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Beacon Fen Energy Park Habitat Regulations Assessment Screening Report Document Reference: 5.2



Quality information

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1. INTRODUCTION

1.1 Background

1.1.1 This Shadow Habitat Regulations Assessment has been prepared by Wardell Armstrong LLP (part of SLR) ('WA') on behalf of Beacon Fen Energy Park Ltd (the 'Applicant') in support of an application for a Development Consent Order (DCO) for Beacon Fen Energy Park (the 'Proposed Development').

1.2 Objectives of HRA

- 1.2.1 The objectives of an HRA screening process are to consider whether or not the Proposed Development would cause 'likely significant effects' on the qualifying features of Natura 2000 (European) sites (and their overlapping designations where appropriate), specifically the:
 - The Wash (Ramsar & SPA & SSSI)
 - The Wash & North Norfolk Coast (SAC)
- 1.2.2 Both of the 'The Wash' designations overlap, but the SAC designation covers a larger area and includes the entirety of the Ramsar & SPA. These are shown in the drawings (ST19595-501 Internationally Designated Sites). Both designations are approximately 21.4 km from Solar Array Area and 14.2 km from the Cable Route Corridor. The parcel of land previously referred to as 'Beacon Fen South' has been removed from the Proposed Development and therefore has not been considered within this report.
- 1.2.3 This document has been produced in accordance with the Planning Inspectorate's advice on HRA (2024).
- 1.2.4 In order to fully assess any likely significant effects upon these two international designated sites, this Proposed Development has been assessed in isolation and combination with other known plans and projects.
- 1.2.5 The Central Lincolnshire Local Plan (Adopted April 2023) and supporting document Sustainability Appraisal Report and Habitat Regulations Assessment: Non-Technical Summary (April 2023) are the principal sources of information for in-combination assessments.
- 1.2.6 A Preliminary Ecological Appraisal Report (PEA) of the Solar Array Area was undertaken by AECOM in 2022 which was followed by a suite of Phase 2 surveys for badger, reptile, riparian mammal, eDNA for great crested newts (GCN), wintering birds and breeding birds in 2023. A PEA of the Cable Route Corridor and Bespoke Access Corridor was undertaken in 2024, along with Phase 2 surveys for wintering and breeding birds, eDNA for GCN, riparian mammal and bats (WA 2025).
- 1.2.7 This assessment is informed by the proposed Order Limits for the Solar Array Area, Cable Route Corridor and Bespoke Access Corridor, provided by the client as well as the PEA Reports (AECOM, 2022, WA 2025a application Document Refs: 6.3 ES Vol.2, 6.3.24 and 6.3.42), Wintering Bird Reports (AECOM, 2023a, WA 2025b application Document Refs: 6.3 ES Vol.2, 6.3.24

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and 6.3.36) and riparian mammal reports (AECOM, 2023b, WA 2025c application Document Refs: 6.3 ES Vol.2, 6.3.28 and 6.3.38).

1.3 Summary of the Project

1.3.1 The proposed development is formed of the Solar Array Area, a Bespoke Access Corridor from the A17, and The Cable Route Corridor connecting the Solar Array Area to the National Grid Substation near Bicker Bar. The entire DCO application area is approximately 757 ha (hereafter known as the Project Area). The Proposed Development would have a generation capacity of approximately 400 megawatts (MW) of electricity per year, with a 600MW BESS.

1.4 Ecological Context of the Site

- 1.4.1 The Solar Array Area comprises of mainly arable fields with small areas of game crop strips, hedgerows, woodland blocks, numerous mature trees, and small wooded copses. Subsequent surveys of the Bespoke Access Corridor and Cable Route Corridor show that these have similar habitats. The Project Area is surrounded by mainly arable and improved grassland livestock fields with several villages and hamlets.
- 1.4.2 In terms of immediate surroundings, the Project Area is bordered by Midfodder Dike and Car Dyke to the east and the roads of Howell Fen Drove to the south, unnamed road to the west and Black Drove to the north. The hamlets of Ewerby Thorpe and Howell are to the west and southwest. Virtually all the surrounding land is actively farmed arable fields.
- 1.4.3 Further details of the habitats, protected species and designated sites can be found within the Environmental Statement Ecology Chapter (WA 2025d, application Document Ref: 6.2 ES Vol.1, 6.2.7).

1.5 Current Legislation

- 1.5.1 The requirement for an assessment of impacts on European sites is set out within The Conservation of Habitats and Species Regulations 2017 (SI 2017/1012), as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579).
- 1.5.2 The Regulations aim to "maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of Community interest" (Habitats Directive, Article 2(2)). This aim relates to habitats and species, not the European sites, themselves, although the sites have a significant role in delivering favourable conservation status.
- 1.5.3 The Habitats Directive applies the precautionary principle to European sites. Plans and projects can only be permitted having ascertained that there will be no adverse effect on the integrity of the site(s) in question. Plans and projects with predicted adverse impacts on European sites may still be permitted if there are no alternatives to them and there are Imperative Reasons of Overriding Public Interest (IROPI) as to why they should go ahead. In such cases, compensation would be necessary to ensure the overall integrity of the site network.



1.5.4 In order to ascertain whether or not site integrity will be affected, an assessment should be undertaken of the plan or project in question. While the competent authority (e.g. the Local Planning Authority) makes the formal decision as to whether adverse effects will result, they are entitled to request the applicant to produce necessary information to assist them. That is the purpose of this report.

Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (The Habitats Directive 1992) Article 6(3) states that:

"Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives."

The Conservation of Habitats and Species Regulations 2017 (SI 2017/1012), as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579).

Section 63 of the Regulations State that:

- "(1) A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which—
 (a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and (b) is not directly connected with or necessary to the management of that site, must make an appropriate assessment of the implications of the plan or project for that site in view of that site's conservation objectives.
- (2) A person applying for any such consent, permission or other authorisation must provide such information as the competent authority may reasonably require for the purposes of the assessment or to enable it to determine whether an appropriate assessment is required.
- (3) The competent authority must for the purposes of the assessment consult the appropriate nature conservation body and have regard to any representations made by that body within such reasonable time as the authority specifies..."

Box 1: Legislative basis for Appropriate Assessment

1.5.5 Over the years, the phrase 'Habitats Regulations Assessment' has come to describe the overall process set out in the Conservation of Habitats & Species Regulations from screening through to IROPI. This has arisen in order to distinguish the process from the individual stage described in the law as an 'appropriate assessment'. Throughout this report, the term Habitat Regulations Assessment is used for the overall process and the term Appropriate Assessment is restricted to the specific stage of that name.



2. METHODOLOGY

2.1 Stages of Assessment

- 2.1.1 Habitats Regulations Appraisal of projects can be broken down into three discrete stages, each of which effectively culminates in a test. The stages are sequential, and it is only necessary to progress to the following stage if a test is failed. The Habitat Regulations Assessment has been discussed with Natural England with correspondence included in Appendix 1.
- 2.1.2 The stages are:

2.2 Stage 1 – Likely Significant Effect Test

2.2.1 This is essentially a risk assessment, typically utilising existing data, records and specialist knowledge. The purpose of the test is to decide whether 'full' Appropriate Assessment is required. The essential question is:

"Is the project, either alone or in combination with other relevant projects and plans, likely to result in a significant [adverse] effect upon European sites?"

2.2.2 If it can be demonstrated that significant effects are unlikely, no further assessment is required. As a result of the People over Wind C-323/17 (Court of Justice of European Union, 12 April 2018) the ECJ have clarified that ...it is not appropriate at the screening stage, to take account of the measures intended to avoid or reduce the harmful effects of the plan or project on that site.

2.3 Stage 2 – Appropriate Assessment

2.3.1 If it cannot be satisfactorily demonstrated that significant effects are unlikely, an "Appropriate Assessment" will be required. This is focussed entirely upon the designated interest features of the European sites in question. The essential question here is:

"Will the project, either alone or in combination with other relevant projects and plans, actually result in an adverse effect upon the integrity of any European sites, without mitigation?"

2.3.2 If it is concluded that adverse effects will occur, measures will be required to either avoid the impact in the first place, or to mitigate the ecological effect to such an extent that it is no longer significant. Note that, unlike standard Ecological Impact Assessment, compensation for adverse effects (i.e. creation of alternative habitat) is not permitted at the Appropriate Assessment stage.

2.4 Stage 3 – Imperative Reasons of Overriding Public Interest (IROPI) Test

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- 2.4.1 If a project will have a significant adverse effect upon a European site, and this effect cannot be either avoided or mitigated, the project cannot proceed unless it passes the IROPI test. In order to pass the test, it must be objectively concluded that no alternative solutions exist. The project must be referred to the Secretary of State on the grounds that there are Imperative Reasons of Overriding Public Interest as to why the project should nonetheless proceed.
- 2.4.2 This report deals with the first stage of Habitat Regulations Assessment the Likely Significant Effect Test and the second stage Appropriate Assessment.
- 2.4.3 It is a requirement of the Regulations that the impacts of any plans or projects being assessed are not considered in isolation but in combination with other plans and projects that may also be affecting the European site(s) in question. In this case, the Central Lincolnshire Local Plan (2023) is considered to be the main source of information for the in-combination assessment. The Local Plan Sustainability Appraisal and Habitats Regulation Assessment for the Adopted Local Plan (non technical summary) details in-combination effects arising from local projects.



3. **DESIGNATED SITES**

3.1.1 The qualifying features and conservation objectives of the Internationally designated sites of relevance to this Project are discussed in Table 1, below. Full Natura 2000 citations for each site and the Ramsar Information Sheet are given in Appendix 2 with the conservation objectives in Appendix 3.

Table 1: Qualifying Features and Conservation Objectives of the Designated Sites

Table II Qualifying I satures and softeen alleri objectives of the Boolghatea sites				
SITE NAME AND OBJECTIVES	REASON FOR DESIGNATION			
The Wash Ramsar/SPA (UK11072/UK9008021) 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 Wash qualifies as SPA under Article 4(1) because it supports 30 breeding pairs of little terns <i>Sterna albifrons</i> (2% of the British population) and 220 pairs of common terns <i>Sterna hirundo</i> (2%); and because it supports 130 Bewick's swans <i>Cygnus cygnus</i> (3%) in winter. The Wash qualifies under Article 4(2) as an internationally important wetland by supporting in winter an average of 163,000 waders and also 51,000 wildfowl; and because it supports on average the following internationally important numbers			
The extent and distribution of the habitats of the qualifying features The structure and function of the habitats of the	because it supports on average the following internationally important numbers of individual species: 17,000 dark-bellied brent geese <i>Branta bernicla bernicla</i> (12% of the European wintering population), 7,300 pinkfooted geese <i>Anser brachyrhynchus</i> (7%), 16,000 shelducks <i>Tadorna Tadorna</i> (12%), 1,700 pintails			
qualifying features	Anas acuta (2%), 24,000 oystercatchers Haematopus ostralegus (3%), 5,500 grey plovers Pluvialis squatarola (7%), 500 sanderlings Calidris alba (3%), 7,500 knots			
 The supporting processes on which the habitats of the qualifying features rely 	Calidris canutus (21%) 29,000 dunlins Calidris alpina (1%) 8,200 bar-tailed godwits Limosa lapponica (1%), 3,700 curlews Numenius arquata (1%), 4,331 redshanks Tringa totanus (5%) and 980 turnstones Arenaria interpres (2%).			
 The population of each of the qualifying features, and, 	In addition the site qualifies because of its national importance to other migratory birds. Wintering birds include 3,900 wigeon <i>Anas penelope</i> (2% of the			
- The distribution of the qualifying features within the site	British wintering population), 220 goldeneye <i>Bucephala clangula</i> (1%), 130 gadwall <i>Anas strepera</i> (3%), 830 common scoters <i>Melanitta nigra</i> (2%), 260 black-tailed godwits <i>Limosa limosa</i> (6%) and probably several gull species (Larus). Important populations of wintering passerines are also supported.			



SITE NAME AND OBJECTIVES	REASON FOR DESIGNATION
	It qualifies as a Ramsar under Criterion 1, 3, 5 and 6: - 1 - a large shallow bay comprising very extensive saltmarshes, major intertidal banks of sand and mud, shallow water and deep channels. - 3 - Qualifies because of 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. - 5 - winter waterfowl (peak counts of 292,541 waterfowl) assemblages of international importance. - 6- species/populations occurring at levels of international importance (species mentioned above).
The Wash & North Norfolk Coast SAC (UK0017075)	Annex I habitats and Annex II species that are a primary reason for selection of this site:
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;	- 1110 Sandbanks which are slightly covered by sea water all the time - 1140 Mudflats and sandflats not covered by seawater at low tide
- The extent and distribution of qualifying natural habitats and habitats of qualifying species	- 1160 Large shallow inlets and bays
- The structure and function (including typical species) of qualifying natural habitats	 1170 Reefs 1310 Salicornia and other annuals colonizing mud and sand
The structure and function of the habitats of qualifying species	- 1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)



SITE NAME AND OBJECTIVES	REASON FOR DESIGNATION
 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. 	 1420 Mediterranean and thermo-Atlantic halophilous scrubs (Sarcocornetea fruticosi) 1365 Harbour seal <i>Phoca vitulina</i> Annex I habitats and Annex II species present as a qualifying feature, but not a primary reason: 1150 Coastal lagoons 1355 Otter <i>Lutra lutra</i>
The Wash SSSI (1002998)	The whole area is of exceptional biological interest. The intertidal mudflats and saltmarshes represent one of Britain's most important winter-feeding areas for waders and wildfowl outside of the breeding season. Enormous numbers of migrant birds, of international significance, are dependent on the rich supply of invertebrate food. The saltmarsh and shingle communities are of considerable botanical interest and the mature saltmarsh is a valuable bird breeding zone. In addition, the Wash is also very important as a breeding ground for Common Seals.



4. LIKELY SIGNIFICANT EFFECT TEST

4.1 Pathways of Impact

- 4.1.1 In carrying out an HRA, it is important to determine the various ways in which the Proposed Development can impact on European sites by following the pathways along which development can be connected with those sites, in some cases many kilometres distant. Briefly defined, pathways are routes by which a change in activity associated with the Proposed Development can lead to an effect upon a European site.
- 4.1.2 Table 2 summarises the potential impact pathways between the Proposed Development and the European sites subject to screening.

Table 2: Summary of potential impact pathways

	THE WASH SPA AND RAMSAR	THE WASH AND NORTH NORFOLK COAST SAC
Distance and direction from the Proposed Development c.	14.2 km E	14.2 km E
Land take by development in European sites	None	None
Fragmentation of European site habitats	None	None
Increased mortality of key species	None	None
Disturbance to key species / deterioration of Habitats	None	None
Disturbance to key species/ damage or deterioration of supporting habitats (outside of the network of sites area)	Potential disturbance of qualifying species of the SPA and Ramsar: over wintering gadwall using a reservoir in the Solar Array Area	Potential disturbance of qualifying species of the SAC: Otter using waterbodies crossed by the Cable Route Corridor.
Atmospheric pollution/ air quality pollution	None	None



	THE WASH SPA AND RAMSAR	THE WASH AND NORTH NORFOLK COAST SAC
Changes in soil chemistry	None	None
Hydrological Regime Change and Pollution of surface/ ground water	connecting water courses, and/or of	eas within the SPA, SAC and Ramsar via changes to water flow from the proposed Ramsar affecting qualifying habitats.

4.2 Loss/Impact to Functionally Linked Habitats

4.2.1 'Functionally linked habitat' is a term used to described areas of land or sea occurring outside of a designated site but is considered to be critical to, or necessary for, the ecological or behavioural functions in a relevant season of a qualifying feature the designation has been notified for. These habitats are frequently used by qualifying species and supports the functionality and integrity of the designated sites.

The Wash SPA and Ramsar

- 4.2.2 The Wash SPA and Ramsar qualifying species likely to use the habitat in and around the proposed development are wading/wildfowl birds. Wading and wildfowl birds travel vast distances, particularly during spring and winter migrations, and regularly use farmland when taking breaks during migration. They can also use them during the breeding season for foraging, and in some cases breeding.
- 4.2.3 Several species of wading and wildfowl birds are listed as qualifying features of the Ramsar, SPA and SAC designations. These include gadwall of which two individuals were seen on two occasions within the Solar Array Area. The most recent five-year mean for gadwall on the Wash is 176 individuals (2018/19-22/23), meaning the Proposed Development site supports over 1% of the SPA population (British Trust for Ornithology 2025). It should be noted that the most recent population estimates for wintering birds put the UK population of gadwall at 31,000 (Frost *et al.* 2019), therefore the Wash falls below the 1% threshold for the species being a qualifying feature (were the SPA designated now).
- 4.2.4 The gadwall were only seen using a reservoir within the Solar Array Area. This reservoir will be retained within the Proposed Development. This reservoir is used for fishing therefore subject to human disturbance.
- 4.2.5 During the construction and demolition phases of the proposed development there will be an increase in noise from vehicles and the construction techniques used, some of which may exceed the 70 dB threshold above which birds are considered to suffer disturbance (Cutts *et al.* 2013). The loudest plant used on site will reach 116 dB at the source (see Noise and Vibration Chapter 10, document ref: 6.2 ES Vol 1, 6.2.10). Construction workers on site may cause visual disturbance to birds if they are in the vicinity of the reservoir. As gadwall are only of importance for their overwintering population, any impact would only occur during the winter (November to February).



The Wash and North Norfolk Coast SAC

- 4.2.6 The Wash and North Norfolk Coast SAC qualifying species likely to use the habitat in and around the proposed development is the otter. Otter can travel considerable distances and a male territory can extended to over 20km along water courses whilst females may have territories extended 5-10km. Otter are a qualifying feature but not a primary reason for The Wash & North Norfolk Coast SAC.
- 4.2.7 During the construction and demolition of the development there will be the need for the Cable Route Corridor and Bespoke Access Road to cross ditches that could be used by otters. Excavation for and construction of crossings could directly injure or kill otters or damage or cause the loss of their holts. It is assumed that individuals using breeding sites up to 100 m from the construction activity could be affected.
- 4.2.8 For any otters to reach the Order Limits for the Wash and North Norfolk Coast SAC, there will be the requirement for them to cross under at least one A-road. Any travelling along the South Forty Foot Drain would need to pass through the town of Boston. These will therefore be tolerant of some level of disturbance, albeit they are likely to prefer quieter locations for their breeding sites.

4.3 Changes in Water Quality and Hydrological Regime Change

The Wash SPA and Ramsar, and the Wash and North Norfolk Coast SAC

- 4.3.1 The quality of the water that feeds into European sites is a major determinant of the habitats present, the species they support and their quality. Poor water quality can have a range of environmental impacts. Development adjacent or hydrologically connected to European sites has the potential to affect both the water quality and levels within European sites, which may result in significant effects on their features or supporting habitats for features. These impacts could be from pollution or contamination of habitats, for example where surface water or other water-based emissions (e.g. from sewage, or industrial processes in employment areas) are discharged into water courses or ground water. Developments also have the potential to affect water quantity either through localised lowering of the water table through excavations or through interrupting drainage pathways.
- 4.3.2 Measures to contain pollutants and avoid them entering the water courses have been set out in the OCEMP (Document ref 6.3 ES vol 2, 6.3.7) in particular Section 4.5. A minimum 5 m buffer will be maintained from all water courses. The hydrological regime has been considered in the OCEMP section 6.11, and water levels are maintained by the Internal Drainage Board. Therefore there is expected to be no adverse effect on the Wash SPA and Ramsar, and the Wash and North Norfolk Coast SAC through changes in water quality or to the hydrological regime.



4.4 Summary of Potential Impacts Within the Scope of this HRA

4.4.1 Potential impacts pathways arising from the Proposed Development are described in Table 3, below, and any likely significant effects arising from these potential pathways are discussed in further detail with relevance to the Proposed Development in Table 4.

Table 3: Summary of Potential Impacts Within the Scope of this HRA

POTENTIAL EFFECT ON NATIONAL NETWORK SITE	RATIONALE
Loss of habitat functionally linked to a National Network site (Ramsar/SPA/SAC).	The proposals include construction on land utilised by qualifying species of the SAC, as well as adjacent to habitats used by species listed on the SPA.
Changes to water quality and levels where a National Network site is hydrologically linked to the Project, as a result of construction / operational activities.	A change in water quality and levels are not expected to affect the Ramsar/SPA/SAC



Table 4: LSE Screening Summary Table

POTENTIAL EFFECT ON NATIONAL NETWORK SITE	IMPACT TYPE	
Loss of functionally linked habitat to a National Network site (habitat not included within the Ramsar/SPA/SAC but utilised by qualifying species).	The Wash SPA and Ramsar The proposals in the Order Limits show the development will cover mainly arable fields. Arable fields are suitable habitat for foraging and breeding wading and wildfowl species. Wintering bird surveys identified small numbers of wildfowl utilising the site with peak counts of pink-footed geese at 50, gadwall at 2, wigeon at 11, mallard at 10 and teal at 32. Noise and visual disturbance generated during the construction phases of the Proposed Development will exceed the threshold of disturbance (70 dB) with some machinery reaching 116 dB at the source (see Noise and Vibration Chapter 10, document ref: 6.2 ES Vol 1, 6.2.10). However, the low numbers of qualifying species utilising the Proposed Development indicates it is unlikely to be functionally linked habitat. For gadwall; the only species where the project area supports over 1% of the SPA population, birds were only found on a reservoir used for fishing, on two of the four winter survey occasions, which will be retained in the proposed development. There are also significant areas of suitable habitat for these species surrounding the Solar Array Area. The Wash and North Norfolk Coast SAC The construction of the proposed development will require some ditch crossings. Otter surveys found potential evidence along Heckington Eau and an otter was seen swimming along the South Forty Foot Drain. No other evidence (including breeding sites) was found. Both of these water courses will be crossed for the installation of the Cable Route using trenchless techniques such as Horizontal Directional Drilling (HDD), thus avoiding impacts on the water courses themselves and there are expected to be no significant impact on otters. Update pre-construction otter (walkover) surveys will be done on ditch crossings to determine if any impact will occur and if so, what mitigation is required.	Screened in for further assessment
Changes to water quality where a National Network site is hydrologically linked to the Project, because of construction activities.	No works involved with installation and construction of the proposed development are anticipated to change the current levels of hydrology. The OCEMP (document ref: 6.3 ES vol 2, 6.3.7) includes measures to avoid pollution and run-off. The OCEMP considers dust, spillages, refuelling and appropriate storage of materials and fuel. This will avoid adverse effects on the habitats of the Ramsar/SPA/SAC designations within The Wash and otters which use the SAC and waterways surrounding the order limits. There are no adverse impacts anticipated upon hydrology and water quality during operation and the proposed development will not result in the loss of any watercourses.	Screened out for further assessment



5. APPROPRIATE ASSESSMENT

- 5.1.1 Table 4 above summarises the likely significant effects found during Stage 1.
- 5.1.2 The Proposed Development is described in Chapter 2 of the Environmental Statement (Document Ref 6.2 ES Vol 1, 6.2.2).

5.2 Loss of functionally linked habitat

5.2.1 The construction and decommissioning phases of the Proposed Development will involve works which potentially cause disturbance to species which are qualifying features of the SPA and SAC. This will include noise from plant as well as visual disturbance mainly caused by the presence of construction workers which animals may perceive as a threat. As a result, the species may stop using the land within or close to the Order Limits and there will be an effective loss of functionally linked habitats.

The Wash SPA and Ramsar -Overwintering gadwall

- 5.2.2 The current overwintering population of gadwall is estimated as 31,000 (Frost et al. 2019), with the latest 5 year peak mean at the Wash being 176 (BTO 2025). The gadwall is listed on the Amber List of the most recent Birds of Conservation Concern (Stanbury et al. 2021).
- 5.2.3 As detailed in Table 2.1 and Section 2.14 of Chapter 2 of the Environmental Statement (Document Ref 6.2 ES Vol 1, 6.2.2) the installation of the solar panels in the Solar Array area will require piling and other works. This piling has been identified as generating up to 116 dB (see table 10.16 of the Noise and Vibration chapter of the Environmental Statement Document Ref 6.2 ES Vol 1, 6.2.10).
- 5.2.4 The Solar Array Area supports the equivalent of over 1% of the Wash SPA and Ramsar's gadwall population over winter. Operations above 70 dB are considered to cause a significant adverse disturbance response in birds (i.e. they move away from the area of noise) (Cutts *et al.* 2013). The presence of construction workers may also disturb birds, especially considering that they will be wearing high visibility clothing. No significant populations of other qualifying species of the SPA and Ramsar (either wintering or breeding birds) were found within the Order Limits.
- 5.2.5 To mitigate the impacts on wintering birds including gadwall, and therefore the Wash SPA and Ramsar, where works are required in the vicinity of the reservoir a buffer will be set up during the winter months (November to February). Over distance the noise from the machinery will be reduced, and at a certain distance it will be quiet enough to avoid causing disturbance. At 60 m from the loudest plant the noise will fall below 70 dB and there will be no significant effect on the overwintering gadwall. Therefore the buffer should be 60 m from the reservoir.
- 5.2.6 Section 3.3. of the OCEMP (document ref 6.3 ES Vol 2, 6.3.7) sets out the requirement for an Environmental Induction 'toolbox talk' to include the contractors responsibility with regards to environmental issues. This will include avoiding areas around the reservoir between November and February.



5.2.7 With the mitigations measures set out above there is expected to be no adverse effect on overwintering gadwall, and therefore the Wash SPA and Ramsar as a result of the proposed development.

The Wash and North Norfolk Coast SAC- Otter

- 5.2.8 Otters are rare but widespread in the UK. In the most recent otter survey by the Environment Agency (2010) the catchments covering the site (Witham and Old Bedford) had experienced significant expansion of otters since surveys started 1977-79 with over 40% of the sites surveyed having evidence of otters
- 5.2.9 As detailed in Table 2.1 and Section 2.11 of Chapter 2 of the Environmental Statement (Document Ref 6.2 ES Vol 1, 6.2.2) where ditch crossings are necessary they will mostly be done using open cut trenching methods.
- 5.2.10 Otters have been seen swimming along South Forty-Foot Drain, and possible evidence of their presence has been found on Heckington Eau. Open cut trenches in the banks could damage or destroy the breeding or resting places of otters if present, and the works disturb individuals. No resting or breeding place have been found to date.
- 5.2.11 Horizontal Directional Drilling methods will be adopted under Heckington Eau and the South Forty Foot Drain which will avoid impacts on otters. Section 6.7 of the OCEMP (document ref 6.3 ES Vol 2, 6.3.7) includes requirements for update surveys for protected species once the locations of crossings have been defined. These surveys will outline further mitigation including protected species licences if required.
- 5.2.12 With the mitigations measures set out above there is expected to be no adverse effect on otters, and therefore the Wash and North Norfolk Coast SAC as a result of the proposed development.

5.3 In-Combination Effects

5.3.1 Details of plans and projects identified as likely to result in any in-combination effects to National Network sites are below in Table 5.



Table 5: Summary of plans and projects with the potential for in-combination effects

PLAN OR PROJECT	DESCRIPTION	POTENTIAL EFFECT ON RAMSAR/SPA/SAC AND HRA OUTCOME	POTENTIAL FOR IN-COMBINATION EFFECTS
Heckington Fen Solar Park (500MW) on Land to the east of Sidebar Lane.	Approximately 3.5km east of the Project Area at its closest point.	A HRA has been produced (Ecotricity, 2024). The HRA advises that Likely Significant Effects are possible relating to North Norfolk Coast and Wash SAC / The Wash SPA / The Wash Ramsar. This is due to silt laden run off and pollution entering the ditch network and loss of functionally linked land associated with qualifying winter wetland bird species.	Potential for in combination impacts regarding hydrological connection and loss of functionally linked land associated with qualifying winter wetland bird species. However, Likely Significant Effects (LSEs) associated with Heckington Fen Solar Park were taken forward to a Shadow Appropriate Assessment. Where the design of the Proposed Development, appropriate mitigating factors and other factors were taken into consideration, the potential adverse effects of the Proposed Development on the integrity of the North Norfolk Coast and Wash SAC, the Wash SPA, and the Wash Ramsar were ruled out by the Heckington Fen Solar Park project team. Additionally winter wetland bird species using land associated with Heckington Fen Solar Park differed from that using the Project Area. As such providing the appropriate design and mitigation is



PLAN OR PROJECT	DESCRIPTION	POTENTIAL EFFECT ON RAMSAR/SPA/SAC AND HRA OUTCOME	POTENTIAL FOR IN-COMBINATION EFFECTS
			followed by both schemes, no in-
			combination impacts are expected.
Screening Opinion for solar farm on Land at Park Lane, Ewerby.	Approximately 1.7km west of the Project Area at its closest point.	None identified within screening reply. No HRA has been produced.	None as no effects identified in screening opinion and no planning application has been submitted since this screening opinion.
Proposed solar farm (32MW) on Land to the north of White Cross Lane.	Approximately 4.1km southwest of the Project Area at its closest point.	None identified as no HRA has been produced.	
Proposed solar farm (49.9MW) at Little Hale Fen.	Approximately 5.85km south of the Project Area at its closest point.	None identified as no HRA has been produced.	
Proposed solar farm (50MW) at Land West of Walcot.	Approximately 13.5km southwest of the Project Area at its closest point.	None identified as no HRA has been produced.	None identified due to distance from the Project Area and The Wash designations.



6. CONCLUSION

- 6.1.1 The Proposed Development has been assessed as having a Likely Significant Effect upon National Network sites (Ramsar/SPA/SAC). This is due to loss of functionally linked habitats. As such and Appropriate Assessment has been undertaken as part of this HRA
- 6.1.2 Within the Appropriate Assessment mitigation measures outlined in the OCEMP (document ref 6.3 ES Vol 2, 6.3.7) to avoid these adverse effects have been taken into account. It is therefore considered that the Proposed Development will have no adverse effects on the Wash SPA and Rasmar or the Wash and North Norfolk Coast SAC or the qualifying features of these designated sites.
- 6.1.3 No in-combination effects are anticipated.



7. REFERENCES

- AECOM (2022) Bicker Fen Solar Farm: Preliminary Ecological Appraisal
- AECOM (2023a) Bicker Fen Solar Farm: Wintering Bird Report
- AECOM (2023b) Bicker Fen Solar Farm: Riparian Mammal Survey Report
- British Trust for Ornithology (2025) Wetland Bird Survey Data https://app.bto.org/webs-reporting/numbers.jsp [accessed 21st January 2025].
- Central Lincolnshire Local Plan Adopted April 2023) https://www.n-kesteven.gov.uk/central-lincolnshire/planning-policy-library [accessed 21st January 2025].
- Cutts, N., Hemingway, K., and Spencer, J. (2013) Waterbird Disturbance Mitigation Toolkit Informing Estuarine Planning & Construction Projects Institute of Estuarine & Coastal Studies (IECS) University of Hull https://tide-toolbox.eu/tidetools/waterbird_disturbance_mitigation_toolkit/ [accessed 24th March 2025]
- Environment Agency (2010). Fifth otter Survey of England 2009-2010:
 Technical Report. Environment Agency. Peterborough.
- Frost, T., Austin, G., Hearn, R., McAvoy, S., Robinson, A., Stroud, D, Woodward, I. & Wotton, S. (2019) Population Estimates of Wintering Waterbirds in Great Britain. British Birds 112: 130-145
- Heckington Fen Energy Park Project Team (Ecotricity) (2024) Shadow HRA to Inform Appropriate Assessment
- Planning Inspectorate (2024) Guidance: Nationally Significant Infrastructure Projects: Advice on Habitats Regulations Assessments. https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-habitats-regulations-assessments [accessed 18th March 2025]
- Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. 2021. The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. British Birds 114: 723-747
- Sustainability Appraisal Report for the Central Lincolnshire Local Plan (as adopted) (April 2023) Non-Technical Summary https://www.nkesteven.gov.uk/central-lincolnshire/adopted-local-plan-2023 [accessed 21st January 2025].
- Wardell Armstrong (2025a) Beacon Fen Energy Park: Preliminary Ecological Appraisal
- Wardell Armstrong (2025b) Beacon Fen Energy Park: Wintering Bird Report
- Wardell Armstrong (2025c) Beacon Fen Energy Park: Riparian Mammal Survey Report
- Wardell Armstrong (2025d) Beacon Fen Energy Park: Environmental Statement. Chapter 7 – Ecology

Beacon Fen Energy Park Habitat Regulations Assessment Screening Report Document Reference: 5.2



BFEP Appendices

Beacon Fen Energy Park Habitat Regulations Assessment Screening Report Document Reference: 5.2



Appendix 1 Minutes of meeting with Natural England 29th August 2024

Notes of Meeting



CLIENT: L	ow carbon	PROJECT: Beacon Fen Energy park	JOB NO.: ST19595	PAGE1 OF1
discuss H and GCN	abitat Regulations Assessment Licencing, as part of the nary Advice Service (DAS)	PRESENT: Megan Bromiley (NE), Robbie Clairey (NE), Katrina Salmon (WA) Tim Bradford (WA)	NOTES BY: TB	DATE: 29/08/24
ITEM: 1	individuals were found on over 1% of the Wash SPA SPA is the relevant numbe NE confirmed that the leve	intering birds in HRA d for which the Wash SPA has been of one occasion during the wintering be population. Confirmed that the latest to relate the population recorded all of detail required would depend on the confirmed that the latest of the confirmed would depend on the confirmed would depend on the confirmed that the latest the population recorded all of detail required would depend on the confirmed that the latest that the confirmed would depend on the confirmed that the latest that the lates	oird surveys slightly st 5 year mean at the on site to. In the likely impact.	ACTION / STATUS: Include wintering birds in the HRA
	Discussed timing of production of a draft licence: NE would prefer draft licence application at the time of the ES submission, although it can go in later this is likely to lead to more uncertainty and questioning around the written representation stage. Reviewed if using licence policy 1 (i.e. limited translocation in favour of greater habitat creation) was feasible. They agreed this was possible subject to the mitigation proposed. Discussed the level of survey effort and that the GCN had come up last minute. NE would prefer full assessment although eDNA results would suffice for the draft licence.			WA to write proposal for draft licence and full surveys
	AOB NE happy to review HRA v	when ready as part of the DAS		NE to produce contract and ceiling fee for DAS and provide to Low Carbon

Beacon Fen Energy Park Habitat Regulations Assessment Screening Report Document Reference: 5.2



Appendix 2 Citations for designated sites

Information Sheet on Ramsar Wetlands (RIS)

		(111)	3)		
1.	Name and address o	of the compiler of this form	1: FOR OFFICE USE ONLY.		
	Monkstone House City Road Peterborough Cambridgeshire UK Telephone/Fax:	PE1 1JY +44 (0)1733 – 562 626 / +44 RIS@JNCC.gov.uk	Designation date 4 (0)1733 – 555 948	Site Reference Number	_
2.	Date this sheet was of Designated: 30 Mar	completed/updated: rch 1988 / Updated: May 20	005		
3.	Country: UK (England)				
4.	Name of the Ramsan	r site:			
	The Wash				
5.	Map of site included	l :			
a)]	hard copy (required for	r inclusion of site in the Ran	nsar List): yes -or- no		
b)	digital (electronic) for	mat (optional): Yes			
6.	Geographical coord	inates (latitude/longitude): 00° 17' 12'' E			
7.	General location:				

Nearest town/city: King's Lynn

The Wash is located on the east coast of England between the coastal towns of Hunstanton in north Norfolk and Skegness in Lincolnshire.

Administrative region: Lincolnshire; Norfolk

8. Elevation (average and/or max. & min.) (metres): 9. Area (hectares): 62,212

Min. No information availableMax. No information availableMean No information available

10. Overview:

The Wash is the largest estuarine system in Britain. It is fed by the rivers Witham, Welland, Nene and Great Ouse. There are extensive saltmarshes, intertidal banks of sand and mud, shallow waters and deep channels. It is the most important staging post and over-wintering site for migrant wildfowl and wading birds in eastern England. It supports a valuable commercial fishery for shellfish and also an important nursery area for flatfish. It holds one of the North Sea's largest breeding populations of common seal *Phoca vitulina* and some grey seals *Halichoerus grypus*. The sublittoral area supports a number of different marine communities including colonies of the reef-building polychaete worm *Sabellaria spinulosa*.

11. Ramsar Criteria:

1, 3, 5, 6

Secretariat Comment: The RIS provides information requiring the application of Criterion 4. This need to be included in the next update.

12. Justification for the application of each Criterion listed in 11. above:

Ramsar criterion 1

The Wash is a large shallow bay comprising very extensive saltmarshes, major intertidal banks of sand and mud, shallow water and deep channels. It is the largest estuarine system in Britain.

Ramsar criterion 3

Qualifies because of 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.

Ramsar criterion 5

Assemblages of international importance:

Species with peak counts in winter:

292,541 waterfowl (5 year peak mean 1998/99-2002/2003)

Ramsar criterion 6

Species/populations occurring at levels of international importance.

Qualifying Species/populations (as identified at designation):

Species with peak counts in spring/autumn:

Common redshank, Tringa totanus totanus, 6.373 individuals, representing an average of

2.5% of the population (5 year peak mean

1.1% of the population (5 year peak mean

1998/9-2002/3) 9,438 individuals, representing an average of

Eurasian curlew, Numenius arquata arquata, N.

a. arquata Europe

(breeding)

Eurasian oystercatcher, Haematopus ostralegus

ostralegus, Europe & NW Africa -wintering

Grey plover, Pluvialis squatarola, E Atlantic/W

Africa -wintering

Red knot, Calidris canutus islandica, W &

Southern Africa

(wintering)

Sanderling, Calidris alba, Eastern Atlantic

15,616 individuals, representing an average of 1.5% of the population (5 year peak mean

1998/9-2002/3)

1998/9-2002/3)

13,129 individuals, representing an average of 5.2% of the population (5 year peak mean

1998/9-2002/3 - spring peak)

68,987 individuals, representing an average of 15.3% of the population (5 year peak mean

1998/9-2002/3)

3,505 individuals, representing an average of 2.9% of the population (5 year peak mean

1998/9-2002/3)

Species with peak counts in winter:

31,403 individuals, representing an average of

Black-headed gull , *Larus ridibundus*, N & C Europe

1.57% of the population (5 year peak mean 1998/9-2002/3)

Common eider, *Somateria mollissima mollissima*, NW Europe

1109 individuals, representing an average of 1.5% of the population (5 year peak mean 1998/9-

2002/3)

Bar-tailed godwit , *Limosa lapponica lapponica*, W Palearctic

16,546 individuals, representing an average of 13.7% of the population (5 year peak mean

1998/9-2002/3)

Common shelduck, Tadorna tadorna, NW

9,746 individuals, representing an average of 3.2% of the population (5 year peak mean

Europe

1998/9-2002/3)

Dark-bellied brent goose, *Branta bernicla bernicla*,

20,861 individuals, representing an average of 10.4% of the population (5 year peak mean

Dunlin, Calidris alpina alpina, W Siberia/W

1998/9-2002/3) 36,600 individuals, representing an average of

Europe

2.7% of the population (5 year peak mean 1998/9-2002/3)

Pink-footed goose, *Anser brachyrhynchus*, Greenland, Iceland/UK

29,099 individuals, representing an average of 10.7% of the population (5 year peak mean

1998/9-2002/3)

Species/populations identified subsequent to designation for possible future consideration under criterion 6.

Species with peak counts in spring/autumn:

Black-tailed godwit, *Limosa limosa islandica*, Iceland/W Europe

6,849 individuals, representing an average of 14.5% of the population (5 year peak mean 1998/9-2002/3)

Ringed plover, *Charadrius hiaticula*, Europe/Northwest Africa

1,500 individuals, representing an average of 2% of the population (5 year peak mean 1998/9-2002/3)

Species with peak counts in winter:

European golden plover, *Pluvialis apricaria altifrons* Iceland & Faroes/E Atlantic

22,033 individuals, representing an average of 2.3% of the population (5 year peak mean 1998/9-2002/3)

Northern lapwing, *Vanellus vanellus*, Europe - breeding

46,422 individuals, representing an average of 2.3% of the population (5 year peak mean 1998/9-2002/3)

More contemporary data and information on waterbird trends at this site and their regional (subnational) and national contexts can be found in the Wetland Bird Survey Alerts report, which is updated annually. See http://www.bto.org/survey/webs/webs-alerts-index.htm.

13. Biogeography:

a) biogeographic region:

Atlantic

b) biogeographic regionalisation scheme (include reference citation):

Council Directive 92/43/EEC

14. Physical features of the site:

Soil & geology	cobble, gravel, biogenic reef, neutral, shingle, sand, mud,
	clay, nutrient-rich, sedimentary, limestone

Geomorphology and landscape	lowland, coastal, shingle bar, subtidal sediments (including sandbank/mudbank), intertidal sediments (including sandflat/mudflat), enclosed coast (including embayment),	
NT / · · / ·	estuary, lagoon	
Nutrient status	eutrophic	
pН	circumneutral	
Salinity	saline / euhaline	
Soil	mainly mineral	
Water permanence	usually permanent	
Summary of main climatic features	Annual averages (Marham, 1971–2000)	
	(www.metoffice.com/climate/uk/averages/19712000/sites/	
	marham.html)	
	Max. daily temperature: 13.8° C	
	Min. daily temperature: 5.7° C	
	Days of air frost: 51.9	
	Rainfall: 621.3 mm	
	Hrs. of sunshine: 1536.6	

General description of the Physical Features:

No information available

15. Physical features of the catchment area:

No information available

16. Hydrological values:

No special values known

17. Wetland types

Marine/coastal wetland

Code	Name	% Area
J	Coastal brackish / saline lagoons	0.03
A	Shallow marine waters	51.7
E	Sand / shingle shores (including dune systems)	0.03
G	Tidal flats	41
Н	Salt marshes	7.2

18. General ecological features:

The intertidal flats of the Wash form one of the largest intertidal areas in Britain and these are predominantly sandy. The flats support high concentrations of marine worms and shellfish. There is an abundant growth of algae and high concentrations of marine invertebrates which provides a food source up to 300,000 wintering wildfowl_and supports an important fishery and seal colony. Extensive saltmarshes fringe the bay but much of the older and botanically more diverse saltmarsh has been lost due to a long history of land-claim. Higher level marshes are characterised by *Elytrigia atherica*, *Atriplex portulacoides*, *Suaeda maritima* and *Limonium vulgare*. Where the saltmarsh has been grazed by cattle and wildfowl, there may be extensive lawns of *Puccinellia* spp. Abundant *Aster tripolium* occurs at lower levels whilst *Salicornia* spp. and *Spartina anglica* are the principal colonising species.

19. Noteworthy flora:

Nationally important species occurring on the site.

Higher plants. *Salicornia* spp.

Ramsar Information Sheet: UK11072 Page 4 of 9 **The Wash**

20. Noteworthy fauna:

Birds

Species currently occurring at levels of national importance:

Species regularly supported during the breeding season:

Common tern, *Sterna hirundo*, N & E Europe

E 152 pairs, representing an average of 1.4% of the GB population (Count as at 1993)

Lesser black-backed gull, *Larus fuscus graellsii*, W Europe/Mediterranean/W Africa

1378 apparently occupied nests, representing an average of 1.2% of the GB population (Seabird 2000 Census)

Little tern, Sterna albifrons albifrons, W Europe

33 pairs, representing an average of 1.6% of the GB population (5 year mean 1992-1996)

Species with peak counts in spring/autumn:

Common greenshank , *Tringa nebularia*, Europe/W Africa

376 individuals, representing an average of 62.9% of the GB population (5 year peak mean 1998/9-2002/3)

Great cormorant, *Phalacrocorax carbo carbo*, NW Europe

367 individuals, representing an average of 1.5% of the GB population (5 year peak mean 1998/9-2002/3)

Lesser black-backed gull, Larus fuscus graellsii,

1993 individuals, representing an average of 3.2% of the GB population (5 year peak mean 1998/9-2002/3)

Pied avocet , *Recurvirostra avosetta*, Europe/Northwest Africa

422 individuals, representing an average of 12.4% of the GB population (5 year peak mean 1998/9-2002/3)

Ruff, Philomachus pugnax, Europe/W Africa

25 individuals, representing an average of 3.5% of the GB population (5 year peak mean 1998/9-2002/3)

Whimbrel, *Numenius phaeopus*, Europe/Western Africa

191 individuals, representing an average of 6.3% of the GB population (5 year peak mean 1998/9-2002/3)

Species with peak counts in winter:

Bean goose , Anser fabalis fabalis, NW Europe - wintering

Black (common) scoter, Melanitta nigra nigra,

7 individuals, representing an average of 1.7% of the GB population (Source period not collated)

Black-headed gull , $Larus\ ridibundus$, N & C Europe

1190 individuals, representing an average of 2.3% of the GB population (5 year peak mean 1998/9-2002/3)

Common eider, Somateria mollissima mollissima, NW Europe

31,403 individuals, representing an average of 1.57% of the population (5 year peak mean 1998/9-2002/3)

Greater white-fronted goose, Anser albifrons albifrons, NW Europe

1109 individuals, representing an average of 1.5% of the population (5 year peak mean 1998/9-2002/3)
100 individuals, representing an average of 1.7%

Red-throated diver, Gavia stellata, NW Europe

of the GB population (Source period not collated) 55 individuals, representing an average of 1.1%

of the GB population (5 year peak mean 1998/9-

Spotted redshank, *Tringa erythropus*, Europe/W Africa

54 individuals, representing an average of 39.7% of the GB population (5 year peak mean 1998/9-2002/3)

Species Information

Species occurring at levels of international importance.

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2002/3)

Mammals.

Phoca vitulina

21. Social and cultural values:

Current scientific research

Fisheries production

Livestock grazing

Non-consumptive recreation

Sport hunting

Transportation/navigation

22. Land tenure/ownership:

Ownership category	On-site	Off-site
Non-governmental organisation	+	+
Local authority, municipality etc.	+	+
National/Crown estate	+	+
Private	+	+
Public/communal	+	+
Other	+	+

23. Current land (including water) use:

Activity	On-site	Off-site
Nature conservation	+	
Recreation	+	
Research	+	
Fishing: (unspecified)	+	
Fishing: commercial	+	+
Marine/saltwater aquaculture	+	
Gathering of shellfish	+	
Bait collection	+	
Arable agriculture (unspecified)		+
Permanent arable agriculture		+
Grazing (unspecified)	+	
Rough or shifting grazing	+	
Hunting: recreational/sport	+	+
Harbour/port	+	+
Flood control	+	+
Irrigation (inc agricultural water		+
supply)		
Transport route	+	
Domestic water supply		+
Urban development		+
Non-urbanised settlements		+
Military activities	+	

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24. Factors adversely affecting the site's ecological character, including changes in land (including water) use and development projects:

Explanation of reporting category:

- 1. Those factors that are still operating, but it is unclear if they are under control, as there is a lag in showing the management or regulatory regime to be successful.
- 2. Those factors that are not currently being managed, or where the regulatory regime appears to have been ineffective so far.

NA = Not Applicable because no factors have been reported.

Adverse Factor Category	Reporting Category	Description of the problem (Newly reported Factors only)	On-Site	Off-Site	Major Impact?
No factors reported	NA	(Potential: grazing, port, transport route, military activities)			

For category 2 factors only.

What measures have been taken / are planned / regulatory processes invoked, to mitigate the effect of these factors?

Is the site subject to adverse ecological change? NO

25. Conservation measures taken:

Conservation measure	On-site	Off-site
SSSI / ASSI	+	
NNR	+	
SPA	+	
Land owned by a NGO for nature	+	
conservation		
Management agreement	+	
Site management statement/plan	+	
implemented		
Other	+	+
SAC	+	

26. Conservation measures proposed but not yet implemented:

No information available

27. Current scientific research and facilities:

Fauna.

Numbers of migratory and wintering wildfowl and waders are monitored annually as part of the national Wetland Birds Survey (WeBS) organised by the British Trust for Ornithology, Wildfowl & Wetlands Trust, the Royal Society for the Protection of Birds and the Joint Nature Conservation Committee.

Bird Studies by the Wash Wader Ringing Group.

Waterfowl and invertebrate ecology studies by the Centre for Ecology and Hydrology.

Seal population studies by the Sea Mammal Research Unit.

Ramsar Information Sheet: UK11072 Page 7 of 9 **The Wash**

Annual monitoring of shellfish stocks by Eastern Sea Fisheries Joint Committee.

Environment.

Sediment types and distribution, processes, erosion, tides and currents have been studied by a variety of institutions and are expected to continue.

The shoreline and water quality is routinely monitored by the Environment Agency.

Land-Ocean Interaction Study by the Natural Environment Research Council (1992-98).

28. Current conservation education:

There are two field centres. Lincolnshire County Council run the Freiston field centre and Lincolnshire Wildlife Trust run the Gibraltar Point Field Station.

29. Current recreation and tourism:

Activities, Facilities provided and Seasonality.

Land based recreation is chiefly limited to wildfowling, bird watching and walking along the sea banks around two-thirds of the site. The Peter Scott Walk between the outlets of the Rivers Nene and Great Ouse, has been promoted by the local authorities. Some access points to the shore have also been improved by local authorities. Snettisham Bird Reserve provides facilities for bird watching. Traditional beach recreational activities occur between Hunstanton and Snettisham.

Facilities for pleasure craft are limited to some mud berths and stage moorings on the tidal rivers and at the ports of Kings Lynn and Boston. The principal locations for sailing boats are found at the Skegness Yacht Club at Wainfleet and Snettisham Beach Sailing Club and Hunstanton.

Other water sports including windsurfing, water-skiing and power boats occur mainly at Hunstanton and Heacham on the Norfolk shore. Zoning of watercraft is managed by the local authority. Recreational activities are subject to the Wash Estuary Management Plan but are not generally seen as detrimental to the site.

30. Jurisdiction:

Head, Natura 2000 and Ramsar Team, Department for Environment, Food and Rural Affairs, European Wildlife Division, Zone 1/07, Temple Quay House, 2 The Square, Temple Quay, Bristol, BS1 6EB

31. Management authority:

Site Designations Manager, English Nature, Sites and Surveillance Team, Northminster House, Northminster Road, Peterborough, PE1 1UA, UK

32. Bibliographical references:

Site-relevant references

- Barne, JH, Robson, CF, Kaznowska, SS, Doody, JP & Davidson, NC (eds.) (1995) *Coasts and seas of the United Kingdom. Region 6 Eastern England: Flamborough Head to Great Yarmouth.* Joint Nature Conservation Committee, Peterborough. (Coastal Directories Series.)
- Brown, AF, Grice, PV, Radley, GP, Leafe, RN & Lambley, P (1994) Towards a strategy for the conservation of coastal habitats in north Norfolk. A discussion paper. *English Nature Research Reports*, No. **74**
- Buck, AL (ed.) (1993) *An inventory of UK estuaries. Volume 5. Eastern England.* Joint Nature Conservation Committee, Peterborough
- Burd, F (1989) *The saltmarsh survey of Great Britain. An inventory of British saltmarshes*. Nature Conservancy Council, Peterborough (Research & Survey in Nature Conservation, No. 17)
- Covey, R (1998) Chapter 6. Eastern England (Bridlington to Folkestone) (MNCR Sector 6). In: *Benthic marine ecosystems of Great Britain and the north-east Atlantic*, ed. by K. Hiscock, 179-198. Joint Nature Conservation Committee, Peterborough. (Coasts and Seas of the United Kingdom. MNCR series)
- Cranswick, PA, Waters, RJ, Musgrove, AJ & Pollitt, MS (1997) *The Wetland Bird Survey 1995–96: wildfowl and wader counts*. British Trust for Ornithology, Wildfowl and Wetlands Trust, Royal Society for the Protection of Birds & Joint Nature Conservation Committee, Slimbridge
- Davidson, NC, Laffoley, D d'A, Doody, JP, Way, LS, Gordon, J, Key, R, Pienkowski, MW, Mitchell, R & Duff, KL (1991) *Nature conservation and estuaries in Great Britain*. Nature Conservancy Council, Peterborough

Ramsar Information Sheet: UK11072 Page 8 of 9 The Wash

- Dipper, F (2003) The Lincolnshire and North Norfolk maritime area: a review of the past and present status of its species and habitats. *English Nature Research Reports*, No. **542**
- Doody, P & Barnett, B (eds.) (1987) *The Wash and its environment. Report of a conference held on 8–10 April* 1987. Nature Conservancy Council, Peterborough (Research and survey in nature conservation, No. 7)
- Doody, JP, Johnston, C & Smith, B (1993) *Directory of the North Sea coastal margin*. Joint Nature Conservation Committee, Peterborough
- Foster-Smith, RL & Sotheran, I (1999) Broad scale remote survey and mapping of sublittoral habitats and biota of the Wash and the Lincolnshire and the north Norfolk coasts. *English Nature Research Reports*, No. **336**
- Foster-Smith, RL, Sotheran, I & Walton, R (1997) Broadscale mapping of habitats and biota of the sublittoral seabed of the Wash: final report of the 1996 Broadscale Mapping Project (BMP) survey. *English Nature Research Reports*, No. **238**
- Foster-Smith, RL & White, WH (2004); Foster-Smith, RL (2004); Foster-Smith, RL & Hendrick, VJ (2004) Sabellaria spinulosa in the Wash and North Norfolk Coast cSAC and its approaches: Parts I–III. English Nature Research Reports, Nos. 543, 544, 545
- Gibbons, B (1996) Reserve focus. Gibraltar Point NNR, Lincolnshire. British Wildlife, 7(3), 177-179
- Goss-Custard, JD, Jones, RE & Newbury, PE (1977) The ecology of the Wash I. Distribution and diet of wading birds (Charadii). *Journal of Applied Ecology*. **14**, 681-687
- Hill, M (1988) Saltmarsh vegetation of the Wash. An assessment of change from 1971 to 1985. Nature Conservancy Council, Peterborough (Research and survey in nature conservation, No. 13)
- May, VJ & Hansom, JD (eds.) (2003) *Coastal geomorphology of Great Britain*. Joint Nature Conservation Committee, Peterborough (Geological Conservation Review Series, No. 28)
- McLeod, CR, Yeo, M, Brown, AE, Burn, AJ, Hopkins, JJ & Way, SF (eds.) (2004) *The Habitats Directive:* selection of Special Areas of Conservation in the UK. 2nd edn. Joint Nature Conservation Committee, Peterborough. www.jncc.gov.uk/SACselection
- Mortimer, D (n.d. [2002]) *Wash and North Norfolk Coast European Marine Site management scheme*. [English Nature, Peterborough]
- Musgrove, AJ, Pollitt, MS, Hall, C, Hearn, RD, Holloway, SJ, Marshall, PE, Robinson, JA & Cranswick, PA (2001) *The Wetland Bird Survey 1999–2000: wildfowl and wader counts.* British Trust for Ornithology, Wildfowl and Wetlands Trust, Royal Society for the Protection of Birds & Joint Nature Conservation Committee, Slimbridge.
- Palmer, DW (2004) Growth of the razor clam *Ensis directus*, an alien species in the Wash on the east coast of England. *Journal of the Marine Biological Association*, **84**(5), 1075-1076
- Pye, K (1995) Controls on long-term saltmarsh accretion and erosion in the Wash, eastern England. *Journal of Coastal Research*, **11**, 337-356
- Ratcliffe, DA (ed.) (1977) A Nature Conservation Review. The selection of biological sites of national importance to nature conservation in Britain. Cambridge University Press (for the Natural Environment Research Council and the Nature Conservancy Council), Cambridge (2 vols.)
- Stroud, DA, Chambers, D, Cook, S, Buxton, N, Fraser, B, Clement, P, Lewis, P, McLean, I, Baker, H & Whitehead, S (eds.) (2001) *The UK SPA network: its scope and content*. Joint Nature Conservation Committee, Peterborough (3 vols.) www.jncc.gov.uk/UKSPA/default.htm
- Yates, M, 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. *English Nature Research Reports*, No. **589**.
- Yates, MG, Garbutt, RA, Barratt, DR, Turk, A, Brown, NJ, Rispin, WE, McGrorty, S, Vdit Durell, SEA le, Goss-Custard, JD, Murray, E & Russell, D (2002) Littoral sediments of the Wash and North Norfolk Coast SAC: the 1998 and 1999 surveys of intertidal sediment and invertebrates. *English Nature Research Reports*, No. **470**
- Yates, MG & Goss-Custard, JD (1991) A comparison between high and low water ****

Please return to: Ramsar Secretariat, Rue Mauverney 28, CH-1196 Gland, Switzerland
Telephone: +

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STANDARD DATA FORM for sites within the 'UK national site network of European sites'

Special Protection Areas (SPAs) are classified and Special Areas of Conservation (SACs) are designated under:

- the Conservation of Habitats and Species Regulations 2017 (as amended) in England and Wales (including the adjacent territorial sea) and to a limited extent in Scotland (reserved matters) and Northern Ireland (excepted matters);
- the Conservation (Natural Habitats &c.) Regulations 1994 (as amended) in Scotland;
- the Conservation (Natural Habitats, &c) Regulations (Northern Ireland) 1995 (as amended) in Northern Ireland; and
- the Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended) in the UK offshore area.

Each SAC or SPA (forming part of the UK national site network of European sites) has its own Standard Data Form containing site-specific information. The information provided here generally follows the same documenting format for SACs and SPAs, as set out in the Official Journal of the European Union recording the Commission Implementing Decision of 11 July 2011 (2011/484/EU).

Please note that these forms contain a number of codes, all of which are explained either within the data forms themselves or in the end notes.

More general information on SPAs and SACs in the UK is available from the <u>SPA homepage</u> and <u>SAC homepage</u> on the JNCC website. These webpages also provide links to Standard Data Forms for all SAC and SPA sites in the UK.

https://jncc.gov.uk/

NATURA 2000 - STANDARD DATA FORM



For Special Protection Areas (SPA), Proposed Sites for Community Importance (pSCI), Sites of Community Importance (SCI) and for Special Areas of Conservation (SAC)

SITE **UK0017075**

SITENAME The Wash and North Norfolk Coast

TABLE OF CONTENTS

- 1. SITE IDENTIFICATION
- 2. SITE LOCATION
- 3. ECOLOGICAL INFORMATION
- 4. SITE DESCRIPTION
- 5. SITE PROTECTION STATUS AND RELATION WITH CORINE BIOTOPES
- 6. SITE MANAGEMENT

1. SITE IDENTIFICATION

1.1 Type	1.2 Site code	Back to top
В	UK0017075	

1.3 Site name

The Wash and North Norfolk Coast	
----------------------------------	--

1.4 First Compilation date	1.5 Update date
1996-10	2015-12

1.6 Respondent:

Name/Organisation: Joint Nature Conservation Committee

Address: Joint Nature Conservation Committee Monkstone House City Road Peterborough

PE1 1JY

Email:

Date site proposed as SCI: 1996-10

Date site confirmed as SCI: 2004-12

Date site designated as SAC: 2005-04

National legal reference of SAC

designation:

Regulations 11 and 13-15 of the Conservation of Habitats

and Species Regulations 2010

(http://www.legislation.gov.uk/uksi/2010/490/contents/made).

2. SITE LOCATION

2.1 Site-centre location [decimal degrees]:

Longitude 0.318055556 **Latitude** 52.93694444

2.2 Area [ha]: 2.3 Marine area [%]

107718.0 94.3

2.4 Sitelength [km]:

0.0

2.5 Administrative region code and name

NUITO I IO I	5 · N
NUTS level 2 code	Region Name

UKH1	East Anglia
UKF3	Lincolnshire

2.6 Biogeographical Region(s)

Atlantic (100.0 %)

3. ECOLOGICAL INFORMATION

3.1 Habitat types present on the site and assessment for them

Back to top

Annex	I Ha	bitat t	ypes			Site assessment				
Code	PF	NP	Cover [ha]	Cave [number]	Data quality	A B C D	A B C			
						Representativity	Relative Surface	Conservation	Globa	
1110 B			44164.38	0	М	А	В	В	А	
1140 0			18312.06	0	М	А	В	А	А	
1150 1	X		21.54	0	G	С	С	В	С	
1160 1			42010.02	0	М	A	В	В	Α	
1170 8				0		A	С	A	Α	
1310 B			430.87	0	Р	A	A	A	Α	
1320 B				0		D				
1330 B			2800.67	0	Р	A	В	A	Α	

1420₿	107.72	0	Р	A	A	Α	Α

- **PF:** for the habitat types that can have a non-priority as well as a priority form (6210, 7130, 9430) enter "X" in the column PF to indicate the priority form.
- **NP:** in case that a habitat type no longer exists in the site enter: x (optional)
- Cover: decimal values can be entered
- Caves: for habitat types 8310, 8330 (caves) enter the number of caves if estimated surface is not available.
- Data quality: G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation)

3.2 Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC and site evaluation for them

Species				Population in the site				Site assessment						
G	Code	Scientific Name	s	NP	Т	T Size		Unit	Cat.	D.qual.	A B C D	A B C		
						Min	Max				Pop.	Con.	lso.	Glo.
М	1364	Halichoerus grypus			p				Р	DD	D			
М	1355	Lutra lutra			р				V	DD	С	С	С	С
М	1365	Phoca vitulina			p	1001	10000	i		М	В	В	С	A

- Group: A = Amphibians, B = Birds, F = Fish, I = Invertebrates, M = Mammals, P = Plants, R = Reptiles
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Type:** p = permanent, r = reproducing, c = concentration, w = wintering (for plant and non-migratory species use permanent)
- **Unit:** i = individuals, p = pairs or other units according to the Standard list of population units and codes in accordance with Article 12 and 17 reporting (see reference portal)
- Abundance categories (Cat.): C = common, R = rare, V = very rare, P = present to fill if data are deficient (DD) or in addition to population size information
- Data quality: G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation); VP = 'Very poor' (use this category only, if not even a rough estimation of the population size can be made, in this case the fields for population size can remain empty, but the field "Abundance categories" has to be filled in)

4. SITE DESCRIPTION

4.1 General site character

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Habitat class	% Cover
N01	51.0
N02	46.0
N03	3.0
Total Habitat Cover	100

Other Site Characteristics

1 Terrestrial: Soil & Geology: sandstone,sand,nutrient-rich,alluvium,mud,clay,shingle 2 Terrestrial: Geomorphology and landscape: coastal 3 Marine:

Geology: limestone/chalk,gravel,sand,chert/flint,mud,biogenic reef,peat,shingle 4 Marine:

Geomorphology: barrier beach,enclosed coast (including embayment),estuary,subtidal sediments (including sandbank/mudbank),lagoon,intertidal sediments (including sandflat/mudflat),open coast (including bay),shingle bar

4.2 Quality and importance

Sandbanks which are slightly covered by sea water all the time for which this is considered to be one of the best areas in the United Kingdom. Mudflats and sandflats not covered by seawater at low tide for which this is considered to be one of the best areas in the United Kingdom. Coastal lagoons for which the area is considered to support a significant presence. Large shallow inlets and bays for which this is considered to be one of the best areas in the United Kingdom. Reefs for which this is considered to be one of the best areas in the United Kingdom. Salicornia and other annuals colonising mud and sand for which this is considered to be one of the best areas in the United Kingdom. Atlantic salt meadows (Glauco-Puccinellietalia maritimae) for which this is considered to be one of the best areas in the United Kingdom. Mediterranean and thermo-Atlantic halophilous scrubs (Sarcocornetea fruticosi) for which this is one of only four known outstanding localities in the United Kingdom. which is considered to be rare as its total extent in the United Kingdom is estimated to be less than 1000 hectares. Lutra lutra for which the area is considered to support a significant presence. Phoca vitulina for which this is considered to be one of the best areas in the United Kingdom.

4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative Impacts						
Rank	Threats and pressures [code]		inside/outside [i o b]			
Н	M01		В			
Н	F02		l			
Н	G01		l			
Н	A02		I			
Н	J02		В			

Positive Impacts						
Rank	Activities, management [code]	Pollution (optional) [code]	inside/outside [i o b]			
Н	A04		I			
Н	A02		I			
Н	D05		I			
Н	D05		I			
Н	G03		I			
	<u> </u>					

Rank: H = high, M = medium, L = low

Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification,

T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions

i = inside, o = outside, b = both

4.5 Documentation

Conservation Objectives - the Natural England links below provide access to the Conservation Objectives (and other site-related information) for its terrestrial and inshore Natura 2000 sites, including conservation advice packages and supporting documents for European Marine Sites within English waters and for cross-border sites. See also the 'UK Approach' document for more information (link via the JNCC website).

Link(s):

http://jncc.defra.gov.uk/pdf/Natura2000 StandardDataForm UKApproach Dec2015.pdf

5. SITE PROTECTION STATUS (optional)

5.1 Designation types at national and regional level:

Back to top

Code	Cover [%]
UK04	61.4

Code	Cover [%]
UK01	2.8

Code	Cover [%]
UK00	38.7

6. SITE MANAGEMENT

6.3 Conservation measures (optional)

For available information, including on Conservation Objectives, see Section 4.5.

6.1 Body(ies) responsible for the site management:

Organisation:
Address:
Email:

6.2 Management Plan(s):
An actual management plan does exist:

Yes
No, but in preparation
X No

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EXPLANATION OF CODES USED IN THE SPECIAL AREA OF CONSERVATION (SAC) AND SPECIAL PROTECTION AREA (SPA) STANDARD DATA FORMS

The codes in the table below generally follow those explained in the <u>official European Union</u> <u>guidelines for the Standard Data Form</u> (also referencing the relevant page number).

1.1 Site type

CODE	DESCRIPTION	PAGE NO
Α	SPA (classified Special Protection Area)	53
В	cSAC, SCI or SAC (candidate Special Area of Conservation, Site of Community Importance, designated Special Area of Conservation)	53
С	SPA area/boundary is the same as the cSAC/SCI/SAC i.e. a co-classified/designated site (Note: this situation only occurs in Gibraltar)	53

3.1 Habitat code

CODE	DESCRIPTION	PAGE NO
1110	Sandbanks which are slightly covered by sea water all the time	57
1130	Estuaries	57
1140	Mudflats and sandflats not covered by seawater at low tide	57
1150	Coastal lagoons	57
1160	Large shallow inlets and bays	57
1170	Reefs	57
1180	Submarine structures made by leaking gases	57
1210	Annual vegetation of drift lines	57
1220	Perennial vegetation of stony banks	57
1230	Vegetated sea cliffs of the Atlantic and Baltic Coasts	57
1310	Salicornia and other annuals colonizing mud and sand	57
1320	Spartina swards (Spartinion maritimae)	57
1330	Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	57
1340	Inland salt meadows	57
1420	Mediterranean and thermo-Atlantic halophilous scrubs (Sarcocornetea fruticosi)	57
2110	Embryonic shifting dunes	57
2120	Shifting dunes along the shoreline with Ammophila arenaria ("white dunes")	57
2130	Fixed coastal dunes with herbaceous vegetation ("grey dunes")	57
2140	Decalcified fixed dunes with Empetrum nigrum	57
2150	Atlantic decalcified fixed dunes (Calluno-Ulicetea)	57
2160	Dunes with Hippopha• rhamnoides	57
2170	Dunes with Salix repens ssp. argentea (Salicion arenariae)	57
2190	Humid dune slacks	57
21A0	Machairs (* in Ireland)	57
2250	Coastal dunes with Juniperus spp.	57
2330	Inland dunes with open Corynephorus and Agrostis grasslands	57
3110	Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae)	57
3130	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea	57
3140	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.	57
3150	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	57

CODE	DESCRIPTION	PAGE NO
3160	Natural dystrophic lakes and ponds	57
3170	Mediterranean temporary ponds	57
3180	Turloughs	57
3260	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	57
4010	Northern Atlantic wet heaths with Erica tetralix	57
4020	Temperate Atlantic wet heaths with Erica ciliaris and Erica tetralix	57
4030	European dry heaths	57
4040	Dry Atlantic coastal heaths with Erica vagans	57
4060	Alpine and Boreal heaths	57
4080	Sub-Arctic Salix spp. scrub	57
5110	Stable xerothermophilous formations with Buxus sempervirens on rock slopes (Berberidion p.p.)	57
5130	Juniperus communis formations on heaths or calcareous grasslands	57
6130	Calaminarian grasslands of the Violetalia calaminariae	57
6150	Siliceous alpine and boreal grasslands	57
6170	Alpine and subalpine calcareous grasslands	57
6210	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)	57
6230	Species-rich Nardus grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)	57
6410	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)	57
6430	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	57
6510	Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)	57
6520	Mountain hay meadows	57
7110	Active raised bogs	57
7120	Degraded raised bogs still capable of natural regeneration	57
7130	Blanket bogs (* if active bog)	57
7140	Transition mires and quaking bogs	57
7150	Depressions on peat substrates of the Rhynchosporion	57
7210	Calcareous fens with Cladium mariscus and species of the Caricion davallianae	57
7220	Petrifying springs with tufa formation (Cratoneurion)	57
7230	Alkaline fens	57
7240	Alpine pioneer formations of the Caricion bicoloris-atrofuscae	57
8110	Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani)	57
8120	Calcareous and calcshist screes of the montane to alpine levels (Thlaspietea rotundifolii)	57
8210	Calcareous rocky slopes with chasmophytic vegetation	57
8220	Siliceous rocky slopes with chasmophytic vegetation	57
8240	Limestone pavements	57
8310	Caves not open to the public	57
8330	Submerged or partially submerged sea caves	57
9120	Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (Quercion robori-petraeae or Ilici-Fagenion)	57
9130	Asperulo-Fagetum beech forests	57
9160	Sub-Atlantic and medio-European oak or oak-hornbeam forests of the Carpinion betuli	57
9180	Tilio-Acerion forests of slopes, screes and ravines	57
9190	Old acidophilous oak woods with Quercus robur on sandy plains	57
91A0	Old sessile oak woods with Ilex and Blechnum in the British Isles	57
91C0	Caledonian forest	57
91D0	Bog woodland	57
91E0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	57
91J0	Taxus baccata woods of the British Isles	57

3.1 Habitat representativity (abbreviated to 'Representativity' in data form)

CODE	DESCRIPTION	PAGE NO
Α	Excellent representatively	57
В	Good representatively	57
С	Significant representatively	57
D	Non-significant presence representatively	57

3.1 Relative surface

CODE	DESCRIPTION	PAGE NO
Α	> 15%-100%	58
В	> 2%-15%	58
С	≤ 2%	58

3.1 Degree of conservation (abbreviated to 'Conservation' in data form)

CODE	DESCRIPTION	PAGE NO
Α	Excellent conservation	59
В	Good conservation	59
С	Average or reduced conservation	59

3.1 Global assessment (abbreviated to 'Global' in data form)

CODE	DESCRIPTION	PAGE NO
Α	Excellent value	59
В	Good value	59
С	Significant value	59

3.2 Population (abbreviated to 'Pop.' in data form)

CODE	DESCRIPTION	PAGE NO
Α	> 15%-100%	62
В	> 2%-15%	62
С	≤ 2%	62
D	Non-significant population	62

3.2 Degree of conservation (abbreviated to 'Con.' in data form)

CODE	DESCRIPTION	PAGE NO
Α	Excellent conservation	63
В	Good conservation	63
С	Average or reduced conservation	63

3.2 Isolation (abbreviated to 'Iso.' in data form)

CODE	DESCRIPTION	PAGE NO
Α	Population (almost) Isolated	63
В	Population not-isolated, but on margins of area of distribution	63
С	Population not-isolated within extended distribution range	63

3.2 Global Grade (abbreviated to 'Glo.' or 'G.' in data form)

CODE	DESCRIPTION	PAGE NO
Α	Excellent value	63
В	Good value	63
С	Significant value	63

3.3 Other species – essentially covers bird assemblage types

CODE	DESCRIPTION	PAGE NO
WATR	Non-breeding waterbird assemblage	UK specific code
SBA	Breeding seabird assemblage	UK specific code

4.1 Habitat class code

CODE	DESCRIPTION			
N01	Marine areas, Sea inlets			
N02	Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins)			
N03	Salt marshes, Salt pastures, Salt steppes			
N04	Coastal sand dunes, Sand beaches, Machair	65		
N05	Shingle, Sea cliffs, Islets	65		
N06	Inland water bodies (Standing water, Running water)	65		
N07	Bogs, Marshes, Water fringed vegetation, Fens	65		
N08	Heath, Scrub, Maquis and Garrigue, Phygrana	65		
N09	Dry grassland, Steppes			
N10	Humid grassland, Mesophile grassland			
N11	Alpine and sub-Alpine grassland	65		
N14	Improved grassland	65		
N15	Other arable land	65		
N16	Broad-leaved deciduous woodland	65		
N17	Coniferous woodland	65		
N19	Mixed woodland	65		
N21	Non-forest areas cultivated with woody plants (including Orchards, groves, Vineyards, Dehesas)			
N22	Inland rocks, Screes, Sands, Permanent Snow and ice			
N23	Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites)	65		
N25	Grassland and scrub habitats (general)			
N26	Woodland habitats (general)	65		

4.3 Threats code

CODE	DESCRIPTION	PAGE NO
A01	Cultivation	65
A02	Modification of cultivation practices	65
A03	Mowing / cutting of grassland	65
A04	Grazing	65
A05	Livestock farming and animal breeding (without grazing)	65
A06	Annual and perennial non-timber crops	65
A07	Use of biocides, hormones and chemicals	65
A08	Fertilisation	65
A10	Restructuring agricultural land holding	65
A11	Agriculture activities not referred to above	65
B01	Forest planting on open ground	65
B02	Forest and Plantation management & use	65
B03	Forest exploitation without replanting or natural regrowth	65
B04	Use of biocides, hormones and chemicals (forestry)	65
B06	Grazing in forests/ woodland	65
B07	Forestry activities not referred to above	65
C01	Mining and quarrying	65
C02	Exploration and extraction of oil or gas	65
C03	Renewable abiotic energy use	65
D01	Roads, paths and railroads	65
D02	Utility and service lines	65
D03	Shipping lanes, ports, marine constructions	65
D04	Airports, flightpaths	65
D05	Improved access to site	65
E01	Urbanised areas, human habitation	
E02	Industrial or commercial areas	65

CODE	DESCRIPTION Discharges			
E03				
E04	Structures, buildings in the landscape			
E06	Other urbanisation, industrial and similar activities			
F01	Marine and Freshwater Aquaculture			
F02	Fishing and harvesting aquatic ressources	65		
F03	Hunting and collection of wild animals (terrestrial), including damage caused by game (excessive density), and taking/removal of terrestrial animals (including collection of insects, reptiles, amphibians, birds of prey, etc., trapping, poisoning, poaching, predator control, accidental capture (e.g. due to fishing gear), etc.)	65		
F04	Taking / Removal of terrestrial plants, general	65		
F05	Illegal taking/ removal of marine fauna	65		
F06	Hunting, fishing or collecting activities not referred to above	65		
G01	Outdoor sports and leisure activities, recreational activities	65		
G02	Sport and leisure structures	65		
G03	Interpretative centres	65		
G04	Military use and civil unrest	65		
G05	Other human intrusions and disturbances	65		
H01	Pollution to surface waters (limnic & terrestrial, marine & brackish)			
H02	Pollution to groundwater (point sources and diffuse sources)			
H03	Marine water pollution			
H04	Air pollution, air-borne pollutants	65		
H05	Soil pollution and solid waste (excluding discharges)			
H06	Excess energy	65		
H07	Other forms of pollution	65		
101	Invasive non-native species	65		
102	Problematic native species	65		
103	Introduced genetic material, GMO	65		
J01	Fire and fire suppression	65		
J02	Human induced changes in hydraulic conditions	65		
J03	Other ecosystem modifications	65		
K01	Abiotic (slow) natural processes	65		
K02	Biocenotic evolution, succession	65		
K03	Interspecific faunal relations	65		
K04	Interspecific floral relations	65		
K05	Reduced fecundity/ genetic depression	65		
L05	Collapse of terrain, landslide	65		
L07	Storm, cyclone	65		
L08	Inundation (natural processes)	65		
L10	Other natural catastrophes	65		
M01	Changes in abiotic conditions	65		
M02	Changes in biotic conditions	65		
U	Unknown threat or pressure	65		
ХО	Threats and pressures from outside the Member State	65		

5.1 Designation type codes

CODE	DESCRIPTION			
UK00	No Protection Status	67		
UK01	National Nature Reserve	67		
UK04	Site of Special Scientific Interest (GB)	67		
UK05	Marine Conservation Zone	67		
UK06	Nature Conservation Marine Protected Area	67		
UK86	Special Area (Channel Islands)	67		
UK98	Area of Special Scientific Interest (NI)	67		
IN00	Ramsar Convention site	67		
IN08	Special Protection Area	67		
IN09	Special Area of Conservation	67		

Beacon Fen Energy Park Habitat Regulations Assessment Screening Report Document Reference: 5.2



Appendix 3 Conservation objectives for designated sites

European Site Conservation Objectives for The Wash and North Norfolk Coast Special Area of Conservation Site Code: UK0017075



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
- 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.

This document should be read in conjunction with the accompanying *Supplementary Advice* document, which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

Qualifying Features:

H1110. Sandbanks which are slightly covered by sea water all the time; Subtidal sandbanks

H1140. Mudflats and sandflats not covered by seawater at low tide; Intertidal mudflats and sandflats

H1150. Coastal lagoons*

H1160. Large shallow inlets and bays

H1170. Reefs

H1310. Salicornia and other annuals colonising mud and sand; Glasswort and other annuals colonising mud and sand

H1330. Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)

H1420. Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*); Mediterranean saltmarsh scrub

S1355. Lutra lutra; Otter

S1365. Phoca vitulina; Common seal

^{*} denotes a priority natural habitat or species (supporting explanatory text on following page)

This is a European Marine Site

This site is a part of the The Wash and North Norfolk Coast European Marine Site. These Conservation Objectives should be used in conjunction with the Conservation Advice document for the EMS. Natural England's formal Conservation Advice for European Marine Sites can be found via GOV.UK.

* Priority natural habitats or species

Some of the natural habitats and species for which UK SACs have been selected are considered to be particular priorities for conservation at a European scale and are subject to special provisions in the Habitats Regulations. These priority natural habitats and species are denoted by an asterisk (*) in Annex I and II of the Habitats Directive. The term 'priority' is also used in other contexts, for example with reference to particular habitats or species that are prioritised in UK Biodiversity Action Plans. It is important to note however that these are not necessarily the priority natural habitats or species within the meaning of the Habitats Regulations.

Explanatory Notes: European Site Conservation Objectives

These Conservation Objectives are those referred to in the Conservation of Habitats and Species Regulations 2017 as amended from time to time (the "Habitats Regulations"). They must be considered when a competent authority is required to make a 'Habitats Regulations Assessment', including an Appropriate Assessment, under the relevant parts of this legislation.

These Conservation Objectives and the accompanying Supplementary Advice (where available) will also provide a framework to inform the measures needed to conserve or restore the European Site and the prevention of deterioration or significant disturbance of its qualifying features.

These Conservation Objectives are set for each habitat or species of a <u>Special Area of Conservation</u> (<u>SAC</u>). Where the objectives are met, the site will be considered to exhibit a high degree of integrity and to be contributing to achieving Favourable Conservation Status for that species or habitat type at a UK level. The term 'favourable conservation status' is defined in regulation 3 of the Habitats Regulations.

Publication date: 27 November 2018 (version 3). This document updates and replaces an earlier version dated 30 June 2014 to reflect the consolidation of the Habitats Regulations in 2017.

European Site Conservation Objectives for The Wash Special Protection Area Site Code: UK9008021



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.

This document should be read in conjunction with the accompanying *Supplementary Advice* document, which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

Qualifying Features:

A037	Cygnus co	lumbianus	bewickii;	Bewick's swan	(Non-breeding)
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- A040 Anser brachyrhynchus; Pink-footed goose (Non-breeding)
- A046a Branta bernicla bernicla; Dark-bellied brent goose (Non-breeding)
- A048 Tadorna tadorna; Common shelduck (Non-breeding)
- A050 Anas penelope; Eurasian wigeon (Non-breeding)
- A051 Anas strepera; Gadwall (Non-breeding)
- A054 Anas acuta; Northern pintail (Non-breeding)
- A065 Melanitta nigra; Black (common) scoter (Non-breeding)
- A067 Bucephala clangula; Common goldeneye (Non-breeding)
- A130 Haematopus ostralegus; Eurasian oystercatcher (Non-breeding)
- A141 Pluvialis squatarola; Grey plover (Non-breeding)
- A143 Calidris canutus; Red knot (Non-breeding)
- A144 Calidris alba; Sanderling (Non-breeding)
- A149 Calidris alpina alpina; Dunlin (Non-breeding)
- A156 Limosa limosa islandica; Black-tailed godwit (Non-breeding)
- A157 Limosa lapponica; Bar-tailed godwit (Non-breeding)
- A160 Numenius arquata; Eurasian curlew (Non-breeding)
- A162 *Tringa totanus*; Common redshank (Non-breeding)
- A169 Arenaria interpres; Ruddy turnstone (Non-breeding)
- A193 Sterna hirundo; Common tern (Breeding)
- A195 Sterna albifrons; Little tern (Breeding)

Waterbird assemblage

This is a European Marine Site

This SPA is a part of the The Wash and North Norfolk Coast European Marine Site (EMS). These Conservation Objectives should be used in conjunction with the Conservation Advice document for the EMS. Natural England's formal Conservation Advice for European Marine Sites can be found via GOV.UK.

Explanatory Notes: European Site Conservation Objectives

These Conservation Objectives are those referred to in the Conservation of Habitats and Species Regulations 2017 (as amended) ('the Habitats Regulations'). They must be considered when a competent authority is required to make a 'Habitats Regulations Assessment' including an Appropriate Assessment, under the relevant parts of this legislation.

These Conservation Objectives, and the accompanying Supplementary Advice (where this is available), will also provide a framework to inform the management of the European Site and the prevention of deterioration of habitats and significant disturbance of its qualifying features

These Conservation Objectives are set for each bird feature for a Special Protection Area (SPA).

Where these objectives are being met, the site will be considered to exhibit a high degree of integrity and to be contributing to achieving the aims of the Wild Birds Directive.

Publication date: 21 February 2019 (version 3). This document updates and replaces an earlier version dated 30 June 2014 to reflect the consolidation of the Habitats Regulations in 2017.

Beacon Fen Energy Park Habitat Regulations Assessment Screening Report Document Reference: 5.2



Drawings

