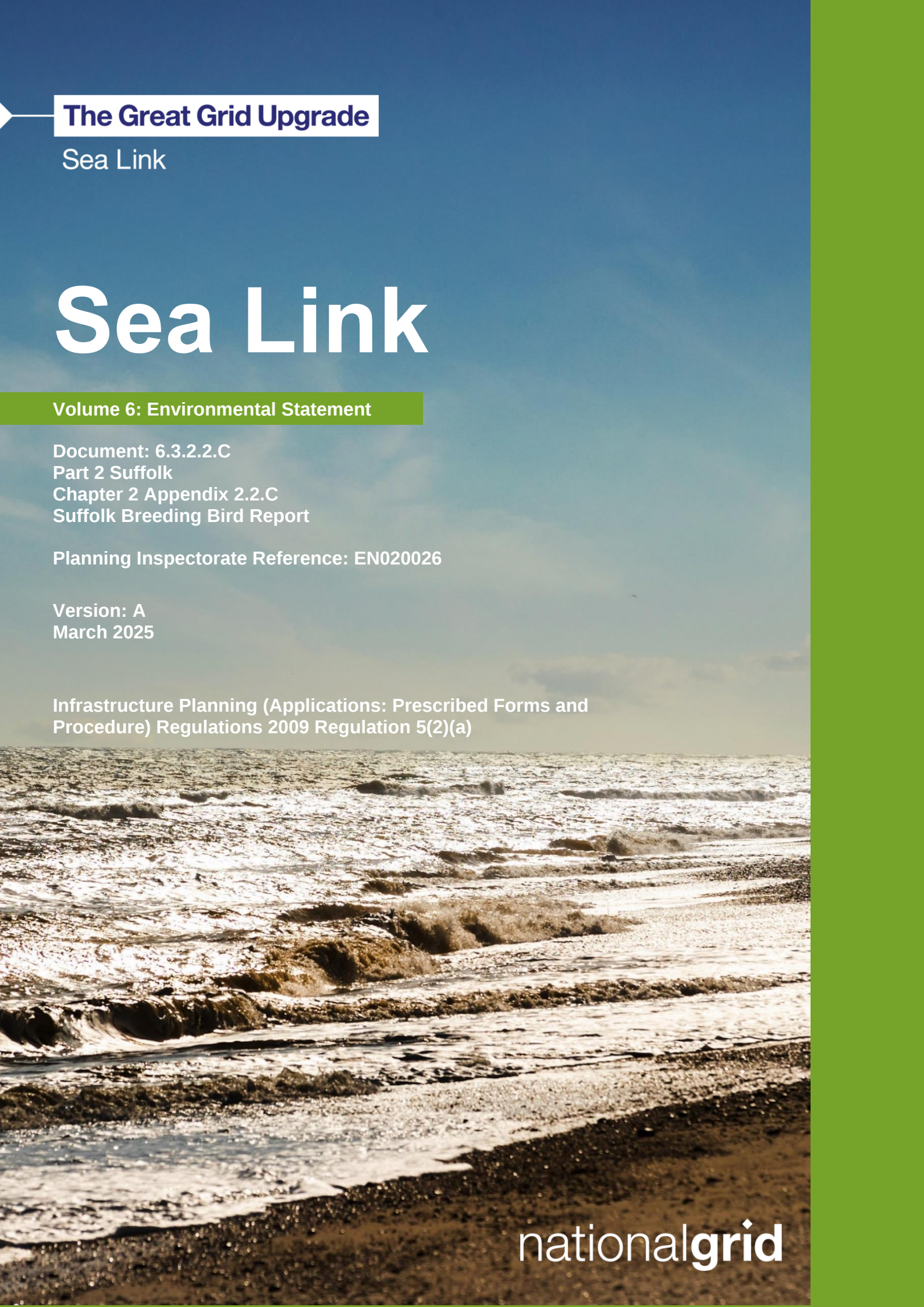




The Great Grid Upgrade

Sea Link

Sea Link

Volume 6: Environmental Statement

Document: 6.3.2.2.C
Part 2 Suffolk
Chapter 2 Appendix 2.2.C
Suffolk Breeding Bird Report

Planning Inspectorate Reference: EN020026

Version: A
March 2025

Infrastructure Planning (Applications: Prescribed Forms and
Procedure) Regulations 2009 Regulation 5(2)(a)

nationalgrid

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1. Suffolk Breeding Bird Survey Report

1.1 Introduction

Background

- 1.1.1 The Sea Link Project (hereafter referred to as the ‘Proposed Project’) is a proposal by National Grid Electricity Transmission plc (hereafter referred to as National Grid) to reinforce the transmission network in the South East and East Anglia. The Proposed Project is required to accommodate additional power flows generated from renewable and low carbon generation, as well as accommodating additional new interconnection with mainland Europe. This would be achieved by reinforcing the network with a High Voltage Direct Current (HVDC) Link between the proposed Friston substation in the Sizewell area of Suffolk and the existing Richborough to Canterbury 400 kV overhead line close to Richborough in Kent.
- 1.1.2 The purpose of this document is to:
- detail the results of the breeding bird surveys of the Suffolk Onshore Scheme conducted in 2022, 2023 and 2024; and
 - inform the need for any further surveys required and identify potential ecological constraints associated with breeding birds for incorporation into the **Application Document 6.2.2.3 Part 2 Suffolk Chapter 2 Ecology & Biodiversity** for the Suffolk Onshore Scheme and the associated **Application Document 6.6 Habitats Regulations Assessment (HRA) Report**.
- 1.1.3 Details of avoidance, mitigation, compensation and enhancement measures relating to breeding birds are not included in this report and are instead reported within **Application Document 6.2.2.2 Part 2 Suffolk Chapter 2 Ecology and Biodiversity**.
- 1.1.4 This appendix should be read in conjunction with the following figures:
- **Application Document 6.4.2.2.C Suffolk Breeding Bird Report**.

Scope

- 1.1.5 The survey areas are shown in **Application Document 6.4.2.2.H.1 Suffolk Phase 1 Survey Results**. This report aims to confirm the presence of breeding bird territories within the Suffolk Onshore Scheme Order Limits through transect surveys conducted along the routes indicated in **Application Document 6.4.2.2.C.1 Suffolk Site Boundary and Breeding Bird Transect Routes**. The findings of breeding bird survey work within the Suffolk Onshore Scheme Order Limits have informed ecological best practice and mitigation as required, in order to ensure that development of the Proposed Project does not adversely affect breeding birds.

1.2 Bird Legislation, Policy and Guidance

- 1.2.1 The legislation, policy and guidance detailed within this section has been used to define the 'notable' bird species which are the focus of this report due to their inclusion in relevant legislation, policy or guidance.

Legislation

Conservation of Habitats and Species Regulations 2017/Directive of the Conservation of Wild Birds 2009

- 1.2.2 A number of bird species recorded in the UK (including those that are resident, overwintering and migratory) are protected at a European level under the European Commission (EC) Directive of the Conservation of Wild Birds 2009 (2009/147/EC) (Birds Directive) (European Commission, 2009). The Birds Directive applies to 193 bird species or sub-species which are:
- in danger of extinction;
 - rare, or have restricted local distribution;
 - vulnerable to specific changes in their habitat; or
 - in need of particular attention for reasons of the specific nature of their habitat.
- 1.2.3 These species are afforded enhanced legal protection and European Union (EU) member states have a responsibility to maintain the populations of these species at a level that corresponds to their ecological, scientific and cultural requirements (Article 2). The Birds Directive was transposed into English law through the Conservation of Habitats and Species Regulations 2017 (as amended) (HM Government, 2017).
- 1.2.4 Species listed on Annex 1 of the Birds Directive are those for which the UK Government is required to take special conservation measures including the designation of land as SPAs. These sites are automatically included within the Emerald network under the Bern Convention (formerly the Natura 2000 network within the UK); a network of core breeding and resting sites that are protected for rare and threatened species.
- 1.2.5 While the UK is no longer a member of the EU, the legislation which applied directly or indirectly to the UK before 11.00 p.m. on 31 December 2020 has been retained in UK law as a form of domestic legislation known as 'retained EU legislation'.
- 1.2.6 The Secretary of State for the Environment, Food and Rural Affairs and Welsh Ministers have made changes to parts of the 2017 Regulations so that they operate effectively. Most of these changes involve transferring functions from the EC to the appropriate authorities in England. All other processes or terms in the 2017 Regulations remain unchanged and existing guidance is still relevant.

Wildlife and Countryside Act 1981 (as amended)

- 1.2.7 All active bird nests, eggs and young are protected by the Wildlife and Countryside Act 1981 (as amended) (WCA) (HM Government, 1981) from intentional and reckless destruction.
- 1.2.8 The WCA prohibits the intentional killing, injuring or taking of wild birds and, during the breeding season, the taking, damaging or destroying of eggs or nests (whether the nest is in use or being built). In addition to this general protection, certain rare, endangered,

declining or vulnerable species are afforded special protection under Schedule 1 of the WCA.

- 1.2.9 Bird species listed on Schedule 1 of the WCA are additionally protected against disturbance while nesting. This means that it is also an offence to disturb any Schedule 1 nesting birds or their young during the breeding season whilst they are occupying a nest site. This includes causing the parent birds or fledglings apparent stress and any other action which may lead to the parents abandoning their nests or young.

Natural Environment and Rural Communities Act 2006 (as amended)

- 1.2.10 In addition to the above legislation, 49 bird species are listed as being Species of Principal Importance (SPI) for conservation in England under Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006 (HM Government, 2006) (and further amended by the Environment Act (HM Government, 2021)). These species are of material consideration during the planning process.
- 1.2.11 The list of 49 SPI comprises those identified as requiring action under the UK Biodiversity Action Plan (UKBAP), which continue to be species of conservation priority under the UK Biodiversity Framework 2024 (JNCC, 2024) (which succeeded the Post-2010 UKBAP in May 2024).

Regional/Local Planning and Guidance

Birds of Conservation Concern

- 1.2.12 The Birds of Conservation Concern (BoCC) Red, Amber and Green lists (Stanbury, et al., 2021) assigns UK species to those categories in accordance with criteria of their population status and stability. Where these species are present at a site, their conservation status should be considered in determining the likely impacts of a proposed development.
- 1.2.13 Red status species are those species of highest conservation concern and green status species are those of low or no conservation concern. Amber status species are those species of some conservation concern.
- 1.2.14 The BoCC assigns bird species Red and Amber status based on a set of criteria that are summarised in Table 1.1.

Table 1.1 BoCC Red and Amber list criteria

Criteria	BoCC Status Code	Description
Red list	HD	Historical decline in breeding population.
	BDp ¹ /BDp ²	Severe breeding population decline over 25 years/longer term.
	BDr ¹ /BDr ²	Severe breeding range decline over 25 years/longer term.

Criteria	BoCC Status Code	Description
	WDp ¹ /WDp ²	Severe non-breeding population decline over 25 years/longer term.
	WDr ¹	Severe non-breeding range decline over 25 years.
	IUCN	Globally threatened – CR (critically endangered), EN (endangered) or VU (vulnerable).
Amber list	BDMp ¹ /BDMp ²	Moderate breeding population decline over 25 years/longer term.
	WDMp ¹ /WDMp ²	Moderate non-breeding population decline over 25 years/longer term.
	BDMr ¹ /BDMr ²	Moderate breeding range decline over 25 years/longer term.
	WDMr ¹	Moderate non-breeding range decline over 25 years.
	ERLOB	Threatened in Europe – CR (critically endangered), EN (endangered) or VU (vulnerable).
	HDrec	Historical decline in breeding population in recovery.
	BR/WR	Breeding rarity/non-breeding rarity.
	BL/WL	Breeding localisation/non-breeding localisation.
	BI/WI	Breeding bird of international importance/non-breeding bird of international importance.
Green	N/A	Green list species are not of conservation concern and include all other commonly occurring birds in the UK.
Other	N/A	Non-native species (e.g. Canada goose (<i>Branta canadensis</i>), feral pigeon (<i>Columba livia domestica</i>)) are not afforded Red, Amber or Green list status.

1.2.15 Although it does not offer any legal protection, BoCC 5 (Stanbury, et al., 2021) provides guidance on the conservation status of UK bird species. Thus, it can be used to assess the ecological importance of bird populations and the habitats that they rely on, particularly at a local level. They are also useful when assessing the significance of

predicted impacts and determining the level of mitigation that may be required when birds are to be affected by development.

Suffolk Local Wildlife Site Selection Criteria

- 1.2.16 In Suffolk, Local Wildlife Sites (LWS) and County Wildlife Sites (CWS) are selected based on certain selection criteria. The CWS panel is made up of representatives from Suffolk County Council, Suffolk Wildlife trust and Natural England and criteria is summarised below based on information from Suffolk Biodiversity Information Service (Suffolk Biodiversity Information Service, 2024).
- 1.2.17 The selection criteria are based on Radcliffe's habitat attributes that evaluate sites on the basis of their biological interest being of substantive nature conservation value. Meeting just one of the Habitat Primary Criteria can be sufficient to warrant designation as a CWS. These primary criteria are:
- Size – the importance and value of a site usually increases with size. Larger sites are more able to resist change and therefore remain as a viable unit. While a site's size may affect its sustainability this does not preclude selection of small sites of high quality.
 - Diversity – sites that have a variety of habitats are often of high wildlife value, particularly where they include a range of successional stages and/or ecological gradients. Individually, none of the habitats may meet the selection criteria for CWS status, but their combined value may be high enough for selection.
 - Naturalness – it is generally considered that the more natural a site is, the higher its value. However, in Suffolk, as with most of the UK, very few sites with the exception of dynamic coastal habitats are truly natural and the most important habitats are either semi-natural e.g. hay meadows and ancient woods, or even man-made e.g. urban sites. In many cases, this attribute therefore relates to a site's state under traditional management.
 - Rarity – all habitats that are nationally/internationally rare should be considered. Suffolk is a stronghold for some habitats e.g. vegetated shingle, and these habitats may be locally frequent, but their wider importance should not be overlooked. Other habitats may be rare in Suffolk e.g. chalk grassland and should be considered in the context of their local significance.
 - Fragility – some sites may be very susceptible to damage by interference e.g. urban sites where development of surrounding land may isolate or encroach on the site. Other sites may be fragile due to rapid succession e.g. waste ground that rapidly scrubs up. The first is really an assessment of threat and would not be used as a sole selection criterion. The second suggests that the value of a site may be short lived. While both factors may affect selection, sites should be generally be designated according to their current wildlife value.
 - Typicalness – some habitats are intrinsically species-poor but are locally distinctive e.g. windblown coastal scrub, nutrient rich flushes associated with red crag and dry grassland associated with sands and gravels. These habitats are characteristic of the county's natural areas and are therefore included in the CWS system.
- 1.2.18 Secondary criteria are only considered once the primary criteria have been applied. They can provide additional information on the value of sites but will not be used for selection in their own right. These comprise:

- Recorded history – the value of a site can be more accurately assessed if there has been a history of biological recording and evidence of site continuity.
- Position in ecological unit – sites that are linked to or near other wildlife areas are generally more valuable and can play an important role in creating wildlife corridors and buffers.
- Potential value – the use of potential value as a criterion for site selection can cause problems, as it can be argued that with appropriate management any site potentially has high wildlife value. However, in some cases it may be useful, especially where there is an opportunity to enhance existing semi-natural habitats.
- Intrinsic appeal – some sites may have high-perceived intrinsic appeal and/or recreational value. In addition, sites may have a high education value. While the importance of these values should not be under-estimated they should always be considered as supplementary to the site's nature conservation value.

1.2.19 Following assessment of sites against primary and secondary habitat criteria, sites are considered against appropriate specific habitat criteria. Qualifying sites will have at least one of the attributes.

1.3 Methodology

Zone of Influence

- 1.3.1 The potential impact(s) of a development are not always limited to the boundaries of the site concerned. A development may also have the potential to result in impacts upon ecologically important sites, habitats or species that are located beyond the site boundaries.
- 1.3.2 The area over which a development may impact ecologically important features is known as the Zone of Influence (ZOI). The ZOI is determined by the source/type of impact, the potential pathway(s) for that impact and the location and sensitivity of the ecologically important feature(s) beyond the boundary.

Survey and Study Areas

- 1.3.3 The ZOI was used to establish the required extents of the breeding bird Survey and Study Areas.
- 1.3.4 The Survey Area included all suitable on-site habitat and relevant adjacent off-site habitats (e.g. boundary scrub, treelines and hedgerows) up to 1 km from the Order Limits.
- 1.3.5 The Desk Study Study Area included the Order Limits, protected species records within 2 km of the Order Limits, protected sites within 10 km of the Order Limits and RSPB records within 500 m of the Order Limits.

Desk Study

- 1.3.6 A biological records data search was requested in 2022 and updated in 2024 from the Suffolk Biodiversity Information Service for protected species within the defined Study Area. Only records up to ten years old were considered within the assessment, as any

records older than ten years are unlikely to be representative of breeding bird populations in the local area.

- 1.3.7 In addition to this, a protected bird species data search of RSPB records within 500 m of the Suffolk Onshore Scheme was undertaken in 2022.
- 1.3.8 A desk top search using the Multi-Agency Geographic Information for the Countryside (MAGIC) website (Department for Environment, Food and Rural Affairs, 2024) was also conducted for any statutory areas designated for birds within 10 km of the Order Limits. This was used to review designated site citations for any bird species of particular relevance to the Order Limits (i.e. where functional linkage to designated sites could occur).
- 1.3.9 An online search of the Bird Guides app (Bird Guides, 2024) was conducted to identify records of European white-fronted goose (*Anser albifrons*) in the vicinity of the North Warren RSPB Reserve.
- 1.3.10 Recent Suffolk bird reports from The Suffolk Naturalist' Society (SNS) were used to inform local status and distribution data of breeding birds (The Suffolk Naturalist' Society, 2021).
- 1.3.11 Wetland Bird Survey data were obtained from the British Trust for Ornithology (BTO). The data covered the Alde and Ore Estuary SPA/SAC, Minsmere to Walberswick Marshes SPA/SAC including Sizewell Levels, and North Warren RSPB-Thorpeness Mere.
- 1.3.12 The desk study data was screened to omit common widespread species that are unlikely to be significantly impacted by the Suffolk Onshore Scheme e.g. wood pigeon (*Columba palumbus*) and wren (*Troglodytes troglodytes*).

Field Survey Method

Territory mapping survey – general breeding bird assemblage

- 1.3.13 Three sets of breeding bird surveys have been carried to date:
- Surveys in 2022 – these surveys were completed between April and July 2022 and comprised six territory mapping surveys, each of which involved one to three days of field survey. A pre-defined series of transects following PRoW were used which covered the landfall/beach area and the wetland area of the North Warren RSPB Reserve. This included surveys of the accessible parts of the reserve known as 'the Fens'.
 - Surveys in 2023 – these surveys were completed between April and July 2023 and covered the same areas as the 2022 surveys, with the addition of the inland cable route west of the North Warren RSPB reserve to Saxmundham (within the Order Limits). They comprised six territory mapping surveys, each of which involved three to six days of field survey. The Fens part of the reserve was not resurveyed in 2023 due to changes to the Suffolk Onshore Scheme Order Limits.
 - Surveys in 2024 – these surveys were completed between March and July 2024 and covered similar areas to the surveys in 2023, except for the following:
 - some parts of the inland cable route were excluded due to changes in the Order Limits; and

- some areas were added as survey access was granted and areas where high impact was more likely (such as the proposed Friston substation site, the Saxmundham Converter Station site and the permanent access road south of Saxmundham).

- 1.3.14 The breeding bird surveys used a territory-mapping approach to estimate the number and positions of territories of each species present in a survey area during the breeding season (March to July). Survey routes were used to target areas where there will be new permanent infrastructure but, as for wintering birds, all suitable habitat within the Order Limits was covered as temporary works can also have significant effects.
- 1.3.15 The Survey Area included all habitat within the Suffolk Onshore Scheme Order Limits where land access had been granted, and the surveys were only conducted from PRow. The surveys involved walking and scanning predetermined routes with binoculars. Distant registrations of singing/calling birds allowed for a buffer of up to 500 m of the transect routes. Some of the transects included buffer areas outside the Order Limits and in some cases, this extended the buffer zones to up to 1 km. The survey routes were walked in alternate directions on each visit to ensure that all areas were covered at various times of the day across the duration of the survey.
- 1.3.16 This method followed the standard territory mapping methodology as detailed in '*Bird Monitoring Methods*' (Gilbert, Gibbons, & Evans, 1998) and '*Bird Census Techniques*' (Bibby, Burgess, Hill, & Mustoe, 2000). This method is based on the principle that many species during the breeding season are territorial, which is particularly common amongst passerines, where territories are often marked by conspicuous song, display and periodic disputes with neighboring individuals.
- 1.3.17 Standardised survey buffers for assessing the impacts of development on bird populations do not exist. However, the Survey Area used provides information on the breeding birds within the area immediately surrounding the Order Limits and includes areas contiguous with the Order Limits, where birds may potentially be adversely affected. The Survey Area is sufficient to determine the likely impacts of the Suffolk Onshore Scheme on the breeding bird species occurring, or likely to occur, in the area.
- 1.3.18 Suitably qualified ecologists (one of which was a highly experienced (30+ years) ornithologist) undertook a walkover of the Survey Area to record all species of breeding birds present and detail bird behaviour. This included singing, calling, flights and movements between areas, carrying food, nest building, aggressive encounters and other bird behaviour. While a standardised number of survey visits for Common Bird Census in respect of development has not been published, a minimum of five or six visits is normally the core survey component.
- 1.3.19 The six survey visits were approximately two weeks apart and were undertaken between April and June 2022, April and June 2023 and March and June 2024. Survey dates and weather conditions are provided in Table A.1 (**Annex 2.C.2**).
- 1.3.20 During the surveys all bird species, either seen or heard, were recorded and any signs of breeding activity were noted. Birds were recorded using the standardised BTO species codes (see **Annex 2.C.4**) and standardised behaviour codes (Bibby, Burgess, Hill, & Mustoe, 2000). Although all species were recorded, most of the survey effort was focused on 'target species', including woodlark, nightjar (*Caprimulgus europaeus*) and wetland birds associated with the statutorily designated sites (SSSIs, SPAs, SACs and Ramsar sites). Other 'target species' included raptors (e.g. hobby (*Falco Subbuteo*) (Schedule 1)), Schedule 1 species, SPI and BoCC Red and Amber status species (Stanbury, et al., 2021)The survey transects used in each year are shown in

Application Document 6.4.2.2.C.1 Site Boundary and Breeding Bird Transect Routes.

Hobby survey 2023

- 1.3.21 The 2023 breeding bird surveys also included a hobby survey, which involved two survey visits, each requiring around four days to complete. They were carried out between late August to early September and covered the same areas as the breeding bird surveys. During the hobby surveys, the buffer zones were extended by up to 1 km over the majority of the Survey Area due to the conspicuousness of family parties of this species.
- 1.3.22 They followed the identical routes used by the breeding bird survey however, frequent stops at suitable vantage points were made. These locations were determined by having a wide viewshed of areas suitable for located hobbies with newly fledged young, such as clumps of trees and woodland. Particular attention was paid to locations where hobbies had been seen during the breeding bird surveys in Spring/early Summer. The survey dates and weather conditions are given in Table A.1 (**Annex 2.C.2**).
- 1.3.23 The hobby surveys were repeated in late August and early September 2024.

Woodlark surveys 2023 and 2024

- 1.3.24 Separate woodlark surveys took place from March to April in 2023 and 2024. The surveys followed similar routes to those of the breeding bird surveys but utilised the transects, or parts of the transects, that covered suitable woodlark nesting/breeding habitat. These included arable fields with scattered woodland and hedges and areas of acid grassland/heathland along the landfall/beach area, just west of the North Warren RSPB Reserve. The wintering 2023 and 2024 bird survey records of woodlark were combined with the Spring/Summer data to supplement the territory mapping.

Nightjar survey 2023 and 2024

- 1.3.25 The nightjar surveys were conducted during evening visits commencing 30 minutes prior to sunset from May to June in 2023 and 2024. The surveys involved a moderately slow walk with frequent stops to scan and listen for singing and calling nightjars. The survey locations were the North Warren RSPB reserve and Aldeburgh golf course, as no other land was deemed as suitable breeding habitat for this species. A total of two to three survey visits were completed each year and the survey dates and weather conditions are provided in Table A.1 (**Annex 2.C.2**).

Barn owl survey 2024

- 1.3.26 Barn owl (*Tyto alba*) surveys were also conducted in July 2024 over three weeks by surveying potential nesting/roosting sites (where access was possible) such as farm buildings and trees, from predetermined vantage points. Each potential nesting site was visited at least once to establish the presence of nesting barn owls. The aim of these surveys was to establish the presence of nests where possible. However, because access was a limiting factor, the surveys could only prove presence and not absence. Therefore, further surveys will be required prior to any works. See limitations section below for further discussion on this.

Assessment and Evaluation

Assessment criteria

- 1.3.27 The assessment of the ornithological importance of the Survey Area during the breeding bird season was made by evaluating any species afforded special statutory protection or those included on one or more of the lists of species of conservation interest, as detailed in in Section -105461104.32764. The species of primary focus are:
- species which are a qualifying feature of potentially functionally linked internationally designated sites.
- 1.3.28 The species of secondary focus that are still considered of high importance are as follows:
- species listed on Annex 1 of the Birds Directive;
 - species listed on Schedule 1 of the WCA;
 - priority bird species in the UK, including farmland bird assemblage;
 - species listed as priority species or additional species of interest within Suffolk;
 - species included in the BoCC Red and Amber Lists (Stanbury, et al., 2021); and
 - rare breeding birds in the UK (species considered by the Rare Breeding Birds Panel (RBBP)).
- 1.3.29 A comparison between population sizes present within the Survey Area with the national and county breeding population estimates for certain species was also considered. The estimates for populations at a national level were taken from the following sources:
- the BTO bird facts website (British Trust for Ornithology, 2024);
 - the '*Population estimates of birds in Great Britain and the United Kingdom*' (Woodward, et al., 2020); and
 - the BTO Bird Atlas 2007-2011 (Balmer, et al., 2013) (the BTO website is used as it is the most current data source available).
- 1.3.30 Information on the population status of breeding bird species at a county level was sourced from the latest available issues of the Suffolk Bird Reports (The Suffolk Naturalists' Society, 2017-2022).
- 1.3.31 Information on populations of nationally rare species was sourced from the most recently published paper by the RBBP (Eaton, M and The Rare Breeding Birds Panel, 2022)

Importance of bird populations (Valuation)

- 1.3.32 To inform assessment of the importance of the bird populations, their biodiversity values have been defined with reference to the geographical level based on the values presented in the Chartered Institute of Ecology and Environmental Management (CIEEM) '*Guidelines for Ecological Impact Assessment (EcIA) in the United Kingdom and Ireland*' (Chartered Institute of Ecology and Environmental Management, 2018) as well as professional judgement.
- 1.3.33 These assessment criteria (set out in Table 1.2) have been used in conjunction with an assessment of bird species status, abundance and species richness to assess the importance of the bird populations recorded during the surveys.

Table 1.2 Biodiversity valuation of ornithological features

Biodiversity Valuation	Description and Examples of Criteria
International or European	Resident or regularly occurring populations of species which may be considered of value at an international or European level (1) where: - the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; - the population forms a critical part (2) of a wider population at this scale; or - the species is at a critical phase (3) of its life cycle at this scale.
UK or National	Areas of habitats with priority species identified in the UK Post-2010 Biodiversity Framework i.e. UKBAP, including those published in accordance with S41 of the NERC Act (2006) and those considered to be of principal importance for the conservation of biodiversity. Resident or regularly occurring populations of species which may be considered of value at a UK or a national level (4) where: - the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; - the population forms a critical part of a wider population at this scale; or - the species is at a critical phase of its life cycle at this scale.
Regional	Populations of species of value at a regional level (i.e. south-east England). Resident or regularly occurring populations of species which may be considered of value at a regional level (5) where: - the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; - the population forms a critical part of a wider population at this scale; or - the species is at a critical phase of its life cycle at this scale.
County	Populations of species of value at a County (i.e. Suffolk) level or District (e.g. East Suffolk). Resident or regularly occurring populations of species which may be considered of value at a County (or District) (6) level where:

Biodiversity Valuation	Description and Examples of Criteria
	- the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; - the population forms a critical part of a wider population at this scale; or - the species is at a critical phase of its life cycle at this scale
Local	Species populations of value in a local (i.e. within ~ 2 km of the site) context. Populations and, or communities of species considered to appreciably enrich the habitat resource within the local context (such as veteran trees), including features of value for migration, dispersal or genetic exchange.
Negligible (Order Limits)	Habitats and associated species that is of value in the context of the site only. Populations of common and widespread species.
1 Such species include those listed within the Birds Directive or animal or plant species listed within Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna (Habitats Directive). 2 Such populations include sub-populations that are essential to maintenance of metapopulation dynamics, e.g. critical emigration and, or immigration links between otherwise discrete populations. 3 Seasonal activity or behaviour upon which survival or reproduction depends. 4 Species which may be considered at the UK or national level mean: birds, other animals and plants which receive legal protection on the basis of their conservation interest (those listed within Schedule 1, 5 and 8 on the WCA); SPI in accordance with S41 of the NERC Act 2006, priority species listed within the UK Post 2010 Biodiversity Framework, or species listed within the Red Data Book. 5 Such species include those listed in the appropriate Natural Character Area description. 6 Such species include those at county level (i.e. Suffolk) including unitary authority area i.e. District level (i.e. South-east England); as listed on the LBAPs; and listed as a county designated site. *As well as assigning importance there is also a need to identify all legally protected species that could be affected by the proposed scheme in order that measures can be taken to ensure that adherence to the relevant legislation is observed. This may include the adoption of mitigation and appropriate licensing which are acceptable to Natural England.	

- 1.3.34 Only ecological features within the Suffolk Onshore Scheme and/or ZOI valued at a local level or above have been taken forward for assessment within the EcIA presented in **Application Document 6.2.2.2 Part 2 Suffolk Chapter 2 Ecology and Biodiversity**. Those valued at below this level of importance, for example at the ZOI level, have been scoped out of the assessment process.
- 1.3.35 A summary of the potential impacts of the Proposed Project upon important bird species is discussed in detail within **Application Document 6.2.2.2 Part 2 Suffolk Chapter 2 Ecology and Biodiversity**.

Limitations

Desk study

- 1.3.36 The aim of a desk study is to help characterise the baseline context of the Order Limits and provide valuable background information that would not be captured by a single site survey alone. Information obtained during a desk study was dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records for a particular habitat or species does not necessarily mean that the habitats or species do not occur in the Study Area. Likewise, the presence of records for particular habitats and species does not automatically mean that these still occur within the area of interest or are relevant in the context of the Suffolk Onshore Scheme.

Field survey

- 1.3.37 An ecological survey represents a 'snapshot' in time of the ecological condition of a site. The extent and quality of habitats present, and their suitability for protected and priority species, can change substantially throughout both the course of a year and between years. However, any seasonal limitations to the appraisal are clearly identified in this report, and the lifespan of this appraisal section of this report addresses the potential for changes between years. Therefore, this standard limitation is addressed as far as is reasonably possible.
- 1.3.38 Access for surveys was only available from PRoW for the counts within the North Warren RSPB reserve and these are not considered comprehensive due to physical barriers such as trees and reeds obscuring bird visibility. However, the data provided is believed to be valid, especially when used in conjunction with RSPB website and desk study data (Suffolk 2021 bird report). It represents an appropriate balance between surveying to gather sufficient data to understand the value of the reserve and the risk of causing significant habitat damage and bird disturbance by choosing to use more intrusive surveys. The data obtained during the surveys are finer grained than the RSPB overall breeding bird data, as it concentrates on the part of the reserve the cable route will be situated within, rather than the whole of the North Warren RSPB reserve.
- 1.3.39 Although the Fens at the north of the North Warren RSPB reserve were surveyed, the survey in this area was to provide a broad outline of the birds present and not a comprehensive dataset. This was because the amount of effort to survey bittern and marsh harrier nest locations would have been extremely time consuming and would have only duplicated information already collected by the RSPB. This also applies to other species such as ducks and shorebirds nesting within the North Warren RSPB reserve.
- 1.3.40 Survey limitations also apply to the inland agricultural area of the Survey Area where access was primarily only available from PRoW, which meant less visible species may not have been recorded. However, it is considered that the survey coverage was sufficiently comprehensive for the species of primary/secondary focus, such as woodlark and hobby, due to the extensive permeation of the area with transect routes and the fact that surveys concentrated efforts to look for these species.
- 1.3.41 Cryptic species such as owls are likely to be missed by a survey carried out in the day. Small passerines may also be difficult to spot if land access is restricted. Other species within this category are skulking species, such as bittern (*Botaurus stellaris*) and snipe (*Gallinago gallinago*), which frequent marshes where they may move around, screened from the surveyor by reeds and sedges.
- 1.3.42 The barn owl surveys were constrained by land access and therefore, surveys comprised a mix of tree inspections on accessible land, building inspections (one site only) and transect/vantage point watches overlooking potential sites such as buildings

and trees. For this reason, it was not possible to confirm the presence or absence of barn owls at the sites that were not visited.

- 1.3.43 Any potential effects of 'double counting' within the sum of bird registrations have been addressed, as far as reasonably possible, both by surveyor professional judgement in the field and when analysing count data.
- 1.3.44 The survey period April to July does not correspond fully with the breeding season of wood pigeon, which have a protracted breeding season lasting until October. Therefore, this species may be under-recorded. This is not considered a significant limitation on the assessment overall as they are a common and widespread species, despite their Amber list status. Given the population size of this species (around 5 million pairs (British Trust for Ornithology, 2024)), any impact to this species is likely to be insignificant.
- 1.3.45 Cropping patterns have a marked effect on breeding bird distributions, therefore surveys conducted over one or two breeding seasons can only record the numbers of breeding birds present in those particular years. In subsequent years, the number of territories might be significantly different when more suitable crop is planted, or the land use changes to a more favourable activity for certain species. For example, skylark (*Aluda arvensis*) might be found breeding in high densities in a field that is left fallow but be absent if the field is sown with less suitable crop. This is because different crops effect the numbers of breeding birds in individual fields, and it is important to acknowledge this when interpreting baseline data for farmland birds.

Lifespan of the appraisal

- 1.3.46 It should be noted that ecosystems are dynamic and constantly changing and therefore species may move, or new species may be recorded in subsequent years. For this reason and in accordance with current guidance, the field survey data detailed in this report are valid for two years (The Chartered Institute of Ecology and Environmental Management, 2019). After this date, update surveys may be required and advice should be sought from an appropriately qualified ornithologist to determine survey scope and methods.

1.4 Results

Desk Study

Statutory sites

- 1.4.1 16 statutory sites designated for nature conservation have been identified within the Study Area (10 km for international and 5 km for national sites).
- 1.4.2 Table 1.3 summarises the statutory designated sites situated within the Study Area. Where designated sites are situated outside of the Order Limits, the distance and direction are given at the closest point of the designated site from the Order Limits.

Table 1.3 Biodiversity valuation of ornithological features

Designated Site	Reason for Designation	Distance from Suffolk Onshore Scheme
Leiston-Aldeburgh SSSI (535 ha)	Leiston-Aldeburgh is designated for a rich mosaic of habitats including acid grassland, heath, scrub, woodland, fen, open water and vegetated shingle. A diverse and abundant community of breeding and overwintering birds, a high number of dragonfly species and many scarce plants.	Within Suffolk Onshore Scheme
The Haven, Aldeburgh Local Nature Reserve (LNR) (20 ha)	The site is designated for an area of lagoons and reedbeds.	Within Suffolk Onshore Scheme
Sandlings SPA (3,391 ha)	The site qualifies under Article 4.1 of the Directive (79/409/EEC) as it is used regularly by 1 % or more of the Great Britain populations of the following species listed in Annex I in any season: • nightjar; and • woodlark.	Adjacent to the Suffolk Onshore Scheme
Southern North Sea SAC (3,695,100 ha)	The Southern North Sea site is located in the North Sea and has been recognised as an area with predicted persistent high densities of harbour.	Adjacent to the Suffolk Onshore Scheme
Alde-Ore and Butley Estuaries SAC (1,633 ha)	The site is designated as an SAC for its coastal lagoons, perennial and annual shingle vegetation features. The SAC boundary includes Orfordness and Shingle Street. See below for ornithological features.	Approximately 600 m south of the Suffolk Onshore Scheme
Alde-Ore and Butley Estuary Ramsar (1,633 ha)	The site is designated as a Ramsar site for its nationally-scarce plant species, assemblages of breeding and wintering wetland birds, and internationally important numbers of breeding lesser black-backed gull (<i>Larus</i>	Approximately 600 m south of the Suffolk Onshore Scheme

Designated Site	Reason for Designation	Distance from Suffolk Onshore Scheme
	<i>fuscus</i>), avocet (<i>Recurvirostra avosetta</i>) and common redshank (<i>Tringa totanus</i>). See below for ornithological features.	
Alde-Ore and Butley Estuary SPA (1,633 ha)	The site qualifies as an SPA under Article 4.1 and 4.2 of the Directive (79/409/EEC) as it is used regularly by 1 % or more of the Great Britain populations of the following species listed in Annex I in any season: • shelduck (<i>Tadorna tadorna</i>) (non-breeding); • wigeon (<i>Anas Penelope</i>) (non-breeding); • teal (<i>Anas crecca</i>) (non-breeding); • black-tailed godwit (<i>Limosa limosa</i>) (non-breeding); • gadwall (<i>Anas strepera</i>) (breeding); • shoveler (<i>Anas clypeata</i>) (breeding); • herring gull (<i>Larus argentatus</i>) (breeding); • lesser black-backed gull; (breeding) Article 2; and • common redshank (non-breeding) Article 2.	Approximately 600 m south of the Suffolk Onshore Scheme
Alde-Ore Estuary SSSI (2,534 ha)	The site also contains a number of coastal formations and estuarine features including mudflats, saltmarsh, vegetated shingle and coastal lagoons which are of special botanical and ornithological value.	Approximately 700 m south of the Suffolk Onshore Scheme
Gromford Meadow SSSI (1.6 ha)	Gromford Meadow is a good example of an unimproved base-rich marsh on an alluvial soil with a high organic content. It borders the River Alde and is fed by springs. It is species-rich and contains a	Approximately 1.12 km southwest of the Suffolk Onshore Scheme

Designated Site	Reason for Designation	Distance from Suffolk Onshore Scheme
	variety of characteristic fen meadow and marshland plants.	
Snape Warren SSSI (47.2 ha)	The site is a fine example of the lowland heathland of eastern England, which has been subject to considerable loss in the last 40 years. The vegetation is characterised by extensive areas of <i>Calluna</i> heath interspersed with acid grass-land dominated by common bent (<i>Agrostis capillaris</i>).	Approximately 2 km south of the Scheme
Orfordness-Havergate National Nature Reserve (NNR) (909 ha)	The site is a large shingle spit separated from the mainland by the River Alde. The shingle supports a number of rare and scarce invertebrates, particularly beetles and spiders. and the site is also an important breeding place for many bird species.	Approximately 2.3 km south of Suffolk Onshore Scheme
Sandlings Forest SSSI (2,486 ha)	This site is notified for its coniferous woodland which supports internationally important populations of woodlark and nightjar.	Approximately 4.5 km south of Suffolk Onshore Scheme
Sizewell Marshes SSSI (104 ha)	Sizewell Marshes are important for their large area of lowland, unimproved wet meadows which support outstanding assemblages of invertebrates and breeding birds.	Approximately 4.5 km north of the Suffolk Onshore Scheme
Minsmere to Walberswick Heaths and Marshes SAC (1,256.57 ha)	The site is designated are (European dry) heathland and vegetated annual and perennial shingle habitats. See below for ornithological features.	Approximately 6 km northeast of the Suffolk Onshore Scheme
Minsmere to Walberswick Heaths and Marshes Ramsar site (12,56.57 ha)	The site contains a mosaic of marine, freshwater, marshland and associated habitats, complete with transition areas in between. It contains the largest continuous stand of	Approximately 6 km northeast of the Suffolk Onshore Scheme

Designated Site	Reason for Designation	Distance from Suffolk Onshore Scheme
	reedbeds in England and Wales and rare transition in grazing marsh ditch plants from brackish to fresh water. This site supports nine nationally scarce plants and at least 26 red data book invertebrates. It supports a population of the mollusc <i>Vertigo angustior</i>, recently discovered on the Blyth estuary river walls. An important assemblage of rare breeding birds associated with marshland and reedbeds is present including bittern, gadwall, teal, shoveler, marsh harrier, avocet, bearded tit (<i>Panurus biarmicus</i>). See below for ornithological features.	
Minsmere to Walberswick Heath and Marshes SPA (1,256.57 ha)	The site qualifies as an SPA under Article 4.1 of the Directive (79/409/EEC) as it is used regularly by 1 % or more of the Great Britain populations of the following species listed in Annex I in any season: • bittern (breeding); • gadwall (non-breeding); • gadwall (breeding); • teal (breeding); • shoveler (breeding); • shoveler (non-breeding); • marsh harrier (breeding); • hen harrier (<i>Circus cyaneus</i>) (non-breeding); • avocet (breeding); • little tern (<i>Sterna albifrons</i>) (breeding); • nightjar (breeding); and • European white-fronted goose (<i>Anser albifrons</i>) (non-breeding).	Approximately 6 km northeast of the Suffolk Onshore Scheme

Non-statutory sites

- 1.4.3 Nine non-statutory sites designated for nature conservation have been identified within 2 km of the Order Limits. Table 1.4 summarises the non-statutory designated sites situated within the Study Area. Where designated sites are situated outside of Order Limits, the distance and direction are given at the closest point of the designated site from the Order Limits.

Table 1.4 Non-statutory designated sites

Designated Site	Reason for Designation	Distance from Suffolk Onshore Scheme
Disused Railway Line (Aldringham–Aldeburgh) CWS (1.8 ha)	This section of disused railway line which serves as a public footpath supports a species-diverse flora both on the line of the old track and on the gently sloping embankments.	Within Suffolk Onshore Scheme.
Knodishall Whin CWS (1.6 ha)	The Whin consists of a mosaic of heathland habitats including acid grassland, lichen heath and gorse/bramble scrub. A linear strip of scrub lies at the south-western end of the site, providing habitat opportunities for invertebrates and birds.	Within of the Suffolk Onshore Scheme.
Suffolk Shingle Beaches CWS (39 ha)	The stretches of shingle beach along the Suffolk coast are of a national conservation importance for the range of shingle plants that grow there. All of the shingle beaches are of high conservation value and most are already covered as SSSIs the remaining areas have been designated as CWS.	Within Suffolk Onshore Scheme.
Great Wood CWS (5.9 ha)	Great Wood is included in the Inventory of Ancient Woodland compiled by English Nature.	Adjacent to the Suffolk Onshore Scheme.

Designated Site	Reason for Designation	Distance from Suffolk Onshore Scheme
Knodishall Common CWS (11 ha)	The Common supports a mosaic of valuable of lowland heathland habitat including areas of birch (<i>Betula sp.</i>) and sycamore (<i>Acer pseudoplatanus</i>) woodland, gorse (<i>Ulex europaeus</i>) scrub, bracken (<i>Pteridium aquilinum</i>) open acid grassland, heather (<i>Calluna sp.</i>), lichen heath and bare ground. The woodland and areas of dense gorse scrub provide opportunities for a range of both common and migratory bird species, as well as notable species including linnet (<i>Linaria cannabina</i>) and turtle dove (<i>Streptopelia turtur</i>) and nightingale (<i>Luscinia megarhynchos</i>).	Approximately 300 m northeast of the Suffolk Onshore Scheme.
Grove Wood CWS (10 ha)	Grove Wood can be divided into two parts. To the east and west of a minor road is a hazel (<i>Corylus avellana</i>), ash (<i>Fraxinus excelsior</i>), field maple (<i>Acer campestre</i>) and elm (<i>Ulmus sp.</i>) coppice wood with oak (<i>Quercus robur</i>) and ash standards. The northern boundary is formed by a very good example of an ancient ditch and bank with a large mixed hedge. There is a diversity of ground flora on this hedge bank including abundant primrose (<i>Primula vulgaris</i>). This site is classified as Ancient Replanted Woodland.	Approximately 360 m south of the Suffolk Onshore Scheme.

Designated Site	Reason for Designation	Distance from Suffolk Onshore Scheme
Benhall Green Meadows CWS (8.8 ha)	This series of meadows forms one of the largest remaining areas of flower-rich marsh in the Alde catchment. They contain a wide range of notable wet meadow plants.	Approximately 700 m south of the Suffolk Onshore Scheme.
Church Common CWS (2.2 ha)	This site includes an area of remnant heathland, a large area of short-grazed acid grassland. A number of nationally rare species have been recorded on this site and is also noted for its unusual population of white harebells (<i>Campanula rotundifolia</i>).	Approximately 1.3 km southwest of the Suffolk Onshore Scheme.
Buckleswood CWS (4.6 ha)	Buckle's Wood has a good coppice with standard structure and several rides. The coppice stools are old, mainly hazel, with ash, field maple and hornbeam (<i>Carpinus sp.</i>) also present. The standards are oak and even aged. There is a good ditch and bank boundary with a mixed species hedge, which together with the old coppice stools, indicates a woodland of some considerable age.	Approximately 2 km northeast of the Suffolk Onshore Scheme.

Bird Records Including Protected Species

Biological records search

- 1.4.4 Given the proximity of the Order Limits to numerous heavily visited nature reserves, it is not surprising the desk study yielded a high number of bird records totaling 5,996 records in the previous 10 years from within 2 km of the Order Limits. In general, there were no records of any stand-out interest for breeding birds over and above data collected in the field, or those collected from other sources e.g. WeBS counts. Overall, counts of water birds were similar to those or comprised lower numbers than those recorded during surveys or supplied WeBS data. The raw data contained many restricted and sensitive records and therefore the data is not supplied in this report.

- 1.4.5 Suffolk Bird Reports records (2021 and 2022) were reviewed in conjunction with the field data to validate bird numbers for the evaluation (see Section 1.5).

RSPB records search

- 1.4.6 The RSPB data search found 1,826 bird records from the last ten years within the Study Area. Similar to the biological records search, there were no records of any stand-out interest for breeding birds over and above data collected in the field or those collected from other sources e.g. WeBS counts. The raw data contained many restricted and sensitive records and therefore the data is not supplied in this report.

WeBS data summaries

- 1.4.7 The most recent five years WeBS core count summary data¹ was reviewed and the relevant data was used in conjunction with the field data to validate bird numbers for the evaluation (see Section 1.5).
- 1.4.8 The relevant count sites are as follows:
- Alde-Ode Estuary (SPA, SAC and Ramsar);
 - Minsmere to Walberswick Heaths and Marshes (SPA, SAC and Ramsar); and
 - North Warren RSPB Reserve and Thorpeness Mere.
- 1.4.9 The species counts that were recorded within the last five years and that are potentially relevant to the Suffolk Onshore Scheme are provided in more detail within **Annex 2.C.C.**

Field Survey

- 1.4.10 The results for the surveys are described below, both in the context of the combined results for all surveys and then in the context of the individual survey types.

Combined results: 2022, 2023 and 2024 surveys

- 1.4.11 A total of 84 species were recorded (confirmed or potentially breeding) within the Survey Area during the 2022, 2023 and 2024 breeding bird surveys.
- 1.4.12 It should be noted that no one year included surveys of the entire route. For example, the 2023 survey covered the inland cable route west of the B1122 as far as the proposed Saxmundham Converter Station and did not include the proposed permanent access road part of the route. This area was surveyed in 2024, when surveys were focused on any previously omitted areas due to changes in the Order Limits and land access.
- 1.4.13 Distribution maps of the estimated territory centres are provided in **Application Document 6.4.2.2.C.2 to Application Document 6.4.2.2.C.4**. Schedule 1 (WCA) breeding bird and Nightjar territory centres are also shown on **Application Document 6.4.2.2.C.5 to Application Document 6.4.2.2.C.7** to aid with mitigation and planning strategies.

¹ Contains Wetland Bird Survey (WeBS) data from Waterbirds in the UK 2019/20 © copyright and database right 2021. WeBS is a partnership jointly funded by the BTO, RSPB and JNCC, in association with WWT, with fieldwork conducted by volunteers.

- 1.4.14 Table 1.5 Breeding bird territories or pairs in 2022, 2023 and 2024 summarises the survey results and is split into two categories:
- species of primary focus – these are the species included in the statutory site designations SSSI, SPA, SAC and Ramsar; and
 - species of secondary focus – these are species such as BoCC Red and Amber List species, Schedule 1 (WCA) species and other species of particular conservation interest e.g. rare, scarce or declining species.
- 1.4.15 The table follows the BoCC Red, Amber and Green List hierarchy and Schedule 1 species are indicated in bold. Within each group, species are shown in alphabetic order (rather than taxonomic) to assist consistency when manipulating results within a database and to aid the target audience.
- 1.4.16 To aid interpretation, the Suffolk Onshore Scheme is discussed, referencing two areas:
- ‘the Coastal Section’ which includes the landfall/beach area, the North Warren RSPB reserve and additional fields to the east as far as the B1122; and
 - ‘the Inland Section’ extending from the B1122 to Saxmundham (i.e. the inland cable route).

Coastal section – North Warren RSPB reserve and landfall/beach area

General observations

- 1.4.17 A total of 74 species were recorded within the Coastal Section during the 2022, 2023 and 2024 breeding bird surveys.
- 1.4.18 The coastal strip/beach is subject to year-round disturbance as there is a popular walk along the beach between Thorpeness and Aldeburgh. There is also a raised footpath between the beach and the western side of the marshes which roughly corresponds to the proposed route of the Suffolk Onshore Scheme (central causeway). Another public path, the ‘Sanderlings Trail’, follows the western edge of the grazing marshes/wetlands.
- 1.4.19 The North Warren RSPB reserve holds an impressive breeding bird fauna reflecting its varied bird habitats which include woodland, scrub, heathland, acid grassland, grazing marshes, reed beds and open freshwater pools.
- 1.4.20 Breeding birds included several species that are features of the designated sites. Species such as woodlark and nightjar, which are features of the Sandlings SPA and wetland species such as marsh harrier, bittern, shelduck and gadwall, all features of the nearby designated sites.
- 1.4.21 The reserve also provides breeding habitat for large numbers of woodland and wetland species with large numbers of species such as skylark, lapwing (*Vanellus vanellus*), cuckoo (*Cuculus canorus*), Cetti’s warbler (*Cettia cetti*) (Schedule 1), hobby (Schedule 1), common redshank and linnet.

Species of primary focus

- 1.4.22 Eight species fell into this category within the Coastal Section, with their numbers summarised below (see Table 1.5 for full results):

- Bittern (Schedule 1) – two pairs were recorded in 2022, one in 2023 and three in 2024 (all estimates, see limitations in Section 1.3). Sightings were of adults carrying out feeding flights between the ditches of the North Warren RSPB reserve grazing marshes and the Fens in the northern part of the North Warren RSPB reserve.
- Common redshank – four pairs were recorded in 2022 and 2023 and 14 were recorded in 2024 (2024 number is an estimate, see limitations in Section 1.3).
- Gadwall – four pairs were suspected of breeding in 2022, one in 2023 and six in 2024. More pairs may have been present but were undetected due to tall vegetation and survey visibility.
- Marsh harrier (Schedule 1) – two pairs were recorded in 2022 and 2023 and three pairs were recorded in 2024 (2024 number is an estimate, see limitations in Section 1.3). They were regularly seen hunting over the grazing marshes section of the reserve, often carrying prey towards nesting site at Fens part of the North Warren RSPB reserve.
- Nightjar – one pair was recorded in 2022 and 2023 with two pairs being recorded in 2024 (all within 300 m from the Order Limits). This does not include the northerly part of the North Warren RSPB reserve as this area was not surveyed due to distance from the Suffolk Onshore Scheme.
- Shelduck – three pairs were recorded in 2022 and four pairs were recorded in 2023 and 2024.
- Teal – one pair was suspected to be breeding in 2024.
- Woodlark (Schedule 1) – four territories were located in 2022, three in 2023 and two in 2024.

Species of secondary focus

1.4.23 42 species fell into this category within the Coastal Section, the majority of which are common and widespread species such as wood pigeon and wren and are unlikely to be impacted by the Suffolk Onshore Scheme. Rare and more vulnerable species which could potentially be impacted are summarised below (see Table 1.5 also):

- Barn owl – two breeding pairs of barn owls were recorded in 2024, both pairs are likely to have also been present in 2023 and are both located in trees. Only one group of farm buildings was checked directly for barn owls. No access was available for any other groups of farm buildings. At the site that was checked, fresh barn owl signs were found but no signs of nesting were evident (July 2024).
- Cetti's warbler (Schedule 1) – 24 singing males were recorded in 2022, 23 in 2023 and 28 in 2024.
- Cuckoo – seven singing males were recorded in 2022 and three were recorded in 2023 and 2024. Females were also noted during the surveys in all years.
- Grey partridge (*Perdix perdix*) – one pair was recorded in 2024.
- Hobby (Schedule 1) – one pair was confirmed to be breeding in 2022 and 2024. Hobbies were present in 2023 but breeding was not confirmed on this part of the Order Limits. Up to four hobbies were observed over the Fens in the NWRSBP reserve in Spring/Summer 2024 but only one pair was confirmed to be breeding. The hobby surveys were repeated in late August and early September 2024.

- Lapwing – 14 pairs were recorded in 2022, 11 pairs in 2023 and 25 in 2024 (2024 number is an estimate, see limitations in Section 1.3).
- Lesser redpoll (*Carduelis cabaret*) – two pairs were recorded in 2022, with one pair in 2024.
- Linnet (*Carduelis cannabina*) – 14 singing males were recorded in 2022, 19 in 2023 and 25 singing males in 2024.
- Nightingale (*Luscinia megarhynchos*) – one territory was located at the same location in both 2022 and 2023, with three territories in 2024.
- Shoveler – one pair was recorded in 2024, possibly breeding.
- Skylark – 31 territories were located in 2022, 33 in 2023 and 45 in 2024.
- Turtle dove (*Streptopelia turtur*) – one territory was recorded in 2022.
- Water rail (*Rallus aquaticus*) – this species was heard at four locations in the Fens area of the North Warren RSPB, with singing recorded at one of these locations and breeding confirmed at another.
- Yellowhammer (*Emberiza citronella*) – one singing male was recorded in 2022 and 2 were recorded in 2024.
- Yellow wagtail (*Motacilla flava*) – one pair was recorded in 2023.

1.4.24 Another species that was not recorded by the surveys but is believed to breed within the heathland on the northern part of the North Warren RSPB reserve is Dartford warbler (*Sylvia undata*) (The Suffolk Naturalist' Society, 2021).

Inland Section – Inland Cable Route (East of the North Warren RSPB Reserve to Saxmundham)

General observations

1.4.25 A total of 74 species were recorded within the Inland Section during the 2023 and 2024 breeding bird surveys. Woodlark (a feature of the Sandlings SPA), nightingale and hobby are notable records. Although not a rare species, shelduck (feature of wetland statutory sites within ZOI) was found breeding during the inland cable route surveys.

Species of primary species

1.4.26 Two species fell into this category within the Inland Section, with their numbers summarised below (see Table 1.5 for full results):

- Shelduck – three pairs were recorded in the inland section of the Suffolk Onshore Scheme. These birds are associated with inland irrigation reservoirs.
- Woodlark (Schedule 1) – in 2023, nine territories were located in the inland section, several of these were found in areas of acid grassland/heathland. Several pairs were found in areas with a more agricultural use, with territories straddling sandy arable fields which were often adjacent to un-grazed horse paddocks. In 2024, eight territories were located with the majority of these being on fallow arable land adjacent to woodland.

Species of secondary focus and species of farmland bird assemblage

- 1.4.27 Fifty-seven species fell into this category, the majority of which are common and widespread species such as wood pigeon and wren and are unlikely to be impacted by the Suffolk Onshore Scheme. Rare and more vulnerable species which could potentially be impacted are summarised below (see Table 1.5 also):
- Barn owl – two breeding pairs of barn owls were recorded in 2024, both pairs are likely to have also been present in 2023 and are both located in trees. Only one group of farm buildings was checked directly for barn owls. No access was available for any other groups of farm buildings. At the site that was checked, fresh barn owl signs were found but no signs of nesting were evident (July 2024).
 - Cetti's warbler (Schedule 1) – one singing male was recorded in 2024.
 - Cuckoo – two singing males were recorded in 2023 and one was recorded in 2024. Females were also noted during the surveys in all years.
 - Grey partridge – two pairs were recorded in 2023 and 2024.
 - Hobby (Schedule 1) – two family parties were located in 2023 and one in 2024. Both pairs were using woodland blocks within the arable landscape. One nest site is directly on the inland cable route. The second is close to the route and proposed infrastructure. Further hobby surveys were undertaken in August and September 2024.
 - Linnet – 48 singing males were recorded in 2023 with 15 singing males in 2024.
 - Nightingale – five singing males were recorded in 2023 with 12 singing males in 2024.
 - Skylark – 135 singing males were recorded in 2023, with 95 singing males in 2024.
 - Yellowhammer – 48 singing males were recorded in 2023 and 25 were recorded in 2024.
 - Yellow wagtail – four pairs were recorded in 2023 and six were recorded in 2024.
- 1.4.28 It should be noted that the 2023 and 2024 surveys combined covered the whole of the survey area. In 2024, the surveys covered areas of high impact such as the proposed Friston Substation site and the Saxmundham Converter Station site, which were also covered in 2023. Additional survey areas in 2024 included the permanent access road to the west of the Suffolk Offshore Scheme (west of the River Fromus) and areas north of the golf course. No access to these areas was available in 2023. The 2024 survey also re-surveyed areas of high bird interest such as areas where hobby and woodlark were recorded in 2023.

Table 1.5 Breeding bird territories or pairs in 2022, 2023 and 2024

Species (BoCC List colour highlighted)	Number of territories recorded during the 2022 surveys (Coastal Section)	Number of territories recorded during the 2023 surveys (Coastal and Inland Sections)	Number of territories recorded during the 2024 surveys (Coastal Section)	Number of territories recorded during the 2024 surveys (Inland Section)	Comments
Species Included in Statutory Site Designations for SPAs, SACs and Ramsar					
Woodlark (<i>Lullula arborea</i>)+*	4	12	2	8	-
Bittern (<i>Botaurus stellaris</i>)+*	2	1	3	0	All years are estimates (see limitations in Section 1.3).
Common Redshank (<i>Tringa tetanus</i>)	4	4	14	0	2024 number is estimated (see limitations in Section 1.3).
Gadwall (<i>Mareca strepera</i>)	4	1	6	0	-
Marsh harrier (<i>Circus aeruginosus</i>)+	2	2	3	0	Not surveyed for specifically but breeding at the Fens area of the North Warren RSPB reserve. 2024 number is

Species (BoCC List colour highlighted)	Number of territories recorded during the 2022 surveys (Coastal Section)	Number of territories recorded during the 2023 surveys (Coastal and Inland Sections)	Number of territories recorded during the 2024 surveys (Coastal Section)	Number of territories recorded during the 2024 surveys (Inland Section)	Comments
					estimated (see limitations in Section 1.3).
Nightjar (<i>Caprimulgus europaeus</i>)+*	>1	>1	2	0	-
Shelduck (<i>Tadorna tadorna</i>)	3	7	4	3	-
Teal (<i>Anas crecca</i>)	2	0	1	0	-

Additional Red List Species

Cuckoo (<i>Cuculus canorus</i>)*	7	5	3	1	-
Greenfinch (<i>Chloris chloris</i>)	4	16	2	8	-
Grey partridge (<i>Perdix perdix</i>)*	0	2	1	2	-
House martin (<i>Delichon urbicum</i>)	0	8	0	5	-
House sparrow	19	49	0	30	-

Species (BoCC List colour highlighted)	Number of territories recorded during the 2022 surveys (Coastal Section)	Number of territories recorded during the 2023 surveys (Coastal and Inland Sections)	Number of territories recorded during the 2024 surveys (Coastal Section)	Number of territories recorded during the 2024 surveys (Inland Section)	Comments
(<i>Passer domesticus</i>)*					
Lapwing (<i>Vanellus vanellus</i>)*	14	11	25	0	2024 number is estimated (see limitations in Section 1.3).
Lesser redpoll (<i>Acanthis cabaret</i>)*	2	0	1	0	-
Linnet (<i>Linaria cannabina</i>)*	14	67	25	15	-
Marsh tit (<i>Poecile palustris</i>)*	0	1	0	0	-
Mistle thrush (<i>Turdus viscivorus</i>)	0	0	2	2	
Nightingale (<i>Luscinia megarhynchos</i>)	1	6	3	12	-
Skylark (<i>Alauda arvensis</i>)*	31	168	45	95	-

Species (BoCC List colour highlighted)	Number of territories recorded during the 2022 surveys (Coastal Section)	Number of territories recorded during the 2023 surveys (Coastal and Inland Sections)	Number of territories recorded during the 2024 surveys (Coastal Section)	Number of territories recorded during the 2024 surveys (Inland Section)	Comments
Starling (<i>Sturnus vulgaris</i>)*	0	4	0	0	Nesting in Aldeburgh with adults collecting food on North Warren RSPB.
Swift (<i>Apus apus</i>)	2	0	0	0	-
Turtle dove (<i>Streptopelia turtur</i>)*	1	0	0	3	-
Yellow wagtail (<i>Motacilla flava</i>)*	0	5	0	6	-
Yellowhammer (<i>Emberiza citronella</i>)*	1	48	2	25	-
Additional Amber List Species					
Bullfinch (<i>Pyrrhula pyrrhula</i>)*	2	6	2	2	-
Dunnock (<i>Prunella modularis</i>)*	21	99	44	56	-
Greylag goose (feral) (<i>Anser anser</i>)	2	0	0	0	-

Species (BoCC List colour highlighted)	Number of territories recorded during the 2022 surveys (Coastal Section)	Number of territories recorded during the 2023 surveys (Coastal and Inland Sections)	Number of territories recorded during the 2024 surveys (Coastal Section)	Number of territories recorded during the 2024 surveys (Inland Section)	Comments
Kestrel (<i>Falco tinnunculus</i>)	0	9	1	4	-
Mallard (<i>Anas platyrhynchos</i>)	12	5	7	3	-
Meadow pipit (<i>Anthus pratensis</i>)	1	0	1	0	-
Moorhen (<i>Gallinula chloropus</i>)	1	4	3	1	-
Mute swan (<i>Cygnus olor</i>)	3	2	2	0	-
Reed bunting (<i>Emberiza schoeniclus</i>)*	21	16	17	0	-
Rook (<i>Corvus frugilegus</i>)	20	30	15	10	-
Sedge warbler (<i>Acrocephalus schoenobaenus</i>)	26	35	28	0	-

Species (BoCC List colour highlighted)	Number of territories recorded during the 2022 surveys (Coastal Section)	Number of territories recorded during the 2023 surveys (Coastal and Inland Sections)	Number of territories recorded during the 2024 surveys (Coastal Section)	Number of territories recorded during the 2024 surveys (Inland Section)	Comments
Shoveler (<i>Anas clypeata</i>)	0	0	1	0	-
Snipe (<i>Gallinago gallinago</i>)	0	1	~1	0	Juvenile recorded in June 2023 at North Warren RSPB, Drumming heard 2024 at Fens area of North Warren RSPB.
Song thrush (<i>Turdus philomelos</i>)*	6	42	13	19	-
Sparrowhawk (<i>Accipiter nisus</i>)	0	4	3	1	-
Stock dove (<i>Columba oenas</i>)	0	24	3	7	-
Tawny owl (<i>Stris aluco</i>)	1	3	1	2	-
Willow warbler (<i>Phylloscopus trochilus</i>)	0	2	0	0	-
Wood pigeon (<i>Columba palumbus</i>)	2	23	2	6	-
Wren	22	119	42	78	-

Species (BoCC List colour highlighted)	Number of territories recorded during the 2022 surveys (Coastal Section)	Number of territories recorded during the 2023 surveys (Coastal and Inland Sections)	Number of territories recorded during the 2024 surveys (Coastal Section)	Number of territories recorded during the 2024 surveys (Inland Section)	Comments
(Troglodytes troglodytes)					
Additional Green List Species					
Barn owl (Tyto alba)	0	8 (locations)	2	2	-
Bearded tit (Panurus biarmicus)	0	0	2	0	-
Blackbird (Turdus merula)	20	122	21	51	-
Blackcap (Sylvia atricapilla)	14	80	26	24	-
Blue tit (Cyanistes caeruleus)	7	55	18	44	-
Carrion crow (Corvus corone)	1	21	0	5	-
Cetti's warbler (Cettia cetti)	24	23	28	1	-
Chaffinch (Fringilla coelebs)	27	108	27	51	-

Species (BoCC List colour highlighted)	Number of territories recorded during the 2022 surveys (Coastal Section)	Number of territories recorded during the 2023 surveys (Coastal and Inland Sections)	Number of territories recorded during the 2024 surveys (Coastal Section)	Number of territories recorded during the 2024 surveys (Inland Section)	Comments
Chiffchaff (<i>Phylloscopus collybita</i>)	23	100	40	56	-
Coal tit (<i>Periparus ater</i>)	1	3	2	7	-
Common buzzard (<i>Buteo buteo</i>)	1	18	2	14	-
Coot (<i>Fulica atra</i>)	1	2	4	2	-
Firecrest (<i>Regulus ignicapilla</i>)	0	2	0	0	-
Garden warbler (<i>Sylvia borin</i>)	5	10	16	11	-
Goldcrest (<i>Regulus regulus</i>)	3	12	6	0	-
Goldfinch (<i>Carduelis carduelis</i>)	5	33	10	23	-
Great crested grebe	0	1	0	3	-

Species (BoCC List colour highlighted)	Number of territories recorded during the 2022 surveys (Coastal Section)	Number of territories recorded during the 2023 surveys (Coastal and Inland Sections)	Number of territories recorded during the 2024 surveys (Coastal Section)	Number of territories recorded during the 2024 surveys (Inland Section)	Comments
<i>(Podiceps cristatus)</i>					
Great spotted woodpecker <i>(Dendrocopos major)</i>	2	10	5	8	-
Great tit <i>(Parus major)</i>	8	34	12	28	-
Green woodpecker <i>(Picus viridis)</i>	1	4	2	7	-
Hobby (Falco Subbuteo)	2	2	1	1	1 pair confirmed breeding on North Warren RSPB in 2022 and 2024. 2 pairs confirmed breeding on inland cable route 2023 and 1 pair in 2024. Additional surveys to be conducted in Autumn 2024.
Jackdaw <i>(Coloeus monedula)</i>	1	2	1	2	-
Jay	0	9	0	1	-

Species (BoCC List colour highlighted)	Number of territories recorded during the 2022 surveys (Coastal Section)	Number of territories recorded during the 2023 surveys (Coastal and Inland Sections)	Number of territories recorded during the 2024 surveys (Coastal Section)	Number of territories recorded during the 2024 surveys (Inland Section)	Comments
(<i>Garrulus glandarius</i>)					
Lesser whitethroat (<i>Sylvia curruca</i>)	5	13	7	13	-
Little grebe (<i>Tachybaptus Ruficollis</i>)	0	0	1	0	
Little owl (<i>Athene Noctua</i>)	0	1	0	1	-
Long-tailed tit (<i>Aegithalos caudatus</i>)	2	13	5	12	-
Magpie (<i>Pica pica</i>)	3	6	2	3	-
Nuthatch (<i>Sitta europaea</i>)	0	5	0	0	-
Pheasant (<i>Phasianus colchicus</i>)	1	0	0	9	Not surveyed for in 2023.
Pied wagtail (<i>Motacilla alba</i>)	1	7	2	8	-
Reed warbler	56	53	48	0	-

Species (BoCC List colour highlighted)	Number of territories recorded during the 2022 surveys (Coastal Section)	Number of territories recorded during the 2023 surveys (Coastal and Inland Sections)	Number of territories recorded during the 2024 surveys (Coastal Section)	Number of territories recorded during the 2024 surveys (Inland Section)	Comments
<i>(Acrocephalus scirpaceus)</i>					
Robin <i>(Erithacus rubecula)</i>	20	101	51	79	-
Stonechat <i>(Saxicola rubicola)</i>	0	0	7	0	-
Swallow <i>(Hirundo rustica)</i>	2	13	0	8	-
Treecreeper <i>(Certhia familiaris)</i>	0	6	1	2	-
Tufted duck <i>(Aythya fuligula)</i>	1	1	0	0	-
Water rail <i>(Rallus aquaticus)</i>	0	0	4	0	-
Whitethroat <i>(Sylvia communis)</i>	13	82	18	28	-

1.5 Discussion

- 1.5.1 A total of 84 bird species were recorded breeding, or probably breeding, within the Survey Area in 2022, 2023 and 2024 combined. Of these, 45 are species of ecological importance as summarised within Section 1.4.
- 1.5.2 Note, where a species falls under multiple conservation status criteria, it is addressed in the first tier only.
- 1.5.3 Figures illustrating the distributions of these species within the Order Limits during the breeding bird survey are provided in:
- **Figure 6.4.2.2.C.2 Suffolk Breeding Bird Territory Centres – 2022;**
 - **Figure 6.4.2.2.C.3 Suffolk Breeding Bird Territory Centres – 2023;**
 - **Figure 6.4.2.2.C.4 Suffolk Breeding Bird Territory Centres – 2024;**
 - **Figure 6.4.2.2.C.5 Suffolk Schedule 1 Breeding Bird and Nightjar Territory Centres - 2022;**
 - **Figure 6.4.2.2.C.6 Suffolk Schedule 1 Breeding Bird and Nightjar Territory Centres - 2023; and**
 - **Figure 6.4.2.2.C.7 Suffolk Schedule 1 Breeding Bird and Nightjar Territory Centres – 2024.**
- 1.5.4 Discussion is provided below in respect of the Coastal and Inland Sections. These two areas are reviewed separately due to the differing bird habitat types, location, geography and designated site context. The Coastal Section is a SSSI bird and wildlife reserve consisting of mostly wetlands, woodland and heathland. In contrast, the Inland Section is dominated by arable farmland, bisected by hedgerows with occasional woodland blocks.
- 1.5.5 Results of potentially significant numbers of breeding birds in relation to County and National thresholds are summarised in Table 1.6

Conservation Status

Coastal section – North Warren RSPB Reserve and landfall/beach area

Species included as features of designated sites

- Bittern nest in the Fens part of the North Warren RSPB reserve as well as using the grazing marshes as feeding sites. This is evidenced by survey data which confirmed regular feeding flights from the grazing marshes (including within the Order Limits) to the nesting sites in 2022, 2023 and 2024.
- Gadwall, shelduck, teal and common redshank likely breed within the North Warren RSPB reserve which falls within the Order Limits.
- Marsh harrier nest in the Fens part of the North Warren RSPB reserve and regularly hunt the grazing marsh areas of the reserve, including within the Order Limits.
- One pair of nightjar nest approximately 300 m from the Order Limits. A second churring (singing) male was recorded nearby in 2024 suggesting a second pair. The

land within the Order Limits likely includes part of the home territory/foraging area of this breeding pair and possibly as second pair.

- One woodlark breeding territory was close to the Order Limits west of the North Warren RSPB reserve and in the vicinity of the golf course in 2023 and two in 2024.

Additional species of high conservation interest

- One to three pairs of Dartford warbler (Schedule 1) are likely to breed in North Warren RSPB reserve just north of the Order Limits (The Suffolk Naturalist' Society, 2021). This species was not recorded during the field surveys however, the surveys only followed PROW within the North Warren RSPB reserve so it could have been missed. It is presumed this species does breed on the main heathland area of the North Warren RSPB.
- One pair of bearded tit (Schedule 1) were confirmed nesting within the Order Limits in 2024.
- Ten singing Cetti's warbler (Schedule 1) territories were located within or close to the Order Limits in 2023, with eight in 2024.
- Hobby (Schedule 1) breed within the NWRSPB and potentially breed close to the Order Limits (approximately 600 m from the Order Limits in 2023).
- Two pairs of lapwing were recorded breeding within the Order Limits in 2023, with three pairs in 2024.
- Linnet 5 in 2023 none in 2024
- Approximately 30 pairs of skylark were recorded nesting within the coastal strip in 2023 and in 2024, a minimum of 45 pairs were recorded within same area. Of these, which 26 pairs were recorded with the Order Limits (due to the larger Survey Area in 2024 which included the area to the west of the North Warren RSPB reserve, as far as the B1122).
- A single breeding pair of yellow wagtails were recorded within the Order Limits in 2023.
- Grey partridge (2024), lesser redpoll (2022 and 2024) and water rail (2024) were not recorded directly breeding within the Order Limits but it is possible their home ranges included the land within Order Limits.

Inland Section – Inland Cable Route

Species included as features of designated sites

- Eight woodlark territories were located in the east of the Inland Section of the Survey Area in 2023. In 2024, ten pairs of woodlark were present, several of which were on or close to the boundary of the Order Limits. A number of these territories were on fallow arable farmland or on cropped areas adjoining heathland or acid grassland.
- Three breeding pairs of shelduck were located within the Order Limits in 2023 with one pair in 2024.

Additional species of conservation interest

- Two hobby nests were located during the breeding bird and hobby surveys in 2023. Both were close to the Order Limits boundary. One pair was recorded nesting in a tree which is directly on the inland cable route, during the 2024 breeding bird surveys. Further hobby surveys were conducted August and early September 2024.
- Two pairs of barn owls were found nesting within 20 m of the Order Limits in both 2023 and 2024.
- A single male cuckoo was recorded singing at the western end of the Suffolk Offshore Scheme on several occasions within the Order Limits in 2024.
- Two firecrest territories were located in two different woodlands in 2023. One territory was within the Order Limits and the second was within a woodland that is directly adjacent to the Order Limits.
- Three grey partridge territories were located within the Order Limits in 2023 and two territories were located in 2024 (part of the farmland bird assemblage species).
- Seven linnet territories were located within the Order Limits in 2023 increasing to 16 territories in 2024 (part of the farmland bird assemblage species).
- Three nightingale territories were located within 40 m of the Order Limits 2024.
- Approximately 70 skylark territories were located within 40 m of the Order Limits in 2024 (part of the farmland bird assemblage).
- Approximately 20 yellowhammer territories were located within, or close to, (within 40 m) the Order Limits in 2024 (part of the farmland bird assemblage).
- Three yellow wagtail territories were located within the Order Limits in 2023 increasing to six territories in 2024 (part of the farmland bird assemblage).
- Three pairs of turtle dove territories were located within an area of woodland and scrub directly adjoining the Order Limits in 2024.
- One Cetti's warbler territory was recorded in 2024, approximately 250 m from the Order Limits.

Species Richness

Coastal section – North Warren RSPB Reserve and landfall/beach area

- 1.5.6 The diverse assemblage of species recorded during the breeding bird surveys reflects the designated status of Leiston to Aldeburgh SSSI/ North Warren RSPB and primarily comprised a range of waterbirds and heathland or woodland species, including the recording of occasional migrant species.

Inland section – inland cable route

- 1.5.7 The surveys of the inland cable route recorded a reasonably diverse range of species typical of lowland arable farmland, including large populations of farmland bird species. Limitations in coverage mean that several species may not have been fully recorded i.e. species such as barn owl, red kite (*Milvus milvus*) and woodlark.

Habitat/Distribution

Coastal section – North Warren RSPB Reserve and landfall/beach area

- 1.5.8 This area supports a diverse assemblage of breeding birds including wetland, heathland and woodland birds. Notable species include bittern, marsh harrier, woodlark, nightjar cuckoo and hobby. Land within the Order Limits supports the species listed above as part of their respective territories, with cuckoo and woodlark potentially nesting/breeding within the Order Limits.

Inland section – inland cable route

- 1.5.9 Overall, the inland areas held a typical farmland bird assemblage. The Survey Area is split between two soil types, and this is reflected in the bird assemblage. Not all bird species are influenced by the soil type but species such as woodlark are only found breeding on the sandy eastern part of the Survey Area which extends roughly west from the coast as far as Friston. The remaining species are generally distributed along the inland cable route.

Functionally Linked Land – Designated Site Context

- 1.5.10 Areas that are functionally linked to European designated sites are considered when they may be affected by plans and projects. For the purposes of this assessment, land is considered 'linked' to a European site if it serves an important ecological function in maintaining or restoring the population of qualifying species at favourable conservation status (Natural England, 2016).
- 1.5.11 The North Warren RSPB reserve supports several breeding species which are features of the designated sites e.g. woodlark, nightjar, marsh harrier and bittern.
- 1.5.12 The inland cable route also supports several breeding species which are features of the designated sites. For example, woodlark (an interest feature of Sandlings SPA) and small numbers of shelduck (even though the shelduck were breeding rather than overwintering).

Overall Importance of Breeding Bird Populations

Coastal section – NWRSPB Reserve and landfall/beach area

- 1.5.13 The North Warren RSPB reserve supports a diverse assemblage of wetland and heathland breeding species. Several of these are species which are likely to be shared with the nearby designated sites (Alde-Ore Estuary SPA, SAC and Ramsar and the Minsmere to Walberswick Heaths and Marshes SPA, SAC and Ramsar).
- 1.5.14 The North Warren RSPB reserve is also known to support several breeding species at levels of county importance, such as woodlark, bittern, nightjar and marsh harrier.
- 1.5.15 The reserve supports several Schedule 1 species, including woodlark, Dartford warbler, bittern, hobby and marsh harrier and Cetti's warbler.

Inland Section – Inland Cable Route

- 1.5.16 The Inland Section supports both breeding populations of shelduck and woodlark (both features of the nearby designated Sites). The woodlark population of approximately eight to ten pairs is likely at least county importance.

Table 1.6 The breeding bird species recorded in the Survey Area that are in potentially significant population numbers in relation to County and National thresholds

Species	Number of territories/breeding pairs present within the Study Area (SNS, 2021)	Number of territories/breeding pairs present within the Survey Area (2022, 2023 and 2024)	UK population, BTO (BTO bird facts, accessed September 2023)	Estimate county population (SNS, 2021/22)	Significance level	Conservation status
Bittern (<i>Botaurus stellaris</i>)	1-3 pairs North Warren RSPB	1-3	228 pairs in 2021 (SNS, 2021) 191 males.	At least 45-50 males	County/National	Feature of designated site, Schedule 1 species, BoCC Amber List species
Cetti's warbler (<i>Cettia cetti</i>)	-	24-30	3,450 males	110 sites 2021, 90 in 2024	Approaching County	Schedule 1
Common Redshank	12 North Warren RSPB	Maximum 14 in 2023	22,000 pairs	>100	County	Feature of designated site, BoCC Amber List species
Dartford warbler	13 territories Aldringham walks/ North Warren RSPB	Likely present on North Warren RSPB but survey area not covering suitable habitat	2,200 pairs	135 pairs	Approaching County	Schedule 1 species, BoCC Amber List

Species	Number of territories/breeding pairs present within the Study Area (SNS, 2021)	Number of territories/breeding pairs present within the Survey Area (2022, 2023 and 2024)	UK population, BTO (BTO bird facts, accessed September 2023)	Estimate county population (SNS, 2021/22)	Significance level	Conservation status
		(Northern part of heathland area).				
Gadwall	11 North Warren RSPB	1-6	1,250 pairs	132 pairs in 2021 with only 32 recorded pairs in 2022	County	Feature of designated site, BoCC Amber List species
Hobby	2 pairs North Warren RSPB	3-4 pairs	2,050 pairs	23 sites 2022	County	Schedule 1 species
Lapwing	12 North Warren RSPB	11-25	98,000 pairs	-	Local	Feature of designated site, BoCC Red List species.
Marsh harrier	2 nests North Warren RSPB	2-3 (birds hunting on North Warren RSPB carrying prey to Fens reedbed North Warren RSPB)	590 pairs	64 pairs 2022	County	Feature of designated site, Schedule 1 species, BoCC Amber List species
Nightingale	-	16	5,500 males	97 territories 2022	County	BoCC Red List species
Nightjar	1	1-2	4,600 males	232 territories	Approaching County	Feature of designated site,

Species	Number of territories/breeding pairs present within the Study Area (SNS, 2021)	Number of territories/breeding pairs present within the Survey Area (2022, 2023 and 2024)	UK population, BTO (BTO bird facts, accessed September 2023)	Estimate county population (SNS, 2021/22)	Significance level	Conservation status
						BoCC Amber List species
Red Kite	No information	Recorded during breeding bird surveys, a Potential breeding species.	4,400	13	Local	Schedule 1 species, BoCC Green List species
Shelduck	-	4-7	7,850 pairs	33 territories 2022	County	Feature of designated site, BoCC Amber List species
Skylark	No Information	~170	6 million territories	No information	Local	BoCC Red List species
Teal	-	1-2	2,700 pairs	Estimated to be 10 pairs or less	County	Feature of designated site, BoCC Amber List species
Woodlark	8 pairs North Warren RSPB and Aldringham walks combined	10-12	2,300 pairs	250	Approaching County	Feature of designated site BoCC Red List species
Yellowhammer	No Information	Maximum 48 in 2021	700,000 territories	No information	Local	BoCC Red List species

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Annex 2.C.1 Survey Dates and Weather Conditions

Table A.1 Survey dates and weather conditions of the breeding bird, woodlark, nightjar and barn owl surveys

Date (visit no.)	Survey Type	Start/end time	Weather conditions
2022			
11-05-22 (1)	Breeding bird	5am-12pm	13-15 °C, 100 % cloud, wind 12 mph southwest, occasional drizzle.
12-05-22 (1)	Breeding bird	5am-12pm	10-18 °C, 10 % cloud, wind 8 mph southwest, dry.
13-05-22 (1)	Breeding bird	5am-12pm	12-20 °C, 20 % cloud, wind 15 mph southwest, dry.
16-05-22 (2)	Breeding bird	5am-12pm	12-24 °C, 50 % cloud, wind 7 mph southwest, dry.
17-05-22 (2)	Breeding bird	5am-12pm	12-23 °C, 40 % cloud, wind 8-12 mph south southwest, dry.
18-05-22 (2)	Breeding bird	5am-12pm	15-23 °C, 50 % cloud, wind 9-12 mph southeast, dry.
26-05-22 (3)	Breeding bird	5am-12pm	12-20 °C, 20 % cloud, wind 14-17 mph southwest, dry.
26-05-22 (3)	Breeding bird	8pm-11pm	18-14 °C, 30 % cloud, wind 10 mph southwest, dry.
27-05-22 (3)	Breeding bird	5am-12pm	11-19 °C, 50 % cloud, wind 10-12 mph southwest, dry.
09-06-22 (4)	Breeding bird	5am-12pm	13-21 °C, 10 % cloud, wind 10-12 mph southwest, dry.
10-06-22 (4)	Breeding bird	5am-12pm	16-24 °C, 20 % cloud, wind 10-12 mph southwest, dry.
14-06-22 (5)	Breeding bird	5am-12pm	14-24 °C, 20 % cloud, wind 8 mph southeast, dry.
14-06-22	Nightjar	8pm-11pm	20-17 °C, 20 % cloud, wind 7 mph southeast, dry.
15-06-22 (5)	Breeding bird	5am-12pm	15-24 °C, 50 % cloud, wind 8 mph southeast, dry.
06-07-22 (6)	Breeding bird	8pm-11pm	22-18 °C, 50 % cloud, wind 15 mph west, dry.

Date (visit no.)	Survey Type	Start/end time	Weather conditions
2023			
11-04-23 (1)	Breeding bird	5am-12pm	11-12 °C, 90 % cloud, wind 8-10 mph southeast, dry.
17-04-23 (1)	Breeding birds	5am-12pm	10-18 °C, 50 % cloud, wind 10 mph northeast, dry.
18-04-23 (1)	Breeding bird	5am-12pm	15-20 °C, 95 % cloud, wind 15-20 mph northeast, dry.
19-04-23 (1)	Breeding birds	5am-12pm	10-12 °C, 95 % cloud, wind 15-20 mph northeast, dry.
20-04-23 (1)	Breeding birds	5am -12pm	8-13c, 10-100% cloud, wind 16-20mph NE, dry then rain.
30-04-23 (2)	Breeding birds	5am -12pm	7-16c, 20% cloud, wind 10mph SSE, dry.
01-05-23 (2)	Breeding birds	5am -12pm	9-16c, 20% cloud, wind 8mph W, dry.
02-05-23 (2)	Breeding birds	5am -12pm	8-11c, 80% cloud, wind 8mph E, dry.
09-05-23 (3)	Breeding bird	5am-12pm	10-21 °C, 30 % cloud, wind 6-12 mph south, dry.
10-05-23 (3)	Breeding bird	5am-12pm	15-21 °C, 40 % cloud, wind 12 mph northeast, dry.
11-05-23 (3)	Breeding bird	5am-12pm	13-14 °C, 100 % cloud, wind 12 mph southwest, occasional drizzle.
19-05-23 (4)	Breeding bird	5am-12pm	14-20 °C, 60 % cloud, wind 12 mph west, dry.
23-05-23 (4)	Breeding bird	5am-12pm	14-18 °C, 60-90 % cloud, wind 5 mph southwest, dry.
24-05-23 (4)	Breeding bird	5am-12pm	10-18 °C, 10 % cloud, wind 5 mph north, dry.
24-05-23	Nightjar	8pm-11pm	15-14 °C, 10 % cloud, wind 0 mph, dry.
25-05-23 (4)	Breeding bird	5am-12pm	9-19 °C, 20-40 % cloud, wind 10-12 mph southwest, dry.
30-05-23 (5)	Breeding bird	5am-12pm	10-15 °C, 20-40 % cloud, wind 5-10 mph southwest, dry.
31-05-23 (5)	Breeding bird	5am-12pm	10-17 °C, 50 % cloud, wind 8 mph south, dry then occasional light showers.

Date (visit no.)	Survey Type	Start/end time	Weather conditions
01-06-23 (5)	Breeding bird	5am-12pm	14-16 °C, 100 % cloud, wind 15 mph northeast, dry.
02-06-23 (5)	Breeding bird	5am-12pm	10-19 °C, 25-50 % cloud, wind 5 mph north, dry.
06-06-23	Breeding bird	5am-12pm	11-13 °C, 100-20 % cloud, wind 10 mph west, light drizzle then dry.
07-06-23	Breeding bird	5am-12pm	11-18 °C, 1-20 % cloud, wind 7 mph west, dry.
07-06-23	Nightjar	8pm-11pm	17-14 °C, 50 % cloud, wind 10 mph east, dry.
08-06-23 (5)	Breeding bird	5am-12pm	14-12 °C, 80-30 % cloud, wind 8 mph southeast, dry.
20-06-23 (6)	Breeding bird	5am-12pm	13-18 °C, 30 % cloud, wind 10 mph north, dry.
21-06-23 (6)	Breeding bird	5am-12pm	15-22 °C, 20 % cloud, wind 5 mph southwest, dry.
22-06-23 (6)	Breeding bird	5am-12pm	13-23 °C, 30 % cloud, wind 5 mph east, dry.
22-06-23	Nightjar	8pm-11pm	13-23 °C, 30 % cloud, wind 5 mph east, dry.
27-06-23 (6)	Breeding bird	5am-12pm	15-22 °C, 30 % cloud, wind 10 mph southwest, dry.
28-06-23 (6)	Breeding bird	5am-12pm	14-22 °C, 30 % cloud, wind 8 mph south, dry.
29-06-23 (6)	Breeding bird	5am-12pm	15-23 °C, 20-40 % cloud, wind 8-12 mph southeast, dry.
21-08-23	Hobby	10am-5pm	16-29 °C, 10-20 % cloud, wind 5-10 mph southwest, dry.
22-08-23	Hobby	10am-5pm	16-27 °C, 10-20 % cloud, wind 3-7 mph southwest, dry.
23-08-23	Hobby	10am-5pm	16-27 °C, 10 % cloud, wind 5-7 mph southwest, dry.
24-08-23	Hobby	10am-5pm	16-23 °C, 90 % cloud, wind 5-7 mph southeast, dry.
04-09-23	Hobby	10am-5pm	16-29 °C, 10-20 % cloud, wind 5-10 mph southeast, dry.
05-09-23	Hobby	10am-5pm	16-29 °C, 10-20 % cloud, wind 3-5 mph southeast, dry.

Date (visit no.)	Survey Type	Start/end time	Weather conditions
06-09-23	Hobby	10am-5pm	16-30 °C, 10-20 % cloud, wind 5-10 mph southeast, dry.
07-09-23	Hobby	10am-5pm	16-29 °C, 10-20 % cloud, wind 4-6 mph southeast, dry.
2024			
15-03-24	Woodlark	5am-12pm	12 °C, 100 % cloud, wind 10 mph southwest, occasional drizzle.
25-03-24 (1)	Breeding bird	5am-12pm	6-11 °C, 50 % cloud, wind 15 mph south, dry.
26-03-24 (1)	Breeding bird	5am-12pm	12 °C, 50 % cloud, wind 10 mph southeast, dry.
27-03-24 (1)	Breeding bird	5am-12pm	13 °C, 30 % cloud, wind 30 mph south, dry.
28-03-24 (1)	Breeding bird	5am-12pm	8-10 °C, 20-80 % cloud, wind 15 mph south, dry.
08-04-24	Woodlark	5am-12pm	9-10 °C, 100 % cloud, wind 10 mph south, dry.
09-04-24	Woodlark	5am-12pm	8-10 °C, 100 % cloud, wind 20 mph southwest, occasional drizzle.
15-04-24 (2)	Breeding bird	5am-12pm	10 °C, 50 % cloud, wind 15-18 mph southwest, dry.
16-04-24 (2)	Breeding bird	5am-12pm	7-10 °C, 80 % cloud, wind 20 mph northwest, dry.
17-04-24 (2)	Breeding bird	5am-12pm	12 °C, 50 % cloud, wind 10-15 mph northwest, dry.
18-04-24 (2)	Breeding bird	5am-12pm	12 °C, 50 % cloud, wind 10-15 mph northwest, dry.
25-04-24	Woodlark	5am-12pm	5-10 °C, 20 % cloud, wind 10 mph southwest, dry.
01-05-24 (3)	Breeding bird	5am-12pm	10-20 °C, 10 % cloud, wind 10 mph southeast, dry.
02-05-24 (3)	Breeding bird	5am-12pm	10-18 °C, 10 % cloud, wind 10 mph east, dry.
07-05-24 (3)	Breeding bird	5am-12pm	10-16 °C, 50 % cloud, wind 10 mph northeast, dry.
14-05-24 (4)	Breeding bird	5am-12pm	14-18 °C, 100 % cloud, wind 5 mph southeast, occasional drizzle.

Date (visit no.)	Survey Type	Start/end time	Weather conditions
15-05-24 (4)	Breeding bird	5am-12pm	13-15 °C, 80-100 % cloud, wind 5 mph southeast, occasional drizzle.
16-05-24 (4)	Breeding bird	5am-12pm	14-16 °C, 100 % cloud, wind 5 mph west, drizzle.
28-05-24 (5)	Breeding bird	5am-12pm	15-18 °C, 100 % cloud, wind 5-20 mph south southeast, dry.
28-05-24	Nightjar	8pm-11pm	15-18 °C, 100 % cloud, wind 5-20 mph south southeast, dry.
29-05-24 (5)	Breeding bird	5am-12pm	15-18 °C, 50 % cloud, wind 5 mph southwest, moderate rain.
29-05-24	Nightjar	8pm-11pm	15-18 °C, 50 % cloud, wind 5 mph southwest, moderate rain.
30-05-24 (5)	Breeding bird	5am-12pm	10-13 °C, 100 % cloud, wind 10 mph northwest, occasional drizzle.
31-05-24 (5)	Breeding bird	5am-12pm	10-12 °C, 100 % cloud, wind 18 mph northwest, occasional drizzle.
10-06-24 (6)	Breeding bird	5am-12pm	11 °C, 50 % cloud, wind 15-20 mph northwest, dry.
11-06-24 (6)	Breeding bird	5am-12pm	13 °C, 90 % cloud, wind 10 mph northwest, dry.
12-06-24 (6)	Breeding bird	5am-12pm	8-14 °C, 90-100 % cloud, wind 5 mph west, dry.
13-06-24 (6)	Breeding bird	5am-12pm	9-16 °C, 10 % cloud, wind 10 mph southwest, dry.
01-07-24	Barn owl	8pm-10pm	14 °C, 100 % cloud, wind 5 mph southwest, drizzle.
02-07-24	Barn owl	8pm-10pm	14 °C, 95 % cloud, wind 0 mph, dry.
03-07-24	Barn owl	8pm-10pm	14 °C, 100 % cloud, wind 3 mph southwest, occasional drizzle.
04-07-24	Barn owl	8pm-10pm	16 °C, 80 % cloud, wind 5 mph southwest, dry.
08-07-24	Barn owl	8pm-10pm	15 °C, 100 % cloud, wind 5 mph southeast, drizzle.
09-07-24	Barn owl	8pm-10pm	15 °C, 100 % cloud, wind 5 mph southwest, drizzle.
10-07-24	Barn owl	8pm-10pm	15 °C, 100 % cloud, wind 5 mph southwest, drizzle.

Date (visit no.)	Survey Type	Start/end time	Weather conditions
22-07-24	Barn owl	8pm-10pm	13 °C, 40 % cloud, wind 13 mph south southwest, dry.
23-07-24	Barn owl	8pm-10pm	18 °C, 20 % cloud, wind 8 mph north, dry.
28-08-24	Hobby	10am -3pm	20-25c, 10% cloud, wind 5mph SE, dry.
29-08-24	Hobby	10am -3pm	19-22c, 20% cloud, wind 12mph NE, dry.
30-08-24	Hobby	10pm -3pm	19-20c, 80% Cloud, wind 5mph E, dry.
04-09-24	Hobby	10pm -3pm	16-17c, 30-50% Cloud, wind 7mph N, dry.
05-09-24	Hobby	10pm -3pm	18-21c, 30% Cloud, wind 15mph NE, dry.
11-09-24	Hobby	10pm -3pm	09-12c, 20-40% Cloud, wind 15mph W, dry.
12-09-24	Hobby	10pm -3pm	13-15c, 20-80% Cloud, wind 15mph NW, dry.

Annex 2.C.2 Desk Study Summary

A.1.1 Relevant desk study data is species sensitive and cannot be published within the public domain. Species listed as features of designated sites and Schedule 1 species are summarised below. Species in **bold** have breeding records within the Study Area.

Table A.2 Desk study data on the breeding bird populations within the Study Area

Species	Scientific Name	Number of records
Barn owl	<i>Tyto alba</i>	9
Bittern	<i>Botaurus stellaris</i>	52
Cetti’s warbler	<i>Cettia cetti</i>	17
Dartford warbler	<i>Sylvia undata</i>	20
Firecrest	<i>Turdus pilaris</i>	2
Gadwall	<i>Anas strepera</i>	62
Hobby	<i>Falco subbuteo</i>	23
Kingfisher	<i>Alcedo atthis</i>	3
Marsh harrier	<i>Circus aeruginosus</i>	25
Nightjar	<i>Caprimulgus europaeus</i>	13
Red kite	<i>Milvus milvus</i>	6
Redshank	<i>Tringa totanus</i>	23
Shelduck	<i>Tadorna tadorna</i>	13
Stone curlew	<i>Burhinus oedicephalus</i>	1
Teal	<i>Anas crecca</i>	65

Species	Scientific Name	Number of records
Woodlark	<i>Lullula arborea</i>	19

Annex 2.C.3 BTO Bird Codes

Table A.3 BTO bird codes used in Application Documents 6.4.2.2.C.2 to 6.4.2.2.C.7

BTO code	Common name	Scientific name
BO	Barn owl	<i>Tyto alba</i>
BI	Bittern	<i>Botaurus stellaris</i>
B.	Blackbird	<i>Turdus merula</i>
BC	Blackcap	<i>Sylvia atricapilla</i>
BT	Blue tit	<i>Cyanistes caeruleus</i>
BF	Bullfinch	<i>Pyrrhula pyrrhula</i>
CG	Canada goose	<i>Branta Canadensis</i>
C.	Carrion crow	<i>Corvus corone</i>
CW	Cetti's warbler	<i>Cettia cetti</i>
CH	Chaffinch	<i>Fringilla coelebs</i>
CC	Chiffchaff	<i>Phylloscopus collybita</i>
CT	Coal tit	<i>Periparus ater</i>
BZ	Common buzzard	<i>Buteo buteo</i>
CO	Coot	<i>Fulica atra</i>
CK	Cuckoo	<i>Cuculus canorus</i>
D.	Dunnock	<i>Prunella modularis</i>
WG	European white-fronted goose	<i>Anser albifrons</i>
FC	Firecrest	<i>Regulus ignicapilla</i>
GA	Gadwall	<i>Anas strepera</i>
GW	Garden warbler	<i>Sylvia borin</i>
GC	Goldcrest	<i>Regulus regulus</i>
GO	Goldfinch	<i>Carduelis carduelis</i>
GG	Great crested grebe	<i>Podiceps cristatus</i>
GS	Great spotted woodpecker	<i>Dendrocopos major</i>

BTO code	Common name	Scientific name
GT	Great tit	<i>Parus major</i>
GR	Greenfinch	<i>Carduelis chloris</i>
G.	Green woodpecker	<i>Picus viridis</i>
P.	Grey partridge	<i>Perdix perdix</i>
GJ	Greylag goose	<i>Anser anser</i>
HY	Hobby	<i>Falco subbuteo</i>
HM	House martin	<i>Delichon urbicum</i>
HS	House sparrow	<i>Passer domesticus</i>
JD	Jackdaw	<i>Corvus monedula</i>
J.	Jay	<i>Garrulus glandarius</i>
K.	Kestrel	<i>Falco tinnunculus</i>
LA	Lapland bunting	<i>Calcarius lapponicus</i>
L.	Lapwing	<i>Vanellus vanellus</i>
LR	Lesser redpoll	<i>Acanthis cabaret</i>
LW	Lesser whitethroat	<i>Sylvia curruca</i>
LI	Linnet	<i>Carduelis cannabina</i>
LG	Little grebe	<i>Tachybaptus Ruficollis</i>
LO	Little owl	<i>Athene noctua</i>
LT	Long-tailed tit	<i>Aegithalos caudatus</i>
MG	Magpie	<i>Pica pica</i>
MA	Mallard	<i>Anas platyrhynchos</i>
MR	Marsh harrier	<i>Circus aeruginosus</i>
MT	Marsh tit	<i>Poecile palustris</i>
MP	Meadow pipit	<i>Anthus pratensis</i>
M.	Mistle Thrush	<i>Turdus viscivorus</i>
MH	Moorhen	<i>Gallinula chloropus</i>
MS	Mute swan	<i>Cygnus olor</i>
N.	Nightingale	<i>Luscinia megarhynchos</i>
NH	Nuthatch	<i>Sitta europaea</i>

BTO code	Common name	Scientific name
PH	Pheasant	<i>Phasianus colchicus</i>
PW	Pied wagtail	<i>Motacilla alba</i>
RK	Redshank	<i>Tringa totanus</i>
RB	Reed bunting	<i>Emberiza schoeniclus</i>
RW	Reed warbler	<i>Acrocephalus scirpaceus</i>
R.	Robin	<i>Erithacus rubecula</i>
RO	Rook	<i>Corvus frugilegus</i>
SW	Sedge warbler	<i>Acrocephalus schoenobaenus</i>
SU	Shelduck	<i>Tadorna tadorna</i>
SV	Shoveler	<i>Anas clypeata</i>
S.	Skylark	<i>Alauda arvensis</i>
SN	Snipe	<i>Gallinago gallinago</i>
ST	Song thrush	<i>Turdus philomelos</i>
SH	Sparrowhawk	<i>Accipiter nisus</i>
SG	Starling	<i>Sturnus vulgaris</i>
SD	Stock dove	<i>Columba oenas</i>
SC	Stonechat	<i>Saxicola rubicola</i>
SL	Swallow	<i>Hirundo rustica</i>
SI	Swift	<i>Apus apus</i>
TO	Tawny owl	<i>Stris aluco</i>
TU	Teal	<i>Anas crecca</i>
TC	Treecreeper	<i>Certhia familiaris</i>
TU	Tufted duck	<i>Aythya fuligula</i>
TD	Turtle dove	<i>Streptopelia turtur</i>
WA	Water rail	<i>Rallus aquaticus</i>
WH	Whitethroat	<i>Sylvia communis</i>
WW	Willow warbler	<i>Phylloscopus trochilus</i>
WL	Woodlark	<i>Lullula arborea</i>
WP	Wood pigeon	<i>Columba palumbus</i>

BTO code	Common name	Scientific name
WR	Wren	<i>Troglodytes troglodytes</i>
Y.	Yellowhammer	<i>Emberiza citrinella</i>
YW	Yellow wagtail	<i>Motacilla flava</i>

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