designated and what are its conservation objectives?"*

8.28 Therefore, the removal or disturbance of any part of the site and its supporting habitat will make the populations for which the sites are designated more vulnerable and less able to recover.

8.29 In addition, it is important to add that the integrity of an SPA requires the lasting preservation of the constitutive characteristics of the site that are connected to the presence of the species whose preservation was the purpose of the designation of the SPA: *Sweetman* [39].

### *Functionally linked land*

8.30 Consideration of functionally linked land for species is consistent with the NE Guidance and previous decisions regarding functionally linked populations (Chapman and Tyldesley, 2016[107]$_{432}$). This is particularly pertinent to redshank and other waterbirds using the Application site and The Haven.

8.31 However this consideration is not consistently applied for all SPA species. As the NE Guidance clearly explains[108],

"*Twelve SPA cases related to terrestrial or coastal habitats involving a range of waterfowl. Seven related to the marine environment and sea birds. In all cases the decision maker recognised the potential importance of functionally linked land or sea and that it should be treated as part of the Habitats Regulations Assessment.*"

8.32 This represents a serious gap in both the assessment and consideration of possible effects on the SPA species including whether mitigation measures are required and possible.

### *Mitigation Measures*

8.33 Discussions with the Applicant are ongoing with respect to mitigation measures being considered, in particular, the need for any mitigation measures proposed (*due to possible adverse effects on the integrity of an European Site*) to be clear and certain in three ways:

- ecologically effective;
- financially secured; and

[107] [redacted]

[108] see in particular electronic page 9 (unfortunately there are no page numbers in this part of the report and review of previous decisions report pages 29 -40.

- legally secured.

8.34 And it is for the Applicant to show that the mitigation it proposes will pass these certainty requirements.

8.35 The need for ecological certainty was recognised in *R (Champion) v North Norfolk District Council and another Champion [2015] UKSC 52,* paragraph 60, where the effectiveness of the mitigation measures proposed allowed the Supreme Court to determine, despite a procedural defect, that the decision should not be quashed. The information already available for the mitigation measures being sufficient and the lack of any concerns against their effectiveness is clear in the following paragraph:

"*60 This was not a case where the environmental issues were of particular complexity or novelty. There was only one issue of substance: how to achieve adequate hydrological separation between the activities on the site and the river. It is a striking feature of the process that each of the statutory agencies involved was at pains to form its own view of the effectiveness of the proposed measures, and that final agreement was only achieved after a number of revisions. It is also clear from the final report that the public were fully involved in the process and their views were taken into account. It is notable also that Mr Champion himself, having been given the opportunity to raise any specific points of concern not covered by Natural England before the final decision, was unable to do so. That remains the case. That is not to put the burden of proof on to him, but rather to highlight the absence of anything of substance to set against the mass of material going the other way*."

## f) Habitats Regulations General Duties

8.36 We would like to highlight, in particular, the obligation in regulation 9(3):

*9.— Duties relating to compliance with the Directives*

*(1) The appropriate authority, the nature conservation bodies and, in relation to the marine area, a competent authority must exercise their functions which are relevant to nature conservation, including marine conservation, so as to secure compliance with the requirements of the Directives.*

*…*

*(3) Without prejudice to the preceding provisions, a competent authority, in exercising any of its functions, must have regard to the requirements of the [Birds and Habitats] Directives so far as they may be affected by the exercise of those functions*.[109]

8.37 But the further duties in Regulation 10 are also important

*10.— Duties in relation to wild bird habitat*

*(1) Without prejudice to regulation 9(1), the appropriate authority, the nature conservation bodies and, in relation to the marine area, a competent authority must take such steps in the exercise of their functions as they consider appropriate to secure the objective in paragraph (3), so far as lies within their powers.*

[109] The terms of regulation 9(3) are not amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations although it needs to be read with the amended definitions of the relevant Directives and with the new regulation 9(4A) – regard must be had to any Secretary of State guidance – currently we do not believe this has been fully produced.

*....*

*(3) The objective is the preservation, maintenance and re-establishment of a sufficient diversity and area of habitat for wild birds in the United Kingdom including by means of the upkeep, management and creation of such habitat, as appropriate), having regard to the requirements of Article 2 of the new Birds Directive (measures to maintain the population of bird species).*

*...*
*(7) In considering which measures may be appropriate for the purpose of securing or contributing to the objective in paragraph (3), appropriate account must be taken of economic and recreational requirements.*

*.....*

*(8) So far as lies within its powers, a competent authority in exercising any function in or in relation to the United Kingdom must use all reasonable endeavours to avoid any pollution or deterioration of habitats of wild birds*"[110]

8.38 As mentioned above following the UK's departure from the EU these regulations have been changed and it is important to consider in particular the additions to them concerning the Management Objectives of the newly named National Sites Network[111]. Although these requirements already existed, it is helpful to have them clearly within our domestic legislation.

8.39 In summary regulation 16A, in Part 2 of the Regulations - **Conservation of Natural Habitats and Habitats of Species**, set out the requirements for the Network jointly and separately recognising the differences between SPAs and SACs (as set out above):

8.40 Authorities with relevant responsibilities must manage the National Site Network with a view to contributing to the achievement of the management objectives of it, namely;

8.41 **For SACS** to maintain, or restore to favourable conservation status in their natural range:

(i) the natural habitat types listed in Annex I to the Habitats Directive;
(ii) the species listed in Annex II to that Directive whose natural range includes any part of the United Kingdom's territory;

8.42 **For SPAs** to contribute, in their area of distribution, to ensuring the survival and reproduction of—

(i) the species of birds listed in Annex I to the new Wild Birds Directive;
(ii) regularly occurring migratory species of birds; and
(iii) to contribute, to securing compliance with regulation 9(1) (as set out above);

8.43 **For Both** take account of:

(a) the importance of SACs and SPAs
(b) the importance of the sites for the coherence of National Site Network;

[110] Again the terms of regulation 10 are not amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations although it needs to be read with the amended definitions of the relevant Directives.
[111] Formally known as the Natura 2000 Network.

(c) the threats of degradation or destruction (including deterioration and disturbance of protected features) to which the sites are exposed; and
(d) in the case of migratory bird species, the importance of their breeding, moulting and wintering areas and staging points along their migration routes.

## g) The Wildlife and Countryside Act 1981

8.44 The Wildlife and Countryside Act 1981 (as amended) consolidates and amends existing national legislation and in part, implements the Bern Convention 1979 (Ref. 1.7), the Bonn Convention 1979 (Ref. 1.8) and the Birds Directive (Ref. 1.5). It creates the protection requirements for many species, as well as the ability to derogate from those requirements in certain limited circumstance, helps controls the release of non-native species, and includes the need for and protection of Sites of Special Scientific Interest (SSSIs), among other things.

### *Sites of Special Scientific Interest*

8.45 Sites of Special Scientific Interest (**SSSIs**) are the most important sites for national wildlife and natural features in England. In England, SSSIs are notified by Natural England who has a duty under Section 28 of the Wildlife and Countryside Act 1981 (as amended) (**the WCA**) to notify SSSIs where it is of the opinion that an area of land is of special interest by reason of any of its flora, fauna, or geological or physiographical features and to secure their day-to-day protection and conservation.

8.46 The purpose of SSSIs is defined in the Defra Code of Guidance[112] (paragraph 1) as being:

*"…to safeguard, for present and future generations, the diversity and geographic range of habitats, species, and geological and physiographical features, including the full range of natural and semi-natural phenomena throughout England...".*

8.47 SSSIs make a fundamental contribution to the ecological processes upon which we all depend and to human quality of life. Individual SSSIs may also provide, or safeguard for the future, valuable research, educational and amenity resources.

8.48 Under Section 28G(2) of the WCA, public bodies must:

*"…take reasonable steps, consistent with the proper exercise of the authority's functions, to further the conservation and enhancement of the flora, fauna or geological or physiographical features by reason of which the site is of special scientific interest".*

8.49 The Defra Code of Guidance (paragraph 73) states that the Secretary of State expects that all public bodies will take full account of their responsibilities under this duty whenever their actions may affect SSSIs.

8.50 Government Circular 06/2005[113], paragraph 61 requires all section 28G authorities, including local planning authorities, to apply strict tests when carrying out any functions within or affecting a SSSI, to ensure that they avoid or at least minimise adverse affects. It also requires public bodies to adopt the highest standards of management in relation to SSSIs in their ownership and to take positive steps

[112] Defra (2003): Sites of Special Scientific Interest: Encouraging Positive Partnerships.
[113] Government Circular 06/2005: Biodiversity and geological conservation – statutory obligations and their impact within the planning system, 16 August 2005.

wherever possible to conserve and enhance the special interest features of a SSSI where their activities may be affecting it or as opportunities arise in the exercise of their functions.

## h) Energy Policy Background

8.51 The suite of Energy NPSs set out the Government's approach to ensuring the security of energy supplies and the policy framework within which new energy infrastructure proposals are to be considered. The presumption in favour of granting consent, as identified in NPS EN-1, *Overarching National Policy Statement for Energy*, is subject to the tests set out below in section 104 of the Planning Act (see NPS EN-1 paragraphs 4.1.2 and 1.1.2).

8.52 **In addition the NPPF sets** out in a number of policies about the importance of local plan making and decision making in delivering sustainable development and meeting objectively assessed needs:

8.53 Paragraph 12 of the NPPF states:

*"This National Planning Policy Framework does not change the statutory status of the development plan as the starting point for decision making. Proposed development that accords with an up-to-date Local Plan should be approved, and proposed development that conflicts should be refused unless other material considerations indicate otherwise. It is highly desirable that local planning authorities should have an up-to-date plan in place."*

8.54 Paragraph 14 of the NPPF states:

*"At the heart of the National Planning Policy Framework is a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan-making and decision-taking.*

Adding

*"For example, those policies relating to sites protected under the Birds and Habitats Directives (see paragraph 119) and/or designated as Sites of Special Scientific Interest; land designated as Green Belt, Local Green Space, an Area of Outstanding Natural Beauty, Heritage Coast or within a National Park (or the Broads Authority); designated heritage assets; and locations at risk of flooding or coastal erosion."*

8.55 In addition the NPPF includes conserving and enhancing the natural environment policies as set out in paragraph 117 as follows:

*"To minimise impacts on biodiversity and geodiversity, planning policies should:*

- plan for biodiversity at a landscape-scale across local authority boundaries;
- identify and map components of the local ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them and areas identified by local partnerships for habitat restoration or creation;
- promote the preservation, restoration and re-creation of priority habitat, ecological networks and the protection and recovery of priority species populations, linked to national and local targets, and identify suitable indicators for monitoring biodiversity in the plan;
- aim to prevent harm to geological conservation interests; and

- where Nature Improvement Areas are identified in Local Plans, consider specifying the types of development that may be appropriate in these Areas."

8.56 And in relation to the presumption in favour of sustainable development (paragraph 14), paragraph 119 makes it clear that this presumption does not apply where development requiring appropriate assessment under the Birds or Habitats Directives is being considered, planned or determined.

## i) The Biodiversity Duty

8.57 The Examining Authority needs to report on the duty under Section 40(1) of the Natural Environment and Rural Communities Act[114] (2006) for public authorities to have regard to conserving biodiversity. Section 40 states:

*"Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity."*

## j) The EIA Requirements

8.58 We think it is important to consider the legislative requirements including the EIA Directive and its aims and objectives starting with the Directive's preamble/recitals, since the provisions of the our domestic legislation must, as far as possible, be interpreted in such a way that the purposes of the Directive are achieved.

### *EIA Directive Preamble*

8.59 The Preamble highlights the need for:

*"development consent for public and private projects which are likely to have significant effects on the environment should be granted only after prior assessment of the likely significant environmental effects of these projects has been carried out" and that "assessment must be conducted on the basis of the appropriate information supplied by the developer, which may be supplemented by the authorities and by the people who may be concerned by the project in question;"*

8.60 As well as that:

*"the effects of a project on the environment must be assessed in order to take account of concerns to protect human health, to contribute by means of a better environment to the quality of life, to ensure maintenance of the diversity of species and to maintain the reproductive capacity of the ecosystem as a basic resource for life" (emphasis added).*

8.61 The importance of the public being informed and able to comment is key as helpfully emphasised by Lord Hoffmann in *Berkeley v SOSE* [2001] 2 AC 603 at 615c-616c[115].

[114] Natural Environment and Rural Communities Act (2006) https://www.legislation.gov.uk/ukpga/2006/16/section/40

[115] We of course acknowledge that Lord Hoffmann's further remarks as to exercise of discretion now have to be read in the light of the comments of the Supreme Court in *Walton v Scottish Ministers* 2013 SC (UKSC) 67. However, the reference to *Berkeley* here is in relation to the need to gather all relevant environmental information including following public engagement, as set out above, a key requirement for EIAs.

## k) The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017[116]

8.62 Whilst we appreciate the Examining Authority is very familiar with these EIA requirements, it is worth highlighting the following, starting with Regulation 4, of the EIA Regulations and the need to consider environmental information:

"*Prohibition on granting planning permission without consideration of environmental Information*

*4(2) Where this regulation applies, the Secretary of State or relevant authority (as the case may be) must not (in the case of the Secretary of State) make an order granting development consent or (in the case of the relevant authority) grant subsequent consent unless an EIA has been carried out in respect of that application.*

8.63 And it is important to note that Regulation 2 defines environmental information as:

""*environmental information" means the environmental statement (or in the case of a subsequent application, the updated environmental statement), including any further information and any other information, any representations made by any body required by these Regulations to be invited to make representations and any representations duly made by any other person about the environmental effects of the development and of any associated development*;"

8.64 With an "EIA" having the meaning given by regulation 5 – namely:

*(1) The environmental impact assessment ("the EIA") is a process consisting of—*

*(a) the preparation of an environmental statement or updated environmental statement, as appropriate, by the applicant;*

*(b) the carrying out of any consultation, publication and notification as required under these Regulations or, as necessary, any other enactment in respect of EIA development; and*

*(c) the steps that are required to be undertaken by the Secretary of State under regulation 21 or by the relevant authority under regulation 25, as appropriate.*

8.65 With an "environmental statement" having the meaning given by regulation 14:

*(2) An environmental statement is a statement which includes at least—*

*(a) a description of the proposed development comprising information on the site, design, size and other relevant features of the development;*

*(b) a description of the likely significant effects of the proposed development on the environment;*

*(c) a description of any features of the proposed development, or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;*

*(d) a description of the reasonable alternatives studied by the applicant, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment;*

[redacted]

…and

*(f) any additional information specified in Schedule 4 relevant to the specific characteristics of the particular development or type of development and to the environmental features likely to be significantly affected.*

*(3) The environmental statement referred to in paragraph (1) must—*

*….(b) include the information reasonably required for reaching a reasoned conclusion on the significant effects of the development on the environment, taking into account current knowledge and methods of assessment;…*

8.66 **With Schedule 4 of the EIA Regulations** setting out in more detail the "required information for inclusion in Environmental Statements" including:

***3.** A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge.*

***5.** A **description** of the likely significant effects of the development on the environment resulting from, inter alia—*

*(a) the construction **and** existence of the development, including, where relevant, demolition works;*

*(e) **the cumulation of effects** with other existing and/or approved projects, **taking into account any existing environmental problems relating to areas of particular environmental importance** likely to be affected or the use of natural resources;*

*…*

*The description of the likely significant effects on the factors specified in regulation 5(2) should cover the direct effects and any **indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development**. This description should take into account the environmental protection objectives established at Union level (as they had effect immediately before exit day) or United Kingdom level which are relevant to the project, including in particular those established under the law of any part of the United Kingdom that implemented Council Directive 92/43/EEC and Directive 2009/147/EC.*

***6.** A **description of the forecasting methods or evidence,** used to identify and assess the significant effects on the environment, **including details of difficulties** (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the **main uncertainties** involved.*

***7.** A description of the **measures envisaged to avoid, prevent, reduce or, if possible, offset** any identified significant adverse effects on the environment and, **where appropriate, of any proposed monitoring arrangements** (for example the preparation of a post-project analysis). That description **should explain the extent, to which** significant adverse **effects** on the environment **are avoided, prevented, reduced or offset**, and should cover both the construction and operational phases. (emphasis added)*

*The Worst Case Scenario*

8.67 As caselaw[117] has made clear the challenge for the EIA will be to ensure that all realistic and worst-case variations of the project have been properly considered and clearly set out in the ES and the likely significant impacts from that worst case variation have been adequately assessed.

*All Aspects of the Proposed Development*

8.68 The caselaw is very clear that all aspects of a project need to be considered together to ensure compliance with the EIA Regulations especially if those *other* parts are fundamental to the ability to achieve the main development – as is the case here.

8.69 We wish to stress that any assurances that possible cumulative impacts will be assessed separately during the consideration of the separate decisions is not, save in exceptional circumstances, a sufficient justification for not considering as part of the main Application and would result in a breach of the EIA requirements.

8.70 In addition the need to consider all potential cumulative effects arising from the Application as well as the potential in-combination effects from other plans and projects. Currently both these appear to be lacking in the environmental statement as set out above in several of the sections.

8.71 As discussed in each section and below – we continue to have serious concerns about the level of data available, the assessment undertaken and mitigation measures proposed including their effectiveness.

8.72 We look forward to continuing discussions with the Applicant but at this stage of the Application process the lack of details and firm commitments is of great concern

## l) The Development Consent Order - Initial Concerns

8.73 We are continuing to review the DCO and DML. We support the concerns raised by Natural England, the Environment Agency and the Marine Management Organisation. We will provide detailed comments and engage with discussions to shape the DCO and DML as the examination progresses.

8.74 It will be essential for the DCO to ensure that appropriate mitigation and compensation measures will be secured and in place prior to construction to avoid and adverse effect on integrity of The Wash SPA/Ramsar/SSSI and The Wash & North Norfolk Coast SAC. A suitable monitoring package will need to also need to be secured. We consider the monitoring package will need to have regular reviews to confirm additional monitoring requirements and will likely need to be carried out for potentially 15-20 years. This would be necessary to ensure that the conclusions of the HRA are correct and that, especially in the case of the development of compensatory habitat, that measures to avoid adverse effects on integrity are functioning. A monitoring group to oversee this work would also need to be secured. We look forward to exploring this further with the Applicant.

[117] The 'Rochdale Envelope' arises from two cases: *R. v Rochdale MBC ex parte Milne* (No. 1) and *R. v Rochdale MBC ex parte Tew* [1999] and *R. v Rochdale MBC ex parte Milne* (No. 2) [2000].

### m) Legal Conclusions

8.75 We will continue to work with the Applicant on these concerns and provide comments on further information submitted to the Examination for example further details on the required management mitigation, compensation and monitoring plans and schemes as well as the details of the various funds mentioned above. We will update the Examining Authority of our position in light of any new information presented.

8.76 However for now (as also covered in other section of these written representations), we have serious concerns about the adequacy of information currently available and strongly recommend that without those details including the lack of clarity on the required legal, financial and ecological securing of requirements, measures, plans and schemes – confidence in them is premature.

## 9. The RSPB's concerns regarding failure to provide an in-principle derogation case

9.1 As described above, the RSPB is concerned that the Applicant has failed to properly assess the impacts of the Application on The Wash SPA, Ramsar and SSSI. Based on the information available and our knowledge of the bird species affected, the RSPB has concluded that it is not currently possible to rule out an adverse effect on the integrity of the SPA/Ramsar site (as well as the SSSI). Our main concerns are set out above.

9.2 Therefore, we welcome the Applicant will a detailed "In Principle Derogation Package" at Deadline 2 (11 November 2021). This must include a full suite of relevant and secured compensation measures in order to protect the overall coherence of the National Site Network. Our detailed reasons are in line with recent Government advice and set out below in the section titled "The need for an "in principle" derogation case for public scrutiny".

9.3 With specific reference to compensation measures, the RSPB's concerns include:

- There is uncertainty that the proposed redshank compensation measures are viable, as no evidence has been presented to demonstrate that the proposed measures for this species can be secured and delivered to effectively address the loss of the redshank high tide roost.
- No measures have yet been proposed to address the significant impacts on roosting and feeding SPA/Ramsar site birds at the mouth of the Haven.

9.4 As stated above, the RSPB considers the Applicant needs to submit a full "in principle" derogation case for examination, setting out its case on:

- Why it considers there are no less damaging alternative solutions to the project.
- Why any identified adverse effects on integrity are justified for imperative reasons of overriding public interest.
- A detailed package of targeted and effective compensation measures that has been secured and has a reasonable guarantee of success in protecting the overall coherence of the National Site Network.

9.5 In respect of compensation measures, this is essential for impacts at the mouth of The Haven where the applicant's own documents indicate mitigation measures would be insufficient and habitat would need to be created outside of The Wash SPA/Ramsar to accommodate displaced birds. In addition, the proposed redshank habitat creation downstream from the Application site is properly considered as compensation, as it would not avoid the adverse impact to the SPA/Ramsar site.

9.6 Natural England and the RSPB made strong recommendations on the need for a derogation package to the Applicant at meetings in February and March 2021, including the need to consult with stakeholders on its content prior to resubmission. We are therefore disappointed that such critical information has not formed part of the Application and consider it is a key omission in the Applicant's application.

9.7 The Applicant's decision not to present an in principle derogation package as part of the Application means the nature and scale of the residual impacts of the proposed development is not understood or agreed. The type, scale and possible options for ecologically effective compensation measures have not been identified. Interested parties must have sufficient time to engage with the Applicant to prepare and consult publicly on a detailed "In Principle Derogation Package".

9.8 Section 10 below sets out in more detail the RSPB's approach to evaluating compensation measures, including the criteria we will apply and the level of detail we would expect to be submitted for public examination.

# 10. RSPB's approach to evaluating compensation measures under the Conservation of Habitats and Species Regulations 2017 (as amended)

10.1 In this section we set out the following:

- The need to submit an "in principle" derogation package for public scrutiny;
- The RSPB's approach to assessing compensation proposals;
- What level of detail is required on proposed compensation measures?

## a) The need to submit an "in principle" derogation package for public scrutiny

10.2 In his decision[118] on the Hornsea Project Three scheme, the Secretary of State for BEIS set out clear expectations that offshore wind and other developers should submit (what has been termed elsewhere) "in principle" compensation measure packages as part of their application, following appropriate pre-application discussions with stakeholders (emphasis added):

*"6.3 The Secretary of State is clear that the development consent process for nationally significant infrastructure projects is not designed for consultation on complex issues, such as HRA, to take place after the conclusion of the examination. On occasion, as a pragmatic response to particular circumstances, he may undertake such consultation, but no reliance should be placed on the fact that he will always do so. In this instance, he has, on balance, accepted that the situation in respect of potential significant adverse effects on the sites referred to in para 6.2 was novel and so has exercised his discretion, and allowed the Applicant to make further representations on the matter of possible compensatory measures for those sites. However, he wishes to make it clear that, in order to maintain the efficient functioning of the development consenting regime, he may not always request post-examination representations on such matters, indeed it should be assumed that he will not do so, and he may therefore make decisions on such evidence as is in front of him following his receipt of the ExA's report.* ***It is therefore important that potential adverse impacts on the integrity of designated sites are identified during the pre-application period and full consideration is given to the need for***

[redacted]

***derogation of the Habitats Regulations during the examination**. He expects Applicants and statutory nature conservation bodies ("SNCBs") to engage constructively during the pre-application period and **provide all necessary evidence on these matters, including possible compensatory measures, for consideration during the examination**.*

*6.4 This does not mean that it is necessary for Applicants to agree with SNCBs if SNCBs consider that there would be significant adverse impacts on designated sites. The final decision on such matters remains for the Secretary of State (though the Secretary of State reserves the right not to request further evidence from Applicants following the examination). Applicants should be assured that where they disagree with SNCBs and maintain a position that there are no significant adverse impacts, but provide evidence of possible compensatory measures for consideration at the examination on a "without prejudice" basis, both the ExA in the examination and the Secretary of State in the decision period will give full and proper consideration to the question of whether there are or are not significant adverse impacts. It will not be assumed that the provision of information regarding possible compensatory measures signifies agreement as to the existence of significant adverse impacts. The ExA will be required to provide an opinion on the sufficiency of the proposed compensation even if it considers that compensation is not required (in case the Secretary of State disagrees with that conclusion), but such measures would only be required if the Secretary of State were to find that there would be significant adverse impacts (and that the proposed compensatory measures are appropriate)."*

10.3 The RSPB does not consider "in principle" equates to "outline" proposals such that all/most of the critical issues are addressed post-DCO consent. We consider this would completely undermine confidence in what the compensation measures will comprise and that the public interest to protect the coherence of the National Site Network can be secured. We address the level of detail required further below.

10.4 As discussed with the Applicant, our position is reinforced by BEIS's advice on, and approach to, these matters set out in recent offshore wind farm decision letters including Hornsea Project Three (see above) and, more recently, the extended consultation for the Norfolk Boreas scheme. Both Natural England and ourselves also highlighted the Planning Inspectorate's scrutiny of these matters at both the application and examination stages of recent Nationally Significant Infrastructure Projects (NSIP) proposals.

10.5 In practical terms, the Secretary of State has strongly advised developers to consult with SNCBs (and we recommend, other relevant stakeholders) on derogation proposals during the pre-application phase, even though the developer may disagree on the need for such proposals. This is to ensure any subsequent application includes all the necessary information for proper scrutiny during the examination. The advice for the offshore wind farm schemes is therefore pertinent to the BAEF Application.

10.6 More recently, we note that BEIS has expanded on the issues it is seeking views on in relation to the compensation measures that form part of any derogation package. In his letters of 28 April 2021[119] and 22 September 2021[120] seeking further information in respect of the Norfolk Boreas offshore wind farm, the Secretary of State sought the following categories of information in respect of compensation proposals:

[redacted]

- A description of the compensation strategies proposed for each species with an explanation of how they will effectively compensate for the negative effects of the project on the species and how they will ensure that the overall coherence of the National Site Network is protected.
- Evidence of how any proposed compensation site(s) will be acquired/leased.
- Details on site selection including when sites will be secured.
- Confirmation of how any purchase or lease of proposed sites will be secured in the DCO;
- Any implementation timetable for when the compensation measures will be delivered and achieve their objectives in relation to the first impact of the development.
- Details of any proposed routine maintenance and species population monitoring during the project lifetime, together with funding mechanisms for their delivery.

10.7 This is supported by the questions posed by the Examining Authority dealing with examination into the East Anglia One North and East Anglia Two projects. [121] The Examining Authority noted the Secretary of State's 28 April 2021 letter seeking further information on the Norfolk Boreas project and sought views on matters including:

- The level of detail required to support compensation measure proposals,
- The duration of compensation measures.

10.8 The RSPB supports the need to consider this level of detail in any derogation package (see below) so that it can be properly scrutinised during the examination process. The recent BEIS advice underlines that a decision not to submit such a package for examination is at the developer's own risk. In the situation where the Secretary of State considers an adverse effect on the integrity of an SPA and/or SAC could not be ruled out he has made clear that he now expects a derogation package to be fully examined. Lack of such a package for examination means the Examining Authority and Secretary of State would not have the necessary information before them to determine whether a derogation could be approved.

### b) The RSPB's approach to assessing compensation proposals

10.9 The RSPB has reviewed both the EC[122] and Defra[123] guidance on compensatory measures. Both are in broad alignment as to the principles to adopt when considering compensatory measures. As the EC Guidance is fuller and more up to date, we have used that as our primary reference, while drawing out any additional points made in the Defra guidance since it is UK focused.

10.10 The EC guidance (section 3.7.6) makes the general, overarching point that:

"Compensatory measures should be additional to the actions that are normal practice under the Habitats and Birds Directives or obligations laid down in EU law"

10.11 In practical and legal terms, this means compensatory measures must be additional to measures necessary to site management of the affected SPA or SAC e.g. to restore a designated feature to favourable status.

[121] [redacted]

[122] EC (2018) Managing Natura 2000 sites – The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (21/11/18) C(2018) 7621 final.

[123] Defra (2012) Habitats and Wild Birds Directives: guidance on the application of article 6(4). Alternative solutions, imperative reasons of overriding public interest (IROPI) and compensatory measures. Paras 28-36.

10.12 In Table 12, we summarise the EC's criteria for designing compensatory measures and annotate them with additional commentary based on the RSPB's experience of the principles that should be applied when assessing compensatory measures. We will use the combination of the EC guidance and the RSPB's experience in this field to assess any compensatory measures put forward by a scheme proponent.

10.13 In the RSPB's experience, it is critical to reach agreement on the nature and scale of predicted adverse effects on integrity in order to inform discussions on what ecologically effective compensation for those impacts could comprise, what options should be considered to provide such compensation and the detailed consideration of possible locations and designs to implement ecologically effectives compensation with a reasonable guarantee of success.

Table 12: Criteria for designing compensatory measures

| EC criteria | EC guidance summary (emphasis added) | RSPB additional commentary |
|---|---|---|
| **Targeted** | Measures should be the **most appropriate to the impact predicted** and **focused on objectives and targets addressing the Natura 2000 elements affected**.<br><br>Must **refer to structural and functional aspects of site integrity and habitats/species affected**.<br><br>**Must consist of ecological measures**: payments to individuals/funds are not appropriate. | Clear objectives and success criteria must be established for the compensation measures.<br><br>Must address the ecological functions and processes required by impacted species/habitat. Requires shared understanding and agreement on what the impacts are i.e. need to agree nature, magnitude including that they will continue for as long as the project's impacts. This includes the time likely to be required for the SAC/SPA to recover from those impacts in the case of proposals that are in place for a specified time period.<br><br>This is in order to define objectives for compensation measures and to set out the success criteria to determine whether those objectives have been/are being achieved. |
| **Effective** | **Based on best scientific knowledge available alongside specific investigations for the location where the measures will be implemented**. Must be **feasible and operational in reinstating the conditions needed to ensure the overall coherence** of the Natura 2000 network.<br><br>**Measures where no reasonable guarantee of success should not be considered**. The likely success of the compensation scheme should influence final approval of the plan or project in line with the prevention principle. | Scientific evaluation of proposed measures must be carried out before consent is granted to avoid agreeing to measures that is/are not effective or technically feasible. This should include appropriate baseline survey and assessment.<br><br>Compensation must address the impacted SPA/SAC (or Ramsar site) feature to ensure overall coherence of the network for that feature is maintained. Substitution is not acceptable. |

| EC criteria | EC guidance summary<br>(emphasis added) | RSPB additional commentary |
|---|---|---|
| | The **most effective option, with the greatest chance of success, must be chosen**.<br><br>**Detailed monitoring required** to ensure long-term effectiveness with remediation provisions if shown to be less effective. | Must be clearly defined timescales for delivery and measuring success (See success criteria under Targeted above).<br><br>Monitoring must directly relate to the target species or habitat and the relevant ecological functions and processes.<br><br>The compensation measures should be provided in perpetuity in line with obligations to ensure the overall coherence of the National Site Network is maintained.<br><br>Where it is not possible to devise compensatory measures to offset the adverse effects on site integrity, the project should not proceed. |
| **Technical feasibility** | **Design must follow scientific criteria and evaluation** in line with best scientific knowledge and take into account the specific requirements of the ecological features to be reinstated. | See **Effective** above. |
| **Extent** | Extent required **directly related to**:<br>- the **quantitative and qualitative aspects inherent to the elements of integrity likely to be impaired**<br>- **estimated effectiveness of the measure(s)**<br><br>Therefore, ratios best set on a case-by-case basis. Ratios should generally be well above 1:1. Ratios of 1:1 or below only considered when shown measures will be fully effective in reinstating structure and functionality in a short period of time. | Based on an assessment of the necessary ecological requirements to restore species' populations and the related habitat structure and functions identified in the compensation objectives. Determining the minimum appropriate quantity will require an understanding of the quality of the compensation measures and how effective they will be in reinstating the required structures and functions.<br><br>Any identified uncertainty in success should be factored in to increased ratios.<br><br>Ratios need to be used where they make ecological sense and will help secure a successful outcome by providing more of something. Simply multiplying capacity to address uncertainty risks giving a false level of confidence.<br><br>If there is no reasonable guarantee of success that measure should not be considered (see **Effective** under EC criteria). |
| **Location** | **Located in areas where they will be most effective** in maintaining overall coherence of the Natura 2000 network.<br><br>Pre-conditions to be met include: | While the preference is for compensation measures as geographically close to the location of the damage, it is important to consider whether or not the compensation measures will be subject to |

| EC criteria | EC guidance summary<br>(emphasis added) | RSPB additional commentary |
|---|---|---|
| | - **must be within same range/ migration route/wintering areas for bird species** and **provide functions comparable those justifying selection of original site esp. geographical distribution**;<br>- **must have/be able to develop the ecological structure and functions required by the relevant species** (or habitat)<br>- **must not jeopardise integrity of any other Natura 2000 site**.<br><br>Spatial search hierarchy starting as close as possible to the impacted Natura 2000 site and working out from there. | pressures impacting their efficacy in that location e.g. prey availability, disturbance, and/or other impacts from the same or similar developments.<br><br>Therefore, compensation measures should be located so as to maximise proximity while minimising external pressures that may reduce likelihood of success.<br><br>Compensation measures proposed to benefit one SPA/SAC/Ramsar site feature must not result in damage to the integrity of any other SPA/SAC/Ramsar site and their features. |
| **Timing** | Case by case approach but **must provide continuity in the ecological processes essential to maintain the structure and functions that contribute to the Natura 2000 network coherence**.<br><br>Requires **tight co-ordination between implementation of the plan or project and the compensation measures**.<br><br>Factors to consider include:<br>- **no irreversible damage to the site before compensation in place**<br>- **compensation operational at the time damage occurs**. If not possible, over-compensation required<br>- **time lags only admissible if will not compromise objective of "no net loss" to coherence of Natura 2000 network**;<br>- May be possible to scale down in time depending on whether the negative effects are expected to arise in short, medium or long term.<br><br>**All technical, legal or financial provisions must be completed before plan or project implementation starts** to prevent unforeseen delays that compromise effective compensation measures. | Compensation measures should be fully functional before any damage occurs to ensure the overall coherence of the National Site Network is protected. This requires careful alignment of the timelines for implementing the plan or project and the compensation measures.<br><br>Suggested time lags in delivering fully functional compensation will need to be carefully considered and can only be accepted where this will not compromise the continuity of essential ecological processes.<br><br>Any effect of delay should be factored into the design and additional compensation measures provided (see also **Extent** above). |
| **Long-term implementation** | **Legal and financial security required for long-term implementation** and **for protection, monitoring and maintenance of sites to be secured before impacts occur.** | Legal rights to secure and implement the compensation measures must be in place prior to consent being granted.<br><br>And robust financial guarantees are required to fund implementation, |

| EC criteria | EC guidance summary (emphasis added) | RSPB additional commentary |
|---|---|---|
| | | monitoring and any necessary remediation measures.<br><br>In line with Government policy, the Government should commit to including compensation measures, once delivered, within the National Site Network. |

10.14 The current Defra guidance reinforces some of the points above, in particular by requiring:

- Consideration of whether the measure is technically proven or considered reasonable. Measures for which there is no reasonable expectation of success should not be considered (paragraph 31);
- Compensation should be proportionate and no more than is needed to protect the coherence of the [National Site] network, having factored in the need to increase the compensation to deal with any uncertainty, time lag etc (paragraphs 32 and 33);
- The need to condition the consent to include [remedial] actions should the compensation prove to be less successful than anticipated (paragraph 33)
- Compensation must be sustainable – therefore it is necessary to secure medium to long term management (paragraph 34); and
- Compensation must be secured before consents are given for the proposal to commence i.e. must be satisfied all the necessary legal, technical, financial and monitoring arrangements are in place to ensure the compensation measures proceed. **If it is not possible to secure adequate compensatory measures, a derogation allowing the proposal to commence must not be granted** (paragraph 35).

10.15 We draw attention to the emphasised text in the last bullet point above. If it is not possible to secure the necessary compensatory measures, a derogation allowing the proposal must not be granted.

### c) What level of detail is required on proposed compensation measures?

10.16 Based on its review of (various offshore wind farm) compensation proposals over the last 18-24 months, the RSPB considers that much greater detail about the location, design and implementation, monitoring and review of any proposed compensatory measures is needed to inform the application and examination process and enable proper public scrutiny. Details of the associated agreements, consents and permissions required to deliver the compensation measures should also be available for scrutiny. This in turn should provide the Secretary of State with the necessary confidence as to whether those measures can be secured and implemented with a reasonable guarantee of success, thereby protecting the coherence of the National Site Network.

10.17 We consider there are detailed requirements that should be subject to public scrutiny and settled before DCO consent is decided, in order to be confident any compensation measure has/can be secured and will have a reasonable guarantee of success. These should be available as part of the application documentation in order that any potential interested parties have a full opportunity to review and assess their adequacy before deciding whether to formally register as an interested party and submit a relevant representation.

10.18 These, with some adaptation, are common to all such measures. Some of the key issues are listed below:

- **Nature/magnitude of compensation**: sufficient detail to enable agreement on:
  - the scale of compensation required in relation to the predicted impacts;
  - the detailed compensation objectives and associated success criteria to address those impacts;
  - best estimate of the timeline by which each proposed compensation measure can be fully implemented and when it will achieve its objectives (including assessment of ecological uncertainty), the latter to work out the lead-in time necessary to implement the compensation measure and ensure the overall coherence of the National Site Network is protected;

- **Location:** legal securing of proposed compensation sites/measures with ability to scrutinise:
  - compensation design (detail);
  - evidence of relevant consents being secured; and
  - evidence of relevant legal agreements to secure land to ensure compatibility with compensation objectives;

- **Monitoring and review:** detailed monitoring and review packages. As well as the relevant technical detail addressing the objectives for each compensation measure and success criteria, these should include:
  - Detailed terms of reference and ways of working for any "regulators group" to oversee implementation of measures, review periods, feedback loops etc;
  - Commitment to ensure the data and results of monitoring are publicly available to enable lessons to be learned and applied elsewhere, and to demonstrate the level of success and compliance.

- **Compliance and enforcement:** details and evidence of how the proposed compensation measures will be subject to review by the relevant regulator and the legal mechanisms available to those regulators to review and enforce any approved compensation plans e.g. if the agreed success criteria are not met. This is especially important if the proposed measure(s) lies outside the jurisdiction of the decision-making authority.

10.19 The recent (July/August 2021) consultation on the Norfolk Boreas compensation package outlined some of the advice given by Natural England to the applicant for the Norfolk Boreas scheme, in particular what a compensation plan for each designated site feature should comprise (e.g. see section 4.6.3 in Norfolk Boreas Offshore Wind Farm *In Principle Habitats Regulations Derogation Provision of Evidence. Appendix 1 Flamborough and Filey SPA In Principle Compensation*[124]). Natural England's advice is in line with the approach and level of detail we consider should be required as part of any application documentation where compensation measures could be required. It flows from the criteria and other factors we have described above and provides a robust basis for the evidence on each proposed compensation measure that should be submitted as part of any application.

10.20 To enable informed scrutiny and decision-making, the Applicant will need to address and overcome the tension that currently exists in dealing with compensation proposals that, to date, have mainly comprised outline proposals with little, if any, practical detail. We consider it is important to ensure

[redacted]

the availability of sufficient information as part of the application documentation so that it can be subject to the examination process e.g.:

- The nature, location and design of the proposed measure(s) and an assessment of whether it is likely to have a reasonable guarantee of success;
- Whether it has been legally secured through relevant consents and agreements.

10.21 The RSPB considers there are significant, detailed considerations for compensation measures that it is both essential and appropriate to consider before DCO consent is granted, rather than assume an outline compensation measure can be translated in to a detailed and workable measure "on the ground" at a later date and all the necessary consents and agreements successfully secured.

10.22 This detail should be subject to public scrutiny as part of the application and subsequent examination process. This should ensure these issues are properly addressed before the Secretary of State is required to make a decision on whether to grant DCO consent. This should ensure, among other things, that it is possible to:

- Identify the detailed location, design and mechanism(s) of the proposed compensation measure;
- Identify the relevant consenting and/or licensing mechanisms required;
- Identify any potential impacts of the proposed measure on the receptor site(s) and surrounding environment and carry out appropriate screening;
- Based on this, identify any particular impact assessment requirements necessary which might arise from likely direct and indirect effects of the compensation measure on other receptors (e.g. Environmental Impact Assessment, Habitats Regulations Assessment, SSSI consents etc);
- Once these have impact assessments been completed and relevant processes completed, be satisfied that the relevant legal consents are secured before any decision on DCO consent, assuming consent for the compensation measure is granted by the relevant decision-making authority. If consent has not been granted, the Examining Authority and Secretary of State would know in advance.

10.23 This would in turn enable the Examining Authority and Secretary of State to be able to make a fully informed decision on whether proposed compensatory measures have been secured, have a reasonable guarantee of success and therefore will protect the overall coherence of the National Site Network.

10.24 The criteria, guidance and associated requirements set out above will guide how the RSPB assesses any compensation measure proposals submitted by the Applicant to the examination. As noted above, the Applicant has to date failed to submit any compensation proposals as part of its application documentation.

## 11. Assessment of cumulative and in combination impacts

11.1 Throughout the Environmental Statement and the HRA the approach to cumulative and in combination assessment appears confused. Whilst a greater level of detail is now provided on planning applications that are active or ongoing (set out in the List of Cumulative Schemes[125]) it is not clear how this document is then used in the cumulative and in combination assessment that is an essential requirement of the Habitats Regulations process. We provide more detail the approach we

[125] [redacted]

expect to be taken in relation to the Habitats Regulations in Section 8 above. The following outlines our uncertainty over the Applicant's approach.

11.2 Having reviewed the HRA, the RSPB does not consider the in-combination assessment to accurately reflect the plans or projects that could also impact The Haven. Whilst many of the following are mentioned through the Environmental Statement chapters it is not clear that they have all be fully considered in the in-combination assessment and we recommend that the assessment be reviewed:

- Ground Investigation works for Boston Barrier Phase 2 – these works required mitigation to avoid impacts on foraging and roosting birds along The Haven. Therefore, they will need to be considered in the in-combination assessment if further works will overlap with the construction and operation of the facility.
- Havenside flood defence scheme – this must be considered on a precautionary basis in case the project over runs. For example, once complete there may be a need to do additional maintenance works to ensure it functions as intended.
- England Coast Path – this will pass through the application site and is not mentioned. This needs to be included in the in-combination assessment to determine its impact. This has particular implications for the proposed mitigation for the redshank roost.
- South-east Lincolnshire Local Plan – this plan should be captured in the in-combination assessment. This is needed to consider the scale of development planned in the area around the proposed facility and how that development could impact on pollution, disturbance etc.
- Any pollution plans already in place that cover shipping as well as any consented discharges into The Haven must be considered.

11.3 There is also a failure to date to present information on wider activities, notably from recreational activities on land and on the water, that are already causing disturbance to features of The Wash SPA/Ramsar site. This is important to understand the full scale of disturbance pressure that would be occurring in the presence of the facility and around the mouth of The Haven, and to inform whether proposed mitigation and compensation measures would be likely to be effective in the areas where they are identified.

11.4 Section 12.8 of Chapter 12 (Terrestrial Ecology) outlines the projects that could give rise to cumulative impacts. Whilst helpful to see the details of planned developments within the area, this assessment also needs to consider other plans and projects that will seek to increase recreational pressure within the area and add to the pressures that will arise from the development of the Facility.

11.5 Of key concern is the interaction between the Facility and the England Coast Path, which is currently being planned and will run adjacent to the Facility. This could have implications for the area's ecology, but also for any proposed mitigation and compensation measures that the Applicant is proposing. This is a significant omission from Table 12-10 (pp.51-58).

## 12. The RSPB's concerns regarding the significant reliance on developing plans to address impacts post-consent.

12.1 The RSPB is concerned that a substantial amount of detail relating to, for example, mitigation, compensation, biodiversity net gain, marine pollution is being left to the development of detailed plans post consent. This does not enable proper scrutiny by the Examining Authority and interested parties during the examination process. As a consequence, we cannot have confidence that the issues highlighted with the proposed facility will be effectively addressed to ensure there will be no adverse effect on integrity of The Wash SPA/Ramsar.

12.2 The detail set out in the Outline plans currently presented lack sufficient detail to demonstrate that they contain appropriate measures. Indeed, without scrutiny through the Environmental Permitting process it may not be possible to have certainty that significant areas of the Application could be acceptable.

12.3 There are also a number of plans mentioned through the Environmental Statement that have not been provided as Outline Plans, such as a Navigation Management Plan. Where such plans are mentioned, we request outline plans to be provided at the early stage of the Examination to allow the maximum length of time to review and discuss with the Applicant.

# 13. Biodiversity Net Gain

## a) Summary of biodiversity net gain comments

13.1 Whilst we welcome the Applicant including Biodiversity Net Gain (BNG) within their proposals, despite the introduction of BNG within the Environment Bill not yet being a specific requirement (due to the Bill having not passed nor the further work required to establish a BNG system), however, it remains unclear what the Applicant is proposing as net gain and the amount calculated to be delivered. It is also unclear how this will be delivered alongside mitigation and compensation requirements due to direct adverse impacts on The Wash SPA/Ramsar/ SSSI and The Wash & North Norfolk Coast SAC.

13.2 We agree that the Application should take account of the requirements the new net gain system will include once established.

13.3 In addition there is a Natural England requirement for NSIPs to contribute significantly to environmental net gain[126]. As such, the Application should be demonstrating a high biodiversity metric score that does not rely on protected species mitigation and compensation measures to get over the 10% uplift requirement.

13.4 We are uncertain about the Applicant's assessment of the scale of BNG that is proposed. Consideration of this calculation should ideally be through the Expert Topic Group that brings together the expertise of all relevant Interested Parties.

13.5 We will consider the BNG propoasals against the following:

- use of measures that are for protected sites and species mitigation and compensation,
- the baseline policy to ensure it is not directly at odds with the biodiversity gain system to be introduced by the Environment Bill,
- the time for habitats to reach target condition (temporal risk) accounts for the construction phase,
- there will be no replacement of higher biodiversity habitats with those of lower biodiversity (trading down),
- appropriate evidence to support the likelihood of delivering the predicted habitat conditions on-site post-construction,
- appropriate evidence to support the likelihood of delivering the predicted off-site habitat conditions post development,

[126] The Planning Inspectorate Advice Note 11, Annex C – Natural England and the Planning Inspectorate.

- the % net change in the metric score should be calculated versus the total on-site plus off-site baseline,
- the biodiversity value of existing habitats is adequately considered and taken account of,
- appropriate use of different BNG categories.

13.6 At this stage, we do not know if the Applicant's BNG proposals will achieve, or ideally exceed, the 10% threshold. It is our view that the Application should exceed the minimum standard expected of any housing development[127] [128].

13.7 We also consider it important to note the biodiversity metric is not suitable for tracking ecological delivery over time - it is designed to be a one-time snapshot of future commitments at the point of the planning application and does not work as a tracking tool (e.g. the score will rise over time even if condition targets are missed).

13.8 We are also uncertainty the Applicant has identified an appropriate legal mechanism for securing a 10% metric score in their mitigation strategy.

### b) Approach to BNG and direct adverse impact on The Wash

13.9 Whilst the RSPB is fully aware of how the Environment Bill[129], will introduce a requirement for BNG, currently that legislation is not passed and there is a good chance it will not have done so by the time this Examination closes. In addition, the Bill purely introduces a framework for a BNG system and much more is needed before that system can get up and running.

13.10 For these reasons we would suggest that reference to the Bill at this time is premature. It is, however, useful to consider how BNG is described within it and its helpful explanatory notes. For example, at paragraph 1575[130] of the Bill's explanatory notes it broadly excludes any development from BNG if it has a direct adverse impact on a protected site:

*Whilst it is generally agreed in practice that development cannot claim biodiversity net gain in cases when development results in land take from statutory protected sites (such as Sites of Special Scientific Interest, Special Protection Areas, Special Areas of Conservation, and Ramsar sites), development on such sites is not specifically exempted from the net gain requirement.*

13.11 The Bill[131] at paragraph 1575 of its explanatory notes[132] also notes the biodiversity net gain requirement for development on such sites is additional to any existing legal or policy requirements for statutory protected areas and their features:

*The biodiversity metric does not address impacts on species, recognise the significance of site designations, take account of indirect impacts, cumulative impacts or in combination impacts. In recognition of these limitations, the biodiversity net gain requirement for development on such sites is additional to any existing legal or policy requirements for statutory protected areas and their features, including restoration and conservation of designated features and the achievement of*

[127] Ministry of Housing, Communities and Local Government (2019) National Planning Policy Framework (NPPF) paragraph 175.
[128] A Green Future: Our 25 Year Plan to Improve the Environment.
[129] The Environment Bill, May 2021 - [redacted]

*favourable conservation status and favourable condition. These requirements will need to be dealt with separately by the developer and planning authority.*

13.12 The Overarching National Policy Statement for Energy (EN-1)[133] also notes at paragraph 5.3.11 where proposed development is likely to have an adverse effect on an SSSI development consent should not normally be granted:

*Where a proposed development on land within or outside an SSSI is likely to have an adverse effect on an SSSI (either individually or in combination with other developments), development consent should not normally be granted. Where an adverse effect, after mitigation, on the site's notified special interest features is likely, an exception should only be made where the benefits (including need) of the development at this site, clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of SSSIs. The* [PINs] *should use requirements and/or planning obligations to mitigate the harmful aspects of the development and, where possible, to ensure the conservation and enhancement of the site's biodiversity or geological interest.*

13.13 As outlined in the section above relating to alternatives and demonstration that there are no less environmentally damaging options, we do not agree the Applicant has demonstrated compliance with all legal and policy requirements for justification of the principle and scale of the proposed harm to The Wash SPA/Ramsar/SSSI and The Wash & North Norfolk Coast SAC against the policy tests set out in EN-1 (Overarching NPS for Energy).

13.14 Although the National Planning Policy Framework[134] (NPPF) (2019) does not contain specific policies for nationally significant infrastructure projects it does note at paragraph 170 that planning decisions should minimise impacts on and provide net gains for biodiversity:

*Planning policies and decisions should contribute to and enhance the natural and local environment by:*

*….*

*d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;*

and at paragraph 175 notes opportunities to secure measurable net gains for biodiversity should be encouraged

*When determining planning applications, local planning authorities should apply the following principles:*

*d) opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.*

13.15 BNG Good Practice Principles for Development[135] notes at section 9.5 that projects affecting statutory designated sites cannot achieve BNG:

[133] Department of Energy and Climate Change (2011) Overarching National Policy Statement for Energy (EN-1).
[134] Ministry of Housing, Communities and Local Government (2019) National Planning Policy Framework (NPPF).
[135] Baker, J., Hoskin, R. and Butterworth, T. (2019) Biodiversity net gain. Good Practice Principles for Development. A practical guide.

*"Projects negatively affecting statutory designated sites or irreplaceable habitats cannot as a project achieve BNG."*

13.16 Whilst we agree that the Application could meet the requirements of the net gain system, we are yet to see details of the Applicants proposals to enable us to confirm this is the case. Our comments below are therefore in relation to that potential and the factors that we will be considering when determining if proposed BNG measures would be acceptable.

## Biodiversity net gain and landscape strategy

13.17 Annex C to the Planning Inspectorate Advice Note 11[136]467 notes:

*Natural England will seek opportunities for positive environmental outcomes from major infrastructure developments. NSIPs can make a significant contribution to delivering the environmental ambition in the Government's 25 Year Environment Plan (25YEP). This aims to deliver an environmental net gain through development and infrastructure.*

13.18 The Defra Biodiversity Offsetting Pilots guidance[137]468 at paragraph 17 notes

*Offsetting should:*

- contribute to enhancing England's ecological network by creating more, bigger, better and joined areas for biodiversity (as discussed in Making Space for Nature[138]).

13.19 BNG Good Practice Principles for Development[139] states at Technical Note T5 section T5.2 projects of national significance should focus on landscape scale net gains:

*Projects of national significance should underpin and support the delivery of UK and devolved government biodiversity commitments and should focus on landscape scale net gains and a contribution to national biodiversity targets.*

13.20 Therefore the Application's BNG proposals should focus on landscape scale net gains and provide a functional ecological mosaic/ecotone and improve the actual ecological functionality of the surrounding area. We also query whether there may be opportunities for net gain habitat enhancements to provide habitat for protected species of bats, birds (turtle dove), mammals and invertebrates.

13.21 It is expected that habitat creation will focus on maximising biodiversity and we will query the inclusion of significant areas of low ecological value habitats in the metric score.

[136] Annex C to the Planning Inspectorate Advice Note 11: Working with public bodies in the infrastructure planning process – Natural England and the Planning Inspectorate.
[137] Defra (March 2012) Biodiversity Offsetting Pilots Technical Paper: the metric for the biodiversity offsetting pilot in England.
[138] Lawton, J.H., Brotherton, P.N.M., Brown, V.K., Elphick, C., Fitter, A.H., Forshaw, J., Haddow, R.W., Hilborne, S., Leafe, R.N., Mace, G.M., Southgate, M.P., Sutherland, W.J., Tew, T.E., Varley, J., & Wynne, G.R. (2010) Making Space for Nature: a review of England's wildlife sites and ecological network. Report to Defra.
[139] Baker, J., Hoskin, R. and Butterworth, T. (2019) Biodiversity net gain. Good Practice Principles for Development. A practical guide.

### Biodiversity net gain and protected species

13.22 We consider there should be sufficient bird surveys in accordance with best practice guidelines[140] to establish the current assemblage using the Application site to inform the assessment of potential losses and measures to retain and enhance the bird assemblage to ensure there is demonstrable net gain. Additional surveys may be required.

13.23 We welcome any additional measures not required for mitigation and/or compensation that would be implemented to benefit specific species.

## c) Inclusion of mitigation and compensation measures

13.24 We agree the Application should be meeting the requirements of the net gain system and should be providing landscape scale net gain proportionate to the scale of the project in line with planning policy. As such, the Application should be demonstrating a high metric score that does not rely on protected species mitigation and/or compensation habitat to get over the 10% uplift requirement.

13.25 The Applicant must first demonstrate the adequacy of necessary mitigation and compensation measures and then provide net benefits for biodiversity over and above requirements for avoidance, mitigation and/or compensation measures.

13.26 We consider 'no net loss' activities such as mitigation and compensation should not be relied upon to achieve the 10% metric target. We consider there should be no double counting if a mitigation or compensation area has benefit to other species unless specific measures are implemented for those other species.

13.27 We consider there should be no double counting if a mitigation or compensation area has benefit to other species unless specific measures are implemented for those other species.

13.28 CIEEM (2018) guidelines[141] describe the key principles of ecological impact assessment at section 1.19 as:

*Avoidance* *Seek options that avoid harm to ecological features (for example, by locating on an alternative site).*

*Mitigation* *Negative effects should be avoided or minimised through mitigation measures, either through the design of the project or subsequent measures that can be guaranteed – for example, through a condition or planning obligation.*

*Compensation* *Where there are significant residual negative ecological effects despite the mitigation proposed, these should be offset by appropriate compensatory measures.*

*Enhancement* *Seek to provide net benefits for biodiversity over and above requirements for avoidance, mitigation or compensation.*

13.29 The Applicant should correctly apply the mitigation hierarchy:

[140] Bird Survey & Assessment Steering Group. (2021) Bird Survey Guidelines for assessing ecological impacts, v.0.1.0.

[141] CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.

1. Avoidance: demonstrate measures to avoid impacts on protected species and habitats,
2. Mitigation: demonstrate mitigation measures are adequate,
3. Compensation: demonstrate the compensation measures are adequate and additional to mitigation,
4. Net gain: provide additional enhancements to benefit other species (or ecological connectivity) over and above avoidance, mitigation and compensation to provide net gain

13.30 We consider 'no net loss' activities such as mitigation and compensation should not be relied upon to achieve the 10% metric target. We consider there should be no double counting (or triple counting) if a mitigation or compensation area has benefit to other species unless specific measures are implemented for those other species. We of course welcome any additional measures not specifically required for mitigation and/or compensation that would be implemented to benefit specific species without impeding the main purposes of compensation and mitigation. We request that a map with all the mitigation and compensation areas clearly annotated is provided.

### d) Biodiversity metric 2.0

13.31 We consider it important to note the metric is not suitable for tracking ecological delivery over time - it is designed to be a one-time snapshot of future commitments at the point of planning application and does not work as a tracking tool (e.g. the score will rise over time even if condition targets are missed).

13.32 We request clarification that the Applicant does not intend to use the metric as a tracking tool.

### e) Mechanism for securing net gain

13.33 There is a need to identify a legal mechanism for securing a 10% metric score.

13.34 EN-1 (Overarching NPS for Energy) notes at paragraph 5.3.11 the [PINs] should use requirements and/or planning obligations to ensure enhancement of biodiversity:

*The* [PINs] *should use requirements and/or planning obligations to mitigate the harmful aspects of the development and, where possible, to ensure the conservation and enhancement of the site's biodiversity or geological interest.*

13.35 CIEEM (2018) guidelines[142] at paragraph 6.13 notes enhancements should be designed to deliver biodiversity objectives specified in relevant policy documents and evidence should be provided to support the likelihood of delivering the predicted benefit:

*Enhancement measures should be designed to deliver biodiversity objectives that are specified in relevant policy documents, and evidence should be provided to support the likelihood of delivering the predicted benefit. They should be incorporated into scheme design and assessed within the EcIA. To ensure that enhancements are enduring, their delivery and management should normally be guaranteed through a legal obligation, such as, in England and Wales, a planning obligation under section 106 of the Town and Country Planning Act 1990 , or its equivalent provision elsewhere.*

[142] CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.

13.36 Paragraph 7.12 notes:

*All parties should understand the actions they need to take during the implementation stages of a project. This will mean identifying and designing in detail the measures necessary to avoid, mitigate and compensate negative effects, and any measures necessary to achieve enhancements. Details of these measures will be set out in the EcIA and may be presented in an Environmental Management Plan (EMP) or similar document.*

13.37 We request the Applicant provides full details of all the measures necessary for protected species mitigation and compensation and full details of additional measures to achieve enhancements, for example, to benefit other species. We also request evidence is provided to support the likelihood of delivering the predicted benefits. The enhancement measures must be legally secured and the Draft DCO should include a specific requirement for enhancement measures to secure a 10% metric score in accordance with the draft Environment Bill (Schedule 14, 9(3) and 10(1) as currently drafted) and planning policy.

## f) Baseline

13.38 There is a need for the Applicant to set out the baseline that will be used to determine the pre-development biodiversity value of the application site.

13.39 The biodiversity gain system set out in the Environment Bill[143], which sets the baseline at the point of the planning application for on-site delivery (Schedule 14, 5(2) as currently drafted) and the point set out in the biodiversity site gain register for off-site delivery (Schedule 10, 1(b) as currently drafted).

*Schedule 14*

*Pre-development biodiversity value*

*5 (1) In relation to any development for which planning permission is granted, the predevelopment biodiversity value of the onsite habitat is the biodiversity value of the onsite habitat on the relevant date.*
*(2) The relevant date is—*
*(a) in a case in which planning permission is granted on application, the date of the application, and*
*(b) in any other case, the date on which the planning permission is granted.*
*(3) But the person submitting the biodiversity gain plan for approval and the planning authority may agree that the relevant date is to be a date earlier than that specified in sub-paragraph (2)(a) or (b) (but not a date which is before the day on which this Schedule comes into force in relation to the development).*

*Registered offsite biodiversity gains*

*10 (1) "Registered offsite biodiversity gain" means any habitat enhancement, where—*
*(a) the enhancement is required to be carried out under a conservation covenant or planning obligation, and*
*(b) the enhancement is recorded in the biodiversity gain site register (as to*

[143] The Environment Bill, May 2021 - [redacted]

*which, see section 93 of the Environment Act 2020).*

*93 Biodiversity gain site register*

*(1) The Secretary of State may by regulations make provision for and in relation to a register of biodiversity gain sites ("the biodiversity gain site register").*
*(2) A biodiversity gain site is land where—*
*(a) a person is required under a conservation covenant or planning obligation to carry out works for the purpose of habitat enhancement,*
*(b) that or another person is required to maintain the enhancement for at least 30 years after the completion of those works, and*

13.40 At this stage, we are uncertain of the proposed approach the Applicant intends to take with respect to their ecological baseline. This needs to be set out as early as possible to enable its adequacy and appropriateness to be evaluated.

### g) The time for habitats to reach target condition (temporal risk)

13.41 Any mitigation, compensation and BNG measures need to account for the time lag for newly created or restored habitat to gain target condition, where it is created prior to, or concurrently, with the development. This multiplier is designed to take account of the time between the impact of a development on a habitat and when it is replaced by habitat of equivalent biodiversity value.

13.42 The Environment Bill[144] sets the post-development biodiversity value [Schedule 14, 8(1) as currently drafted] as at the time the development is completed:

*8 (1) In relation to any development for which planning permission is granted, the post-development biodiversity value of the onsite habitat is the projected value of the onsite habitat as at the time the development is completed.*

13.43 Since the on-site habitat creation starts post construction, when the development is completed the value of the on-site habitats will be zero.

13.44 If any habitats are created before the end of development, the temporal risk calculation should consider the time when no habitat is present during construction and should therefore consider the time from the point of impact (when the current habitat is lost) to the estimated time the post construction habitat will reach target quality as noted in the Natural England Biodiversity Metric 2.0 user guide[145] at paragraph 5.19:

*The time period to use in applying the Time to Target Condition multiplier to a metric calculation is the length of time (in years) between the intervention and the point in time the habitat reaches the pre-agreed target quality (i.e. distinctiveness, condition, area). This time will vary between habitat types, between change scenarios (e.g. creation typically takes longer than enhancement) and due to way the habitat is managed. Time to target condition values – based on based on good practice and*

[144] The Environment Bill, May 2021 - https://bills.parliament.uk/publications/41447/documents/196.
[145] Crosher, I. A, Gold, S. B., Heaver M.D., Heydon M.A., Moore L.D., Panks, S.A., Scott S.C., Stone D.A. and White N.A. (2019)
The Biodiversity Metric 2.0: auditing and accounting for biodiversity value. User guide (Beta Version, July 2019). Natural England.

*typical conditions are provided for all habitats used in biodiversity metric 2.0. These values are set out in detail in the Technical Supplement.*

13.45 Sufficient offsite habitat creation should be completed to compensate for temporal losses of biodiversity in line with the Natural England Biodiversity Metric 2.0 user guide[146] which notes at paragraph 5.10:

A typical consequence of applying risk multipliers is to increase the size (e.g. area or length for linear features) of habitat required as compensation such that it exceeds the size of habitat lost or damaged. This is necessary:

to compensate for temporal losses of biodiversity (e.g. where there is a period of diminished biodiversity between the point in time when a habitat is impacted and it is replaced by habitat of equivalent biodiversity value);

13.46 In addition, we recommend all habitat creation commences as soon as possible.

13.47 When considering the off-site habitat creation, the Defra Biodiversity Offsetting Pilots guidance[147] notes at paragraph 69:

*The number of years that time discounting should take into consideration is from the point of impact to the estimated time that it will take for the habitat to reach the pre-agreed target quality (i.e. the point at which the agreed number of units is delivered).*

13.48 Where off-site habitat creation starts after the impact occurs the temporal risk calculation should also consider the time from the point of impact to the estimated time to reach target quality.

### h) Net % change calculation

13.49 We note it is necessary for the net % change to be calculated versus the total baseline (on-site plus off-site baseline). In addition, any off-site habitat creation that requires planning permission would need to deliver an additional 10% net gain units in order to meet its own requirements under the biodiversity gain system.

### i) Evidence base for on-site habitat creation

13.50 The predicted metric score will be dependent on successfully creating target habitat conditions for any sites identified; currently these are unknown. It is essential that the Applicant provides evidence to support the likelihood of delivering the predicted habitat conditions when sites have been identified. We consider the target condition should take account of the difficulty of habitat creation on post construction soils.

[146] Crosher, I. A, Gold, S. B., Heaver M.D., Heydon M.A., Moore L.D., Panks, S.A., Scott S.C., Stone D.A. and White N.A. (2019) The Biodiversity Metric 2.0: auditing and accounting for biodiversity value. User guide (Beta Version, July 2019). Natural England.

[147] Defra (March 2012) Biodiversity Offsetting Pilots Technical Paper: the metric for the biodiversity offsetting pilot in England.

## j) Evidence base for off-site habitat creation

13.51 The predicted BNG is dependent on successfully creating the target habitat conditions. We request evidence is provided to support the likelihood of delivering the predicted off-site habitat conditions post development.

## k) Replacement of higher distinctiveness habitats with those of lower distinctiveness

13.52 The metric uses distinctiveness as a collective measure of biodiversity and includes parameters such as species richness, diversity, rarity and the degree to which a habitat supports species rarely found in other habitats.

13.53 The Defra Biodiversity Offsetting Pilots guidance[148] states at paragraph 22 that habitats of high distinctiveness would be expected to be offset with 'like for like':

*22. One of the guiding principles for developing our approach to offsetting is that it should result in an improvement in the extent or condition of the ecological network. To do this the focus of habitat restoration or creation through offsetting should be on priority habitats.*

*Where development is taking place on habitats in the low distinctiveness band, the offset actions should result in expansion or restoration of habitats in the medium or, preferably, high distinctiveness band. At no time should an offset result in "trading down", for instance in the replacement of habitat of high distinctiveness with creation or restoration of a habitat of medium distinctiveness. Habitats that are of high distinctiveness would generally be expected to be offset with "like for like" i.e. the compensation should involve the same habitat as was lost.*

13.54 It would be expected that habitats of high distinctiveness would not see an overall reduction in habitat unit value.

13.55 The Natural England Biodiversity Metric 2.0 user guide[149] at rule 3 (section 2.23) notes trading down must be avoided:

*'Trading down' must be avoided. Losses of habitat are to be compensated for on a 'like for like' or 'like for better' basis. Ideally, new or restored habitats should aim to achieve a higher distinctiveness or condition than habitats lost.*

13.56 And at rule 5 (section 2.23) notes it may be necessary to enhance or create a larger area of habitat than lost to fully compensate for impacts on biodiversity:

*It is not the area of habitat created that determines whether ecological equivalence or better has been achieved but the net change in biodiversity units. Risks associated with enhancing or creating habitats mean that it may be necessary to enhance or create a larger area of habitat than lost to fully compensate for impacts on biodiversity.*

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[148] Defra (March 2012) Biodiversity Offsetting Pilots Technical Paper: the metric for the biodiversity offsetting pilot in England.

[149] Crosher, I. A, Gold, S. B., Heaver M.D., Heydon M.A., Moore L.D., Panks, S.A., Scott S.C., Stone D.A. and White N.A. (2019)
The Biodiversity Metric 2.0: auditing and accounting for biodiversity value. User guide (Beta Version, July 2019). Natural England.

13.57 BNG Good Practice Principles for Development[150] notes at section 11.4.1:

*Good practice is achieving net gains of the same or higher biodiversity value as those affected and equivalent or better levels of ecological functionality.*

13.58 More habitat creation is therefore required to fully compensate for impacts on biodiversity. It would be expected that habitats of high distinctiveness (such as semi-natural broadleaved woodland) are replaced like for like as expected in paragraph 22 of the Defra Biodiversity Offsetting Pilots guidance[151]:

*Habitats that are of high distinctiveness would generally be expected to be offset with "like for like" i.e. the compensation should involve the same habitat as was lost.*

### l) Conclusions regarding the Applicant's approach to BNG

13.59 We agree the Application should be meeting the requirements of the net gain system and should be providing landscape scale net gain proportionate to the scale of the project in line with planning policy. As such, the Application should be demonstrating a high metric score that does not rely on protected species mitigation and/or compensation habitat to get over the 10% uplift requirement.

13.60 At this time, it is not clear that the Applicant's approach to BNG meet all these criteria. We request the Applicant clarify how their BNG proposals meet the criteria we have outlined above early in the examination. This is necessary to determine proposals are appropriate in type and scale. This should also set out how the measures will be secured and provide certainty that the measures will be deliverable.

## 14.CONCLUSIONS

14.1 In conclusion, based on the above concerns, we do not agree that *adverse effects on integrity* can be excluded for the following sites and species from the Application alone:

- Redshank, dark-bellied brent goose, shelduck, oystercatcher, black-tailed godwit, lapwing, curlew, turnstone, golden plover, ruff, and common tern associated with the Wash SPA
- Redshank, dark-bellied brent goose, shelduck, oystercatcher, black-tailed godwit, lapwing, curlew, turnstone, golden plover, ruff, common tern and harbour seal associated with the Wash Ramsar
- Harbour seal associated with The Wash & North Norfolk Coast SAC

14.2 In relation to the Application in combination with other plans and projects, we do not agree that *adverse effects on integrity* can be excluded for the following sites and species:

- Redshank, dark-bellied brent goose, shelduck, oystercatcher, black-tailed godwit, lapwing, curlew, turnstone, golden plover, ruff and common tern associated with the Wash SPA

[150] Baker, J., Hoskin, R. and Butterworth, T. (2019) Biodiversity net gain. Good Practice Principles for Development. A practical guide.
[151] Defra (March 2012) Biodiversity Offsetting Pilots Technical Paper: the metric for the biodiversity offsetting pilot in England

- Redshank, dark-bellied brent goose, shelduck, oystercatcher, black-tailed godwit, lapwing, curlew, turnstone, golden plover, ruff, common tern and harbour seal associated with the Wash Ramsar
- Harbour seal associated with The Wash & North Norfolk Coast SAC

14.3 We also consider that significant impacts from the Application alone are likely on the following Priority Habitats:

- Saltmarsh and intertidal mudflats

14.4 We also consider that significant impacts from the Application alone are likely on the following Annex 1 species:

- Ruff

14.5 We will continue to work with the Applicant on these concerns and provide comments on further information submitted to the Examination for example further details on the required management mitigation, compensation and monitoring plans and schemes. We will update the Examining Authority of our position in light of any new information presented

14.6 However, for now (as also covered in other section of these written representations), we have serious concerns about the adequacy of information currently available and strongly recommend that without those details, including the lack of clarity on the required legal and ecological securing of requirements, measures, plans and schemes – confidence in them is premature.

# Appendix 1: Species Accounts to Written Representations

# for the

# Royal Society for the Protection of Birds

**Submitted for Deadline 1**

**19 October 2021**

**Planning Act 2008 (as amended)**

**In the matter of:**

**Application by Alternative Use Boston Projects Limited for an Order Granting Development Consent for the Boston Alternative Energy Facility**

**Planning Inspectorate Ref: EN010095**

**Registration Identification Ref: 20028367**

# Appendix 1: Species Accounts to Written Representations

## a) Redshank (*Tringa totanus*)

**Key Information:** Redshanks' most distinctive features are their bright orange-red legs. They have a medium-length bill with an orange base to match, brown speckled back and wings and paler belly. Studies have shown that overwintering birds remain in the same area throughout winter, and return to the same site in subsequent winters (Burton *et al*. 2000[152]; Rehfisch *et al*. 1996[153]), a phenomenon known as 'site-fidelity' or 'site-faithfulness'. Site-faithful birds that are displaced from their usual wintering sites due to habitat lost to development and associated disturbance have been shown to have poorer body condition and reduced survival rates (Burton *et al*. 2006[154]).

**What they eat**: Insects, earthworms, molluscs and crustaceans

**Population:** Following the breeding season, redshanks depart to the coast where numbers build up from July onwards. Birds wintering on the Wash comprise both local breeders and long-distant migrants primarily from Iceland-breeding populations or from elsewhere in the UK, though small numbers of birds from continental Europe may also be present.

**UK Wintering Population[155]**: 100,000

**UK Conservation Status[156]:** Amber

**Main Threats (UK)**:

- Climate change (causing loss of and change to habitats).
- Invasive species (*Spartina*, a type of saltmarsh grass) encroaching on feeding habitat.
- Disturbance (causing some areas to be abandoned or birds to spend less time feeding and more energy responding to disturbance, affecting energy budgets and therefore survival rates, ultimately leading to smaller numbers of birds).

**The Wash SPA Population (most recent available data)[157]:** 5,087

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[152] Burton, N.H.K. 2000. Winter site-fidelity and survival of Redshank *Tringa totanus* at Cardiff, south Wales. *Bird Study* 47: 102-112. DOI: 10.1080/00063650009461164

[153] Rehfisch, M.M., Clark, N.A., Langston, R.H.W. & Greenwood, J.J.D. 1996. A Guide to the Provision of Refuges for Waders: An Analysis of 30 Years of Ringing Data from the Wash, England. *Journal of Applied Ecology* 33: 673-687. DOI: 10.2307/2404939

[154] Burton, N.H.K., Rehfisch, M.M., Clark, N.A. & Dodd, S.G. 2006. Impacts of sudden winter habitat loss on the body condition and survival of redshank *Tringa totanus*. *Journal of Applied Ecology* 43: 464-473. DOI: 10.1111/j.1365-2664.2006.01156.x

[155] Woodward, I.D., Aebischer, N.J., Burnell, D., Eaton, M.A., Frost, T.M., Hall, C., Stroud, D.A. & Noble, D.G. 2020. Population estimates of birds in Great Britain and the United Kingdom. *British Birds* 113: 69-104.

[156] Eaton, M.A., Aebischer, N.J., Brown, A.F., Hearn, R.D., Lock, L., Musgrove, A.J., Noble, D.G., Stroud, D.A. & Gregory, R.D. 2015. Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. *British Birds* 108: 708-746.

[157] The mean of the peak counts over the most recent 5 winters for which data are available (2015/16-2019/20) on The Wash SPA, from Frost, T.M., Calbrade, N.A., Birtles, G.A., Hall, C., Robinson, A.E., Wotton, S.R., Balmer, D.E. & Austin, G.E. 2021. *Waterbirds in the UK 2019.20: The Wetland Bird Survey*. BTO/RSPB/JNCC. Thetford. Data available at WeBS Online.

**The Wash SPA Population (at site designation)[158]:** 4,331

**The Wash SPA Conservation Status[159]:**

The conservation status of each species on The Wash (and all other wetland SPAs in the UK) is assessed periodically using Wetland Bird Survey Alerts (WeBS Alerts).The WeBS Alerts system provides a standardised method of identifying changes in numbers of waterbirds assess population change over the short-, medium- and long-term periods (5, 10 and 25 years respectively). Further details are available in Austin *et al*. 2019[8].

| Short-term | Medium-term | Long-term |
|---|---|---|
| -11 | -7 | -11 |

[158] The mean of the peak counts over the 5 winters (1980/81-1984/85) on which site designation was based. From: [redacted]

[159] Austin, G., Frost, T. & Woodward, I. 2019: [redacted]. Data available at [redacted].

## b) Black-tailed Godwit (*Limosa limosa*)

**Key Information:** Black-tailed godwits are large wading birds that moult from their breeding plumage of bright orangey-brown chests and bellies, to greyish-brown in winter (pictured).

Their most distinctive features are their long beaks and legs, and the black and white stripes on their wings. Female black-tailed godwits are bigger and heavier than the males, with a noticeably longer beak (which helps the sexes to avoid competing for food with each other).

**What they eat**: Insects, worms and snails

**Population:** Most black-tailed godwits visiting The Wash come from the population that breeds in Iceland (and are of the distinct race *islandica*). The wintering range of this race extends from Ireland to Portugal and some birds from these areas pass through The Wash on spring and autumn migration. A small number of pairs from the continental population (race *limosa*) breed on the inland washes of the Nene and the Ouse; these birds migrate to southern Europe and western Africa. The largest numbers of black-tailed godwit are present in The Wash during the periods of passage (particularly August and September), but they are present in good numbers throughout the winter.

**UK Wintering Population[1]**: 41,000

**UK Conservation Status[2]:** Red

**Main Threats (UK)**:

- Habitat loss (to developments and historic land drainage for agriculture).
- Climate change (increased flood events causing breeding attempts to fail).
- Predation (breeding birds are now concentrated into a few small areas making them vulnerable to predation).
- Pollution and disturbance (Birdlife 2021[160]) (subspecies *islandica* has a relatively restricted distribution and is dependent on a relatively restricted number of sites especially during passage (Wernham et al. 2002[161]). May be at risk from improvements to water quality which has been found to cause reductions in benthic invertebrate densities at sites close to sewage outfalls (Burton et al. 2002[162])).

**The Wash SPA Population (most recent available data)[3]:** 8,597

**The Wash SPA Population (at site designation)[4]:** 260

**The Wash SPA Conservation Status[5]:**

| Short-term | Medium-term | Long-term |
|---|---|---|
| -31 | -34 | 44 |

[160] BirdLife International (2021) Species factsheet: *Limosa limosa*. Downloaded from http://www.birdlife.org on 18/10/2021.

[161] Wernham, C.V., Toms, M.P., Marchant, J., Clark, J.A., Siriwardena, G.M. & Baillie, S.R. (Eds) 2002. The Migration Atlas: Movements of the Birds of Britain and Ireland. T&D Poyser. London.

[162] Burton, N.H.K., Paipai, E., Armitage, M.J.S, Maskell, J.M., Jones, E.T., Struve, J., Hutchings, C.J. & Rehfisch, M.M. 2002. Effects of reductions in organic and nutrient loading on bird populations in estuaries and coastal waters of England and Wales Phase 1 Report March 2002. BTO Research Report No. 267, BTO, Thetford.

### c) Dark-bellied brent goose (*Branta bernicla*)

**Key Information:** Brent geese are small, dark geese – only slightly larger than a mallard. They have a black head and neck and grey-brown back, with either a pale or dark belly, depending on the race. Adults have a small white neck patch. It flies in loose flocks along the coast, rather than in tight skeins like grey geese.

**What they eat**: Vegetation, especially eelgrass on estuaries and crops on adjoining fields

**Population:** Dark-bellied brent geese breed in Arctic Russia are those most likely to over winter along the south and east coasts of England. They arrive in large flocks on our shores in early October and leave again in April.

**UK Wintering Population**[1]: 135,000

**UK Conservation Status**[2]**:** Amber

**Main Threats (UK):**

- Conflict with agricultural land owners (when feeding on agricultural crops).
- Disease affecting availability of food (a disease in eelgrass is thought to be the cause of large declines in the population in the 1930s).

**The Wash SPA Population (most recent available data)**[3]**:** 11,221

**The Wash SPA Population (at site designation)**[4]**:** 17,000

**The Wash SPA Conservation Status**[5]**:**

| Short-term | Medium-term | Long-term |
|---|---|---|
| -21 | -27 | -43 |

### d) Golden plover (*Pluvialis apricaria*)

**Key Information:** Golden plovers are medium-sized plovers with distinctive gold and black summer plumage. In winter the black in replaced by buff and white. They typically stand upright and run in short bursts. Very wary on the breeding grounds. In winter they form large flocks which fly in tight formation with rapid, twinkling wingbeats.

**What they eat**: Worms, beetles and insects

**Population:** The UK breeding population, now only found in upland areas of north and west Britain and Ireland, has been declining since the 1980s. In winter the population is swelled by birds arriving from Iceland, Scandinavia, Russia and small numbers from Denmark and Germany. The number of birds wintering on estuaries in eastern Britain have increased significantly in recent decades. They are often one of the first species of waders to leave the mudflats ahead of the high tide, and may feed on agricultural fields surrounding the estuary (sometimes forming mixed flocks with lapwings) over the high tide period.

**UK Wintering Population**[1]: 410,000

**UK Conservation Status**[2]**:** Green

**Main Threats (UK)**:

- Climate change (Increasing temperatures are affecting the availability of preferred food during the breeding season, reducing productivity).
- Habitat loss (peatlands damaged by drainage and afforestation).

**The Wash SPA Population (most recent available data)**[3]**:** 15,212

**The Wash SPA Population (at site designation)**[4]**:** N/A

**The Wash SPA Conservation Status**[5]**:**

| Short-term | Medium-term | Long-term |
|---|---|---|
| -3 | -54 | 34 |

### e) Lapwing (*Vanellus vanellus*)

**Key Information:** Lapwings are also known as peewits in imitation of their display calls, their proper name describes their wavering flight. They are black and white appearance and their round-winged shape in flight make them distinctive, even without their splendid crest.

**What they eat**: Worms and insects

**Population:** Lapwings breeding in Britain and Ireland are partial migrants. Many birds breeding in the UK remain close to their breeding grounds during the winter whilst others migrate further south. Severe cold weather in continental Europe can also bring additional birds to the UK in winter.

**UK Wintering Population**[1]: 635,000

**UK Conservation Status**[2]**:** Red

**Main Threats (UK)**:

- Intensification of farming practices (which has led to loss of nesting sites, reduced food availability, increased predation and nest destruction).

**The Wash SPA Population (most recent available data)**[3]**:** 12,976

**The Wash SPA Population (at site designation)**[4]**:** NA

**The Wash SPA Conservation Status**[5]**:**

| Short-term | Medium-term | Long-term |
|---|---|---|
| -19 | -55 | -43 |

### f) Curlew (*Numenius arquata*)

**Key Information:** Curlews are the largest European wading bird, instantly recognisable on winter estuaries or summer moors by their long, downcurved bill, brown upperparts, long legs and evocative call.

**What they eat**: Worms, shellfish and shrimps

**Population:** Within the UK, curlew breed on a range of habitats but are primarily birds of upland grasslands, moorlands and bogs. From July, breeding birds migrate to coastal areas around the UK to spend the winter. The winter population comprises of UK breeders and birds from Scandinavia and western mainland Europe. A large proportion of birds wintering on The Wash come from Finland breeding populations (Grayshon *et al*. 2021[163]). Curlews have been described as the most pressing bird conservation priority in the UK (Brown *et al* 2015[164]). Whilst research has demonstrated that population declines are caused largely by reduced breeding success, it is vital that high survival rates are maintained (through continued protection of non-breeding areas) whilst conservationists work out how to improve breeding success (Cook *et al*. 2021[165]).

**UK Wintering Population[1]**: 125,000

**UK Conservation Status[2]:** Red

**Main Threats (UK)**:

- Disturbance of both roosts and feeding birds during winter by commercial or recreational use of shorelines or estuaries.
- Habitat loss (breeding grounds: peatlands damaged by drainage and afforestation, wintering grounds: loss of intertidal habitat to sea-level rise, disturbance or development, for example flooding of mudflats and saltmarshes for tidal barrage construction).
- Excessive harvesting of shellfish leading to low shellfish stocks (Pearce-Higgins *et al*. 2017[166]).
- Predation of adults/eggs/chicks on the breeding grounds, destruction of nests/chicks by farming practices (Brown *et al*. 2015[167], Monthouel & Dale 2019[168]).

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[163] Grayshon, L., Wallace, J., Clark, J.A. & Ireland, P.L. 2021. *Wash Wader Ringing Group 2018-2019 Report*. Wash Wader Ringing Group, Terrington St. Clement.

[164] Brown, D., Wilson, J., Douglas, D., Thompson, P., Foster, S., McCulloch, N., Phillips, J., Stroud, D., Whitehead, S., Crockford, N. & Sheldon, R. 2015. The Eurasian Curlew – the most pressing bird conservation priority in the UK? *British Birds* 108: 660-668.

[165] Cook, A.S.C.P., Burton, N.H.K., Dodd, S.G., Foster, S., Pell, R.J., Ward, R.M., Wright, L.J. & Robinson, R.A. 2021. Temperature and density influence survival in a rapidly declining migratory shorebird. *Biological Conservation* 260: 109198. https://doi.org/10.1016/j.biocon.2021.109198

[166] Pearce-Higgins, J.W., Brown, D.J., Douglas, D.J.T., Alves, J.A., Bellio, M., Bocher, P., Buchanan, G.M., Clay, R.P., Conklin, J., Crockford, N., Dann, P., Elts, J., Friis, C., Fuller, R.A., Gill, J.A., Gosbell, K., Johnson, J.A., Marques-Ferrando, R., Masero, J.A., Melville, D.S., Millington, S., Minton, C., Mundker, T., Nol, E., Pehlak, H., Piersma, T., Robin, F., Rogers, D.I., Ruthrauff, D.R., Senner, N.R., Shar, J.N., Sheldon, R.D., Soloviev, S.A., Tomkovich, P.S. & Verkuil, Y.I. 2017. A global threats overview for Numeniini populations: synthesising expert knowledge for a group of declining migratory birds. *Bird Conservation International* 27: 6-34. doi:10.1017/S0959270916000678

[167] Brown, D., Wilson, J., Douglas, D., Thompson, P., Foster, S., McCulloch, N., Phillips, J., Stroud, D., Whitehead, S., Crockford, N. & Sheldon, R. 2015. The Eurasian Curlew – the most pressing bird conservation priority in the UK? *British Birds* 108: 660-668.

[168] Monthouel, M. & Dale, S. 2019. Population decline of the Eurasian Curlew in Akershus, southeastern Norway. *Ornis Norvegica* 42: 19-27.

**The Wash SPA Population (most recent available data)[3]:** 6,061

**The Wash SPA Population (at site designation)[4]:** 3,700

**The Wash SPA Conservation Status[5]:**

| Short-term | Medium-term | Long-term |
|---|---|---|
| -29 | -8 | -8 |

### g) Oystercatcher (*Haematopus ostralegus*)

**Key Information:** Oystercatchers are large, stocky, black and white wading birds. They have long, orange-red bills and reddish-pink legs. In flight they show a wide, white wing-stripe, a black tail and a white rump that extends as a 'V' between the wings.

**What they eat**: Muscles, cockles and worms

**Population:** Most of the UK breeding population spend the winter on the coast. The UK population increases in winter when migrating birds from Norway arrive on the east coast. Most Oystercatchers present on The Wash in winter come from Norway and countries bordering the Baltic Sea, where they breed on grass pasture fields. Some birds breed on The Wash and these probably remain all year round. The winter visitors tend to return each winter to the same beach, and often to the same part of the beach. The largest numbers are present in The Wash between October through March.

**UK Wintering Population[1]**: 305,000

**UK Conservation Status[2]:** Amber

**Main Threats (UK)**:

- Disturbance at high tide roosts.
- Depletion of shellfish stocks (particularly cockles (*Cerastoderma edule*) and mussels (*Mytilus edulis*) was shown to cause reduced survival rates of Oystercatchers on the Wash during the 1970s – 1990s, including three periods of mass mortality, and that maintaining good mussel stocks is vital for Oystercatcher conservation, especially in years when cockle stocks are low (Atkinson *et al*. 2003[169]).
- Deterioration of the habitat and/or shellfish beds to such an extent that the major benthic shellfish kills observed during the 1990s are repeated. Survival models have predicted that in order to maintain Oystercatcher populations, the volume of bivalves available in autumn needs to be 2.5-8 times the amount they will consume during the winter. This is because intraspecific competition increases when food supplies are low and sub-dominant birds are excluded from much of the food supply (Goss-Custard et al. 2004[170]). Recent research has demonstrated that depleted shellfish stocks in some areas can be mitigated by birds having a choice of feeding grounds in the area through the protection of secondary habitats leading to resilience in habitat availability (Bowgen *et al*. *in press*[171]).

**The Wash SPA Population (most recent available data)[3]:** 26,586

**The Wash SPA Population (at site designation)[4]:** 24,000

**The Wash SPA Conservation Status[5]:**

| Short-term | Medium-term | Long-term |
|---|---|---|
| -14 | -4 | -22 |

[169] Atkinson, P.W., Clark, N.A., Bell, M.C., Dare, P.J., Clark, J.A. & Ireland, P.L. 2003. Changes in commercially fished shellfish stocks and shorebird populations in the Wash, England. *Biological Conservation* 114: 127-141.

[170] Goss-Custard, J.D., Stillman, R.A., West, A.D., Caldow, R.W.G., Triplet, P., le V dit Durell, S.E.A., McGrorty, S. 2004. When enough is not enough: shorebirds and shellfishing. *Proceedings of the Royal Society London B* 271: 233–237. DOI: 10.1098/rspb.2003.2602.

[171] Bowgen, K.M., Wright, L.J., Calbrade, N.A., Coker, D., Dodd, S.G., Hainsworth, I., Howells, R.J., Hughes, D.S., Jenks, P., Murphy, M.D., Sanderson, W.G., Taylor, R.C. & Burton, N.H.K. *in press*. Resilient protected area network enables species adaptation that mitigates the impact of a crash in food supply. *Marine Ecology Progress Series*.

### h) Shelduck (*Tadorna tadorna*)

**Key Information:** Shelducks are colourful ducks, bigger than a mallard but smaller than a goose. Both sexes have a dark green head and neck, a chestnut belly stripe and a red bill. Shelducks perform "moult migrations" to and from a small number of traditional moulting sites in the autumn, with the majority of UK birds moulting in the Helgoland Bight (Green *et al*. 2019[172], Wernham *et al*. 2002).

**What they eat**: Invertebrates, small shellfish and aquatic snails

**Population:** Shelducks can be seen at any time of year, but the population is much higher during winter. Numbers of shelduck at the Great Ouse area of The Wash have shown a decrease since classification, possibly due to the hardening of the muddy sediment, making the area unsuitable for foraging, and again highlighting the influence sediment has on the distribution of shelduck (Yates *et al*. 2004[173]).

**UK Wintering Population[1]**: 51,000

**UK Conservation Status[2]:** Amber

**Main Threats (UK)**:

- Habitat loss (numbers of shelduck at the Great Ouse area of The Wash have shown a decrease since classification, possibly due to the hardening of the muddy sediment, making the area unsuitable for foraging, and again highlighting the influence sediment has on the distribution of shelduck (Yates *et al*. 2004).
- There is concern that offshore wind farms may affect migrating Shelduck, particularly if turbines are sited in areas with high concentrations of migrating birds, for example near moulting sites (Green *et al*. 2019).

**The Wash SPA Population (most recent available data)[3]:** 2,374

**The Wash SPA Population (at site designation)[4]:** 16,000

**The Wash SPA Conservation Status[5]:**

| Short-term | Medium-term | Long-term |
|---|---|---|
| -33 | -56 | -81 |

[172] Green, R.M.W., Burton, N.H.K. & Cook, A.S.C.P. 2019. Review of the migratory movements of Shelduck to inform understanding of potential interactions with offshore wind farms in the southern North Sea. *BTO Research Report* No. 718. BTO, Thetford.

[173] Yates, M. G., Garbutt, A., Rispin, E., Brown, N. 2004 Low Tide Survey of The Wash Special Protection Area. Final report of the winter 2002-2003 shorebird survey. Natural England.

### i) Turnstone (*Arenaria interpres*)

**Key Information:** Turnstones are stocky, strongly built waders with orange legs. They have a mottled appearance with brown or chestnut and black underparts and brown and white or black and white head pattern. Their underparts are white. They spend most of their time creeping and fluttering over rocks, picking out their food from under stones.

**What they eat**: Insects, crustaceans and molluscs

**Population:** Turnstones are winter visitors that migrate to the UK from breeding grounds in western Canada, Greenland and eastern Siberia. They depart the UK to return to their breeding grounds in April or May.

**UK Wintering Population**[1]: 43,000

**UK Conservation Status**[2]**:** Amber

**Main Threats (UK)**:

- Water quality improvements (which have been found to cause reductions in benthic invertebrate densities at sites close to sewage outfalls (Burton et al. 2002[174])).
- Turnstones have been shown to be sensitive to disturbance, particularly at high tide roost sites, including from building work, people and boats (Burton *et al*. 1996[175]). Relatively undisturbed refuges have been shown to be preferred by turnstones and to maintain stable wintering populations of this species over periods disturbed sites showed population declines (Whittinham *et al*. 2020[176]).
- On the Wash, turnstones previously fed on spilt wheat and fishmeal at Port Sutton Bridge and studies suggested that this was likely due to intertidal food supplies being insufficient to support the turnstone population throughout the winter (Smart & Gill 2003[177]).

**The Wash SPA Population (most recent available data)**[3]**:** 755

**The Wash SPA Population (at site designation)**[4]**:** 980

**The Wash SPA Conservation Status**[5]**:**

| Short-term | Medium-term | Long-term |
|---|---|---|
| 9 | 18 | -29 |

[174] Burton, N.H.K., Paipai, E., Armitage, M.J.S, Maskell, J.M., Jones, E.T., Struve, J., Hutchings, C.J., Rehfisch, M.M. 2002. Effects of reductions in organic and nutrient loading on bird populations in estuaries and coastal waters of England and Wales Phase 1 Report March 2002. BTO Research Report No. 267, BTO, Thetford.

[175] Burton, N.H.K., Evans, P.R. & Robinson, A. 1996. Effects on shorebird numbers of disturbance, the loss of a roost site and its replacement by an artificial island at Hartlepool, Cleveland. *Biological Conservation* 77: 193-201.

[176] Whittingham, M.J., McKenzie, A.J., Francksen, R.M., Feige, D., Cadwallender, T., Grainger, M., Fazaa, N., Rhymer, C., Wilkinson, C., Lloyd, P., Smurthwaite, B., Percival, S.M., Morris-Hale, T., Rawcliffe, C., Dewson, C., Woods, S., Stewart, G.B. & Oughton, E. 2020. Offshore refuges support higher densities and show slower population declines of wintering Ruddy Turnstones *Arenaria interpres*. *Bird Study* 66: 431-440. DOI: 10.1080/00063657.2020.1713725.

[177] Smart, J. & Gill, J.A. 2003. Non-intertidal habitat use by shorebirds: a reflection of inadequate intertidal resources? *Biological Conservation* 111: 359-369.

## j) Ruff (*Philomachus pugnax*)

**Key Information:** Ruffs are a medium-sized wading bird. They have a long neck, a small head, a rather short slightly droopy bill and medium-long orange or reddish legs. In flight they show a faint wing-stripe and oval white patches either side of the tail. Image is of a male in breeding plumage.

**What they eat**: Insects, larvae, frogs, small fish and seeds

**Population:** Ruffs are scarce breeders in the UK. Birds arrive in autumn from breeding sites in Scandinavia and are most commonly found in winter on freshwater marshes, wet grassland or other suitable habitats adjacent to estuaries, particularly on the east and south coasts of England. Many young birds from Scandinavia visit the UK in late summer, then migrate on to Africa. Ruff primarily occur on The Wash as passage migrants in late summer and early autumn, though may also occur at other times of the year.

**UK Wintering Population[1]**: 920

**UK Conservation Status[2]:** Red

**Main Threats (UK)**:

- Habitat loss (drainage of wetland sites led to a dramatic decline of breeding birds in the 18th and 19th centuries)

**The Wash SPA Population (most recent available data)[3]:** 80

**The Wash SPA Population (at site designation)[4]:** N/A

**The Wash SPA Conservation Status[5]:**

| Short-term | Medium-term | Long-term |
|---|---|---|
| NA | NA | NA |

### k) Lesser black-backed gull (*Larus fuscus*)

**Key Information**: Slightly smaller than a herring gull, lesser black-backed gulls have dark grey to black back and wings, yellow bill and yellow legs.

**What they eat**: Omnivore - scavenges a wide range of food

**Population:** Both the breeding and wintering populations of lesser black-backed gulls have fluctuated in recent decades. UK breeders that remain over winter are joined by migrants from Iceland, Faroes and north-west Europe.

**UK Breeding Population**[1]: 110,000 breeding pairs

**UK Conservation Status**[2]**:** Amber

**Main Threats (UK)**:

- Range expansion into urban areas means that it is increasingly becoming regarded as a pest.
- Food availability (reduced feeing opportunities in some areas as a result of closures of land fill sites and changing fishing practices)
- Some breeding sites have been abandoned or exhibited large declines in bird numbers, though the reason behind this is unclear; possibly related to predation and/or food supply.
- At risk of collision with offshore wind turbines due to flight height and offshore foraging areas that overlap with wind farms.

**The Wash SPA Population (most recent available data)**[178]**:** 1294 Apparently Occupied Nests

**The Wash SPA Population (at site designation)**[4]**:** N/A

**The Wash SPA Conservation Status**[5]**:**

| Short-term | Medium-term | Long-term |
|---|---|---|
| NA | NA | NA |

[178] Seabird Monitoring Programme data from count of the Outer Trial Bank in 2018. Data downloaded 18/10/2021 from: https://jncc.gov.uk/our-work/seabird-monitoring-programme/

## l) Common Tern (*Sterna hirundo*)

**Key Information**: Common terns have silvery-grey wings, a white breast and dark cap on their heads. They have orange-red bills usually with a black tip and can be distinguished from the similar looking arctic and rosette terns by their shorter tail streamers. They have a buoyant, graceful flight and frequently hover out over water before plunging down for a fish. Often noisy in company.

**What they eat**: Small fish

**Population:** Common terns are summer visitors to the UK. They breed along coasts with shingle beaches and rocky islands, on rivers with shingle bars, and at inland gravel pits and reservoirs, feeding along rivers and over fresh water. The breeding population is decreasing in Scotland but increasing in the south and east of England.

**UK Breeding Population**[1]: 11,000 breeding pairs (8,900 – 13,500 pairs)

**UK Conservation Status**[2]**:** Amber

**Main Threats (UK)**:

- Predation (as ground nesting birds they are vulnerable to predation from gulls and mammals)
- Disturbance (from human activity at breeding sites and from watercraft)

**The Wash SPA Population (most recent available data)**[3]**:** NA

**The Wash SPA Population (at site designation)**[4]**:** 220

**The Wash SPA Conservation Status**[5]**:**

| Short-term | Medium-term | Long-term |
|---|---|---|
| NA | NA | NA |

# Appendix 2: Detailed Account of Engagement with the Applicant to Written Representations for the Royal Society for the Protection of Birds

**Submitted for Deadline 1**

**19 October 2021**

**Planning Act 2008 (as amended)**

**In the matter of:**

**Application by Alternative Use Boston Projects Limited for an Order Granting Development Consent for the Boston Alternative Energy Facility**

**Planning Inspectorate Ref: EN010095**

**Registration Identification Ref: 20028367**

# Appendix 2: Detailed Account of Engagement with the Applicant

## a) Engagement with the Application regarding their Preliminary Environmental Information Report

AX.1 The RSPB has been engaged with the Application since 19 June 2019 when the Applicant's consultants visited RSPB Frampton Marsh and discussed the project with the RSPB's Senior Site Manager. We discussed the need for a comprehensive monitoring package so we could review potential impacts of the development, especially given the lack of baseline ecological and specifically bird data for the area.

AX.2 No further contact was had with the project team until we were made aware that the Preliminary Environmental Information Report (PEIR) had been released for consultation by Lincolnshire Wildlife Trust. We subsequently reviewed the document and identified a number of deficiencies with the evidence that had been collected to inform decision about the Application. Our key concerns in our August 2019 PEIR response were[179]:

- **The Haven as a winter refuge for The Wash SPA features.** During cold weather birds can be forced off The Wash to more sheltered areas. This includes the Haven. It is not clear that the data presented has assessed the relative importance of the Haven and application area during these periods of cold weather and the potential impact that displacement from the application area could have to SPA populations relying on these alternative areas to safely feed and roost. This issue is critical, as no mitigation is proposed for the loss of the mudflat to provide alternative feeding or roosting areas.

- **Bird distribution variability along the Haven.** It appears that WeBS data have been used to determine potential impacts from the proposal. It does not appear from Figure 17.3 that any WeBS units cover the application area and therefore there does not appear to be an accurate assessment of species distribution along the Haven. Species will aggregate differently depending on habitat, prey availability and factors such as disturbance. Sufficient information must be presented to understand the importance of the intertidal habitat to be directly impacted by the proposal, as well as areas that will be exposed to increased disturbance around the planned wharf area. Greater information must be presented to demonstrate that the application site and its impact on adjacent intertidal areas will not adversely affect birds using the area and which are likely features of The Wash SPA. If data from the Boston Barrier works are being relied upon to fill in the WeBS data gaps the RSPB notes that the reports were written in 2014. The latest CIEEM guidance highlights any data that is over three years old would require updating to inform decisions on any projects. We request clarity on the full suite of data that has been used to inform decisions about the project and confirmation that all data are not more than three years old. **Irrespective of the age of the data, if no bird data is currently held for the area of intertidal habitat that will be directly impacted by the development the RSPB expects additional data to be collected in advance of a DCO application to ensure any decisions are based on up-to-date and appropriate evidence.**

- **Impact of the planned wharf.** Adding a new structure into the mudflat area has the ability to alter the dynamics of the river. This could increase erosion in some areas or affect accretion rates. This needs to be fully considered in understand potential impact on intertidal habitats and mitigation requirements. In addition, this will allow vessels to moor in areas they have not previously. This

[179] RSPB (2019). RSPB response to the Boston Alternative Energy Facility Preliminary Environmental Information Report.

activity could cause disturbance and displace birds from an additional zone around the wharf. It is not clear that this has been adequately assessed at this time.

- **Increase in container vessels transiting the Haven and The Wash.** Whilst it is stated that the increase in vessel movements will be a minor increase, this does not appear to appreciate the change in vessel type. It is anticipated that many of the movements will be smaller vessels, typically fishing boats, that will be smaller. It is essential that the impact of bigger vessels is clearly assessed. It is assumed that the wash from such vessels would be greater and the overall disturbance potential greater. The potential impact must be based on vessel type and not simply vessel numbers.

- **Impact on water quality.** It appears that water management on the site will be managed through an attenuation pond and then released to the River Witham via surface water drains. It is essential that enough information is provided at submission to demonstrate that water quality will not be reduced as a result of any discharges arising from the site. The RSPB also highlights that impacts on water quality may arise from vessels using the wharf area. Sufficient information must be provided to demonstrate that potential adverse impacts on water quality as a result of the container vessels will be avoided.

- **Managing invasive non-native species.** It is essential that measures be put in place to ensure container vessels will be managed to limit risk on invasive non-native species being introduced.

- **Air pollution.** The RSPB is not in a position to comment on the potential air pollution that might arise from such a facility. We expect this to be covered by colleagues in the Environment Agency and Natural England.

- **Habitats Regulation Assessment (HRA).** It is not clear why a relatively narrow range of issues have been covered by the HRA. Any factor that could potentially give rise to a Likely Significant Effect must be considered. As stated in 'Guidance on the use of Habitats Regulations Assessments' issued by the Ministry of Housing, Communities & Local Government in July 2019: "*An appropriate assessment must contain complete, precise and definitive findings and conclusions to ensure that there is no reasonable scientific doubt as to the effects of the proposed plan or project.*"[180] In making decisions about potential impacts, recent European Court Judgments "…*clarified that when making screening decisions for the purposes of deciding whether an appropriate assessment is required, competent authorities cannot take into account any mitigation measures*."[1] The assessment must consider impacts on functional linked areas that support features such as cold weather refuges and high tide feeding and roosting areas.

- **The level of mitigation and enhancement to address impacts and deliver biodiversity net gains in line with the National Planning Policy Framework**. It appears limited mitigation is being proposed to address impacts from the facility. There appears no evidence to justify the position that the mudflat for the wharf is of limited use by features from The Wash SPA, especially at certain times of year. The loss of intertidal habitat should, we believe, be mitigated. We also consider greater enhancement measures in line with the NPPF should be provided and support the statement provided by Lincolnshire Wildlife Trust on this point.

AX.3 The most concerning element of the PEIR was that no ornithological data had been collected to assess the impact of the proposal despite the proximity to The Wash Special Protection Area (SPA), especially given the anticipated increased in vessel movements. Given the Application was considered a

[180] [redacted]

Nationally Significant Infrastructure Project (NSIP) the limited approach to understanding the potential ecological impact of the Application was disappointing and was discussed with the Applicant at a meeting at RSPB Frampton Marsh on 11 September 2019. Decisions about the importance of the Application site and The Haven appears to have been clouded by evidence gathered for the Boston Barrier project and habitat quality data. We highlighted that the Boston Barrier project was a very different project and whilst some data collected for that project might be appropriate the Application needed to have more detailed data collected. We highlighted the need to gather data on:

- the non-breeding season ornithological interest around the Application site;
- the non-breeding season ornithological interest around the mouth of The Haven;
- the level of disturbance created by currently by different vessel types to inform the baseline understanding and inform conclusions to be made about the proposed level of increased vessel movements that would be generated during construction and operation of the BAEF.

AX.4 With respect to habitat quality, we highlighted that even if the saltmarsh habitat was assessed of low quality this could still be a valuable habitat for roosting waders. The reason being that the birds are simply looking for a suitable area to rest at high tide until the tide recedes and mudflat is exposed to allow waders to resume feeding. A good roost site is close to good feeding areas, is sheltered, gives suitable visibility to see predators coming and is an area of low disturbance. The Applicant had failed to appreciate this detail:

"*We also discussed the potential for the saltmarsh to provide roosting habitat. We felt this was unlikely because this area has been used by people walking along the Haven and the saltmarsh is only a narrow strip and described as poor quality following the Environment Agency surveys (see quote below). In the 2017 survey, both transects in the project area were considered to be subject to grazing pressure as the sward height was relatively short (15-20cm). The dominant saltmarsh plant species in most of the quadrats was Puccinellia maritima. The marsh was mostly described as mid-low marsh with variability into low transition and high marsh in a few quadrats. We would welcome your opinion on whether you think such an area may provide roosting habitat*."[181]

AX.5 As a result of these discussions the Applicant commissioned ornithological surveys for the Application site and the mouth of The Haven river. At the time the RSPB was aware that a number of birds roosted at high tide at The Haven mouth and could potentially be disturbed by vessel movements, but we had no data to confirm the impact. We also did not have any data to assess the ornithological importance of The Haven. This highlighted the importance for the Applicant to ensure these data were collected.

AX.6 In addition, the same email requested advice on the following:

"*One of the other issues we discussed was relating to the potential for ship wash to influence the nesting birds, over and above the existing situation. To help us to assess the potential impact please could you provide any more information on what reaction the birds have to these type of events, i.e. do they fly up and then return to the nest quickly or do the ship wash disturbances cause the birds to leave their nests for much longer periods or abandon their nests? Does the disturbance lead to unsuccessful nesting attempts or do the birds remain there and continue to nest successfully, albeit with disturbance issues? Do you have any observations with regard to the type and speed of the vessels and whether this happens more with a particular size of vessel or whether speed restrictions are a successful means of mitigating ship wash impacts?*"

[181] Email from RHDHV dated 18 September 2019.

AX.7 The RSPB discussed these queries with the Applicant and highlighted that this information would be crucial to inform the Habitats Regulations Assessment for the project going forward. Ideally such detail would have been discussed through an Expert Topic Group (ETG) convened to consider the evidence around ornithological and other ecological impacts prior to the PEIR being written and consulted, with ongoing ETG meetings following the PEIR consultation to address outstanding concerns. This would have ensured an appropriate evidence base had been collected in advance of the PEIR and it is unfortunate that this approach was not adopted from the outset of the Application.

AX.8 On 1 October 2019, the RSPB received a response from the Applicant on our PEIR comments[182]. With respect to the use of The Haven as a winter refuge, the Applicant stated:

"*The use of the Haven area during such events has been acknowledged in the Environment Statement (ES) chapter. Mitigation and compensation measures have been discussed with RSPB to provide an alternative key habitat for bird species that are known to utilise The Haven area, mainly to mitigate for the loss of feeding and roosting areas*."

AX.9 With respect to understanding the distribution of birds along The Haven and the use of Wetland Bird Survey data, the Applicant responded:

"*Use of relevant data (WeBS sectors) and potential for carrying out surveys has been discussed with RSPB and Natural England and advice from these discussions will be considered further in the EIA process. It is likely that where bird surveys are undertaken, these would continue after submission and would therefore require a technical addendum to the submission.*"

AX.10 With respect to the impact of the wharf on intertidal habitats and disturbance and displacement of birds, the Applicant responded:

"*Impacts on erosion will be considered in the Estuarine Processes Chapter. It is noted that vessels will only be moving at high tide when the mudflats are not exposed.*"

AX.11 With respect to the increase in vessel movements, the Applicant responded:

"*The assessment has considered vessel type, which is large vessels similar to the commercial ships that visit the Port of Boston already. Vessel type is factored into our assessment.*

*The vessels used for the Facility will not be larger than this, because the Port places restrictions on the vessel dimensions that can use the river. Ship wash effects are discussed in Chapter 16 - Estuarine Processes.*"

AX.12 With respect to impacts on water quality, the Applicant responded:

"*Surface water will be collected on site and most of it used within the lightweight aggregates process. The remaining surplus will be discharged (in accordance with an environmental permit). Water pollution from visiting ships will be subject to the appropriate maritime controls.*"

AX.13 With respect to invasive non-native species, the Applicant responded:

"*The project will liaise with the Port of Boston to ensure that procedures for biosecurity will align with their procedures.*

[182] Email received from Alternative Use Boston Projects Ltd 1 October 2019.

*None of the ships used for delivering RDF or clay or removing aggregate will be international vessels, so it is considered unlikely that invasive non-native species would be introduced to the area.*"

AX.14 With respect to that more detail would be needed to ensure a Habitats Regulations Assessment could consider alone and in-combination impacts on The Wash protected sites and functionally linked land, the Applicant responded:

"*As also commented on by Natural England. New columns will be added to screening tables*."

AX.15 With respect to the need to have a suitable evidence base to inform the development of appropriate mitigation and compensation measures, the Applicant responded:

"*Mitigation and compensation measures have been discussed with RSPB to provide an alternative key habitat for bird species that are known to utilise The Haven area, mainly to mitigate for the loss of feeding and roosting areas.*"

AX.16 The RSPB considers that many of the responses provided demonstrated a fundamental lack of understanding regarding the importance of the points raised.

AX.17 The RSPB did not then have further contact with the developer until a meeting on 16 June 2020.

## b) Engagement with Applicant prior to the initial DCO submission

AX.18 On 16 June 2020 interested parties met with the Applicant. This meeting covered the changes to the scheme as a consequence of the technology to be used and the resultant changes in infrastructure on the site as a result. The changes slightly decreased the overall footprint of the Application but impacts on species and habitats that could be affected by the Application remained unchanged.

AX.19 The 16 June 2020 meeting was also the first time that the winter bird survey data was presented and available for comment. In summary, the surveys had recorded common redshank and ruff in locally significant numbers and observations of movement of vessels through the river mouth showed displacement of birds and eventual cease in return to the area. The analysis was on-going, and the breeding bird surveys continued until the end of June 2020, so those data were not available. There was a collective call from all the environmental Interested Parties present for a comprehensive mitigation plan. The RSPB agreed to send some high-level suggestions to move the conversation about mitigation and compensation measures forward. The RSPB provided our thoughts on 19 June 2020 and we highlighted the following:

"*In line with current understanding from available data, the bird impacts are centred around the Haven's use as a winter refuge, in particular by redshank and ruff. Ruff being the more adaptable bird, will leave a site to find alternative areas if conditions worsen, and will also use arable sites. Redshank on the other hand, are very site faithful and as intertidal specialists will stay and die at a site (in this case the wider Wash area) rather than move away. The issue here is that there are limited areas to roost/forage around The Wash so any loss of land exacerbates this problem. The initial feedback from the vessel disturbance suggests that birds eventually move away from the area if disturbed too many times. This does not mean that another site will suffice, but rather their preferred site, in this case, the mouth of the river Haven, has become inaccessible to them. Aside from the energy expenditure used by birds as they are constantly disturbed, they also have to settle for less rich areas to roost and feed. Their choice of site is also influenced by other factors - predation, food availability, disturbance etc.*

*As the mouth of the Haven is flanked by designated land the opportunities for appropriate mitigation measures on site are restricted, although NE may be open to discussion considering the significance of the 2.84% Wash winter redshank population. Whether any measures could successfully eradicate the issue of disturbance caused by vessels, however, is the question.*

*Providing suitable habitat close to the site could be an alternative, with the reserves at Frampton Marsh and Freiston Shore obvious locations. Our initial thoughts are outlined here, in order of preference:*

- *We have an annual Habitat Enhancement Fund in place for the reserves which is used to ensure habitats are maintained to a high level. A commitment to make a one-off contribution or annual contributions to this fund would go towards managing the dynamic habitat of these reserves, enhancing the habitats of use to redshank and ruff.*
- *Scalping the middle managed realignment breach at Freiston and covering with cockle shingle would provide habitat for roosting waders and possibly even terns.*
- *At Freiston redshank use the saline lagoon for roosting and feeding. We plan to create a second lagoon to expand capacity for redshank and a contribution from BAEF towards this project may be an option. This work would be carried out within the managed realignment area and so NE consent would be required.*

*A combination of measures will likely be necessary to mitigate the impacts fully. With all that said, it is imperative that sufficient and robust evidence is provided with full details of possible impacts known before any mitigation or compensation measures are planned. The loss of intertidal habitat around the wharf area also needs to be fully assessed.*

*The RSPB's engagement with the development should not be seen as support for it, but rather a desire to ensure the best possible outcomes for nature.*"

AX.20 At the meeting on 16 June 2020, Interested Parties were informed that there would be a 28-day informal consultation of the draft DCO, as agreed with PINs. The following timeline was set out:

- Late summer 2020 – Applicant to share a revised PEIR/HRA to Interested Parties for comment.
- Late summer 2020 - Applicant to share full bird survey data with Interested Parties (breeding and winter.
- Early autumn 2020 - Applicant will try to get a full mitigation plan in place following analysis of bird survey data and input from stakeholders.
- Early autumn 2020 - Applicant will submit DCO and environmental statement.

AX.21 Following this meeting, the RSPB reflected on the information that had been provided and identified outstanding concerns with respect to the evidence base to inform the Application. These evidence gaps had serious implications for the proposed timeline. The RSPB consequently wrote to the Applicant on 27 July 2020 setting out concerns. The key points raised in the letter were as follows:

"*The purpose of this letter is to set out our outstanding concerns, request clarity on the project timescales and identify additional information that we consider needs to be provided prior to DCO submission. Our concerns are detailed below and reflect comments that have also been made by Natural England and the Lincolnshire Wildlife Trust at the meeting of 16 June 2020 and via email thereafter on 16, 17 and 23 June 2020.*

***1. Scope and timings of continued consultation.***

*Since the 16 June 2020 meeting, the RSPB and other stakeholders have enquired whether the opportunities for further consultation will cover the entire project or only the scheme design changes reported at the meeting. Since the PEIR consultation in 2019 there remain outstanding issues that have not been addressed to date, namely:*

- *No assessment has been made on the potential impact of the planned wharf on the intertidal habitat and birdlife.*
- *Although bird disturbance caused by vessel movements along the Haven has been acknowledged as part of winter bird surveys, no assessment of the full impact or possible mitigation measures has been undertaken.*
- *Full bird survey data has not been made available to stakeholders (see point 2).*
- *The narrow range of issues covered in the Habitats Regulations Assessment provides insufficient evidence to enable an accurate determination of impacts to be made.*
- *The lack of mitigation or (if AEOI cannot be ruled out) compensation plans to address the permanent loss of intertidal habitat.*

*Consequently, we request clarity on the timescale for additional consultations, what the consultations will cover and when you propose to submit the DCO application.*

***2. Failure to release wintering and breeding bird survey data for interested parties to review.***

- *The PEIR was not supported by any bird surveys to understand the potential importance of the application site or the shipping routes that will be used during construction and operation of the Alternative Energy Facility. This was identified as a significant failing when interested parties reviewed the PEIR in July/Aug 2019.*
- *At a meeting with the RSPB in Sept 2019, we outlined the need for ornithological surveys to be undertaken and their necessity to inform any DCO applications. As a result of that meeting, ornithological surveys were commissioned for the wintering and breeding seasons.*
- *At a meeting on 16 June 2020, summary winter bird data was shared with stakeholders. This showed that during the 2019/20 winter period, 2.84% of The Wash SPA/Ramsar site wintering redshank population and 8.1% of The Wash SPA/Ramsar site wintering ruff population were recorded within the application boundary.*
- *Although the RSPB, Natural England and Lincolnshire Wildlife Trust have received summary findings of the winter bird survey, interested parties cannot provide meaningful comments without sight of the full wintering bird report. The same applies for the breeding bird surveys completed in June, as we are not able to confirm what was found and consider any implications.*
- *The reports need to be reviewed prior to the DCO application to:*
    - *Ensure survey timings were appropriate and will provide a reasonable understanding of the ornithological importance of the application site.*
    - *Determine that there are no substantial knowledge gaps remaining.*
    - *Understand the potential importance of the site to support key features of The Wash SPA/Ramsar and SSSI. The summary winter bird survey data clearly shows the international and national importance of the development site and surrounding area.*
    - *Consider the potential scale of impact that may be created by the Alternative Energy Facility.*
    - *Consider the appropriateness of any mitigation measures that have been offered.*
    - *Assess whether additional measures may be required to avoid adverse effects on the integrity of The Wash SPA/Ramsar site.*
- *Whilst stakeholders have put forward mitigation suggestions throughout this process, the scale and nature of mitigation measures that will be required remains unclear. Whilst there is a*

*willingness to work to identify options, we are concerned that the summary survey information indicates substantial mitigation may be required and the DCO application may require a derogation case to be submitted at the same time should impacts be such that adverse effects on the integrity of The Wash SPA/Ramsar (and underlying SSSI) cannot be avoided. This highlights the need for the bird surveys to be made available as soon as possible to ensure further dialogue is possible in a suitable timeframe.*

- *In addition to the survey data, we are also increasingly concerned that stakeholders will not have sufficient time to review the updated Environmental Statement and associated assessments regarding potential impacts on the nearby protected sites. This should include a report to inform a Habitats Regulations Assessment, as well as an assessment on The Wash SSSI. There is a real risk that data gaps or adverse effects will be identified that will need further time to work through with all interested parties and which may not be resolved in time for a Q3/Q4 DCO submission.*
- *We therefore request clarity on when the full survey reports, the revised Environmental Statement and other associated assessments will be made available to interested parties for comment.*

***3. Lack of robust environmental data to assess wider ecological impacts of the project.***

- *We are pleased that bird surveys have now been conducted to assess the Haven's importance to SPA features and populations. However, there remain important gaps in understanding the wider ecological context of the development site. For example, in our August 2019 letter we highlighted the proposed wharf and the potential for this new structure to alter the dynamics of the river and ultimately, to cause the loss of intertidal habitat. In addition, the wharf will allow vessels to moor in areas they have not previously. To our knowledge, this impact has not been assessed fully.*
- *Similarly, we are aware that Lincolnshire Wildlife Trust has queried the appropriateness of the methodology used to assess the noise impact on harbour seal, with no response to date.*
- *The Planning Inspectorate, on behalf of the Secretary of State, must decide whether or not the DCO application meets the standards required to be accepted for examination. We do not consider this will be possible until robust assessments are carried out to ensure the full ecological context of the proposed site is accurate and that all potential impacts have been robustly assessed. This includes consideration of mitigation proposals to ensure that they will address the potential impacts adequately. This will also be essential should the evidence suggest a derogation case may need to be prepared to accompany the DCO application.*

*We remain willing to work constructively with you and look forward to hearing from you*."

AX.22 Despite the concerns set out in our letter, the Applicant did not respond to the concerns and the next communication we received were the 7 September 2020 when Interested Parties were sent the winter bird surveys, disturbance surveys at the mouth of The Haven and draft breeding bird survey reports. No data analyses or interpretation were provided to enable Interested Parties to understand the Applicant's conclusions and how these data were being used to inform appropriate mitigation and compensation options. The RSPB received the final breeding bird survey report and the Applicant confirmed that options to mitigate impacts from the Application were starting to be explored, with a focus on the RSPB's reserves.

AX.23 Having reviewed the bird survey reports the RSPB set out our position on the data and out thoughts on mitigation requirements in a letter submitted to the Applicant on 1 October 2020. In the letter we:

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- Confirmed that we accepted the methodology used in the breeding and wintering bird surveys.
- Highlighted that there were gaps in the evidence base, especially with respect to understanding ornithological importance of The Haven during Autumn and Spring migration periods.
- Noted the high importance of The Haven for wintering redshank, especially near the Application site. This importance was especially important given it was observed during mild conditions and the importance would likely increase during cold weather conditions.
- Noted that a number of species that are features of The Wash SPA were observed to be impacted by vessel movements at the mouth of The Haven and that a more detailed assessment of the importance of disturbance to the identified species and waterbird assemblage was required. Our concerns related to the increased energy expenditure and also displacement of birds to lower quality feeding areas.
- Could not reconcile the bird survey findings with the conclusions made in the PEIR.
- Identified more detailed information was need on vessel movements and impact of dredging on intertidal habitats.
- Set out criteria will need to be considered in order to develop appropriate mitigation proposals:
    - The creation of habitat should be greater than the amount lost. The adopted ratio will need to be based on best practice from similar projects.
    - Habitat created will need to be comparable in quality to that lost, principally, intertidal habitat for use by roosting and feeding waterbirds.
    - Replacement habitat should be located as close to the current site as possible.
    - Replacement habitat should be sited where it will be secured and managed in perpetuity.
    - Factors such as predation, food availability and disturbance should be considered when assessing possible replacement habitat sites.
    - Replacement habitat should be in place and ideally functioning before, or at least, simultaneously to, the construction phase.
    - Biodiversity enhancement measures should be applied to maximise the environmental benefits that would be derived from the project.

- Referred our thoughts on mitigation set out in our email to the Applicant on 19th June 2020.
- Highlighted a commitment for ongoing monitoring.

AX.24 The RSPB met with the Applicant on 13 October 2020, with a focus on mitigation and compensation measures that might be possible. This followed on from our email of 19 June 2020 that set out some high-level thoughts on possible options and the key principles that we expected to be followed to establish a suitable suite of mitigation and compensation measures.

AX.25 The Applicant convened a meeting at short notice with the environmental Interested Parties on 22 October 2020. The Applicant indicated that revised Environmental Statement chapters and the Habitats Regulations Assessment would be made available the following (week commencing xx October 2020). This would not be formal consulted, but any comments would be considered before the planned submission of the Application on 30 November or early December 2020. It was confirmed that a mitigation package would be included in the documents and that waterbird impacts at the EIA level were 'major'. Alternative sites to provide mitigation or compensation measures were discussed, but it was felt that the RSPB reserves were the best options. The RSPB made the Applicant aware that there were due diligence checks that needed to be conducted to confirm whether the RSPB would be able to accommodate possible mitigation and compensation measures proposed by the Applicant.

AX.26 On 24 November 2020, the Applicant sent through the draft minutes of the meetings held with the RSPB on 13 October 2020 and the RSPB and Natural England on 22 October 2020. They also provided the submission versions of the Marine Ecology and Terrestrial Ecology chapters of the Environmental statement, as well as the Habitats Regulations Assessment. They confirmed that they were:

"…not looking for comments at this stage as explained during the meetings we would appreciate RSPB's review post submission in order for us to continue to work towards finalising mitigation requirements."

AX.27 At this stage, the Applicant therefore confirmed that a mitigation and compensation package would not be completed or secured prior to the Application being submitted. No detailed discussions with the RSPB had been undertaken with a view to securing any land to deliver such measures. It was disappointing that no further discussions took place prior to the Application being submitted despite considerable concerns from environmental Interested Parties and the failure to address any of the concerns that had been raised since the PEIR consultation. On 27 November 2020, the RSPB confirmed in an email to the Applicant that due diligence checks were still being progressed. The Applicant submitted the Application to the Planning Inspectorate on 30 November 2020 despite not having clarified the ability of the RSPB to commit to mitigation or compensation measures being possible to secure on out reserves.

AX.28 On 1 December 2020, final versions of the following documents were provided to environmental Interested Parties:

- Chapter 12 Terrestrial Ecology;
- Chapter 17 Marine & Coastal Ecology;
- Appendix 12.1 Extended Phase 1 Habitat Survey;
- Appendix 17.1 Habitats Regulations Assessment;
- Appendix 17.2 Breeding Bird Survey Report.

AX.29 On 15 December 2020, the RSPB submitted a letter to the Planning Inspectorate to update on the outstanding concerns we continued to have with the Application. We confirmed that prior to the application being submitted we had not seen evidence of:

- Whether or not further survey work is required based on the findings of the first year's surveys to more fully understand the impacts of the scheme on The Wash SPA/Ramsar/SSSI,
- Detailed mitigation proposals to inform whether an adverse effect on the integrity of The Wash SPA/Ramsar site can be avoided; and given concerns over the potential impacts on the SPA/Ramsar site,
- Consideration of the need for a full derogation case setting out why there are no alternative solutions, imperative reasons of overriding public interest and compensatory measures to address any residual adverse effects.

AX.30 The RSPB considered that these were fundamental issues with the Application that needed to be resolved prior to an examination starting. This was deemed necessary to not only ensure that there was a suitable evidence base to draw appropriate conclusions about impacts, but also to ensure that any proposed mitigation and compensation measures could be secured and were deliverable.

### c) Engagement with the Applicant following the withdrawal of the initial DCO application

AX.31 Following the withdrawal of the Application on 23 December 2020, the Applicant arranged a meeting with environmental Interested Parties on 8 February 2021. In advance of the meeting the Applicant provided a presentation and a table showing their first attempts to analyse the vessel disturbance data. There was no time to review the new information with specialist colleagues prior to the meeting.

AX.32 At the 8 February 2021 meeting, the Applicant provided an update on the Application. They highlighted that PINS had requested further work on:

- HRA
- Funding Statement
- The Crown Estate consultation

AX.33 The Applicant considered this further work had been completed and planned to resubmit the application in the week commencing the 15 February 2021. The Interested Parties present (Natural England, Lincolnshire Wildlife Trust and ourselves) highlighted serious outstanding concerns about the proposed timeline given that:

- Additional surveys were being carried out and the data not reported until after July 2021.
- That there remained uncertainties about the viability of proposed measures to compensate for impacts on redshank at the Application site, as the Environment Agency had not been consulted.
- That no in-principle derogation case had been prepared or discussed with the Interested Parties to consider whether the proposed approach adopted by the Applicant was appropriate (the requirement for this was made clear based on Natural England's and the RSPB's recent experiences on other NSIP cases).

AX.34 Following the meeting, on 12 February 2021, the RSPB received updated copies of:

- Chapter 5 Project Description
- Chapter 17 Marine & Coastal Ecology;
- Appendix 17.1 Habitats Regulations Assessment;
- Appendix 17.2 Breeding Bird Survey Report.
- Figures

AX.35 The Applicant requested a 'red flag' review of these documents in advance of a meeting scheduled for 26 February 2021. The RSPB agreed to provide some comments to the Applicant, but confirmed that we would need more time to provide detailed comments. We also expressed concern about the proposed resubmission following the concerns that had been raised by the Interested Parties present at the 8 February 2021 meeting:

"*I have been discussing our availability with colleagues who would need to provide support to produce the RSPB comments on the currently available information. Due to the school half term holiday the proposed timeline would allow only 4 days to complete a review in detail to inform even red lines and provide feedback. It was made clear on Monday that there needs to be a clear and realistic engagement plan in place to allow for effective stakeholder engagement. This timeframe will not allow for any concerns to be resolved and will mean that substantial discussions will be required during the formal examination period – this is not how the DCO process is intended to work. Project impacts should be considered fully during the pre-application stage. Through this period it would be expected that there is a clear engagement plan in place to ensure stakeholder feedback is secured in a timely manner to inform the project, as well as provide clarity to stakeholders what will be expected and when – this has been a significant uncertainty with the BAEF project. Once the application has been submitted this triggers the formal process with 28-days for PINS to decide whether to accept the application and then roughly three months for the pre-application period following acceptance. Experience has shown that the ability to agree substantial elements of a project such a mitigation package, on top of Environmental Management Plans etc is simply not realistic during the pre-examination period, especially given the need to provide Relevant Representations, consider*

*Statements of Common Ground etc. The examination process leaves limited time to deal with substantial outstanding issues given the formal timeframes required to respond to Inspectors questions, provide written statements and engage with hearings. All of this highlights the importance of using the process appropriately to ensure the issues discussed on Monday are effectively addressed prior to the triggering of the formal process. My understanding was that an engagement plan would be put in place that would give clarity on what is expected of all stakeholders to look to address outstanding concerns of the project and that this would lead to a more realistic resubmission date for the project.*"

AX.36 A robust stakeholder engagement plan was requested by the RSPB and other stakeholders at the 8 February 2021 meeting to enable appropriate discussions to be held to address key concerns prior to the Application's submission. The RSPB and other stakeholders reinforced the need for this in light of the withdrawal of the initial Application. The On 17 February 2021, the Applicant provided a draft Stakeholder Engagement Plan[183].

AX.37 In a letter to dated 25 February 2021 and submitted prior to the review meeting, the RSPB highlighted that we did not consider the evidence demonstrated that there would not be an adverse effect on integrity of The Wash SPA due to the impact on significant numbers of redshank present at the Application site (over 1% of The Wash SPA population), and the significant increase in vessel movements (c.140%) and the increase in disturbance to birds roosting at the mouth of The Haven. We identified gaps in the data around bird use of The Haven, vessel movements, overall levels of disturbance and limited measures to mitigate and compensate for the impacts. We also commented on the Stakeholder Engagement Plan, reiterating our concerns about the proposed timeline and highlighted that it would be worth investing time in discussions around the possible compensation options for the in-principle derogation case prior to resubmission of the Application. The points we raised were also reflected in the advice received from Natural England[184].

AX.38 The 'red flag' discussion was held on the 26 February 2021. The position of all Interested Parties present (Natural England, Lincolnshire Wildlife Trust and ourselves) was that there were outstanding evidence gaps and therefore uncertainty about the scale of impacts and the measures needed to mitigate and compensate for these. Consequently, the collective view of the Interested Parties that were present was that it could not be concluded beyond reasonable scientific doubt that there would not be an adverse effect on integrity of The Wash SPA/Ramsar and The Wash & North Norfolk Coast SAC. There would also be impacts on The Wash SSSI that would need to be considered. Concerns were therefore raised at that meeting with respect to the proposed timeframes outlined within the Stakeholder Engagement Plan and the scale of work needed to address stakeholders' concerns. Subsequently, the Applicant chose to resubmit the application in March 2021.

AX.39 On the 5 March 2021, the RSPB, Natural England and Lincolnshire Wildlife Trust were sent Chapter 18 Navigational Issues of the Application and also provided an HRA Supplementary Data note[185]. A written response to the information provided was requested by 10 March 2021; this was a challenging request given the short notice just before a weekend. The accompanying email also raised concerns (highlighted in bold):

"*The Applicant is committed to resolving the issues you have raised and, as you will see from the supplementary HRA document attached to this email we will be providing significant additional*

[183] RHDHV (2021). Boston Alternative Energy Facility – Ornithology and Marine Ecology Stakeholder Engagement Plan.
[184] Natural England (2021). **Discretionary Advice Service (Charged Advice)- 14030 Development proposal:** Boston Alternative Energy Facility (BAEF) energy recovery power plant (gasification) includes a wharf storage & waste processing facility **Location:** Riverside Industrial Estate, Marsh Lane, Boston. Letter provided to the Applicant on 25 February 2021.
[185] RHDHV (2021). PB6934-RHD-ZZ-XX-NT-Z-0001 HRA Supplementary Data.

*information and commitments in to the HRA. Following the raising of the concern regarding loss of the inter-tidal/salt marsh habitat where the wharf will be built* ***the Applicant has agreed to the creation of shallow pits and improvements to roosting areas to be implemented on Area B (just south of the proposed wharf)****. These measures (set out in the attached document) will be secured in the DCO as we plan to include for them in the Landscape and Ecology Management Scheme which will be a condition of the DCO. This is all in* ***addition to contributing to works at the RSPB reserves previously discussed****. The Applicant is also committed* ***to obtaining additional information, including WeBS counts and further survey data to assist with evidencing the HRA****. We feel these measures appropriately respond to the concerns you have been telling us about.*

***Following our discussions with PINS we understand that they do not require a without prejudice compensation package to be presented in the DCO application but would like to see a level of commitment from the Applicant on resolving any areas of disagreement, and evidence of correspondence / communications with relevant stakeholders that provides a level of comfort that issues are resolvable in the required timeframes****. We hope that the information provided in this email and attached document shows a willingness to resolve issues through appropriate updating of the HRA and provides additional benefits to redshank in close proximity to the area of habitat being lost at the facility*."

AX.40 Whilst encouraging that consideration of potential mitigation options was being explored, the proposals would mean that saltmarsh was being dug to create mudflat, with the result that compensation would be required to deliver the mitigation option. It was also not clear what conversations had been held with the Environment Agency to determine if the proposed mitigation measure for redshank would be acceptable, and therefore possible to secure and deliver. The Applicant was also relying on being able to deliver mitigation and compensation options at the RSPB's reserves, yet we had confirmed at both the 8 February 2021 and 26 February 2021 meetings that following our due diligence checks it was unlikely that this would be possible. No further follow up had been undertaken by the Applicant to discuss this further. It was also concerning that despite planning to resubmit the Application additional data were either being collected or could be collected, which indicated that the Applicant also considered there to be deficiencies in their evidence base at that time. Of most concern was the suggestion that PINS would be satisfied with the Application if Interested Parties could demonstrate that issues were resolvable. Whilst creation of habitat to compensate for lost high tide roosts, saltmarsh and mudflat could be possible, as demonstrated by RSPB Freiston Marsh, the Applicant had failed to identified any options for compensating for impacts at the mouth of The Haven and at the proposed time of resubmission, there could be no guarantees that any options could be secured and delivered.

AX>41 On the 5 March 2021, the RSPB provided feedback on the minutes that had been produced of the February meetings. Whilst we were satisfied with the minutes of the 8 February meeting, we had the following comments on the 26 February meeting:

"*Having looked at the minutes from 26 February, it should be made clear on p.4 that I made the point that we need clarity on outstanding work and when this will be available, as we could put effort into assessing the current information only to find our conclusions have to be reviewed again due to additional information becoming available. The engagement plan must therefore be based on the outstanding survey and information gaps, when this additional information will be provided and then used to inform a suitable time to allow interested parties to review and provide feedback. We supported the proposed engagement plan review. My understanding is that this was supported by LWT comments. This should be captured in the notes and not just the comment from Paul that the engagement plan will be reviewed.*

*Having looked again at The Wash Bird Decline Investigation Report 2014, it states on p.74:*

> *"An accurate assessment of the relative levels and types of disturbance in different sectors would be necessary to inform whether specific disturbance activities may have caused declines in particular species, or cause a redistribution of particular species around The Wash."*

*This was based on a lack of understanding of the baseline knowledge of impacts from different activities operating on The Wash and the relative effect they were already having on SPA features. There seems to be a mixed picture around The Haven approach with some species increasing but others declining. Since the report was produced, further change will have taken place in the bird numbers and distribution and this warrants further investigation, as there is an assumption that all is fine with the baseline level of shipping disturbance into The Haven, but this needs to be determined using up to date data. This will need to be looked at and presented in any documents to be entered for re-submission. This has been mentioned with respect to a wider assessment of bird numbers on all relevant WeBS sectors into The Haven. Will this wider review take place to understand more accurately the effect on the SPA Conservation Objectives?*"

AX.42 The RSPB also confirmed that we were unable to find the capacity for specialist colleagues to input with the deadlines set by the Applicant. This had been made known at the meeting of 8 February and reiterated again at the 26 February 2021 meeting.

AX.43 The Application was resubmitted to PINS on 23 March 2021.

### d) Engagement with the Applicant post-DCO resubmission

AX.44 On 1 April 2021, the RSPB provided a letter to PINS to update on our position with respects to the Application. We highlighted that although some discussions and additional information had been provided, it was our view that:

"*…that the application has been made prematurely and is still not fit for purpose. This is because no material progress has been made in respect of developing a full and agreed understanding of the impacts of the scheme on the SPA/Ramsar site and thereby developing an appropriate and robust package of mitigation and compensation measures*."

AX.45 We set out a range of issues that were still outstanding and needed to be resolved in order to provide any certainty that The Wash SPA/Ramsar would not be adversely affected by the Application. Our concerns were:

- *"There is survey work still ongoing through to June 2021, with no clear plan in place when the new information will be provided and considered with interested parties. This is not covered in the stakeholder engagement plan issued on 17 February 2021.*
- *There remain outstanding concerns about the assessments (shipping movements, disturbance along The Haven, pollution etc.) and the continued reliance on addressing a multitude of issues through the development of a suite of supporting plans post-consent.*
- *Whilst some mitigation measures are being explored, notably the creation of replacement redshank roosting habitat near the facility, this is ongoing and its viability has yet to be confirmed with all statutory bodies. Critically, it will be important to demonstrate that any proposals will deliver the necessary ecological requirements and that they will be effective.*
- *There has been no attempt to identify a compensation package to address the significant disturbance that would be created to birds roosting at the mouth of The Haven. The impact of vessels associated with shipping has been clearly demonstrated by the baseline information (82%*

*of disturbance from cargo vessels and pilot boats; see Appendix 3). With a c.140% increase in large vessel movements, an associated increase in pilot vessels, and a shift to all navigable tides having large vessel movements (compared to the current 75% of navigable tides), this represents a significant increase in disturbance levels. The area is an important high tide roost area, and this is demonstrated by one survey recording c.2% of The Wash SPA population using the mouth of The Haven. This issue has been raised on numerous occasions, including at both February 2021 meetings.* ***The RSPB is unable to conclude that there will not be an adverse effect on integrity to The Wash SPA and Ramsar and a robust compensation package is essential to demonstrate that the conservation objectives of the site will not be compromised.***

- *We have not seen a derogation case in any form that addresses alternative solutions and imperative reasons of overriding public interest for the development, as well as the detailed compensatory measures needed to address any adverse effects.*
- *It is of particular concern that there appears to be a lack of involvement of the Environment Agency to date to inform whether proposals are appropriate."*[186]

AX.46 At this time Natural England and Lincolnshire Wildlife Trust also provided similar updates to PINS about the progress of discussions with the Applicant and the outstanding concerns that they also had on the Application.

AX.47 The Application was accepted by PINS on 20 April 2021.

AX.48 On 22 April 2021, the RSPB provided our comments on the latest HRA, HRA Supplementary Information and the Environmental Statement chapters that we had been provided by the Applicant. Our comments reiterated that there was insufficient evidence to demonstrate that there would not be an adverse effect on integrity of The Wash SPA/Ramsar due to impacts on redshank roosting and foraging at the Application site and the impact of increased vessel movements increasing disturbance levels to birds roosting at the mouth of The Haven[187]. We also highlighted a number of additional issues that required greater consideration:

- A failure to assess the oil, fuel oil and rubbish pollution that could be caused by an additional 580 large vessels per annum using The Haven.
- Lack of detail on water discharge from the application site to demonstrate that this will not affect water quality in The Haven.
- No assessment of disturbance to The Wash SPA features along the entire length of The Haven and the disturbance to foraging and roosting birds along the entire length. Wider assessment of baseline disturbance effects and how these would be affected by the proposed development have not been considered in the assessments to date.
- A failure to assess the disturbance effect on features of The Wash SPA that could be created from ships stacking up along The Haven whilst vessels are turning.
- No information to assess the effect that potential changes in fishing vessel activity to avoid the potential delays caused by the additional vessels turning could have on foraging and roosting birds.
- Lack of assessment of ship movements, as they appear irregular and unlikely to allow birds to habituate to the activity. Disturbance is therefore always likely to occur and requires greater attention in the assessments.

[186] Annex 1 of our Relevant Representation contained the full comments provided to PINS on 1 April 2021. (RR-024)
[187] Annex 2 of our Relevant Representation contained the full comments provided to the Applicant on 22 April 2021. (RR-024)

- The HRA approach has been limited by only considering sites and features where "project alone" impacts have been identified (paragraph A17.5.5 of the HRA). This does not account for plans or projects that may have small effects but when combined they become significant.
- An incomplete cumulative and in-combination assessment to assess the overall scale of impact that could arise from the proposed facility.
- Failure to provide more detail on the potential that the fishing fleet could relocate downstream of the facility should it be developed, as this would also have the potential to cause an adverse effect on integrity of The Wash SPA/Ramsar and exacerbate impacts arising from the facility development and increased vessel movements.
- Limited mitigation measures to address impacts on the harbour seal feature of The Wash & North Norfolk Coast SAC. We will look to NE and LWT to comment on proposed mitigation measures, but support the need for vessels to, for example, have covered propellers.
- Failure to define worst case scenario of the proposed development to assess impacts against.

AX.49 The number of outstanding issues was deeply concerning. It is unfortunate that a formal Expert Topic Group approach was not established at the outset of the Application had not been adopted, as many of these issues would have been formally raised and more time available to explore the options available to potentially address these.

AX.50 An updated Stakeholder Engagement Plan was sent to the RSPB and others on 4 May 2021, along with updated WeBS data; six weeks after the Application had been resubmitted. Whilst the RSPB has sought to "…*engage pro-actively and constructively in the process*" it was difficult to see how the timeframes set out could be considered reasonable or realistic in the context of a live examination, given the number of outstanding concerns left to resolve. For example, Reference (task) 5 of the revised Stakeholder Engagement Plan was to "*Review of additional bird data collated over winter 2021 and additional WeBS count data received in April*" in May 2021, with the aim "*To determine the suitability of the bird data to provide an effective baseline for assessment.*" The RSPB and others had still not received the Winter 2021 survey report or the evaluation of the WeBS data. We also understood that surveys were continuing into June, which would then take some time to write up and provide to stakeholders for review.

AX.51 The RSPB continued to review the available information and submitted a detailed Relevant Representation to PINS on 18 June 2021. The content of this statement was to further reiterate the points made in our letter to Pins of 1 April 2021 and to the Applicant on 22 April 2021. We had seen no new information that reduced our concerns.

AX.52 On 23 June 2021, the Applicant convened a meeting with environmental Interested Parties (Natural England, Environment Agency, Lincolnshire Wildlife Trust and ourselves). The Applicant confirmed that they had nothing new to make available, but that the meeting would be a general update on the project and HRA. Some discussion of the topics raised in the Relevant Representations was undertaken. The conversations highlighted that further work was needed to understand bird use along The Haven throughout the year, with specific questions being posed by the Applicant that should ideally have been covered either prior to immediately after the PEIR consultation, for example, the use of The Haven as a cold weather refuge.

AX.53 On 14 July 2021, the minutes of the HRA technical meeting were circulated, along with a request to set up the first Technical Panel meeting. Whilst the Applicant had convened occasional conversations with the RSPB and other stakeholders, the discussions failed to address concerns about several potential environmental impacts where critical underpinning evidence was missing or inadequate. Establishing the Expert Topic Groups is helpful, but the timing of these starting is unfortunate given

outstanding gaps in the evidence base and the limited progress on developing an in-principle derogation case which is entirely dependent on the Applicant.

AX.54 The first Technical Panel took place on 19 August 2021. The second Technical Panel meeting took place on 23 Sept 2021.

AX.55 Despite the discussions with the Applicant, the RSPB remains concerned that many of these issues have not been resolved in the material submitted as part of the Application, or in additional information provided since PINS accepted the Application.

# Appendix 3: Data table of bird disturbances from bird survey reports to inform impacts of increased vessel movements on qualifying features of The Wash SPA/Ramsar/SSSI

**for the**

**Royal Society for the Protection of Birds**

**Submitted for Deadline 1**

**19 October 2021**

**Planning Act 2008 (as amended)**

**In the matter of:**

**Application by Alternative Use Boston Projects Limited for an Order Granting Development Consent for the Boston Alternative Energy Facility**

**Planning Inspectorate Ref: EN010095**

**Registration Identification Ref: 20028367**

Appendix 3: Data table of bird disturbances from bird survey reports to inform impacts of increased vessel movements on qualifying features of The Wash SPA/Ramsar/SSSI

| Species | Survey location w = wharf m = mouth of The Haven w/m = both locations | SPA pop | SPA status F = feature WA = Waterbird assemblage | Supplementary Conservation Advice target pop M = maintain R = restore | Ramsar feature | Ramsar pop | SSSI status b = breeding nb = non-breeding | Latest WeBS 5-year peak mean (2019/20) | Peak count | % SPA pop (Blue text denotes % Ramsar /WeBS count; brown text = % WeBS counts) | Number of occasions observed disturbed | Max movement (m) | Max flight time (secs) | J | F | M | A | M | J | J | A | S | O | N | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ringed plover | w/m | | WA | | Int (nb) | 1,500 | *nb* | ***1,315*** | 40 | 2.6/3.0 | 2 | | 60 | | | | | | | | | | | | |
| Dunlin | w/m | 29,000 | F, WA | R | Int (nb) | 36,600 | nb | 26,150 | 180 | | 7 | 800 | 60 | | | | | | | | | | | | |
| Lapwing | w/m | N/A | WA | | Int (nb) | 46,422 | | 12,967 | 1,100 | 2.4/8.5 | 10 | 800 | 125 | | | | | | | | | | | | |
| Turnstone | w/m | 980 | F, WA | R | Int (nb) | 888 | nb | 755 | 22 | 2.2/2.5/2.9 | 4 | 800 | 60 | | | | | | | | | | | | |
| Redshank | w/m | unknown | WA? | | | | b | | | | | | | | | | | | | | | | | | |
| Redshank | w/m | 4,331 | F, WA | M/R | Int (nb) | 6,373 | nb | 5,087 | 220 | 5.1/3.5/4.3 | 16 | 800 | 45 | | | | | | | | | | | | |
| Golden plover | m | | F, WA | | Int (nb) | 22,033 | *nb* | ***15,212*** | 2,500 | 11.3/16.4 | 3 | 800 | 90 | | | | | | | | | | | | |
| Oystercatcher | w/m | 24,000 | F, WA | R | Int (nb) | 15,616 | nb | 26,586 | 825 | 3.4/5.3/3.1 | 15 | 3300 | 90 | | | | | | | | | | | | |
| Black-tailed godwit | w/m | 260 | F, WA | | Int (nb) | 6,849 | *nb* | ***8,597*** | 2,000 | 769.2/29.2/23.3 | 3 | 800 | 90 | | | | | | | | | | | | |
| Bar-tailed godwit | w/m | 12,374 | F, WA | M | Int (nb) | 16,546 | nb | 17,509 | 10 | | 1 | 300 | | | | | | | | | | | | | |
| Curlew | w/m | 3,700 | F, WA | M | Int (nb) | 9,438 | nb | 6,061 | 55 | 1.5/0.9 | 6 | 800 | | | | | | | | | | | | | |
| Grey plover | w/m | 5,500 | F, WA | M | Int (nb) | 13,129 | nb | 8,313 | 5 | | 2 | 800 | | | | | | | | | | | | | |
| Avocet | m | | WA | | Nat (nb) | 422 | *nb* | ***448*** | 1 | | 1 | 300 | | | | | | | | | | | | | |
| Ruff | w/m | | | | Nat (nb) | 25 | | 80 | 1 | 4/1.3 | 1 | | | | | | | | | | | | | | |
| Knot | m | 75,000 | F, WA | M | Int (nb) | 68,987 | nb | 188,838 | 500 | | 1 | 800 | | | | | | | | | | | | | |
| Common Sandpiper | m | | | | | | | 33 | 3 | 9 | 3 | 100 | 45 | | | | | | | | | | | | |
| Whimbrel | m | | WA | | Nat (nb) | 191 | | 154 | 1 | | 1 | 25 | | | | | | | | | | | | | |
| Little egret | w/m | | | | | | | 463 | 3 | | 3 | 1000 | 60 | | | | | | | | | | | | |
| Cormorant | w/m | | WA | | Nat (nb) | 367 | | 550 | 10 | 1.8 | 17 | 1200 | | | | | | | | | | | | | |
| Wigeon | m | 3,900 | F, WA | M | | | | 9,763 | 100 | 2.6/1.0 | 7 | 500 | | | | | | | | | | | | | |
| Mallard | w/m | | WA | | | | | 958 | 55 | 5.7 | 7 | 400 | | | | | | | | | | | | | |
| Dark-bellied brent goose | m | 17,000 | F, WA | M | Int (nb) | 20,861 | nb | 11,221 | 1,150 | 6.8/5.5/10.2 | 3 | 650 | | | | | | | | | | | | | |
| Teal | m | | WA | | | | | 2,791 | 54 | 1.9 | 3 | | | | | | | | | | | | | | |
| Shelduck | w/m | 16,000 | F, WA | R | Int (nb) | 9,746 | nb | 2,374 | 36 | 1.5 | 6 | 800 | 45 | | | | | | | | | | | | |
| Canada goose | w | | | | | | | 522 | 8 | 1.5 | 1 | | | | | | | | | | | | | | |
| Greylag goose | w | | | | | | | *1,363* | 2 | | 2 | | | | | | | | | | | | | | |
| Black-headed gull | w/m | 4,000 | WA | | Nat (nb) | 31,403 | | 14,541 | 34 | | 17 | 500 | 80 | | | | | | | | | | | | |
| Common gull | w/m | | | | | | | 1,489 | 3 | | 1 | 50 | | | | | | | | | | | | | |
| Common tern | m | 220 | F | | Nat (b) | 152 | | 583 | 10 | 4.5/6.6/1.7 | 1 | | 60 | | | | | | | | | | | | |
| Eider | m | | WA | | Nat (nb) | 1109 | | 1,049 | 2 | | 2 | 500 | 90 | | | | | | | | | | | | |
| Great northern diver | m | | | | | | | 1 | 1 | 100 | 1 | 750 | | | | | | | | | | | | | |
| Red-breasted merganser | m | | | | | | | 80 | 1 | 1.3 | 1 | 400 | | | | | | | | | | | | | |

| Species | Survey location w = wharf m = mouth of The Haven w/m = both locations | SPA pop | SPA status F = feature WA = Waterbird assemblage | Supplementary Conservation Advice target pop M = maintain R = restore | Ramsar feature | Ramsar pop | SSSI status b = breeding nb = non-breeding | Latest WeBS 5-year peak mean (2019/20) | Peak count | % SPA pop (Blue text denotes % Ramsar /WeBS count; brown text = % WeBS counts) | Number of occasions observed disturbed | Max movement (m) | Max flight time (secs) | J | F | M | A | M | J | J | A | S | O | N | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Great-crested grebe | m | | | | | | | 84 | 1 | 1.2 | 3 | 500 | | | | | | | | | | | | | |
| Herring gull | w/m | unknown | WA | | | | | 5,420 | 12 | | 10 | 400 | 155 | | | | | | | | | | | | |
| Lesser black-backed gull | w/m | unknown | WA | | Nat (b) | 1,378 | | | 52 | 3.8 | 7 | | | | | | | | | | | | | | |
| Lesser black-backed gull | w/m | unknown | WA | | Nat (nb) | 1,993 | | 454 | 52 | 2.6/11.4 | 7 | 300 | 155 | | | | | | | | | | | | |
| Great black-backed gull | w/m | unknown | WA | | | | | 499 | 1 | | 1 | 200 | | | | | | | | | | | | | |
| Waterbird assemblage? | | 214,000 | | M | | | *nb* | | 6480 | 3 | 73 | | | | | | | | | | | | | | |

# Appendix 4: Reference list of the Written Representations for the Royal Society for the Protection of Birds

**Submitted for Deadline 1**

**19 October 2021**

**Planning Act 2008 (as amended)**

**In the matter of:**

**Application by Alternative Use Boston Projects Limited for an Order Granting Development Consent for the Boston Alternative Energy Facility**

**Planning Inspectorate Ref: EN010095**

**Registration Identification Ref: 20028367**

# Appendix 4: Reference list of the Written Representations

## a) Citations/Conservation Objectives/Supplementary Advice/Operations Likely to Damage/Views About Management

[redacted]

## b) Environmental Statement References

[redacted]

105)

[redacted]

## c) References