

Viking CCS Pipeline

**Environmental
Statement Volume IV –
Appendix 6-7:
Ornithology Baseline
Report**

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1 Ornithology Baseline Report

1.1 Introduction

Background

- 1.1.1 AECOM were commissioned by Harbour Energy in 2021 to complete ornithology baseline gathering activities (desk study and surveys) to inform the Viking Carbon Capture and Storage (CCS) Pipeline, hereafter referred to as the 'Proposed Development'.
- 1.1.2 This Appendix has been prepared to accompany *Environmental Statement (ES) Volume II Chapter 6: Ecology and Biodiversity (Application Document 6.2.3)*, which accompanies the application. This Appendix describes the approach and findings of all baseline gathering activities undertaken whilst compiling baseline Ornithological information to inform the Ecological Impact Assessment (EclA) of the Proposed Development. The terms of reference used to describe the Proposed Development in this report are consistent with those defined within the main chapters of the Environmental Statement (in particular, *ES Volume II Chapter 6: Ecology and Biodiversity (Application Document 6.2.3)*). The DCO Site Boundary illustrates the provisional outer limits of the Proposed Development. These include both the temporary and permanent land take required for construction and operation of the Proposed Development, for which powers are sought through the DCO.

General background to the Proposed Development

- 1.1.3 The Viking CCS Pipeline ('the Proposed Development') comprises a new 24 inch ("") (609 mm) diameter onshore pipeline of approximately 55.5 km in length, which will transport Carbon Dioxide (CO₂) from the Immingham industrial area to the Theddlethorpe area on the Lincolnshire coast, where it will connect into the existing 36 " (921 mm) diameter offshore LOGGS pipeline.
- 1.1.4 The Proposed Development is an integral part of the overall Viking CCS Project, which intends to transport compressed and conditioned CO₂ received at a facility at Immingham to store in depleted gas reservoirs under the Southern North Sea. The offshore elements of the Viking CCS Project, including the transport of CO₂ through the LOGGS pipeline to the Viking gas fields under the North Sea, are subject to a separate consenting process.
- 1.1.5 The key components of the Proposed Development comprise:
- Immingham Facility;
 - Approximately 55.5 km 24 inch ("") onshore steel pipeline (including cathodic protection);
 - Three Block Valve Stations;
 - Theddlethorpe Facility;
 - Existing LOGGS pipeline and isolation valve to the extent of the Order Limits at Mean Low Water Springs (MLWS);
 - Permanent access to facilities;
 - Mitigation and landscaping works;
 - Temporary construction compounds, laydown, parking and welfare facilities; and
 - Temporary access points during construction.
- 1.1.6 Further details of each element of the Proposed Development are set out in *ES Volume II Chapter 3: Description of the Proposed Development (Application Document 6.2.3)*.

- 1.1.7 Habitats within the DCO Site Boundary include broadleaved plantation woodland, scattered trees, scrub, arable, grassland, watercourses, standing waters, hedgerows and limited areas of bare ground. Full details of the habitats within the DCO Site Boundary are provided in *ES Volume IV Appendix 6-1 Phase 1 Habitat Survey Report (Application Document 6.4.6.1)*. All such habitats are capable of supporting breeding and non-breeding birds.

Scoping Report and Scoping Opinion

- 1.1.8 A scoping exercise was undertaken in early 2022 to establish the content of the wider EclA and the approach and methods to be followed (Ref 1). Ornithology surveys and desk study had been initiated in October 2021 in order to capture data across a full annual seasonal cycle. All opinions relevant to ornithology are included within **Table 1**.

Table 1: Summary of relevant EIA scoping opinions in relation to ornithology

Section Reference to Scoping Opinion	Applicant's proposed matter	Planning Inspectorate / prescribed consultee comments	Response
Planning Inspectorate Para 6.3.7 to 6.3.9	Identification of functionally linked land and ornithological survey scope.	The justification in the Scoping Report for the selection of the functionally linked land described is lacking in detail. The Inspectorate would expect the ES to give a full description of how these areas have been identified, the levels of precaution applied to this process, and the outcomes of consultation and degree of agreement reached with key stakeholders. It is also advised that the scope and methodology of the ornithological surveys is discussed with the relevant consultees and agreed where possible.	Additional information on the selection of functionally linked land and the selection of survey methodology is provided in the PEIR and will be provided in the ES ¹ .
Planning Inspectorate	Confidential Annexes	Public bodies have a responsibility to avoid releasing environmental information that could bring about harm to sensitive or vulnerable ecological features. Specific survey and assessment data relating to the presence and locations of species such as badgers, rare birds and plants that could be subject to disturbance, damage, persecution, or commercial exploitation resulting from publication of the information, should be provided in the ES as a confidential annex. All other assessment information should be included in an ES chapter, as normal, with a placeholder explaining that a confidential annex has been submitted to the Inspectorate and may be made available subject to request.	Information on sensitive species is provided within Confidential Baseline Report (<i>ES Volume IV Appendix 6-8 Confidential Ornithology Baseline and Assessment Report (Application Document 6.4.6.8)</i>)
Ministry of Defence	Creation of new habitats attracting birds.	The development partly occupies the statutory safeguarding Range zone surrounding Donna Nook. Within this zone, the principal concern of the MOD is that the creation of new habitats may attract and support populations of large and, or, flocking birds and if there is any flying activity including gliding and microlight aircraft.	These will be taken into account where mitigation is proposed.
Natural England	Designated Sites	The ES should consider any impacts upon local wildlife and geological sites, including local nature reserves. The ES should set out proposals for	Potential effects upon local wildlife sites,

¹ The narrative referred to is provided in paragraphs 6.3.11 – 6.3.15.

Section Reference to Scoping Opinion	Applicant's proposed matter	Planning Inspectorate / prescribed consultee comments	Response
	Impact Assessment	mitigation of any impacts and if appropriate, compensation measures and opportunities for enhancement and improved connectivity with wider ecological networks. Consultation should therefore take place with the Ecology Officers for Lincolnshire County Council. Non-statutory consultees such as the Wildlife Trusts should also be approached.	geological sites and nature reserves are considered within the ES.
Natural England	Impact Assessment	<p>The ES should assess the impact of all phases of the proposal on protected species (including, for example, great crested newts, reptiles, birds, water voles, badgers and bats).</p> <p>It should also provide details of any proposed mitigation measures required to protect these species. Consideration should be given to the wider context of the site, for example in terms of habitat linkages and protected species populations in the wider area. Natural England is engaging with the applicant regarding Natural England's District Level Licensing for Great Crested Newts.</p>	Effects upon protected and notable species from all phases of the proposed development are considered within the ES.

Aims and Objectives

1.1.9 The purpose of this report is to:

- Outline the legislative protection given to birds;
- Provide information on any statutory or non-statutory designated sites of relevance to birds within the Zone of Influence (Zol) of the Proposed Development;
- Summarise the findings of the baseline bird surveys, and desk study undertaken to inform the EclA;
- Identify the breeding and non-breeding bird assemblages within the Zol of the Proposed Development and the key locations for ornithology receptors; and,
- Identify the relevant receptors to be scoped into the assessments presented in the EclA.

1.1.10 The report sections that follow set out:

- The legislative and policy background to the protection and conservation of birds and designated sites (Section 6.2);
- The technical, temporal and spatial scope of the baseline gathering activities, including the desk study and bird surveys completed (Section 6.3 and associated **Figure 1 – Figure 7**);
- The relevant baseline gathered from all third-party data providers, publicly available data sources identified in the desk study, and a comprehensive suite of surveys carried out by AECOM (Section 6.4 and associated **Figure 8 – Figure 45**);
- Identification of key ornithological features to be taken forward to scoping and assessment of impacts in *ES Volume II Chapter 6: Ecology and Biodiversity (Application Document 6.2.6)* (Section 6.5).

1.1.11 Section 6.4 provides detailed narrative and baseline results including numbers and distribution of individual species of the relevant designated sites and identifies those parts of the survey area that are important for these species. It also identifies the species assemblages present across the survey area irrespective of designated sites. The level of detail provided is intended to support the impact assessments presented in Chapter 6 of the Environmental Statement (*ES Volume II Chapter 6: Ecology and Biodiversity (Application Document 6.2.6)*), however the key ornithological features within the Survey and Study Area are summarised in Section 6.5 and **Table 29** of this report and associated figures, which have been set out in such a way that an understanding of the ornithological baseline can be attained from this section alone without the need to interrogate the detailed narrative and data tables that preceded it.

1.2 Legislation, Policy and Guidance

Legislation

- 1.2.1 The following legislation and guidance are considered potentially relevant to the scope of this assessment:
- The Conservation of Habitats and Species Regulations (Habitats Regulations) 2017 (as amended);
 - The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019;
 - Wildlife and Countryside Act (WCA) 1981 (as amended);
 - Countryside and Rights of Way (CRoW) Act 2000; and,
 - Natural Environment and Rural Communities (NERC) Act 2006.
- 1.2.2 Prior to 31 December 2020, Annex 1 of the EC Birds Directive listed rare and vulnerable species of regularly occurring or migratory wild birds that were subject to special conservation measures. The Directive also provided for the designation of SPAs for the protection of these species, which formed part of the Natura 2000 network of sites protected by European wildlife legislation. European Union (EU) legislation as it applied to the UK on 31 December 2020 is now a part of UK domestic legislation as 'retained EU legislation'. Changes have been made to parts of the Habitats Regulations 2017 and the Conservation of Offshore Marine Habitats and Species Regulations 2017 so that they effectively continue the legislation which implemented the EU Habitats and Species Directive and parts of the Wild Birds Directive through the provisions of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. Most of these changes involve transferring functions from the European Commission to the appropriate authorities in England. All other processes or terms of the 2017 Regulations remain unchanged. Internationally designated wetlands 'Ramsar Sites' are protected under the CRoW Act 2000 and are not affected by the exit from the EU.
- 1.2.3 Part 1 of the WCA affords general protection to all species of wild bird, and specific protection to certain species of bird in Schedule 1 (birds protected by special penalties). It is an offence (subject to exceptions) to:
- kill, injure, or take any wild bird;
 - take, damage, or destroy the nest of any wild bird while that nest is in use or being built;
 - take or destroy an egg of any wild bird; and,
 - disturb any wild bird listed on Schedule 1 of the WCA while nesting or disturb the dependent young of such a bird.
- 1.2.4 The WCA requires the prosecuting authority to prove that an offence was intentional, however the Countryside and Rights of Way (CRoW) Act 2000 strengthens the provisions of the WCA by introducing an additional offence of "reckless" disturbance, which means that ignorance of the presence of a protected species cannot be used as a reliable defence should a breach of the WCA be committed. The NERC Act 2006 strengthens the WCA further with respect to the protection of the nests of certain birds listed on Schedule Z1A, even when they are not in use.
- 1.2.5 Through the National Planning Policy Framework and Section 40 of the NERC Act 2006, local planning authorities also have a duty to consider species listed on Section 41 (S41) of the Act as being of principal importance for nature conservation in England when considering a planning application (also referred to as 'NERC S41' species).

Local Planning Policies

- 1.2.6 The proposed development is within the Local Planning Authority (LPA) areas of North East Lincolnshire and East Lindsey. Strategic Policy 24 within the East Lindsay Local Plan Core Strategy (Ref 2) states that:
- 1.2.7 *“The Council will protect sites designated internationally, nationally or locally for their biodiversity and geodiversity importance, species populations and habitats identified in the Lincolnshire Biodiversity Action Plan and the Natural Environment and Rural Communities (NERC) Act 2006.”*
- 1.2.8 Policy 9 of the North East Lincolnshire Local Plan 2013 to 2032 (Ref 3) states that *“any development which would, either individually or cumulatively, result in significant harm to biodiversity which cannot be avoided, adequately mitigated or as a last resort compensated for, will be refused”*.

Local Biodiversity Action Plans

- 1.2.9 The Lincolnshire Biodiversity Action Plan (Ref 4) is the relevant Local Biodiversity Action Plan (LBAP) for the Study Area and was drafted by the Lincolnshire Biodiversity Partnership in 2011. The LBAP outlines biodiversity conservation objectives within the region and identifies priorities for action for priority habitats, species, locally important wildlife, and sites. The Lincolnshire Biodiversity Action Plan includes a species action plan for Farmland Birds with targets to:
- Identify monitoring methods for each species and implement by 2012;
 - Ensure that at least 20 sites with post-1990 breeding records for scarce breeding birds of wet grassland (curlew, redshank and snipe) are managed appropriately for these species by 2015; and
 - For all other farmland bird species stabilise populations at 2000 levels or above by 2015 and 1990 levels by 2020.

Guidance

- 1.2.10 Stanbury *et al.* (Ref 5) have published lists of Birds of Conservation Concern (BoCC). Red List species are those whose breeding population or range is rapidly declining (50% or more in the last 25 years), recently or historically, and those of global conservation concern. Amber List species are those whose breeding population is in moderate decline (25 – 49% in the last 25 years), rare breeders, internationally important and localised species, and those of unfavourable conservation status in Europe. Green List species are those not of immediate conservation concern. Non-native species are classified as Not Assessed. These lists confer no legal status; however, they are useful when assessing the significance of predicted impacts and determining the level of mitigation that may be required when birds are affected by development or any other activity. Furthermore, inclusion on the Red List was a factor in determining the species for which Biodiversity Action Plans were developed.

1.3 Methods

Desk Study

- 1.3.1 A desk study was completed to identify statutory and non-statutory designated sites and notable species potentially relevant to the assessment of the Proposed Development. Sources of information used to inform the desk study which are relevant to birds are summarised in **Table 2** and the Study Areas are shown on **Figure 1**.
- 1.3.2 Protected and notable species include those listed under Schedules 1 of the Wildlife and Countryside Act, 1981 (as amended), Annex 1 of the EU Birds Directive and species of principal importance for nature conservation in England listed under Section 41 of the NERC Act, 2006.
- 1.3.3 Other notable species have also been considered and assessed on a case-by-case basis (e.g., in national Red Data Books and Lists; those within the LBAP and/or those listed on RSPB red/amber lists, but not protected by legislation). This is consistent with the requirements of relevant planning policy. Such species are herein referred to (in the context of both surveys and desk study) as “Priority Species”.

Table 2: Desk Study Area and Data Sources

Ecological Feature	Study Area (distance from DCO Site Boundary)	Data Sources	Date Accessed
International statutory nature conservation sites designated for birds (e.g., Special Protection Area [SPA]; SPA with marine components [mSPA]; Ramsar Site)	10 km	Multi-Agency Geographic Information for the Countryside (MAGIC) website (Ref 22) Joint Nature Conservation Committee website (Ref 23)	August 2022
National statutory nature conservation designated for birds (e.g., Site of Special Scientific Interest (SSSI); National Nature Reserve (NNR))	10 km	MAGIC website (Ref 22) Natural England Designated Site Search Website (Ref 24)	August 2022
Local statutory nature conservation designations (Local Nature Reserves (LNR))	10 km	MAGIC website	August 2022

Ecological Feature	Study Area (distance from DCO Site Boundary)	Data Sources	Date Accessed
Local non-statutory nature conservation designations (Local Wildlife Sites (LWS))	2 km	Greater Lincolnshire Nature Partnership/Lincolnshire Environmental Records Centre	<u>June 2023</u>
Bird Species records	5 km	Greater Lincolnshire Nature Partnership/Lincolnshire Environmental Records Centre	October 2022
Bird species records within land owned by Phillips 66.	Specific to source	Technical Appendix 13, Humber Zero Phase 1 (Ref 21)).	June 2023
Bird species records	2 km	BTO Data report	June 2023
Bird species records	5 km	Regional Avifauna	October 2022
Bird species records	Data-specific	Lincolnshire Coastal Grazing Marshes Project website and reports () ²	June 2023
Wetland birds	Data-specific, including all of the Humber Estuary and north-east Lincolnshire Coast	Humber Estuary High Tide Roost Review (Ref 6)	October 2022
Wetland birds	Data-specific: 5-year Core Count synopsis tables and low tide counts for selected count sectors up to a maximum distance of approximately 2 km ³	British Trust for Ornithology (BTO) Wetland Birds Survey (WeBS) Low Tide and Core Counts ⁴ .	June 2023
Barn owl (<i>Tyto alba</i>)	1 km	Wildlife Conservation Partnership (WCP)	June 2023

²

³ Connectivity of wetland bird habitat with the Proposed Development, and availability of contemporary data for individual sectors, were factors contributing to the choice of count sectors for which data were acquired.

⁴ The Wetland Bird Survey (WeBS) is the long-term monitoring scheme for non-breeding waterbirds in the UK, which aims to provide the principal data for the conservation of their populations and wetland habitats. WeBS is a partnership between the British Trust for Ornithology, the Royal Society for the Protection of Birds and the Joint Nature Conservation Committee (the last on behalf of Natural England, Natural Resources Wales, Scottish Natural Heritage and the Department of the Environment Northern Ireland) in association with the Wildfowl and Wetlands Trust. Core counts are synchronised monthly counts undertaken at wetlands throughout the UK. Core counts are carried out at coastal and inland water bodies at high tide.

- 1.3.4 The study areas summarised in **Table 2** were defined with reference to the likely Zol over which the Proposed Development may have potential to result in significant effects on relevant ornithological features.
- 1.3.5 It is important to recognise that the potential Zol of the Proposed Development may vary over time (e.g., the construction zone of influence may differ from the operational zone of influence) and/or depending on the individual sensitivities of different ecological features.
- 1.3.6 This was considered when defining study areas and these are sufficient to address the potential worst-case Zol of the Proposed Development on the relevant ornithological features.

Surveys

- 1.3.7 AECOM has employed multiple survey methods to capture baseline data for a range of bird species and species groups across the Proposed Development. This section summarises the survey methods, their purpose, duration and rationale for the selection of survey locations.
- 1.3.8 Surveys began in November 2021 and have run up to and including June 2023. **Table 3** summarises the surveys undertaken and a timeline for each of them showing their duration, frequency and overlap is provided in Annex A. The timeline also sets out the changes to the scope of some of the ongoing surveys, and the reasons for these changes. This is especially relevant to the Point Count surveys described below. Metadata for all surveys are provided in Annex B, except for Schedule 1 bird surveys, for which metadata are provided in the Confidential Ornithology Baseline Report (*ES Volume IV Appendix 6-8 Confidential Ornithology Baseline and Assessment Report (Application Document 6.4.6.8)*).
- 1.3.9 An overview of the survey areas is shown on **Figure 2**. These are shown in more detail where required in **Figure 3 – Figure 7**. More detail is provided for each survey method in paragraphs 6.3.11 – 6.3.47.
- 1.3.10 In addition to the surveys set out in **Table 3** and paragraphs 1.3.11– 1.3.47, a record was kept of ad-hoc sightings and observations of birds gathered outside of any formal bird surveys. These were used, where appropriate, to inform and update the scope of ongoing surveys and to inform updates to the design of the Proposed Development. Any relevant records are presented in this report and the Confidential Baseline Appendix (*ES Volume IV Appendix 6-8 Confidential Ornithology Baseline and Assessment Report (Application Document 6.4.6.8)*) where they can add value to the assessments in *ES Volume II Chapter 6 Ecology and Biodiversity (Application Document 6.2.6)*.

Table 3: Summary of Ornithology Surveys Completed

Survey	Scope of Survey	Survey Period	Survey Area Extent	Justification
Wintering birds within habitats with potential functional linkages to designated sites (herein termed Functionally Linked land. FLL).	Surveys using a 'look-see' method undertaken from walked and driven transects and ad hoc vantage points to count qualifying species of designated sites and Priority Species; recording of numbers, distribution and behaviours.	Monthly, September – March inclusive (November 2021 – March 2022; September – October 2022).	Figures 3-4: Scoping Boundary (Ref 1) plus up to 1 km buffer either side of it within the area considered to be potentially functionally linked to the Humber Estuary SPA.	Will provide sufficient baseline information on wintering and passage bird assemblages to enable robust assessment of potential temporary indirect effects of the Proposed Development and the minor permanent habitats losses predicted, in combination with third party data. The Project design aims to avoid impacts on hedgerow, wetland, and woodland habitats.
Non-breeding Birds occurring beyond potentially functionally linked land.	Point Count method, recording all birds seen or heard by surveyors in the environs of the point location.	Monthly counts between November 2021 and February 2022 inclusive (4 surveys). Additional locations surveyed November 2022 – February 2023 following design freeze.	Figure 5: Specific point count locations with visual coverage serving the Scoping Boundary, with focus on the preferred pipeline route. Timeline plan of count locations used included in the Annex A.	Will provide sufficient baseline information on non-breeding bird assemblages to enable robust assessment of potential temporary effects and minor permanent habitat loss, in combination with third party data.
Drive over surveys.	Drive overs with ad hoc stops to scan habitats for non-breeding pink-footed geese (<i>Anser brachyrhynchus</i>) and species that are qualifying features of the Humber Estuary SPA.	November 2022 – March 2023 (monthly).	DCO Site Boundary and surrounding habitat up to 500 m either side for the approximately 40 km of proposed pipeline	To validate the extent and results of the FLL surveys following design freeze.

Survey	Scope of Survey	Survey Period	Survey Area Extent	Justification
			between the FLL survey areas. The survey area was not strictly fixed and therefore an approximate survey boundary is shown in Figure 6.	
Breeding birds within habitats with potential functional linkages to designated sites.	Surveys using a 'look-see' method undertaken from walked and driven transects and ad hoc vantage points to count qualifying species of designated sites and Priority Species; recording of numbers, distribution and behaviours.	Monthly, between late March and August 2022 inclusive (5 surveys).	Figures 3 - 4: Scoping boundary (Ref 1) plus up to 1 km buffer ⁵ either side of it within the area considered to be potentially functionally linked to the Humber Estuary SPA and Greater Wash mSPA for breeding birds ⁶ .	Survey scope suitable to address the potential temporary indirect effects of the Proposed Development and the minor permanent habitat losses predicted.
Breeding Birds within the former Theddlethorpe Gas Terminal (TGT).	Common Birds Census following reduced version of Marchant (1983) (Ref 7).	Monthly April – early July inclusive (4 surveys to supplement regular counts during FLL surveys).	Figure 7: Within the boundary of TGT.	Functionally Linked Land surveys identified habitat suitable for ground nesting birds and detected use of this habitat by Priority Species. The Project may result in some habitat losses and disturbance within this area, during construction.

⁵ The survey area was reduced to a buffer of 150m either side of the indicative centreline of the Scoping Boundary during the months May – July 2022 to enable focused surveys to be carried out at strategic locations where necessary using other methodologies and in acknowledgement that the qualifying features of the designated sites during the breeding season are more closely tied to localised breeding locations. During this time, surveys continued to include all of the wader mitigation area and adjacent fields between TGT and Theddlethorpe Dunes, from Theddlethorpe St Helen in the north, to "North End" in the south.

⁶ See Section paragraphs 6.3.11 – 6.3.15 for rationale behind the selection of functionally linked land survey area.

Survey	Scope of Survey	Survey Period	Survey Area Extent	Justification
Breeding Birds beyond potential FLL.	Point Count method, recording all birds seen or heard by surveyors in the environs of the point location.	Monthly between March and June 2022 inclusive (4 surveys). Additional locations surveyed monthly between March and June (inclusive) 2023 following design freeze.	Figure 5: Specific point count locations with visual coverage serving the DCO Site Boundary.	Will provide sufficient baseline information on breeding bird assemblages to enable robust assessment of potential temporary indirect effects of the Proposed Development and the minor permanent habitats losses predicted, in combination with third party data. The Project design avoids impacts on hedgerow, wetland, and woodland habitats.
Breeding hobby (<i>Falco subbuteo</i>) surveys.	Transects through/past suitable breeding habitat and ad hoc Vantage Point watches to establish presence of hobbies within the survey area and to observe behaviours indicative of breeding.	Habitat assessment and initial surveys in August 2022. Two further surveys of all suitable habitats in September 2022. ⁷	All suitable habitats within a maximum distance of approximately 500m of the DCO Site Boundary. Survey locations were not tied to a strictly defined survey area and therefore are not shown on a figure. Further detail on survey areas is included in the Confidential Baseline Report (<i>ES Volume IV Appendix 6-8 Confidential Ornithology Baseline and Assessment</i>	To provide sufficient baseline information to assess the potential impacts of the Project on this Schedule 1 bird, and to inform micro-siting of pipeline route and other measures (where required) to avoid impacts.

⁷ Identification of the presence of hobby within potential home and breeding ranges and suitable habitat for more targeted surveys was also served by the ongoing routine surveys prior to August 2022 (see paragraphs 6.3.30 – 6.3.35).

Survey	Scope of Survey	Survey Period	Survey Area Extent	Justification
			<i>Report (Application Document 6.4.6.8)</i>	
Breeding kingfisher (<i>Alcedo atthis</i>).	Visual habitat assessments to map and describe habitat suitable for breeding kingfisher were followed by a series of repeat transects alongside suitable habitats to detect breeding behaviours and to map potential or confirmed breeding locations.	Single-visit habitat assessments between March and May (inclusive) 2023. Repeat visits to detect breeding in May and June 2023.	Specific watercourses and waterbodies where trenchless watercourse crossing methods are not proposed for installation of the CO ₂ pipeline, plus a survey buffer of between approximately 70 m and 1.7 km either side of crossing points depending principally on land access, and the presence of suitable nesting habitat. Further detail on survey areas is included in the Confidential Baseline Report (<i>ES Volume IV Appendix 6-8 Confidential Ornithology Baseline and Assessment Report (Application Document 6.4.6.8)</i>).	To provide sufficient baseline information to assess the potential impacts of the Proposed Development on this Schedule 1 bird, and to inform micro-siting of pipeline route and other measures (where required) to avoid impacts.
Breeding barn owl.	Habitat assessments to determine suitability for breeding of locations identified as capable of supporting barn	Singe visit habitat assessments	Habitat – specific but typically any suitable habitat within 200m of	To provide sufficient baseline information to assess the potential impacts of the Proposed Development

Survey	Scope of Survey	Survey Period	Survey Area Extent	Justification
	<p>owls at any time of year, including trees and buildings with potential to be disturbed during construction of the Proposed Development.</p>	<p>between March and June 2023. Return visits to detect breeding activity in June 2023.</p>	<p>the DCO Site Boundary. Survey locations are restricted to the Confidential Baseline report (<i>ES Volume IV Appendix 6-8 Confidential Ornithology Baseline and Assessment Report (Application Document 6.4.6.8)</i>) and are not shown on a figure to accompany this report.</p>	<p>on this Schedule 1 bird, and to inform micro-siting of pipeline route and other measures (where required) to avoid impacts.</p>

Bird Counts in Functionally Linked Land

- 1.3.11 The term “FLL” was, for the purposes of selecting survey areas and the scope of ornithology surveys, broadly defined as any land that could reasonably be considered likely to support the function and integrity of an SPA (in this case either the Greater Wash mSPA⁸ or Humber Estuary SPA) by providing habitats likely to be used regularly by species for which the SPAs are designated and pink-footed goose⁹. Since only a limited range of species would be expected to feed on terrestrial habitats more than a few kilometres inland of the coast, a combination of factors was considered when designing the surveys:
- The likely core foraging distances inland of the SPAs for qualifying features of a relevant SPA;
 - The known distribution of coastal aggregations of SPA species as recorded by British Trust for Ornithology WeBS Low Tide Surveys (reported in Frost *et al.*, 2021; Ref 9) and the known roosts and feeding areas (both coastal and inland) of such species as set out in Cutts *et al.* (Ref 6);
 - The broad habitat types present along the proposed pipeline route and its environs, and any areas of habitat suitable for breeding Schedule 1 birds and qualifying features of the SPAs;
 - The presence of key inland sites at which these species have been recorded, if any, as identified in the Lincolnshire Bird Atlas (Ref 10); and,
 - The presence of terrestrial habitat for a range of SPA species inland of the Theddlethorpe Gas Terminal (TGT) site (South Somercotes and Theddlethorpe), identified by the British Trust for Ornithology (BTO) Wetland Birds Survey (WeBS) as Lincolnshire Grazing Marshes Core (High Tide) count area (although there have been no recent regular WeBS counts in this area¹⁰). This lies within a larger target recovery area for Coastal Grazing Marsh, identified under the Lincolnshire Coastal Grazing Marshes Project¹¹, that is known to support a range of breeding and non-breeding waders and wildfowl.
- 1.3.12 NatureScot (formerly Scottish Natural Heritage, SNH) identify a core foraging distance for pink-footed goose of 15-20 km from roosts (**Ref 11**), although a study by Bell (1988) (**Ref 12**) showed that 82.1% of pink footed goose movements were within 8 km of the roost and it is likely that, at most locations, pink-footed goose activity tails off significantly at distances greater than this from roosts. There is no published guidance regarding the likely foraging distance of waders from coastal roosts, but it is known that golden plover (*Pluvialis apricaria*) and lapwing (*Vanellus vanellus*) can forage considerable distances inland of coastal habitats in winter. The core foraging range for pink-footed goose is likely to be a reasonable proxy for wader foraging distances and has, for the purposes of assessment, been used as a default for the likely maximum distances at which golden plover and other wader species known to occur regularly inland (in this case curlew and lapwing¹²) might move inland to feed from coastal roosts and foraging areas, subject to the considerations set out above.
- 1.3.13 Outside of the areas surveyed for presence of SPA species in the context of potential functional linkages with the designated sites, surveyors undertook point counts within the survey area. Point counts were placed strategically so that, wherever possible, they achieved panoramic views across large areas of open countryside, with the intention that activity of species potentially associated with the SPAs would be detected, if it occurred.

⁸ Since the qualifying features of this SPA are either entirely pelagic or occur on land usually at specific coastal locations distant from the Project area, there will be no effects on the function or integrity of the Greater Wash mSPA.

⁹ Although the Humber Estuary is not designated as an SPA for pink-footed geese, it is of international importance for the species (Brides *et al.*, 2013; **Ref 8**).

¹⁰ [REDACTED] repeatedly accessed since project inception).

¹¹ [REDACTED] (repeatedly accessed since project inception).

¹² Note that the other species for which the SPAs are designated would be unlikely to occur on terrestrial habitats this far from coastal habitats within which they nest or roost.

- 1.3.14 Where Priority Species¹³ occurred outside of formal surveys, such occurrences were logged as ad hoc incidental records and, if necessary, followed up to determine any patterns of habitat use. This way, any use of habitats by qualifying species of SPAs outside of the FLL survey areas (regardless of whether these occurred during formal surveys) could be used to review the scope of the FLL surveys and to adjust it as required.
- 1.3.15 Considering the factors set out above, the following areas of onshore habitat were judged to be most likely to provide a supporting role to the designated sites and were targeted for more intensive surveys than elsewhere, as per the methods summarised in **Table 3**:
- At the southern end of the Project, all land up to 1 km¹⁴ either side of the Scoping Boundary within approximately 8 km (subject to confirmation of the route alignment) of the proposed pipeline route inland from the former TGT facility; and,
 - At the northern end of the Project, all land up to 1 km either side of the Scoping Boundary (Ref 1) within approximately 5 km of proposed pipeline corridor southwards from the Immingham Facility.
- 1.3.16 Surveys were carried out as per the methods and temporal/spatial scope outlined in **Table 3**. Fields (or, where field units were too small to map/survey effectively, groups of fields) were mapped and assigned numbers in a GIS prior to the onset of surveys, to enable bird records to be given spatial context without the need to plot them on maps. Surveys were conducted once a month with two surveys undertaken in March 2022, once at the beginning of the month for wintering birds, and once at the end of the month to observe early breeding birds. An additional count was undertaken on 24 February 2022; this survey covered Rosper Road Pools (“field” 10) and the fields to the north of the pools, herein referred to as North Killingholme Grazing Marshes (NKGGM, fields 1 – 9).
- 1.3.17 Surveyors walked and drove around the survey area, stopping as required to scan habitats with binoculars and spotting telescopes, and within each field or group of fields, recorded the following:
- Number of birds of each species; and,
 - Bird behaviour within pre-defined categories.
- 1.3.18 The following bird behaviour categories were used:
- Foraging;
 - Preening;
 - Loafing¹⁵;
 - Roosting;
 - Singing;
 - Displaying;
 - Nesting;
 - Other territorial behaviour¹⁶;
 - Calling;
 - Flying over; or,

¹³ These are also referred to as “protected and notable species”, more information provided in paragraphs 6.3.1 – 6.3.3.

¹⁴ The survey area was adjusted for the breeding season surveys between March and August (inclusive) 2022 for the reasons set out in Table 3.

¹⁵ Loafing is the scientific term used to describe bird behaviours that are “relaxed” and not specifically related to feeding, breeding or predator evasion.

¹⁶ This category was provided to give surveyors flexibility to determine breeding activities on a species-specific basis where these are not adequately covered by the categories above. For example, the adults of some species feign injury or engage in distraction displays to draw potential predators away from nest sites.

- Other (to be specified).

Point Counts

- 1.3.19 Bird counts were undertaken from a series of fixed locations numbered sequentially (1, 2, 3 etc.) along the Proposed Development route, placed at intervals of approximately 2 km (but varying from approximately 1 km to 4 km from each other) such that survey coverage was representative of the range of habitats present in the environs of the Proposed Development. Thus, locations were predominantly within or close to arable farmland, with locations also close to woodlands; grasslands, hedgerows; inland waterways; minor watercourses and drains.
- 1.3.20 Surveys were carried out each month between and including November 2021 and June 2022 to include breeding and non-breeding periods. Some of the points were deleted and replaced with new locations during this period for the reasons summarised in the survey timeline in Annex A - typically these changes were made to address changes to the Proposed Development design, or to improve the representativeness of the count locations. A further eight locations (A – H) were added to accommodate the final round of project design changes made during the design freeze in July 2022. These were surveyed every month between and including November 2022 and June 2023.
- 1.3.21 Counts were undertaken for a period of 20 minutes during which all birds detected visually or aurally were tallied and their behaviours recorded within one or more of categories listed in paragraph 6.3.18:
- 1.3.22 To provide spatial context to the observations, birds were tallied within four distance bands (expressed as radii from the count location), with the upper limit of the farthest distance band being undefined, but for practical reasons ending typically at 500m from the count location, beyond which the detectability of most species is low;
- 0-50 m;
 - 50-100 m;
 - 100-250 m; and
 - >250 m.

Common Birds Census

- 1.3.23 Surveys of breeding terrestrial birds, using the CBC method described by Marchant (1983) (Ref 7) and Gilbert *et al.* (1998) (**Ref 13**) were carried out at TGT within the survey area shown in **Figure 7**. Four repeat visits (adjusted from the standard ten detailed by Marchant) were carried out to each area at approximately monthly intervals between April and July 2022 (inclusive). Metadata are provided in Annex B.
- 1.3.24 The surveyor followed a pre-determined transect through the survey area, during which species, distribution and activity of all birds detected were recorded on suitably scaled field maps using British Trust for Ornithology (BTO) species codes¹⁷ and behaviour notations (provided in Marchant, 1983; Ref 7).
- 1.3.25 Surveys were carried out on days with good visibility and little or no wind and rain to maximise the potential for detection of birds and to avoid the possibility of bird activity being suppressed by inclement weather conditions.
- 1.3.26 The number of breeding pairs or territories for each species recorded was determined from the mapped survey data to identify and isolate areas within which birds displayed consistent breeding behaviours across more than one visit (following Marchant, 1983; and Gilbert *et al.* 1998 (Ref 7 and **Ref 13**).

¹⁷ Available online at 

Winter Drive Over Surveys

- 1.3.27 Following the Proposed Development design freeze in July 2022, further effort to validate the FLL areas as described in paragraphs 6.3.11 – 6.3.15 was made by means of monthly drive over surveys of the proposed pipeline route in winter to detect qualifying species of the Humber Estuary SPA and SSSI outside of FLL.
- 1.3.28 Surveyors drove between the limits of the northern and southern FLL survey areas (a total of approximately 40 km of proposed pipeline) stopping frequently to scan all suitable open habitats capable of supporting feeding or roosting waterbirds, in particular waders and pink – footed geese. Field counts were made of such species by marking them on suitably scaled field maps using standard BTO species codes and behaviour notation. Overflying birds were also noted and observations of birds dropping down to land at locations outside of the visible range of the surveyor were followed up to determine where they landed.
- 1.3.29 The drive over surveys were carried out once per month between November 2022 and February inclusive (4 in total). Metadata are provided in Annex B.

Breeding Schedule 1 Raptor Surveys

- 1.3.30 Over the course of the point counts, bird counts within FLL and drive over surveys, observations were made of the occurrence of raptors including red kite (*Milvus*), peregrine (*Falco peregrinus*) and hobby. Surveyors also amassed intelligence on the locations and characteristics of habitats suitable for breeding. Additional information was obtained from observations made during other ecology surveys, and from informal reports of bird sightings communicated to the survey team by landowners.
- 1.3.31 On the basis of the information obtained from the sources above, locations or (where appropriate) broad areas were selected for follow up surveys for breeding Schedule 1 raptors, based on the likely occupation of home ranges and potential breeding territories.
- 1.3.32 The flat or rolling landscape of north-east Lincolnshire in the environs of the Proposed Development provides few if any “natural” sites for breeding peregrine (which typically breed on cliffs, crags, quarry faces and tall buildings). However, trees, copses and woodlands provide suitable habitat for red kite and hobby; and electricity pylons provide suitable nesting habitat for peregrine and hobby.
- 1.3.33 Surveys specifically for red kite were not undertaken since there was insufficient evidence to suggest the occurrence of breeding in the environs of the Proposed Development. The routine surveys for breeding and non-breeding birds and the incidental observations amassed during the baseline gathering phase of the Proposed Development proved sufficient to detect breeding peregrine and therefore no additional surveys specifically for these species were carried out.
- 1.3.34 Hobby surveys were carried out by means of a habitat assessment and initial survey in August 2022, followed by two further targeted surveys in September 2022, to follow up on sightings made on other surveys and incidental records of the species indicative of the occupation of home ranges. Surveys covered all suitable habitats identified along the length of the Proposed Development and up to 500m from it, with deviations to follow up on sightings further afield than this where required. Surveyors drove and walked through the survey area, and either inspected habitats directly or, where land access was a limiting factor, carried out ad hoc Vantage Point (VP) watches of suitable habitat during daylight hours to check for adults leaving and returning to nestlings or fledged young.
- 1.3.35 This method broadly follows the recommendations in Hardey *et al.* (Ref 14) but is adapted to accommodate the limitations of access to private land.

Breeding Barn Owl Surveys

- 1.3.36 Habitats suitable for breeding barn owl within rural north-east Lincolnshire include predominantly trees, farm buildings and bale stacks. Sightings of barn owl and the occurrence of suitable breeding habitats within and up to 1 km from the proposed Development were compiled during all surveys undertaken between November 2021 and February 2023.
- 1.3.37 Seven locations or broad areas were targeted for detailed habitat assessment between March and June 2023 to identify potential breeding sites at risk of disturbance during construction of the Proposed Development (typically within approximately 200m of the DCO Site Boundary¹⁸). Locations suitable for breeding at which a definitive assessment of breeding status could not be made on the first visit were visited a second time to search for signs of breeding and, where necessary, to carry out VP watches for barn owl activity. The second visits to confirm breeding were carried out in mid-June 2023.
- 1.3.38 The specific survey methods and signs of barn owl activity (breeding or otherwise) were as set out in Shawyer (**Ref 15**) and the Barn Owl Trust (**Ref 16**). The following were taken as evidence of breeding:
- Presence of live chicks or juvenile birds;
 - Presence of dead chicks;
 - Recently used nest debris;
 - Egg fragments;
 - Juvenile down; or,
 - Adults carrying prey to a suspected nest site.
- 1.3.39 Evidence for roosting or other non-breeding occupation of a site included:
- Presence of adult birds;
 - Moulded adult feathers;
 - Pellets; or,
 - White splash.
- 1.3.40 Depending on the presence or absence of the types of evidence of occupation set out above, sites were classified as one or more of the following (after Shawyer, 2011; **Ref 15**):
- Occupied Breeding Site (OBS);
 - Potential nest site (PNS);
 - Active Roost Site (ARS); or,
 - Temporary Rest Site (TRS).

Breeding Kingfisher Surveys

- 1.3.41 There is no published standard method for kingfisher surveys. For the purposes of assessment of the Proposed Development, desk study data and records from other bird surveys and ecology surveys were reviewed and seven locations with the potential to support breeding kingfisher were identified for survey. Three of these were subsequently ruled out on the basis that the proposed pipeline would be installed using trenchless


¹⁸ This exceeds the maximum distance (175m) at which breeding barn owls are likely to be disturbed by continuous works using heavy plant, in line with the Barn Owl Disturbance and Protection Zones for heavy construction works set out in Shawyer (2011; **Ref 15**).

installation methods and therefore there would be no potential for impacts on nesting kingfishers at those locations.

- 1.3.42 The survey locations are all stretches of watercourse that are crossed by the Proposed Development. Survey extents included the crossing location plus distances upstream and downstream of the crossing point of between 70m (minimum) and 1.7km (maximum) depending on the extent of suitable continuous habitat and other factors such as physical barriers (typically public roads) and limitations to land access¹⁹.
- 1.3.43 The surveys occurred in two stages. Stage 1 was a habitat assessment at each location in March 2023, during which each watercourse was divided arbitrarily into sub-sections (A, B, C, etc) that were assessed individually, and unsuitable sections of habitat were excluded from further survey; and Stage 2 involved activity surveys of all suitable habitats within the survey areas to detect kingfisher breeding activity and to identify nest sites.
- 1.3.44 The descriptors used at Stage 1 to classify habitats as suitable or unsuitable for breeding are summarised in **Table 4**. Further information justifying the assessment criteria is set out in **Annex C**.

¹⁹ Further information regarding each surveyed watercourse is provided in the Confidential Baseline Ornithology Report, (ES Volume IV Chapter 6: Appendix 6-8 Confidential Ornithology Baseline and Assessment Report).

Table 4: Descriptors Used in Kingfisher Habitat Assessments

Bank Substrate	Bank angle	Riparian Habitat	Availability of Perches	Water Sedimentation	Flow	Disturbance	Habitat Quality/Suitability
Loose earth	80-90°	Highly improved	Many	Clear	Rapid	None	High
Dry earth	40-79°	Improved	Some	Slightly silty	Moderate	Occasional	
Wet earth	20-39°	Slightly improved	None	Silty (but bed still visible)	Slow	Frequent	
Vegetated gravel	0-19°	Unimproved		Very Silty		Constant	
Stony/rock				Polluted (cannot see bed)			Low

- 1.3.45 The Phase 2 activity surveys occurred over four repeat visits between April and June (inclusive) 2023. The surveyor walked slowly along a transect alongside the bank of the watercourse, recording kingfisher activity using standard BTO breeding bird behaviour notations. Kingfishers can be difficult to detect as they are shy of human interaction and typically occur at low density. They live in pairs and aggressively defend both a breeding territory and an associated but separate feeding territory that collectively can cover up to 1.5 km of watercourse. The surveyor therefore paused for 10 minutes at 200m intervals to increase the chances of detecting active kingfishers, should they be present.
- 1.3.46 Kingfishers are active during daylight hours, so all surveys were carried out during the day during calm, dry conditions. Metadata and survey locations are provided in the *ES Volume IV Appendix 6-8 Confidential Ornithology Baseline and Assessment Report (Application Document 6.4.6.8)*.

Competency of surveyors

- 1.3.47 All field surveys were led by competent ornithologists with, as a minimum, full or associate membership of the Chartered Institute of Ecology and Environmental Management (CIEEM). Barn owl surveys were led by surveyors in possession of the appropriate Natural England class licence, or individuals acting as accredited agents to such a licence.

Assessment Assumptions and Limitations

- 1.3.48 The desk study aims to assess the baseline context of the Proposed Development and provides valuable background information that would not be captured by site surveys alone. Desk study data are dependent upon people and organisations submitting records for the area of interest. As such, a lack of records for a particular species does not necessarily mean that those species do not occur in the study area. Likewise, the presence of records for species does not automatically mean that these still occur within the area of interest or are relevant in the context of the proposed development/works.
- 1.3.49 It is not practicable to undertake bird surveys of the entire footprint of a large-scale linear proposed development such as Viking CCS Pipeline. Therefore, intensive surveys were targeted to areas expected to support bird populations with the potential to be identified as key ornithological features and locations where potential impacts were anticipated to be one or more of direct, significant, long term and with the potential to affect sensitive bird populations, especially those that are qualifying features of statutory designated sites. A sampling approach was applied to the rest of the proposed pipeline route such that the bird assemblages present could be characterised and described. While first-hand data are therefore not available for the entirety of the Proposed Development and its ZoI, the inclusion of detailed desk study data provides sufficient baseline to support a robust assessment of the effects on ornithological features across the whole of the Proposed Development.
- 1.3.50 Limited access to private land prevented surveys within Phillips 66 (P66) land at the northern end of the DCO Site Boundary. However, this limitation has been addressed by the use of contemporary third-party data including those supplied by P66.
- 1.3.51 No other significant limitations are identified.

1.4 Results

Desk Study

Designated Sites

- 1.4.1 Statutory designated sites important for birds are listed in **Table 5**. There are 11 statutory designated sites including one Ramsar, two SPAs, three SSSIs, one NNR and four LNRs within the Study Area.
- 1.4.2 Locations of these sites are shown in **Figure 7**.

Table 5: Statutory designated sites, designated for their importance to birds within 5 km of the DCO Site Boundary

Site	Grid Reference	Proximity to DCO Site Boundary	Summary of Reasons for Designations
Humber Estuary Ramsar	TA238148	Within Section 5 of the DCO Site Boundary	<p>Ramsar Criterion 5: Assemblages of international importance, 153, 934 waterfowl, non-breeding season (5-year peak mean 1996/97-2000/2001).</p> <p>Ramsar Criterion 6 – species/populations occurring at levels of international importance.</p> <p>Eurasian golden plover, (<i>Pluvialis apricaria albifrons</i>) subspecies – NW Europe, W Continental Europe, NW Africa population, 17,996 individuals, passage, representing an average of 2.2% of the population (5 year peak mean 1996-2000);</p> <p>Red knot, (<i>Calidris canutus, islandica</i>) subspecies, 18,500 individuals, passage, representing an average of 4.1% of the population (5 year peak mean 1996-2000);</p> <p>Dunlin, (<i>Calidris alpina, alpina</i>) subspecies- Western Europe (non-breeding population), 20,269 individuals, passage, representing an average of 1.5% of the population (5 year peak mean 1996-2000);</p> <p>Black-tailed godwit, (<i>Limosa limosa, Islandica</i>) subspecies, 915 individuals, passage, representing an average of 2.6% of the population (5 year peak mean 1996-2000);</p> <p>Common redshank, (<i>Tringa totanus, brittanica</i>) subspecies, 7,462 individuals, passage, representing an average of 5.7% of the population (5 year peak mean 1996-2000);</p> <p>Common shelduck, (<i>Tadorna tadorna</i>)- Northwestern Europe (breeding population), 4,464 individuals, wintering, representing an average of 1.5%of the population (5 year peak mean 1996/7-2000/1); and,</p> <p>Bar-tailed godwit, (<i>Limosa lapponica, lapponica</i>) subspecies, 2,752 individuals, wintering, representing an average of 2.3% of the population (5 year peak mean 1996/7-2000/1).</p>
Humber Estuary SPA	TA241148	Within Section 5 of the DCO Site Boundary	<p>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 British populations of the following species listed in Annex I in any season:</p>

Site	Grid Reference	Proximity to DCO Site Boundary	Summary of Reasons for Designations
			<p>Avocet (<i>Recurvirostra avosetta</i>) (64 pairs breeding and 59 individuals wintering); Bittern (<i>Botaurus stellaris</i>) (2 booming males breeding and 4 individuals wintering); Hen harrier (<i>Circus cyaneus</i>) (8 individuals wintering); Golden plover (30,709 individuals wintering); Bar-tailed godwit (2,752 individuals wintering); Ruff (<i>Philomachus pugnax</i>) (128 individuals on passage); Marsh harrier (<i>Circus aeruginosus</i>) (10 females breeding); Little tern (<i>Sternula albifrons</i>) (51 pairs breeding); Shelduck (4,464 individuals wintering); Knot (<i>Calidris canutus</i>) (28,165 individuals wintering and 18,500 individuals on passage); Dunlin (<i>Calidris alpina</i>) (22,222 individuals wintering and 20,269 individuals on passage); Black tailed godwit (1,113 individuals wintering and 915 individuals on passage); and, Common redshank (4,632 individuals wintering and 7,462 individuals on passage).</p> <p>Qualifies under article 4.2 of the Directive (79/409/EEC) as it is used regularly by 1% or more of the biogeographical populations of the following regularly occurring migratory species (other than those listed in Annex I) in any season: Shelduck (4,464 individuals wintering); Knot (28,165 individual wintering and 18,500 individuals on passage); Dunlin (22,222 individual wintering and 20,269 individuals on passage); Black-tailed godwit (1,113 individuals wintering and 915 individuals on passage); and Common redshank (4,632 individuals wintering and 7,462 individuals on passage).</p> <p>Qualifies under article 4.2 of the Directive (79/409/EEC) as it is used regularly by over 20,000 waterbirds (waterbirds as defined by the Ramsar Convention) in any season:</p>

Site	Grid Reference	Proximity to DCO Site Boundary	Summary of Reasons for Designations
			<p>In the non-breeding season, the area regularly supports 153,934 individual waterbirds (five year peak mean 1996/97 – 2000/01), including dark-bellied brent goose (<i>Branta bernicla bernicla</i>), shelduck (<i>Tadorna tadorna</i>), wigeon (<i>Anas Penelope</i>), teal (<i>Anas crecca</i>), mallard (<i>Anas platyrhynchos</i>), pochard (<i>Aythya farina</i>), scaup (<i>Aythya marila</i>), goldeneye (<i>Bucephala clangula</i>), bittern (<i>Botaurus stellaris</i>), oystercatcher (<i>Haematopus ostralegus</i>), avocet (<i>Recurvirostra avosetta</i>), ringed plover (<i>Charadrius hiaticula</i>), golden plover, grey plover (<i>Pluvialis squatarola</i>), lapwing, knot (<i>Calidris canutus</i>), sanderling (<i>C. alba</i>), dunlin (<i>C. alpina</i>), ruff (<i>Philomachus pugnax</i>), black-tailed godwit (<i>Limosa limosa</i>), bar-tailed godwit (<i>L. lapponica</i>), whimbrel (<i>Numenius phaeopus</i>), curlew (<i>N. arquata</i>), redshank (<i>Tringa tetanus</i>), greenshank (<i>T. nebularia</i>) and turnstone (<i>Arenaria interpres</i>).</p>
<p>Greater Wash SPA with marine components</p>	<p>TF821744</p>	<p>Within Section 5 of the DCO Site Boundary</p>	<p>Qualifying features: red-throated diver (<i>Gavia stellata</i>) (in the non - breeding season); little gull (<i>Hydrocoloeus minutus</i>) (in the non - breeding season) sandwich tern (<i>Thalasseus sandvicensis</i>) (breeding season); common tern (<i>Sterna hirundo</i>) (breeding season); little tern (<i>Sternula albifrons</i>) (breeding season); and, common scoter (<i>Melanitta nigra</i>) (in the non - breeding season).</p>
<p>Saltfleetby - Theddlethorpe Dunes SSSI</p>	<p>TF481908</p>	<p>Within Section 5 of the DCO Site Boundary</p>	<p>Designated for the following features: >20,000 Non-breeding waterbirds Aggregations of breeding birds - Little Tern, (<i>Sterna albifrons</i>); Aggregations of non-breeding birds - Brent Goose (Dark-bellied), (<i>Branta bernicla bernicla</i>); Aggregations of non-breeding birds - Dunlin, (<i>Calidris alpina alpina</i>); Aggregations of non-breeding birds - Knot, (<i>Calidris canutus</i>); Aggregations of non-breeding birds - Redshank, (<i>Tringa totanus</i>); Aggregations of non-breeding birds - Sanderling, (<i>Calidris alba</i>); Aggregations of non-breeding birds - Wigeon, (<i>Anas penelope</i>); and, Assemblages of breeding birds – Scrub.</p>

Site	Grid Reference	Proximity to DCO Site Boundary	Summary of Reasons for Designations
Humber Estuary SSSI	TA232155	1.29 km north-east of Section 1 at the closest point	<p>Designated for the following features:</p> <p>Aggregations of breeding birds - Little tern, (<i>Sterna albifrons</i>);</p> <p>Aggregations of non-breeding birds - Avocet, (<i>Recurvirostra avosetta</i>);</p> <p>Aggregations of non-breeding birds - Bar-tailed godwit, (<i>Limosa lapponica</i>);</p> <p>Aggregations of non-breeding birds - Bittern, (<i>Botaurus stellaris</i>);</p> <p>Aggregations of non-breeding birds - Black-tailed godwit, (<i>Limosa islandica</i>);</p> <p>Aggregations of non-breeding birds - Brent goose (dark-bellied), (<i>Branta bernicla bernicla</i>);</p> <p>Aggregations of non-breeding birds - Curlew, (<i>Numenius arquata</i>);</p> <p>Aggregations of non-breeding birds - Dunlin, (<i>Calidris alpina alpina</i>);</p> <p>Aggregations of non-breeding birds - Golden plover, (<i>Pluvialis apricaria</i>);</p> <p>Aggregations of non-breeding birds - Goldeneye, (<i>Bucephala clangula</i>);</p> <p>Aggregations of non-breeding birds - Greenshank, (<i>Tringa nebularia</i>);</p> <p>Aggregations of non-breeding birds - Grey plover, (<i>Pluvialis squatarola</i>);</p> <p>Aggregations of non-breeding birds – Hen harrier, (<i>Circus cyaneus</i>);</p> <p>Aggregations of non-breeding birds - Knot, (<i>Calidris canutus</i>);</p> <p>Aggregations of non-breeding birds - Lapwing, (<i>Vanellus vanellus</i>);</p> <p>Aggregations of non-breeding birds - Oystercatcher, (<i>Haematopus ostralegus</i>);</p> <p>Aggregations of non-breeding birds - Pochard, (<i>Aythya farina</i>);</p> <p>Aggregations of non-breeding birds - Redshank, (<i>Tringa tetanus</i>);</p> <p>Aggregations of non-breeding birds - Ringed plover, (<i>Charadrius hiaticula</i>);</p> <p>Aggregations of non-breeding birds - Ruff, (<i>Philomachus pugnax</i>);</p> <p>Aggregations of non-breeding birds - Sanderling, (<i>Calidris alba</i>);</p> <p>Aggregations of non-breeding birds - Scaup, (<i>Aythya marila</i>);</p> <p>Aggregations of non-breeding birds - Shelduck, (<i>Tadorna tadorna</i>);</p> <p>Aggregations of non-breeding birds - Teal, (<i>Anas crecca</i>);</p> <p>Aggregations of non-breeding birds - Turnstone, (<i>Arenaria interpres</i>);</p> <p>Aggregations of non-breeding birds - Whimbrel, (<i>Numenius phaeopus</i>);</p> <p>Aggregations of non-breeding birds - Wigeon, (<i>Anas Penelope</i>) ; and,</p>

Site	Grid Reference	Proximity to DCO Site Boundary	Summary of Reasons for Designations
			Assemblages of breeding birds - Lowland open waters and their margins
North Killingholme Haven Pits SSSI	TA166197	2.35 km north of Section 1	Designated for the following features: Aggregations of breeding birds - Avocet, (<i>Recurvirostra avosetta</i>); Aggregations of breeding birds - Marsh harrier, (<i>Circus aeruginosus</i>); Aggregations of non-breeding birds - Black-tailed Godwit, (<i>Limosa islandica</i>); and, Waterbird assemblage.
Saltfleetby - Theddlethorpe Dunes NNR	TF481908	Within Section 5 of the DCO Site Boundary	Underpinned by the presence of SSSI and SPA bird species present in the Saltfleetby - Theddlethorpe Dunes SSSI site.
Bradley & Dixon Woods LNR	TA242059	2.27 km north-east of Section 3	Ancient woodland, meadow areas, ponds, and bird feeding area.
Cleethorpes Country Park LNR	TA306067	6.52 km north-east of Section 3	During the summer the site hosts wildflowers and skylark; during winter there is a presence of overwintering waders as the park is used as a roosting site at high tide.
Cleethorpes Sands LNR	TA331070	8.62 km north-east of Section 3	In the winter, wintering and migratory birds are present including dunlin, knot, oystercatcher, and curlew.
Donna Nook NNR	TF447961	6.69 km north of Section 5	The reserve consists of dunes, slacks and inter-tidal areas, the area attracts wintering fieldfare, redwing, and starling. Legally underpinned by the Humber Estuary SSSI and therefore supports the same qualifying features.

- 1.4.3 The Local Wildlife Site guidelines for Greater Lincolnshire (**Ref 17**) include a category Sup5 (previously Mos4) that is allocated to sites containing a self-sustaining population of a species (or suite of species) of high conservation value. This is the only criterion against which LWS's in Lincolnshire are designated specifically for bird populations and as such this has been used to filter the list of non-statutory sites for those relevant to birds summarised in **Table 6**. Other sites were included if their descriptions contain significant reference to birds or are linked to adjacent sites which support species or assemblages which are of high conservation value.
- 1.4.4 Four LWSs designated for birds were identified within the Study Area, as summarised in **Table 6**. The locations of these sites are shown on **Figure 8**.

Table 6: Non-statutory designated sites, designated for their importance to birds within 2 km of the DCO Site Boundary

Site	Grid Reference	Proximity to DCO Site Boundary	Summary Reasons for Designation
Rosper Road Pools LWS	TA175170	45 m east of Section 1	Supports many wintering, breeding, and migrant birds associated with wetland and scrub habitats.
Burkinshaw's Covert LWS	TA160183	881m north-west of Section 1	Supports (likely breeding) willow tit populations as the site is adjacent to a known breeding site.
Great Carlton Wetlands LWS	TF409863	1.30 km south-west of Section 5	Wetland habitats important for breeding birds of prey including peregrine, hobby, and marsh harrier. Also significant for shoveler, lapwing, little ringed plover, avocet, reed bunting, reed warbler, and sedge warbler. High numbers of grey herons and little egrets.
Manby Wetlands LWS	TF407863	1.54 km south-west of Section 5	Regular breeding site of lapwing, reed bunting, reed warbler, and sedge warbler. Supports high numbers of wigeon, teal, and shoveler. Important site for autumn passage birds including green sandpiper, ruff, snipe, and common sandpiper.

Species – GLNP

- 1.4.5 The desk study returned verified records for 39 Priority Species²⁰ within the last 10 years, which are summarised in **Table 7**. None of the records are from within the DCO Site Boundary. The majority (all but two) of the records are from Covenham Reservoir, which is 2.5km east of the DCO Site Boundary.

²⁰ Notable bird species is a term that is interchangeable with "Priority Species" and is defined as those species listed: on Annex I of the EC Birds Directive (2009/147/EC); on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended); 1981; Species of Principal Importance (SPI) for the Conservation of Biodiversity in England listed on Section 41 of the Natural Environment and Rural Communities Act 2006; Red or Amber in the Birds of Conservation Concern (BoCC) 5 (Ref 5); as priority Species on the Lincolnshire Biodiversity Action Plan (Ref 4).

Table 7: Desk study records of priority bird species within 5 km of the DCO Site Boundary

Common name	Taxonomic name	Conservation Status ²¹	Number of records within DCO Site Boundary	Number of records within 5km of the DCO Site Boundary	Most recent year recorded
Avocet	<i>Recurvirostra avosetta</i>	Amber List; WCA Schedule 1; Annex 1	0	1	2014
Black Stork*	<i>Ciconia nigra</i>	Not assessed; Annex 1	0	1	2015
Black Tern	<i>Chlidonias niger</i>	WCA Schedule 1; Annex 1	0	1	2014
Black Necked Grebe	<i>Podiceps nigricollis</i>	Amber List; WCA Schedule 1	0	9	2014
Cattle Egret	<i>Bubulcus ibis</i>	Amber List	0	1	2013
Common Scoter	<i>Melanitta nigra</i>	Red List; NERC Section 41; WCA Schedule 1	0	2	2014
Cuckoo	<i>Cuculus canorus</i>	Red List; NERC Section 41	0	2	2014
Curlew	<i>Numenius arquata</i>	Red List; NERC Section 41	0	2	2014
Fieldfare	<i>Turdus pilaris</i>	Red List; WCA Schedule 1	0	1	2014
Gadwall	<i>Mareca strepera</i>	Amber List	0	11	2014
Garganey	<i>Spatula querquedula</i>	Amber List; WCA Schedule 1	0	2	2014
Goldeneye	<i>Bucephala clangula</i>	Red List	0	13	2014
Green Sandpiper	<i>Tringa ochropus</i>	Amber List; WCA Schedule 1	0	2	2014
Greenshank	<i>Tringa nebularia</i>	Amber List; WCA Schedule 1	0	12	2014
Greylag Goose	<i>Anser anser</i>	Amber List	0	2	2014
Hawfinch	<i>Coccothraustes</i>	Red List; NERC Section 41	0	9	2017
Hobby	<i>Falco subbuteo</i>	WCA Schedule 1	0	2	2014
Hoopoe	<i>Upupa epops</i>	Not assessed; WCA Schedule 1	0	1	2016
Little Gull	<i>Hydrocoloeus minutus</i>	WCA Schedule 1; Annex 1	0	1	2014
Little Tern	<i>Sternula albifrons</i>	Amber List; WCA Schedule 1; Annex 1	0	1	2014
Long-tailed Duck	<i>Clangula hyemalis</i>	Red List; WCA Schedule 1	0	35	2014

²¹ Amber List = BoCC 5 Amber List; Red List = BoCC 5 Red list; Not assessed = not assessed by BoCC as they are not regularly occurring species (all other species Green Listed by BoCC); WCA Schedule 1 = Wildlife and Countryside Act Schedule 1; NERC Section 41 = NERC Act Section 41; Annex 1 = Annex 1 of the European Wild Birds Directive.

Common name	Taxonomic name	Conservation Status ²¹	Number of records within DCO Site Boundary	Number of records within 5km of the DCO Site Boundary	Most recent year recorded
Mediterranean Gull	<i>Ichthyaetus melanocephalus</i>	Amber List; WCA Schedule 1; Annex 1	0	1	2014
Peregrine	<i>Falco peregrinus</i>	WCA Schedule 1; Annex 1	0	2	2014
Pintail	<i>Anas acuta</i>	Amber List	0	9	2014
Pink-footed Goose	<i>Anser brachyrhynchus</i>	Amber List	0	1	2014
Red Kite	<i>Milvus</i>	WCA Schedule 1; Annex 1	0	2	2015
Redshank	<i>Tringa totanus</i>	Amber List	0	12	2014
Redwing	<i>Turdus iliacus</i>	Amber; WCA Schedule 1	0	2	2014
Rose-colored Starling	<i>Pastor roseus</i>	Not assessed	0	1	2015
Ruff	<i>Philomachus pugnax</i>	Red List; WCA Schedule 1; Annex 1	0	16	2014
Scaup	<i>Aythya marila</i>	Red List; WCA Schedule 1; NERC Section 41	0	6	2014
Slavonian Grebe	<i>Podiceps auritus</i>	Red List; WCA Schedule 1; Annex 1	0	8	2014
Snow Bunting	<i>Plectrophenax nivalis</i>	Amber List; WCA Schedule 1	0	1	2014
Spoonbill	<i>Plaralea leucorodia</i>	Amber List; WCA Schedule 1; Annex 1	0	1	2014
Swift	<i>Apus</i>	Red List	0	3	2014
Whooper Swan	<i>Cygnus</i>	Amber List; WCA Schedule 1; Annex 1	0	2	2014
Wigeon	<i>Anas penelope</i>	Amber List	0	6	2014
Yellow Wagtail	<i>Motacilla flava</i>	Red List; NERC Section 41	0	15	2014

1.4.6 The Lincolnshire Bird Atlas (**Ref 11**) provides little detail on the distribution of individual species throughout the county. Within 5 km of the DCO Site Boundary twelve locations or broad areas are identified as key locations in terms of the number of ornithology records available for them, although none of them are within the DCO Site Boundary. However no consolidated lists of species are provided for these locations, therefore further narrative on them cannot be provided.

Species – Humber Zero (Phillips 66)

1.4.7 A series of ornithological surveys for wetland birds was undertaken by Environmental Services Limited (ESL) on behalf on AECOM for the Humber Zero project during the October

2021-March 2022 winter period within land that overlaps the potential Zol of the Viking CCS Pipeline project near Immingham (covering Rosper Road Pools and the fields to the north referred to as North Killingholme Marshes). The area surveyed was divided into numbered fields for the purposes of recording birds. These are shown in Image 1 below, reproduced directly from ESL's baseline report (Ref 21). Fields 2-17 directly overlap AECOM's FLL survey area fields 4, 6 - 8 and 10 (**Figure 3**).

- 1.4.8 Breeding bird surveys were carried out within the brownfield land overlapping the footprint of the proposed Viking CCS Immingham Facility and wider DCO Site Boundary within Phillips 66 land (ESL Field 1) immediately west of Rosper Road between April and June (inclusive) 2022. This maps exactly to Field 9 within AECOM's survey area. The baseline presented herein for this field is reliant entirely on ESL's data since AECOM surveyors were unable to gain access to this land.

Image 1: Area surveyed by ESL in 2022 (reproduced from Figure 13.5 of the Humber Zero Phase 1 Ecology and Nature Conservation Baseline Description, ESL, 2023, Ref 21)



1.4.9 A summary of the ESL wintering bird survey results is presented in **Table 8**.

Table 8: ESL Wintering Bird Survey Results (frequency of occurrence in parentheses; number of surveys = 12)

Survey Type	Peak Count														Humber Estuary 5-year Peak mean Population at SPA Designation ²²	Humber Estuary 5-year Peak mean population 2017/18 – 2021/22 ²³	Humber Estuary 1% Threshold
	Field 1	Area 2 (Rosper Road)	Field 3	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10	Field 13	Field 14	Field 15	Field 16	Field 17			
ESL Oct 2021- March 2022 Survey Areas	Field 1	Area 2 (Rosper Road)	Field 3	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10	Field 13	Field 14	Field 15	Field 16	Field 17			
Relevant Overlapping AECOM Functionally Linked Land Bird Survey Areas	Field 9	Field 10	Field 8	Field 8	Field 8	Field 8	Field 6	Field 6	Field 7	Field 7	Field 4	Field 4	Field 4	Field 4			
Bar-tailed godwit		6 (2)													2752	1,876	28
Black-tailed godwit		480 (10)						2 (1)	8 (1)						1113	5,646	11
Curlew			1 (1)	9 (2)	50 (3)	24 (3)		35 (3)	74 (3)	15 (1)	38 (2)	35 (3)	3 (1)	2 (1)	Assemblage	2,544	25
Lapwing	4 (3)	66 (6)						2 (1)				1 (1)			Assemblage	15,247	152
Pink-footed goose							1 (1)								N/A	25,332	253
Redshank		8 (5)													2881	2,659	29
Shelduck		12 (5)													4464	6,486	45

²² As stated on SPA data sheet based on 5-year peak of means for 1996/97 – 200/01 period, as shown in Table 8.

²³ Based on 5-year mean of peaks in Austin *et al.* (2023; Ref 18), obtained from [REDACTED] (accessed July and August 2023)

Survey Type	Peak Count												Humber Estuary 5-year Peak mean Population at SPA Designation ²²	Humber Estuary 5-year Peak mean population 2017/18 – 2021/22 ²³	Humber Estuary 1% Threshold
Wigeon	126 (7)				4 (1)								Assemblage	3,669	37

- 1.4.10 Curlew was recorded in the terrestrial fields surveyed in numbers regularly exceeding 1% of the Humber Estuary threshold. In all cases, use of the fields by curlew was sporadic, although the surveys are only a snapshot of the usage across the high tide period and there are likely to be many factors influencing the use of the fields by this species across the passage and wintering period (e.g., localised disturbance, sward height etc.). Curlew were recorded in most of the fields surveyed on the east side of Rosper Road by ESL, although the smaller fields (3, 4, 11 and 12) were either used by only small numbers or avoided altogether by curlew.
- 1.4.11 Very small numbers of other SPA/ Ramsar species were recorded in the fields across the survey period; there were occasional records of single figure numbers of redshank, black-tailed godwit and wigeon. The fields are therefore providing a supporting habitat to the estuary for these species, but in numbers that are well below the 1% thresholds for each species. It is therefore concluded that the fields are not providing FLL for these species.
- 1.4.12 Rosper Road Pools (Area 2) was recorded to support good numbers of black-tailed godwit with several of the monthly counts recording numbers >1% Humber Estuary threshold. Rosper Road Pools also supported good numbers of lapwing, redshank and shelduck (although all counts were <1% Humber Estuary thresholds for these species), as well as wigeon (regular counts >1% Humber Estuary threshold).
- 1.4.13 The breeding bird assemblage recorded within the land overlapping the Immingham Facility and DCO Site Boundary at the northern extent of the Proposed Development included 36 species, the breeding numbers for which are summarised in **Table 9**. The following narrative is reproduced from ESL (**Ref 21**) as it is directly relevant to the Proposed Development.
- 1.4.14 Seven NERC Section 41 species were recorded, namely lapwing, skylark, song thrush, dunnoek, bullfinch, linnet and reed bunting. There is suitable breeding habitat within the Site for all seven species.
- 1.4.15 Six Red List species were recorded during the surveys, namely lapwing, skylark, fieldfare, song thrush, bullfinch and linnet. Fourteen Amber List species were recorded, namely mallard, stock dove, wood pigeon, snipe, sparrowhawk, kestrel, sedge warbler, whitethroat, wren, wheatear, dunnoek, grey wagtail, meadow pipit and reed bunting. There is suitable nesting habitat within the site for some/most of these Red and Amber listed.
- 1.4.16 The numbers of each species considered as confirmed, probable or possible breeders recorded on each visit are given in **Table 9**.

Table 9: Breeding Birds Recorded at the Proposed Immingham Facility Site (Source: ESL, 2023; Ref 21)

Species	Conservation Status ²⁴	Likely Number of Pairs ²⁵
Blackbird	Green List	1-2
Blackcap	Green List	1
Blue tit	Green List	0
Bullfinch	Red List; NERC Section 41	0
Carrion crow	Green List	1
Chaffinch	Green List	0
Chiffchaff	Green List	1
Dunnock	Red List; NERC Section 41	1-2
Goldfinch	Green List	1
Great tit	Green List	0
Grey wagtail	Amber List	0
Kestrel	Amber List	0
Lapwing	Red List; NERC Section 41	2
Lesser whitethroat	Green List	1
Linnet	Red List; NERC Section 41	2-3
Little egret	Green List; Annex 1	0
Long-tailed tit	Green List	1
Magpie	Green List	1
Mallard	Amber List	1
Meadow pipit	Amber List	1
Pheasant	Not assessed	1
Pied wagtail	Green List	1
Reed bunting	Amber; NERC Section 41	2
Reed warbler	Green List	1
Robin	Green List	1
Sedge warbler	Amber List	2-3
Skylark	Red List; NERC Section 41	1-2
Snipe	Amber List	0
Song thrush	Amber List; NERC Section 41	1

²⁴ Amber List= BoCC 5 Amber List; Red List = BoCC 5 Red list; Not assessed = not assessed by BoCC as they are not regularly occurring species (all other species Green Listed by BoCC); NERC Section 41 = NERC Act Section 41; Annex 1 = Annex 1 of the European Wild Birds Directive.

²⁵ Zero counts indicate presence as a non-breeding species (i.e., foraging, flying over or engaging in some other non-breeding behaviour)

Species	Conservation Status ²⁴	Likely Number of Pairs ²⁵
Sparrow hawk	Amber List	0
Stock dove	Amber List	0
Wheatear	Amber List	0
Whitethroat	Amber List	2
Wood pigeon	Amber List	2-3
Wren	Amber List	6-8

Species – BTO Data Report and regional avifauna

- 1.4.17 The BTO Data Report was compiled in January 2023 and is referred to herein as BTO, 2023. It provides details of the ornithological importance of the Desk Study Area for species of conservation and legislative concern and identifies ‘notable species’ within the Study Area (this term is interchangeable with the term “Priority Species”).
- 1.4.18 The BTO data report considers the 269 species that regularly occur in Britain and Ireland; these include 221 breeding species and 226 wintering species. The report is included in full in Annex D.
- 1.4.19 For each species BTO express its range and population size in the vicinity of the site (the Desk Study Area) relative to the total range size and population size in different geographic contexts, ranging from vice-counties and counties, through regions, to countries.
- 1.4.20 In terms of site importance, BTO calculate the percentage of the local, regional or national range size and population size for a given species found in the vicinity of the site. BTO (2023) defines ‘notable species’ as those for which percentage range is at least twice the site’s percentage size. To supplement these results BTO undertake a similar exercise using relative abundance data which can help to highlight species for which the site and its vicinity is a particular hotspot of locally, regionally or nationally high density. The relevant notable species identified in BTO (2023), in terms of national (Great Britain) and regional (East Riding of Yorkshire & North Yorkshire) importance for Annex 1, Schedule 1, BoCC Red and NERC S41 species, are detailed below.

Nationally Notable Species

- 1.4.21 Nationally notable species in terms of range for the United Kingdom, which are relevant to the ornithological assessment, are as follows: avocet (wintering).
- 1.4.22 Nationally notable species in terms of abundance for the United Kingdom, which are relevant to the ornithological assessment, are as follows: shelduck (wintering), lapwing (wintering), golden plover (wintering), ringed plover (breeding), black-tailed godwit (wintering), little egret (wintering), barn owl (breeding), short-eared owl (wintering), stock dove (wintering), reed warbler (breeding), lesser whitethroat (breeding), tree sparrow (breeding and wintering) and yellow wagtail (breeding).

Regionally Notable Species

- 1.4.23 Regionally notable species in terms of range (Yorkshire and Humber), which are considered relevant to this assessment, are as follows: gadwall (breeding), pochard (breeding), hobby (breeding), Cetti’s warbler (breeding), black redstart (breeding), Bewick’s swan (wintering), avocet (wintering), black-tailed godwit (wintering), ruff (wintering), dunlin (wintering), green sandpiper (wintering), spotted redshank (wintering), greenshank (wintering), Mediterranean gull (wintering), Caspian gull (wintering), yellow-legged gull (wintering), little egret (wintering) and marsh harrier (wintering).

- 1.4.24 Regionally notable species in terms of abundance (Yorkshire and Humber), which are considered relevant to this assessment, are as follows: little grebe (wintering), shelduck (breeding and wintering), merlin (wintering), peregrine (wintering), stock dove (breeding), woodpigeon (breeding), red-legged partridge (wintering), black-headed gull (wintering), common gull (wintering), great black-backed gull (wintering), little egret (wintering), oystercatcher (breeding and wintering), curlew (wintering), black-tailed godwit (wintering), ringed plover (breeding), lapwing (wintering), golden plover (wintering), dunlin (wintering), redshank (breeding and wintering), greenshank (wintering), green sandpiper (wintering), snipe (wintering), swallow (breeding), lesser whitethroat (breeding), yellow wagtail (breeding), pied wagtail (wintering), yellowhammer (wintering) and corn bunting (breeding and wintering).
- 1.4.25 Regionally notable species in terms of range (East Midlands), which are considered relevant to this assessment, are as follows: avocet (wintering), whimbrel (wintering), black-tailed godwit (wintering), ruff (wintering), dunlin (wintering), little stint (wintering), spotted redshank (wintering), greenshank (wintering) and spoonbill (wintering).
- 1.4.26 Regionally notable species in terms of abundance (East Midlands), which are considered relevant to this assessment, are as follows: little grebe (wintering), great crested grebe (wintering), shelduck (breeding and wintering), shoveler (breeding), teal (breeding and wintering), tufted duck (breeding), moorhen (breeding), merlin (wintering), peregrine (wintering), little egret (wintering), avocet (wintering), curlew (wintering), black-tailed godwit (wintering), oystercatcher (breeding and wintering), lapwing (wintering), golden plover (wintering), ringed plover (breeding), ruff (wintering), redshank (breeding), common gull (wintering), great black-backed gull (wintering), herring gull (wintering), barn owl (breeding), short-eared owl (wintering), stock dove (wintering), swallow (breeding), sedge warbler (breeding), reed warbler (breeding), lesser whitethroat (breeding), tree sparrow (breeding), skylark (wintering), yellow wagtail (breeding), meadow pipit (breeding), linnets (breeding), tree sparrow (wintering), corn bunting (breeding).

Species – Lincolnshire Coastal Grazing Marshes Project (LCGMP)

- 1.4.27 Lincolnshire's Coastal Grazing Marshes (LCGM) cover 900 km² east of the Lincolnshire Wolds from Grimsby southwards to Skegness. The LCGM Project (LCGMP) area focuses on broad target areas identified for habitat restoration, improvement and management of habitats for, among other things, wildlife at Saltfleetby, Anderby / Huttoft and Burgh-le-Marsh (to which an additional area referred to as Croft Marsh was added for the purposes of bird surveys). The Proposed Development passes through the southern and western extents of the Saltfleetby area but is around 8.5 km north of the Anderby / Huttoft area and around 20 km north of the Burgh-le-Marsh area (**Figure 10**).
- 1.4.28 Baseline bird surveys were carried out between 2008 and 2013 (inclusive) of the LCGMP area to support audit and evaluation of landscape works on the grazing marshes as part of the Proposed Development. The summary report of the baseline surveys (**Ref 20**) has been reviewed and the key observations relevant to the Proposed Development are summarised in paragraphs 6.4.30 – 6.4.48.
- 1.4.29 The surveys involved breeding bird surveys at 12no. 1km square plots, of which 4 were in the Saltfleetby area. Monthly winter bird counts were completed across all areas between October and March each year within four areas, which were further subdivided into zones (the Saltfleetby area being divided into four zones). In the period 2008-11, a 50 km driven transect was undertaken, north to south from Tetney Lock to Sutton on Sea, through the Grazing marshes project area with fixed 15 – minute point counts undertaken at several locations. The transect crossed the proposed Development between North and South Cockerington and intersected AECOM's survey areas between Yarburgh and Grimoldby (**Figure 10**). The timed counts at Manby Washlands in particular have provided location-

specific information of direct relevance to the assessment of the Proposed Development, while the Saltfleetby survey area provides the most relevant ornithological context to the Proposed Development, with Zone 1 being closest at just over 400m north.

- 1.4.30 During the 5-year survey period across all of the areas surveyed, nationally and internationally important numbers of Golden Plover (11,260 - 2008/09, 18,200 - 2009/10); Lapwing (12,070 - 2008/09, 8,394 – 2011); Pink-footed Geese (3,230 – 2010); Brent Geese (1,846 – 2010); White-fronted Geese (84 – 2011) and Bean Geese (40 – 2011) were recorded on the coastal grazing marshes on a number of occasions. Notably high local numbers of wetland birds such as wigeon, teal and curlew were also recorded. Over the winter of 2009/10, 46,800 wetland birds were recorded over the six-month season, averaging 7,810 wetland birds per count/month. During the same winter, 29,356 farmland birds were also recorded, averaging 4,892 per count / month.
- 1.4.31 The Saltfleetby area returned the lowest numbers of wetland birds compared to the other areas surveyed (except for Anderby) but was relatively important for curlew, redshank, wigeon, teal, mallard and pink-footed goose. Saltfleetby Zones 1 and 4 (closest to the coast) contributed most records of waders, wildfowl and wetland birds, while zones 1 and 2 contributed most records of farmland (non-wetland) birds for this area.
- 1.4.32 Manby Washlands contributed relatively high totals for teal, wigeon, mallard and shoveler but very few records of waders. This area was identified by Tartellin (**Ref 20**) as being important also for pink-footed goose.
- 1.4.33 Brent geese were mostly within the Burgh le Marsh area, Tetney Lock (8.5 km east of the Proposed Development) and Croft Marsh at internationally important numbers. This species was largely absent from the Saltfleetby and Manby areas.
- 1.4.34 Wintering golden plover were present in low numbers in the Saltfleetby area, with by far the highest counts on Croft Marsh within the Burgh-le-Marsh target area. Covenham Reservoir and the surrounding fields were identified as being particularly important for wintering golden plover, lapwing and ducks. Other species (ruff, black-tailed godwit and most of the wildfowl recorded) occurred in greatest numbers in the Burgh-le Marsh and Croft Marsh areas.
- 1.4.35 The wintering surveys returned the following numbers for SPA species in the Saltfleetby area across all survey years²⁶, all of which exceed 1% of the qualifying population of the Humber Estuary SPA:
- Golden plover (peak 737, mean 550.3);
 - Lapwing (peak 4,342, mean 2,003);
- 1.4.36 The following counts relevant to the Proposed Development were gathered for some SPA qualifying species for the winter of 2010-11 (counts in bold font indicate those that exceed the 1% SPA population threshold²⁷):
- Avocet (2 at Saltfleetby);
 - Curlew (618 at Saltfleetby);
 - Redshank (11 at Manby Washlands, 122 at Saltfleetby);
 - Wigeon (111 at Manby Washlands, 757 at Saltfleetby);
 - Teal (169 at Manby Washlands, 237 at Saltfleetby);
 - Mallard (324 at Manby Washlands, 143 at Saltfleetby);

²⁶ Peaks and means are calculated from the totals for each survey year (rather than being calculated from monthly counts). Qualifying species not listed did not occur in the Saltfleetby area.

²⁷ As stated for individual qualifying species on SPA data sheet for 1996/97 – 200/01 period and reproduced in Table 5. For qualifying assemblage species, the mean of peaks for the last 5 years in Austin *et al.* (2023; **Ref 18**) is used to derive 1% of the SPA population.

- Pochard (8 at Manby Washlands); and
- Pink-footed goose (1,682 at Saltfleetby).

1.4.37 Breeding season surveys supported the following observations:

- Breeding wetland birds (of any species) occurred primarily within the Burgh le Marsh and Croft Marsh areas, with low numbers across all other areas;
- Modest numbers of curlew bred in Saltfleetby zones 1 and 2;
- Redshank and avocet were absent from all areas except for Burgh-le Marsh;
- Pipits, larks, wagtails, most thrushes, finches, warblers and buntings were widespread in varying densities across most of the LCGMP survey areas;
- House sparrow were very restricted and not commonly recorded across all survey areas; and,
- Barn owl were widespread and occurred at densities of 1.47 birds/km², but were most abundant in the Saltfleetby, Anderby and Crofts Marsh areas.

1.4.38 The following locations that fall within the AECOM Study Area were identified within the bird report as being “Key Bird Areas”:

- Covenham Reservoir – for wildfowl including mallard, plus golden plover and lapwing in the surrounding fields;
- Saltfleet – for pink-footed goose, wigeon, teal, lapwing, curlew, golden plover and thrushes (especially fieldfare); and,
- Manby Washlands – for teal, pink-footed goose, wigeon, shoveler and mallard.

Species – Wetland Birds

1.4.39 Almost all of the intertidal habitats and their adjacent coastal hinterland along the Lincolnshire Coast from the Humber Estuary southwards as far as Theddlethorpe support roosting and feeding wetland birds, and these are reported in Cutts *et al.* (2016) (Ref 6) at a level of detail that cannot be replicated in this report. Further information on aggregations of birds in winter along the Lincolnshire Coast is available from the BTO WeBS Report Online (Ref 18) and, specifically for pink-footed goose, Brides *et al.* (2013) (**Ref 8**) set out key roosts and feeding occurrences inland across Humberside and Lincolnshire.

1.4.40 Key sites for pink-footed goose are distant from the DCO Site Boundary and include:

- Reads Island, Whitton Sands, Barton on Humber and a wide area of farmland up to approximately 6 km south of the Humber and approximately 10km west of Reads Island. Collectively these areas lie between approximately 18 km and 28 km northwest of the DCO Site Boundary and more than 20 km from the southerly limit of the functionally linked land area identified around it; and
- The Wash, approximately 30 km South of the DCO Site Boundary and approximately 22 km from the southerly limit of the functionally linked land area identified around it.

1.4.41 Pink footed geese associated with the Humber Estuary occur in smaller numbers at several locations including:

- East Halton Skitter, 9 km north of the northernmost extent of the DCO Site Boundary;
- Close to Donna Nook, approximately 11 km east of the DCO Site Boundary;
- The fields adjacent to Saltfleet Haven approximately 6.5 km northeast of the DCO Site Boundary; and,
- Irregularly and in small numbers at Caistor (approximately 8 km southwest of the DCO Site Boundary) and Immingham (approximately 2 km east of the DCO Site Boundary).

- 1.4.42 Key sites or broad areas for Golden Plover and other waders that might occur as feeding flocks inland (principally curlew and lapwing) include:
- North Killingholme Haven Pits southwards to Immingham Dock, which is between 2 km and 3 km from the DCO Site Boundary;
 - Pyewipe, Grimsby, approximately 7 km East of the DCO Site Boundary;
 - Humberston to Tetney, approximately 9 km east of the DCO Site Boundary;
 - Tetney Haven to Donna Nook, approximately 9-11 km east of the DCO Site Boundary; and,
 - The coastal sands and marshes at Saltfleet – Theddlethorpe, between 2 km and 6 km from the southern end of the DCO Site Boundary, and approximately 6 km east of the DCO Site Boundary.
- 1.4.43 **Table 10 – Table 12** summarise the 5-year peak counts for the three BTO WeBS core count sectors closest to the northern end of the Proposed Development. These cover the intertidal habitats east of Immingham (Sector K – Immingham Docks), the intertidal and terrestrial grasslands (and Rosper Road Pools) east of Rosper Road and the proposed Immingham Facility (Sector J – Killingholme Marshes), and the pools of North Killingholme Haven Pits (Sector JJ) 2.16km north of the Proposed Development (**Figure 11**). Sectors J and JJ collectively cover around 483 hectares of terrestrial and non-intertidal grassland and wetland habitat commonly referred to as North Killingholme Grazing Marshes, inclusive of the pools at Rosper Road Pools and North Killingholme Haven Pits. There were no contemporary low tide WeBS data available for the same area. BTO WeBS data obtained are included in full in Annex E.
- 1.4.44 The data include a wide range of wetland bird species recorded within each sector; however, the following paragraphs focus on the numbers of SPA qualifying species that were recorded in significant numbers.
- 1.4.45 Sector K Immingham Docks supported several SPA species in numbers exceeding the 1% SPA threshold, including:
- Black-tailed godwit;
 - Redshank; and
 - Turnstone.
- 1.4.46 Similarly, Sector JJ North Killingholme Haven Pits, which is designated as a SSSI in its own right, supported a number of species in numbers exceeding the SPA threshold (consistent with its reasons for designation), including:
- Avocet;
 - Black-tailed godwit;
 - Dunlin;
 - Knot;
 - Lapwing;
 - Mallard;
 - Redshank;
 - Ruff; and,
 - Teal.

- 1.4.47 The counts are consistent with the designation of North Killingholme Haven Pits as a SSSI with qualifying features including breeding avocet and non-breeding black-tailed godwit, plus a waterbird assemblage (See **Table 10**).
- 1.4.48 The spatial scope of Sector J precludes any separation of birds counted within the intertidal habitats from those present during counts on the non-tidal habitats (i.e., Rosper Road Pools and the Grazing marshes) and therefore the relative contribution of the North Killingholme Grazing Marshes and Rosper Road Pools to the count totals for this sector cannot be established. However, that data demonstrate this sector supports, in numbers exceeding the 1% SPA threshold, the following species;
- Avocet;
 - Black-tailed godwit;
 - Curlew;
 - Dunlin;
 - Lapwing;
 - Mallard;
 - Redshank;
 - Ringed plover;
 - Shelduck;
 - Teal; and,
 - Turnstone.
- 1.4.49 Taken as a whole, the WeBS core count data clearly demonstrate the relative importance of these sectors, especially north Killingholme Marshes, in terms of their collective contribution to the populations of qualifying species of the Humber Estuary SPA and, based on the wider third party data set summarised above, it is reasonable to assume that Rosper Road Pools and some of the fields east of Rosper Road provide habitats outside of the intertidal estuarine environment that are regularly used by qualifying features of the Humber Estuary SPA, Ramsar and SSSI. Rosper Road Pools support a similar suite of species, in particular avocet and black-tailed godwit to that found at North Killingholme Haven Pits and it is therefore likely that movement of birds between these two wetland habitats at the northern and southern ends of North Killingholme Grazing Marshes occurs on a regular basis.

Table 10: Summary WeBS Core Count Data for Humber Estuary Sector K Immingham Docks 2016/17 – 20/21

SPECIES²⁸	Autumn peak cf National	Winter peak cf National	Spring peak cf National	Annual peak cf National	Autumn peak cf International	Winter peak cf International	Spring peak cf International	Annual peak cf International	Autumn 5yr mean of peaks	Winter 5yr mean of peaks	Spring 5yr mean of peaks	Annual 5yr mean of peaks	Humber Estuary 5-year Peak	Humber Estuary 5-year Peak	Humber Estuary 1% Threshold
Bar-tailed Godwit	0%	0%	N/A	0%	0%	0%	N/A	0%	1	1		2	2,752 (w)	1,876	28 (w)
Black-tailed Godwit	0%	12%	N/A	12%	0%	4%	N/A	4%	1	47		47	1,113 (w) 915 (p)	5,646	11 (w) 9 (p)
Common Sandpiper	*0%	N/A	*2%	*2%	0%	N/A	0%	0%	0		1	1	N/A	N/A	N/A
Cormorant	1%	1%	0%	1%	0%	0%	0%	1%	4	5	2	6	N/A	N/A	N/A
Curlew	0%	1%	0%	1%	0%	0%	0%	0%	4	10	2	11	Ass emb lage	2,544	25
Dunlin	2%	5%	0%	5%	0%	1%	0%	1%	60	163	2	165	22,222 (w) 20,269 (p)	17,634	222 (w) 203 (p)
Gadwall	N/A	0%	N/A	0%	N/A	0%	N/A	0%		1		1	N/A	248	N/A

²⁸ Species in **bold** font are qualifying features of the Humber Estuary SPA either individually or as assemblage species.

²⁹ As stated on SPA data sheet for 1996/97 – 200/01 period and reproduced in Table 14. b = breeding; w = wintering; p = passage.

³⁰ As per Austin *et al.* (2023) (Ref 18), N/A = Not Applicable.

SPECIES²⁸	Autumn peak cf National	Winter peak cf National	Spring peak cf National	Annual peak cf National	Autumn peak cf International	Winter peak cf International	Spring peak cf International	Annual peak cf International	Autumn 5yr mean of peaks	Winter 5yr mean of peaks	Spring 5yr mean of peaks	Annual 5yr mean of peaks	Humber Estuary 5-year Peak	Humber Estuary 5-year Peak	Humber Estuary 1% Threshold
Knot	0%	N/A	N/A	0%	0%	N/A	N/A	0%	2			2	28,165 (w) 18,500 (p)	26,428	282 (w) 185 (p)
Little Ringed Plover	*2%	N/A	*2%	*2%	0%	N/A	0%	0%	1		1	1	N/A	N/A	N/A
Mallard	0%	0%	0%	0%	0%	0%	0%	0%	0	1	1	2	Ass emb lage	1,109	11
Oystercatcher	0%	0%	0%	0%	0%	0%	0%	0%	3	1	3	4	Ass emb lage	5,806	58
Redshank	6%	8%	2%	9%	3%	3%	1%	3%	61	79	20	83	4,632 (w) 7,642 (p)	2,659	46 (w) 76 (p)
Shelduck	1%	7%	1%	7%	0%	1%	0%	1%	7	35	5	35	4,464 (w)	6,486	45 (w)
Teal	N/A	0%	0%	0%	N/A	0%	0%	0%		2	1	2	Ass emb lage	5,286	53
Turnstone	10%	2%	1%	11%	3%	1%	0%	3%	40	8	2	44	Ass emb lage	287	3

Table 11: Summary WeBS Core Count Data for Humber Estuary Sector J Killingholme Marshes 2016/17 – 20/21

SPECIES ³¹	Autumn peak cf National Threshold	Winter peak cf National Threshold	Spring peak cf National Threshold	Annual peak cf National Threshold	Autumn peak cf International Threshold	Winter peak cf International Threshold	Spring peak cf International Threshold	Annual peak cf International Threshold	Autumn 5yr mean of peaks	Winter 5yr mean of peaks	Spring 5yr mean of peaks	Annual 5yr mean of peaks	Humber Estuary 5-year Peak mean Population at SPA Designation ³²	Humber Estuary 5-year Peak mean population	Humber Estuary 1% Threshold
Avocet	15%	61%	28%	72%	1%	6%	3%	7%	13	53	24	63	64 (b) 59 (w)	2,576	<1 (b) <1 (w)
Bar-tailed Godwit	N/A	0%	N/A	0%	N/A	0%	N/A	0%		2		2	2,752 (w)	1,876	28
Black-tailed Godwit	321%	195%	83%	475%	114%	69%	29%	168%	1253	759	324	1853	1,113 (w) 915 (p)	5,646	11 (w) 9 (p)
Common Sandpiper	*2%	N/A	N/A	*2%	0%	N/A	N/A	0%	1			1	N/A	N/A	N/A
Coot	1%	1%	1%	1%	0%	0%	0%	0%	19	14	15	25	N/A	N/A	N/A
Cormorant	0%	0%	0%	0%	0%	0%	0%	0%	1	0	1	1	N/A	N/A	N/A
Curlew	3%	5%	2%	7%	0%	1%	0%	1%	36	62	24	84	Assemblage	2,544	25
Dunlin	9%	14%	1%	15%	2%	4%	0%	4%	299	491	23	494	22,222 (w) 20,269 (p)	17,634	222 (w) 203 (p)
Gadwall	5%	12%	2%	13%	1%	3%	1%	3%	16	36	7	40	N/A	N/A	N/A
Grey Heron	N/A	0%	0%	0%	N/A	0%	0%	0%		1	0	2	N/A	N/A	N/A
Greylag Goose (British/Irish)	3%	2%	2%	5%	N/A	N/A	N/A	N/A	45	31	24	70	N/A	N/A	N/A

³¹ Species in **bold** font are qualifying features of the Humber Estuary SPA either individually or as assemblage species.

³² As stated on SPA data sheet for 1996/97 – 200/01 period and reproduced in Table 5. b = breeding; w = wintering; p = passage.

³³ As stated in Austin *et al.* (2023; **Ref 18**), N/A = Not Applicable.

SPECIES³¹	Autumn peak cf National Threshold	Winter peak cf National Threshold	Spring peak cf National Threshold	Annual peak cf National Threshold	Autumn peak cf International Threshold	Winter peak cf International Threshold	Spring peak cf International Threshold	Annual peak cf International Threshold	Autumn 5yr mean of peaks	Winter 5yr mean of peaks	Spring 5yr mean of peaks	Annual 5yr mean of peaks	Humber Estuary 5-year Peak mean Population at SPA Designation³²	Humber Estuary 5-year Peak mean population	Humber Estuary 1% Threshold
Kingfisher	*2%	N/A	N/A	*2%	0%	N/A	N/A	0%	1			1	N/A	N/A	N/A
Knot	0%	N/A	N/A	0%	0%	N/A	N/A	0%	3			3	28,165 (w) 18,500 (p)	26,428	282 185
Lapwing	0%	20%	0%	20%	0%	6%	0%	6%	19	1248	6	1248	Assemblage	15,247	152
Little Egret	1%	0%	N/A	1%	0%	0%	N/A	0%	1	0		1	N/A	N/A	N/A
Little Grebe	1%	N/A	1%	1%	0%	N/A	0%	0%	2		2	2	N/A	N/A	N/A
Little Ringed Plover	*0%	N/A	*2%	*2%	0%	N/A	0%	0%	0		1	1	N/A	N/A	N/A
Mallard	1%	1%	0%	1%	0%	0%	0%	0%	50	64	25	68	Assemblage	1,109	11
Moorhen	0%	0%	0%	0%	0%	0%	0%	0%	6	2	1	7	N/A	N/A	N/A
Mute Swan	1%	0%	0%	1%	1%	0%	0%	1%	3	2	2	4	N/A	N/A	N/A
Oystercatcher	0%	0%	0%	0%	0%	0%	0%	0%	1	5	4	6	Assemblage	5,806	58
Pintail	N/A	3%	1%	3%	N/A	1%	0%	1%		6	1	6	N/A	N/A	N/A
Redshank	4%	11%	8%	16%	2%	4%	3%	6%	41	101	76	148	4,632 (w) 7,642 (p)	2,659	46 (w) 76 (p)
Ringed plover	1%	0%	6%	7%	1%	0%	4%	6%	6	1	24	31	Assemblage	1,070	11
Sanderling	N/A	N/A	1%	1%	N/A	N/A	0%	0%			1	1	Assemblage	575	6
Shelduck	3%	14%	7%	17%	1%	3%	1%	3%	15	67	34	79	4,464 (w)	6,486	45 (w)
Shoveler	18%	32%	9%	37%	5%	9%	3%	11%	35	61	17	71	N/A	N/A	N/A
Snipe	N/A	0%	0%	0%	N/A	0%	0%	0%		2	0	2	N/A	N/A	N/A
Teal	4%	8%	1%	8%	3%	7%	1%	7%	173	365	35	365	Assemblage	5,286	53
Tufted Duck	0%	0%	0%	0%	0%	0%	0%	0%	0	1	2	2	N/A	N/A	N/A
Turnstone	1%	1%	N/A	2%	0%	0%	N/A	0%	2	4		6	Assemblage	287	3

SPECIES³¹	Autumn peak cf National Threshold	Winter peak cf National Threshold	Spring peak cf National Threshold	Annual peak cf National Threshold	Autumn peak cf International Threshold	Winter peak cf International Threshold	Spring peak cf International Threshold	Annual peak cf International Threshold	Autumn 5yr mean of peaks	Winter 5yr mean of peaks	Spring 5yr mean of peaks	Annual 5yr mean of peaks	Humber Estuary 5-year Peak mean Population at SPA Designation³²	Humber Estuary 5-year Peak mean population	Humber Estuary 1% Threshold
Wigeon	0%	0%	N/A	0%	0%	0%	N/A	0%	8	5		11	Assemblage	3,669	37

Table 12: Summary WeBS Core Count Data for Humber Estuary Sector JJ North Killingholme Haven Pits 2016/17 – 20/21

SPECIES³⁴	Autumn peak cf National Threshold	Winter peak cf National Threshold	Spring peak cf National Threshold	Annual peak cf National Threshold	Autumn peak cf International Threshold	Winter peak cf International Threshold	Spring peak cf International Threshold	Annual peak cf International Threshold	Autumn 5yr mean of peaks	Winter 5yr mean of peaks	Spring 5yr mean of peaks	Annual 5yr mean of peaks	Humber Estuary 5-year Peak mean Population at SPA Designation³⁵	Humber Estuary 5-year Peak mean population	Humber Estuary 1% Threshold
Avocet	117%	24%	36%	126%	11%	2%	3%	12%	102	21	31	110	64 (b) 59 (w)	2,576	<1 (b) <1 (w)
Black-tailed Godwit	891%	0%	6%	891%	316%	0%	2%	316%	3476	1	25	3476	1,113 (w) 915 (p)	5,646	11 (w) 9 (p)
Curlew	0%	0%	1%	1%	0%	0%	0%	0%	2	3	7	7	Assemblage	2,544	25
Curlew Sandpiper	*2%	N/A	N/A	*2%	0%	N/A	N/A	0%	1			1	N/A	N/A	N/A
Dunlin	26%	0%	0%	26%	7%	0%	0%	7%	893	15	1	893	22,222 (w) 20,269 (p)	17,634	222 (w) 203 (p)
Grey Heron	0%	0%	N/A	0%	0%	0%	N/A	0%	1	1		1	N/A	N/A	N/A
Greylag Goose (British/Irish)	0%	0%	1%	1%	N/A	N/A	N/A	N/A	2	3	7	7	N/A	N/A	N/A
Knot	11%	N/A	N/A	11%	6%	N/A	N/A	6%	294			294	28,165 (w) 18,500 (p)	26,428	282 (w) 185 (p)
Lapwing	3%	10%	N/A	11%	1%	3%	N/A	3%	192	615		682	Assemblage	15,247	152

³⁴ Species in **bold** font are qualifying features of the Humber Estuary SPA either individually or as assemblage species.

³⁵ As stated on SPA data sheet for 1996/97 – 200/01 period and reproduced in Table 5. b = breeding; w = wintering; p = passage.

³⁶ As stated in Austin *et al.* (2023; **Ref 18**), N/A = Not Applicable.

SPECIES³⁴	Autumn peak cf National Threshold	Winter peak cf National Threshold	Spring peak cf National Threshold	Annual peak cf National Threshold	Autumn peak cf International Threshold	Winter peak cf International Threshold	Spring peak cf International Threshold	Annual peak cf International Threshold	Autumn 5yr mean of peaks	Winter 5yr mean of peaks	Spring 5yr mean of peaks	Annual 5yr mean of peaks	Humber Estuary 5-year Peak mean Population at SPA Designation³⁵	Humber Estuary 5-year Peak mean population	Humber Estuary 1% Threshold
Little Egret	5%	2%	1%	5%	0%	0%	0%	0%	5	2	1	5	N/A	N/A	N/A
Mallard	0%	0%	0%	0%	0%	0%	0%	0%	9	10	4	14	Assemblage	1,109	11
Oystercatcher	0%	0%	0%	0%	0%	0%	0%	0%	1	1	2	2	Assemblage	5,806	58
Redshank	26%	10%	5%	27%	10%	4%	2%	11%	247	97	47	255	4,632 (w) 7,642 (p)	2,659	46 (w) 76 (p)
Ringed Plover	0%	N/A	N/A	0%	0%	N/A	N/A	0%	1			1	Assemblage	1,070	11
Ruff	*2%	N/A	N/A	*2%	0%	N/A	N/A	0%	1			1	128 (p)	76	1 (p)
Shelduck	0%	2%	2%	2%	0%	0%	0%	0%	1	8	8	11	4,464 (w)	6,486	45
Shoveler	4%	1%	0%	5%	1%	0%	0%	1%	8	1	0	9	N/A	N/A	N/A
Snipe	0%	0%	0%	0%	0%	0%	0%	0%	5	38	0	38	N/A	N/A	N/A
Teal	0%	1%	0%	1%	0%	1%	0%	1%	7	52	7	54	Assemblage	5,286	53

- 1.4.50 **Figure 12** shows the locations of all WeBS count Sectors for which data were obtained at the southern end of the Proposed Development. These are low tide sector CH078 and core count sectors Theddlethorpe – Mablethorpe North End, Carlton and Manby Washlands and Viking Fields.
- 1.4.51 **Table 13** and **Table 14** respectively summarise the counts for sectors CH078 (low tide) and Theddlethorpe – Mablethorpe North End (High Tide).
- 1.4.52 Low tide data are not used in setting thresholds for SPA populations but are useful for contextualising the relative importance of intertidal habitats adjacent to the proposed development and identifying species that might occur inland.
- 1.4.53 There is a relatively limited range of species in the Low Tide (LT) table for the sector CH078 in **Table 13**, however, the percentage of the whole sites population metric shows that the sector is relatively important at low tide for the following SPA species:
- Taiga/Tundra bean goose (but total numbers of this species were only 3 for the whole of the Humber Estuary);
 - Grey plover;
 - Curlew; and,
 - Sanderling.
- 1.4.54 The sector also supports moderate numbers of grey plover, ringed plover, bar-tailed godwit and a several species of gull. Notably some species (lapwing, golden plover, knot and dunlin) were either absent from the sector or present in such small numbers as to be insignificant in the context of the wider designation at low tide.
- 1.4.55 The core count and low tide sectors both map closely to the extent of intertidal habitat but the core count sector is larger (519ha, compared with 252ha for the low tide sector) and therefore bird numbers and the range of species present would be expected to be larger just by virtue of the amount of habitat covered (this is borne out by the tabulated summary data)
- 1.4.56 At high tide the sector supports several species at or above the 1% SPA threshold and it is therefore important for these species. These include:
- Curlew;
 - Dunlin;
 - Greenshank;
 - Knot (during the passage season);
 - Oystercatcher;
 - Redshank;
 - Ruff;
 - Sanderling;
 - Turnstone; and,
 - Whimbrel.
- 1.4.57 The sector also supports a wide range of other wetland bird species at low – moderate numbers. The contribution made by this sector at high tide to the population of pink-footed goose within the Humber Estuary (3.34% of the Humber Estuary mean peak population 17/18-21/22) is significant (**Table 14**).

Table 13: WeBS Low Tide, Sector CH078 (2011-12)

Species ³⁷	Preferred Habitat	Area of Preferred Habitat	Peak Count CH078	Peak Density CH078	Mean Count CH078	Mean Density CH078	Raw Monthly Whole Site NOV	Raw Monthly Whole Site DEC	Raw Monthly Whole Site JAN	Raw Monthly Whole Site FEB	Raw Monthly Whole Site WINTER MAXIMUM	CH078 % of whole site population
Bar-tailed Godwit	Intertidal	101	19	0.19	9	0.09	896	1814	1699	1836	1836	1.03%
Black-headed Gull	All habitats	253	205	0.81	74	0.29	978	1012	1456	1640	1640	12.5%
Common Gull	All habitats	253	227	0.90	111	0.44	195	886	442	1109	1109	20.47%
Curlew	Intertidal & non-tidal	230	192	0.83	54	0.23	1845	1342	1686	1760	1845	10.41%
Dunlin	Intertidal	101	89	0.88	37	0.37	8125	13352	12989	11791	13352	0.67%
Golden Plover	Intertidal & non-tidal	230	12	0.05	3	0.01	32413	17543	15167	12083	32413	0.04%
Great Black-backed Gull	All habitats	253	166	0.66	75	0.29	168	376	231	261	376	44.15%
Grey Plover	Intertidal	101	33	0.33	11	0.11	378	1097	1322	980	1322	2.50%
Herring Gull	All habitats	253	606	2.40	194	0.77	197	770	713	1133	1133	53.49%
Knot	Intertidal	101	38	0.38	10	0.09	15239	11035	15441	7929	15441	0.25%
Oystercatcher	Intertidal	101	27	0.27	13	0.13	4142	2252	4416	2053	4416	0.61%
Ringed Plover	Intertidal	101	2	0.02	1	0.00	97	77	127	76	127	1.57%
Sanderling	Intertidal	101	64	0.63	43	0.43	120	180	157	268	268	23.88%

³⁷ Species in **bold** font are qualifying features of the Humber Estuary SPA either individually or as assemblage species.

Species ³⁷	Preferred Habitat	Area of Preferred Habitat	Peak Count CH078	Peak Density CH078	Mean Count CH078	Mean Density CH078	Raw Monthly Whole Site NOV	Raw Monthly Whole Site DEC	Raw Monthly Whole Site JAN	Raw Monthly Whole Site FEB	Raw Monthly Whole Site WINTER MAXIMUM	CH078 % of whole site population
Shelduck	All habitats	253	8	0.03	2	0.01	2631	2771	3409	2069	3409	0.23%
Taiga/Tundra Bean Goose	All habitats	253	1	0.00	0	0.00	3	.	.	1	3	33.33%

Table 14: Summary WeBS Core Count Data for Humber Estuary Sector Theddethorpe – Mablethorpe North End 2016/17 – 20/21

SPECIES ³⁸	Autumn peak cf National Threshold	Winter peak cf National Threshold	Spring peak cf National Threshold	Annual peak cf National Threshold	Autumn peak cf International Threshold	Winter peak cf International Threshold	Spring peak cf International Threshold	Annual peak cf International Threshold	Autumn 5yr mean of peaks	Winter 5yr mean of peaks	Spring 5yr mean of peaks	Annual 5yr mean of peaks	Humber Estuary 5-year Peak mean Population at SPA Designation ³⁹	Humber Estuary 5-year Peak mean population	Humber Estuary 1% Threshold
Arctic Tern	*2%	N/A	N/A	*2%	0%	N/A	N/A	0%	1			1	N/A	N/A	N/A
Barnacle Goose	N/A	*4%	N/A	*4%	N/A	N/A	N/A	N/A		2		2	N/A	N/A	N/A
Bar-tailed Godwit	1%	4%	1%	4%	0%	1%	0%	1%	4	18	3	20	2,752	1,876	28
Black-headed Gull	17%	3%	0%	17%	19%	3%	0%	19%	3826	645	7	3826	N/A	N/A	N/A
Brent Goose (Dark-bellied - bernicla)	0%	0%	N/A	0%	0%	0%	N/A	0%	3	2		4	Assemblage	2,645	26
Canada Goose	*176%	*12%	*2%	*188%	N/A	N/A	N/A	N/A	88	6	1	94	N/A	N/A	N/A
Common Gull	16%	8%	1%	16%	7%	3%	1%	7%	1099	539	89	1093	N/A	N/A	N/A
Common Scoter	7%	4%	N/A	10%	1%	1%	N/A	2%	88	58		132	N/A	N/A	N/A
Common Tern	*68%	N/A	N/A	*68%	2%	N/A	N/A	2%	34			34	N/A	N/A	N/A
Common/Arctic Tern	*2%	N/A	N/A	*2%	N/A	N/A	N/A	N/A	1			1	N/A	N/A	N/A
Cormorant	4%	7%	1%	10%	2%	4%	0%	5%	27	45	5	60	N/A	N/A	N/A
Curlew	14%	38%	3%	38%	2%	6%	0%	6%	169	453	34	453	Assemblage	2,544	25
Curlew Sandpiper	*2%	N/A	N/A	*2%	0%	N/A	N/A	0%	1			1	N/A	N/A	N/A

³⁸ Species in **bold** font are qualifying features of the Humber Estuary SPA either individually or as assemblage species.

³⁹ As stated on SPA data sheet for 1996/97 – 200/01 period and reproduced in Table 5. b = breeding; w = wintering; p = passage.

⁴⁰ As stated in Austin *et al.* (2023; **Ref 18**). N/A = Not Applicable

SPECIES³⁸	Autumn peak cf National Threshold	Winter peak cf National Threshold	Spring peak cf National Threshold	Annual peak cf National Threshold	Autumn peak cf International Threshold	Winter peak cf International Threshold	Spring peak cf International Threshold	Annual peak cf International Threshold	Autumn 5yr mean of peaks	Winter 5yr mean of peaks	Spring 5yr mean of peaks	Annual 5yr mean of peaks	Humber Estuary 5-year Peak mean Population at SPA Designation³⁹	Humber Estuary 5-year Peak mean population	Humber Estuary 1% Threshold
Dunlin	5%	26%	2%	26%	1%	7%	0%	7%	156	874	58	874	22,222 (w) 20,269 (p)	17,634	222 (w) 203 (p)
Egyptian Goose	N/A	N/A	*2%	*2%	N/A	N/A	N/A	N/A			1	1	N/A	N/A	N/A
Golden Plover	N/A	1%	0%	1%	N/A	1%	0%	1%		48	15	50	30,709	20,812	307
Great Black-backed Gull	7%	6%	3%	8%	2%	1%	1%	2%	54	48	21	62	N/A	N/A	N/A
Great Crested Grebe	0%	1%	N/A	1%	0%	0%	N/A	0%	0	1		1	N/A	N/A	N/A
Greenshank	*2%	N/A	N/A	*2%	0%	N/A	N/A	0%	1			1	Assemblage	46	<1
Grey Plover	0%	6%	N/A	6%	0%	1%	N/A	1%	1	20		20	Assemblage	2,985	30
Greylag Goose (British/Irish)	0%	0%	0%	0%	N/A	N/A	N/A	N/A	0	1	1	2	N/A	N/A	N/A
Herring Gull	1%	7%	5%	8%	1%	5%	3%	6%	103	485	337	612	N/A	N/A	N/A
Knot	1%	8%	0%	9%	1%	4%	0%	4%	32	218	2	227	28,165 (w) 18,500 (p)	26,428	282 (w) 185 (p)
Lapwing	N/A	0%	N/A	0%	N/A	0%	N/A	0%		2		2	Assemblage	15,247	152
Lesser Black-backed Gull	0%	0%	0%	0%	0%	0%	0%	0%	4	1	1	4	N/A	N/A	N/A
Little Ringed Plover	*0%	*0%	*2%	*4%	0%	0%	0%	0%	0	0	1	2	N/A	N/A	N/A
Mallard	0%	0%	0%	0%	0%	0%	0%	0%	1	2	0	3	Assemblage	1,109	11

SPECIES³⁸	Autumn peak cf National Threshold	Winter peak cf National Threshold	Spring peak cf National Threshold	Annual peak cf National Threshold	Autumn peak cf International Threshold	Winter peak cf International Threshold	Spring peak cf International Threshold	Annual peak cf International Threshold	Autumn 5yr mean of peaks	Winter 5yr mean of peaks	Spring 5yr mean of peaks	Annual 5yr mean of peaks	Humber Estuary 5-year Peak mean Population at SPA Designation³⁹	Humber Estuary 5-year Peak mean population	Humber Estuary 1% Threshold
Oystercatcher	2%	2%	0%	2%	1%	1%	0%	1%	67	48	9	65	Assemblage	5,806	58
Pink-footed Goose	3%	14%	N/A	17%	2%	13%	N/A	16%	132	724		846		25,332	253
Redshank	3%	3%	0%	4%	1%	1%	0%	2%	26	28	2	36	Assemblage	2,659	27
Red-throated Diver	0%	1%	0%	1%	0%	0%	0%	0%	0	3	0	3	N/A	N/A	N/A
Ringed Plover	28%	3%	13%	32%	22%	2%	10%	25%	117	11	56	135	Assemblage	1,070	11
Ruff	*2%	N/A	N/A	*2%	0%	N/A	N/A	0%	1			1	128 (p)	76	1
Sanderling	45%	64%	24%	67%	5%	6%	2%	7%	90	128	48	134	Assemblage	575	6
Sandwich Tern	*264%	N/A	*6%	*264%	8%	N/A	0%	8%	132		3	132	N/A	N/A	N/A
Shelduck	3%	1%	1%	3%	1%	0%	0%	1%	15	3	4	16	4,464 (w)	6,486	45 (w)
Snipe	0%	0%	N/A	0%	0%	0%	N/A	0%	2	2		2	N/A	N/A	N/A
Teal	0%	0%	0%	0%	0%	0%	0%	0%	10	1	0	10	Assemblage	5,286	53
Turnstone	1%	N/A	0%	1%	0%	N/A	0%	0%	3		1	3	Assemblage	287	3
Velvet Scoter	*0%	*2%	N/A	*2%	0%	0%	N/A	0%	0	1		1	N/A	N/A	N/A
Whimbrel	*6%	N/A	*0%	*6%	0%	N/A	0%	0%	3		0	3	Assemblage	58	<1
Whooper Swan	1%	5%	N/A	6%	1%	2%	N/A	3%	2	8		10	N/A	N/A	N/A
Wigeon	0%	0%	N/A	0%	0%	0%	N/A	0%	5	5		7	Assemblage	3,669	37

1.4.58 **Table 15** summarises the high tide counts for Viking Fields, which covers the wet coastal grasslands immediately east of TGT.

1.4.59 The data indicate that the grasslands regularly support a modest assemblage predominantly comprising gulls, waders and ducks including nine qualifying species of the Humber Estuary SPA, with the following species meeting or exceeding 1% of the Humber Estuary SPA population:

- Avocet in winter and spring;
- Curlew in winter;
- Mallard in winter;
- Teal in winter; and,
- Wigeon in winter.

1.4.60 The sector also supports moderate numbers of redshank and lapwing at numbers close to 1% of the SPA threshold population, oystercatcher at numbers that, in autumn, exceed 1% of the SPA threshold population for an assemblage feature and very small (non-significant) numbers of shelduck.

Table 15: Summary WeBS Core Count Data for Humber Estuary Sector Viking Fields (2016/17 – 20/21)

SPECIES ⁴¹	Autumn peak cf National Threshold	Winter peak cf National Threshold	Spring peak cf National Threshold	Annual peak cf National Threshold	Autumn peak cf International Threshold	Winter peak cf International Threshold	Spring peak cf International Threshold	Annual peak cf International Threshold	Autumn 5yr mean of peaks	Winter 5yr mean of peaks	Spring 5yr mean of peaks	Annual 5yr mean of peaks	Humber Estuary 5-year Peak mean Population at SPA	Humber Estuary 5-year Peak mean	Humber Estuary 1% Threshold
Avocet	2%	N/A	5%	3%	0%	N/A	0%	0%		1	2	1	64 (b) 59 (w)	2,576	<1 (b) <1 (w)
Black-headed Gull	0%	0%	0%	0%	0%	0%	0%	0%	3	6	2	7	N/A	N/A	N/A
Canada Goose	*6%	*430%	*38%	*430%	N/A	N/A	N/A	N/A	3	215	19	215	N/A	N/A	N/A
Common Gull	N/A	0%	N/A	0%	N/A	0%	N/A	0%		6		6	N/A	N/A	N/A
Curlew	N/A	4%	0%	4%	N/A	1%	0%	1%		50	4	50	Assemblage	2,544	25
Great Black-backed Gull	N/A	N/A	0%	0%	N/A	N/A	0%	0%			1	0	N/A	N/A	N/A
Greylag Goose (British/Irish)	N/A	0%	N/A	0%	N/A	N/A	N/A	N/A		3		3	N/A	N/A	N/A
Herring Gull	N/A	0%	0%	0%	N/A	0%	0%	0%		1	7	7	N/A	N/A	N/A
Lapwing	0%	2%	0%	2%	0%	1%	0%	1%	8	128	7	128	Assemblage	15,247	152
Lesser Black-backed Gull	N/A	N/A	0%	0%	N/A	N/A	0%	0%			1	1	N/A	N/A	N/A
Little Egret	2%	N/A	1%	1%	0%	N/A	0%	0%	2		1	1	N/A	N/A	N/A
Little Ringed Plover	N/A	*0%	*4%	*2%	N/A	0%	0%	0%		0	2	1	N/A	N/A	N/A
Mallard	0%	0%	0%	0%	0%	0%	0%	0%	3	18	8	23	Assemblage	1,109	11
Mute Swan	N/A	N/A	0%	0%	N/A	N/A	0%	0%			1	0	N/A	N/A	N/A
Oystercatcher	N/A	0%	0%	0%	N/A	0%	0%	0%	67	1	2	1	Assemblage	5,806	58
Redshank	N/A	2%	0%	2%	N/A	1%	0%	1%		20	4	23	Assemblage	2,659	27

⁴¹ Species in **bold** font are qualifying features of the Humber Estuary SPA either individually or as assemblage species.

⁴² As stated on SPA data sheet for 1996/97 – 2000/01 period and reproduced in Table 15. b = breeding; w = wintering; p = passage.

⁴³ As stated in Austin *et al.* (2023) (**Ref 18**). N/A = Not Applicable

SPECIES ⁴¹	Autumn peak cf National Threshold	Winter peak cf National Threshold	Spring peak cf National Threshold	Annual peak cf National Threshold	Autumn peak cf International Threshold	Winter peak cf International Threshold	Spring peak cf International Threshold	Annual peak cf International Threshold	Autumn 5yr mean of peaks	Winter 5yr mean of peaks	Spring 5yr mean of peaks	Annual 5yr mean of peaks	Humber Estuary 5-year Peak mean Population at SPA	Humber Estuary 5-year Peak mean	Humber Estuary 1% Threshold
Shelduck	N/A	N/A	0%	0%	N/A	N/A	0%	0%			1	1	4,464 (w)	6,486	45 (w)
Shoveler	N/A	6%	5%	8%	N/A	2%	2%	2%		12	10	15	N/A	N/A	N/A
Snipe	N/A	0%	N/A	0%	N/A	0%	N/A	0%		2		2	N/A	N/A	N/A
Teal	N/A	3%	0%	3%	N/A	2%	0	2%		114	9	114	Assemblage	5,286	53
Tufted Duck	N/A	0%	0%	0%	N/A	0%	0%	0%		1	0	2	N/A	N/A	N/A
Wigeon	N/A	5%	0%	5%	N/A	2%	0%	2%	5	230	4	230	Assemblage	3,669	37

- 1.4.61 Data for the inland core count sector Carlton and Manby Washlands were obtained from the Austin *et al.* (**Ref 18**) and are summarised in **Table 16**.
- 1.4.62 The sector is not part of the Humber Estuary SPA or any of its associated statutory designations (SSSI, Ramsar), however it's position inland of the Humber Estuary and approximately 1.2km west of the Proposed Development (in other words, the Proposed Development route passes between the Humber Estuary SPA and the Washlands) is potentially significant as there is potential for interchange of birds between the SPA and the washlands, with the potential for them to interact with the terrestrial habitats in between.
- 1.4.63 The sector supports numbers of the following species that attain 1% or more of the SPA population:
- Avocet in spring;
 - Black-tailed godwit during the autumn passage season;
 - Greenshank during autumn passage;
 - Mallard in autumn/winter;
 - Teal in winter;
 - Whimbrel during autumn passage; and,
 - Wigeon in winter.
- 1.4.64 The washlands are also relatively important for ruff (average of 7) and pink-footed goose (the average for which exceeds the nominal 1% threshold of the Humber Estuary population). Irrespective of designated sites, the 5-year average counts show that the washlands are generally of most importance for ducks, geese and some waders and offer an important inland resource for a range of wetland species, with potential for many of these to move between here and the coastal habitats approximately 8km to the east.

Table 16: Five-year mean counts of wetland birds at Carlton and Manby Washlands Core Count Sector⁴⁴

SPECIES ⁴⁵	5- year average count 2017/18 – 2021/22	Month of final year in which maximum count recorded ⁴⁶	Humber Estuary 5- year Peak mean Population at SPA Designation ⁴⁷	Humber Estuary 5- year Peak mean population 2017/18 – 2021/22 ⁴⁸	Humber Estuary 1% Threshold ⁴⁹
Avocet	14	April	64 (b) 59 (w)	2,576	<1 (b) <1 (w)
Bewick's Swan	2	NS	N/A	1	N/A
Black-headed Gull	373	March	N/A	13,018	N/A
Black-tailed Godwit	24	August	1,113 (w) 915 (p)	5,646	11 (w) 9 (p)
Canada Goose	241	October	N/A	691	N/A
Common Gull	176	April	N/A	1,293	N/A

⁴⁴ Summary data reproduced from Austin *et al.* (2023) (**Ref 18**).

⁴⁵ Species in **bold** font are qualifying features of the Humber Estuary SPA either individually or as assemblage species.

⁴⁶ NS = Not Stated

⁴⁷ As stated on SPA data sheet for 1996/97 – 200/01 period and reproduced in Table 14. b = breeding; w = wintering; p = passage. N/A = Not Applicable.

⁴⁸ As stated in Austin *et al.* (2023; **Ref 18**).

⁴⁹ N/A – Not Applicable because the species is not a qualifying species of the Humber Estuary SPA.

SPECIES⁴⁵	5- year average count 2017/18 – 2021/22	Month of final year in which maximum count recorded⁴⁶	Humber Estuary 5-year Peak mean Population at SPA Designation⁴⁷	Humber Estuary 5-year Peak mean population 2017/18 – 2021/22⁴⁸	Humber Estuary 1% Threshold⁴⁹
Common Sandpiper	1	May	N/A	43	N/A
Coot	4	May	N/A	278	N/A
Cormorant	2	November	N/A	438	N/A
Curlew Sandpiper	1	NS	N/A	9	N/A
Dunlin	3	July	22,222 (w) 20,269 (p)	17,634	222 (w) 200 (p)
Gadwall	8	May	N/A	248	N/A
Great Black-backed Gull	1	June	N/A	213	N/A
Green Sandpiper	11	July	N/A	12	N/A
Greenshank	1	August	Assemblage	46	<1
Grey heron	13	August	N/A	38	N/A
Greylag Goose	565	October	N/A	1,796	N/A
Herring Gull	41	April	N/A	1,334	N/A
Kingfisher	1	NS	N/A	5	N/A
Lapwing	97	February	Assemblage	15,247	152
Lesser Black-backed Gull	3	May	N/A	106	N/A
Little Egret	5	May	N/A	203	N/A
Little Ringed Plover	2	August	N/A	6	N/A
Mallard	148	October	Assemblage	1,109	11
Moorhen	9	August	N/A	52	N/A
Mute Swan	3	February	N/A	152	N/A
Oystercatcher	1	April	Assemblage	5,806	58
Pink-footed Goose	388	October	Assemblage	25,332	253
Ruff	7	August	128 (p)	76	13 (p)
Shelduck	8	March	4,464 (w)	6,486	45 (w)
Shoveler	30	February	N/A	295	N/A
Snipe	13	August	N/A	107	N/A
Teal	368	November	Assemblage	5,286	53
Tufted duck	10	March	N/A	246	N/A
Water Rail	1	July	N/A	14	N/A
Whimbrel	1	July	Assemblage	58	<1
White Stork	1	June	N/A	0	N/A
Whooper Swan	2	December	N/A	81	N/A
Wigeon	336	February	Assemblage	3,669	37
Wood Sandpiper	1	June	N/A	5	N/A

Species - AECOM Surveys

1.4.65 The following sections set out the results of the bird surveys carried out by AECOM. Relevant incidental records of species gathered during these surveys, or outside of any formal survey period, are included below.

Functionally Linked Land - North

Qualifying Species of Designated Sites

1.4.66 **Table 17** and **Table 18** summarise the counts of species that are qualifying features of the Humber Estuary Ramsar, SPA and SSSI; North Killingholme Haven pits SSSI; and pink-footed goose, recorded during the non-breeding and breeding surveys respectively. The table sets out the locations (expressed as field numbers), dates, and counts for each species with the peak count expressed as a proportion of the SPA population to aid interpretation of the significance of the results. The data (frequency of occurrence and peak count by location) for the whole survey period are represented on the following figures to provide a visual cue to the distribution of the qualifying species of designated sites⁵⁰:

- Black-tailed godwit (**Figure 13**);
- Curlew (**Figure 14**);
- Golden plover (**Figure 15**);
- Lapwing (**Figure 16**);
- Mallard (**Figure 17**);
- Redshank (**Figure 18**);
- Shelduck (**Figure 19**);
- Teal (**Figure 20**); and
- Wigeon (**Figure 21**).

1.4.67 During winter bird counts the following were recorded within the northern FLL survey area:

- Eleven qualifying features of the Humber Estuary Ramsar and SPA;
- Ten qualifying features of the Humber Estuary SSSI (all of which are shared features with the above SPA and Ramsar site);
- Two qualifying features of North Killingholme Haven SSSI (both of which are shared features with the Humber Estuary SPA); and,
- Pink-footed goose (overflying).

1.4.68 The large majority of records of these species occurred at Rosper Road Pools and the fields across North Killingholme Marshes immediately to the north of the pools, east of Rosper Road between 100m east and 1.5km north-east of the northern end of the DCO Site Boundary. These areas accounted for almost all records of teal, wigeon, shelduck, lapwing, godwits and pochard. Use of these areas by qualifying species was recorded on every survey, although the Pools themselves accounted for the majority of these records. Redshank, bar-tailed godwit and pochard were present in small numbers each on only a single survey. Peak Counts recorded in these areas equalled or exceeded 1% of the SPA population threshold for black-tailed godwit, curlew, lapwing, mallard, pochard teal and wigeon.

⁵⁰ Figures are not provided for species for which there was only a single record, or that were overflying only (pink-footed goose, pochard, redshank).

- 1.4.69 The records are consistent with the notion that the undeveloped wetlands (pools and wet grasslands) between the Humber Estuary and Rosper Road are functionally linked to the SPA in winter by virtue of their regular use by these species during the non-breeding season.
- 1.4.70 Elsewhere within the FLL survey area, these species were absent from most surveys, with only occasional occurrence of golden plover and black-tailed godwit in moderate numbers feeding on stubble and ploughed fields near Little London and Immingham Golf Course respectively in numbers that did not reach the 1% threshold.
- 1.4.71 Only curlew occurred regularly beyond North Killingholme Grazing Marshes, in moderate numbers on ploughed, stubble and recently sown arable fields in the vicinity of Little London (fields 50, 54 and 60) and Immingham Golf Course (fields 20, 23 and 27) where it was recorded feeding. In both areas peak counts exceeded the 1% threshold for SPA selection based on the Humber Estuary 5-year peak count for 2017/18-21/22.
- 1.4.72 The only record of pink-footed goose occurred in November 2021 when a flock of 72 overflowed the survey area in a north-westerly direction. Their flight path was tracked until they were lost from view; there was no evidence that they landed within the survey area. This record has not been included on any figures, nor does it warrant further narrative.

Table 17: Occurrence of qualifying species of Statutory Designated Sites across the northern FLL Survey Area during the non-breeding season

Species	Survey date ⁵¹	Field Number	Count (Behaviours) ⁵²	Peak Count as % of the SPA population ⁵³
Bar-tailed Godwit	Early February 2022	10	11 (F)	<1.0% (w)
Black-tailed Godwit	November 2021	10	6 (F)	9.0% (w) 10.9% (p)
	January 2022	10	16 (F)	
	Late February 2022	4	2 (F)	
	Late February 2022	10	50 (F, R)	
	Late February 2022	10	39 (F)	
	March 2022	10	100 (L, F)	
Curlew	November 2021	6	50 (F)	2.1% (a)
	November 2021	8	2 (F)	
	November 2021	27	44 (F)	
	November 2021	4	1 (F)	
	November 2021	50	2 (F)	
	November 2021	60	2 (F)	
	December 2021	4	54 (F)	
	December 2021	50	4 (F)	
	15	5 (F)		

⁵¹ N = 8

⁵² Behaviour Codes: f = feeding; l = loafing; r = roosting; Fl = flying

⁵³ Using the population stated on the SPA Citation for individual species in Table 5, or the latest 5-year mean of peaks stated in Austin *et al.* (2023; Ref 18) for assemblage species.

Species	Survey date ⁵¹	Field Number	Count (Behaviours) ⁵²	Peak Count as % of the SPA population ⁵³
	December 2021	23a	31 (F)	
	December 2021	2	1 (F)	
	December 2021	4	25 (F)	
	December 2021	6	1 (F)	
	January 2022	8	5 (F)	
	January 2022	4	25 (F)	
	Early February 2022	6	38 (F)	
	Early February 2022	8	1 (F)	
	Early February 2022	27	45 (F)	
	Early February 2022	54	1 (F)	
	Late February 2022	7	2 (F)	
	Late February 2022	8	1 (R)	
	Late February 2022	8	31 (F)	
	Late February 2022	20	9 (F)	
	Late February 2022			
	March 2022			
	March 2022			
	March 2022			
	March 2022			
	March 2022			
	September 2022			
	September 2022			
	October 2022			
	October 2022			
Golden Plover	November 2021	50	2 (F)	<1.0% (w)
	October 2022	25	1 (L)	
Lapwing	January 2022			1.0% (a)
	Early February 2022	10	4 (F)	
	Early February 2022	10	10 (F)	
	Late February 2022	2	1 (F)	
	Late February 2022	10	79 (F, R)	
	Late February 2022	2	5 (F)	
	March 2022	6	11 (P)	
	March 2022	10	150 (F, R)	
	March 2022			

Species	Survey date ⁵¹	Field Number	Count (Behaviours) ⁵²	Peak Count as % of the SPA population ⁵³
Mallard	November 2021			
	November 2021			
	December 2021			
	December 2021	10	8 (F)	
	January 2022	18	18 (F)	
	January 2022	10	30 (F)	
	January 2022	18	18 (F)	
	Early February 2022	10	7 (F)	
	Early February 2022	18	18 (F)	
	Early February 2022	10	19 (F)	
	Early February 2022	15	2 (F)	
	Early February 2022	18	3 (F)	
	Early February 2022	50	3 (F)	
	Early February 2022	2	2 (F)	
	Late February 2022	4	6 (F)	
	Late February 2022	8	45 (F)	4.1% (a)
	Late February 2022	10	13 (F, R)	
	Late February 2022	1	20 (F, FI)	
	Late February 2022	8	8 (F)	
	Late February 2022	10	25 (F)	
	Late February 2022	15	3 (F)	
	March 2022	18	8 (F)	
	March 2022	50	6 (F)	
	March 2022	10	40 (F, L)	
	March 2022	50	2 (F, L)]	
	March 2022	10	15 (F, L)	
	March 2022	18	3 (F)	
September 2022				
September 2022				
October 2022				
October 2022				
Pink-footed Goose	November 2021	61	72 (FL)	<1.0% (a)
Pochard	November 2021	10	3 (F)	6.0% (a)

Species	Survey date ⁵¹	Field Number	Count (Behaviours) ⁵²	Peak Count as % of the SPA population ⁵³
Redshank	Early February 2022	10	3 (F)	<1.0% (w, p)
Shelduck	Early February 2022	10	5 (F)	<1.0% (w)
	Late February 2022	6	1 (R)	
	Late February 2022	10	2 (F, R)	
Teal	November 2021			4.1% (a)
	December 2021	10	7 (F)	
		10	134 (F)	
	Early February 2022	10	52 (F)	
	Late February 2022	10	219 (F, R)	
		10	109 (F, R)	
	March 2022	4	1 (L, F)	
Wigeon	November 2021			1.1% (a)
	December 2021	10	5 (F)	
		10	40 (F)	
	Early February 2022	10	12 (F)	
		10	2 (F, R)	
	Late February 2022	10	2 (F)	
	March 2022			

1.4.73 For the sake of completeness/consistency, all species for which the sites are designated were counted regardless of whether they occurred during breeding or non – breeding season counts. The occurrence of these species during the breeding season counts is included in **Table 18**, along with any records of species that are qualifying breeding features of the designated sites listed above.

1.4.74 The occurrence of non-breeding qualifying species during breeding season counts is attributable to pre- or post-breeding adults and sub-adult birds and to passage birds. Consequently, some of the non-breeding qualifying features of the SPA appear in the count data collected during the breeding period, as shown in **Table 17**. However, the only species recorded that are qualifying breeding⁵⁴ features of the designated sites listed in paragraph 6.4.66 are avocet and marsh harrier, the latter flying through the survey area on one occasion only and therefore regarded as not breeding within the survey area.

⁵⁴ Records of breeding locations of Schedule 1 birds are restricted to *ES Volume IV Appendix 6-8 Confidential Ornithology Baseline and Assessment Report (Application Document 6.4.6.8)*.

- 1.4.75 Black-tailed godwit and redshank were the only passage species recorded, albeit the latter was present as a single on only one of the surveys. The late March 2022 survey recorded the highest peak count of black-tailed godwit (240) at Rosper Road Pools, comfortably exceeding both the winter and passage thresholds for this species as a qualifying feature of the Humber Estuary SPA, a pattern that is consistent with the results of surveys completed by ESL in the same area (**Table 8** and paragraphs 6.4.10 – 6.4.12).
- 1.4.76 Curlew, golden plover, shelduck and teal were all present during the early and late parts of the breeding count period, foraging, loafing and roosting within the survey area. These can be regarded as non-breeding qualifying features of the SPA. Most of these species occurred only at Rosper Road Pools and/or North Killingholme Grazing Marshes. Golden plover occurrence followed a similar pattern to the non-breeding season counts, with a single occurrence of a moderate number of feeding birds in Field 57 close to Little London. This species recorded occurrence is indicative of occasional opportunistic habitat use over winter, mostly within the Stallingborough Area.
- 1.4.77 Lapwing bred at Rosper Road Pools and the fields to the north, and it is estimated that there were approximately 2-4 breeding pairs within this broad area.

Table 18: Occurrence of qualifying species of Statutory Designated Sites across the northern FLL Survey Area during the breeding season

Species	Survey date ⁵⁵	Field Number	Count (Behaviours) ⁵⁶	Peak Count as % of SPA Population ⁵⁷
Black-tailed Godwit	March 2022	10	240 (F, R)	21.5% (w) 26.2% (p)
	April 2022	10	18 (F, R)	
	May 2022	10	120 (F)	
	July 2022	10	2 (F)	
Curlew	March 2022			1.2% (a)
	March 2022	1	30 (FL, F, L)	
	March 2022	2	7 (FL, L)	
	March 2022	6	1 (FL), 1 (F)	
	April 2022	2	12 (F)	
	April 2022	4	2 (F)	
August 2022	23a	2 (F)		
Golden Plover	March 2022	57	58 (R)	<1%(w)
Lapwing	March 2022			<1.0% (a)
	March 2022	2	8 (D, L)	
	March 2022	7	7 (FL)	
	March 2022	10	36 (F, R)	
	March 2022	2	2 (D), 26 (F)	
	April 2022	4	2 (T)	
	April 2022	10	4 (F)	
	April 2022	2	28 (F)	
May 2022	3	1 (F)		
Mallard	March 2022	2	3 (F, FI)	7.8% (a)
	March 2022	10	15 (F)	
	March 2022	18	4 (F)	
	March 2022	50	1 (F)	
	March 2022	2	3 (F, FI)	
	March 2022	6	2 (F)	
	March 2022	18	7 (F)	
March 2022	50	1 (F)		

⁵⁵ N = 6

⁵⁶ Behaviour Codes: f = feeding; l = loafing; r = roosting; FI = flying d = displaying; t = territorial behaviours

⁵⁷ Using the population stated on the SPA Citation for individual species, and the latest 5-year mean of peaks stated in Austin *et al* (2023) (Red 6-19) for assemblage species.

Species	Survey date ⁵⁵	Field Number	Count (Behaviours) ⁵⁶	Peak Count as % of SPA Population ⁵⁷
	April 2022	10	1 (with 5	
	April 2022	10	young)	
	April 2022	10	10 (F, with	
	April 2022	10	young)	
	May 2022	18	40 (F)	
	June 2022		87 (F, R)	
	July 2022		2 (F, R)	
	August 2022			
	August 2022			
Redshank	April 2022	10	1 (F)	<1.0% (w, p)
Shelduck	May 2022	10	3 (F)	<1.0% (w)
	March 2022			<1.0% (a)
	March 2022	2	1 (F, FL)	
Teal	March 2022	10	8 (F)	
	April 2022	10	2 (F)	
	August 2022	10	24 (F)	

Priority Species

1.4.78 A summary of the Priority species recorded during FLL bird counts is provided for the non-breeding and breeding periods respectively in **Table 19** and **Table 20**.

Non-breeding

1.4.79 Thirty-one Priority species were recorded during the wintering surveys. There are no readily identifiable patterns of distribution for most species, and this is to be expected in winter when birds are not tied to breeding habitats or territories and may roam more widely in search of food than they would do during the breeding season. However, some observations are made in paragraphs 6.4.90 – 6.4.93.

1.4.80 Wetland birds other than SPA qualifying species were predominantly recorded at Rosper Road Pools and included gulls, gadwall, greylag goose, moorhen, pintail, and shoveler, as well as common and widespread green list species such as coot and grey heron. Greylag goose also showed a tendency to occur on some of the fields to the north of the pools.

1.4.81 Other locations including a small fishing pond east of Immingham Golf Course (field 18) and a small balancing pond within field 50 adjacent to the A180, which supported small numbers of non-breeding wetland birds including coot and grey heron. Elsewhere such species were scattered within small watercourses and drainage ditches.

1.4.82 Gulls including black-headed, common and herring were widespread feeding on arable farmland across the survey area.

1.4.83 Passerines, raptors and pigeons/doves were distributed according to habitat preferences, with widespread distribution and frequent occurrence across arable farmland of skylark, meadow pipit, linnet, reed bunting and yellowhammer. Bullfinch, dunnock and thrushes were widespread but restricted to scrub, trees and woodland habitats across the survey area. Starling occurred in widespread and sometimes relatively large feeding flocks of up to 450 across open farmland.

Table 19: Wintering bird FLL North surveys (notable bird species) November 2021 – March 2022 and September 2022 – October 2022

Species ⁵⁸	Status					Field Number	Peak Abundance	Behaviours ⁵⁹
	Annex 1	Sched. 1	Section 41	BoCC Red	BoCC Amber			
Barn Owl						2	1	F
Black-headed Gull					X	10, 18, 33, 35, 47, 52, 56	193 (# 47)	F, L, R
Bullfinch			X		X	10, 13, 16, 17, 18, 21, 23, 27, 28	4 (# 17)	C, F, FL
Cetti's Warbler		X				10	1	S
Common Gull					X	56	20	F, L
Dunnock			X		X	3, 4, 7, 15, 16, 18, 20, 23, 28, 46	4 (# 23)	C, FL, S
Gadwall					X	10	45	F, L
Greenfinch				X		16, 27	1	S
Greylag Goose					X	6, 8, 10, 45, 50	36 (# 6)	F, FL, R
Grey Partridge			X	X		4	1	F
Herring Gull			X	X		23, 56, 58	20	F, L
House Sparrow			X	X		18, 28, 32, 61	10 (#'s 18, 61)	C, F

⁵⁸ Records of over flying black-headed gull, common gull and herring gull have been omitted from the data set due to their presence throughout the survey area engaging in frequent flight behaviour. These behaviours provide no evidence of habitat use.

⁵⁹ Behaviour codes in **bold** font occurred at the locations for which peak abundance is identified. C = Calling; F = Foraging; FL = Flying over; L = Loafing; R = Roosting; S = Singing.

Species ⁵⁸	Status					Field Number	Peak Abundance	Behaviours ⁵⁹
	Annex 1	Sched. 1	Section 41	BoCC Red	BoCC Amber			
Kestrel					X	4, 6, 9, 25, 27, 33, 45, 46, 53, 54, 58, 60	1	F, FL
Lesser Black-backed Gull					X	10	2	L
Linnet			X	X		8, 7, 16, 18, 47, 57	60 (# 16)	F, FL
Meadow Pipit					X	1, 2, 4, 7, 8, 22, 33, 39, 45, 50, 59	14 (# 2)	C, F, FL
Mistle Thrush					X	20, 25, 27	1	F, FL
Moorhen					X	10, 16, 18, 25, 50	10 (# 18)	F, L
Peregrine	X	X				58	1	R
Pintail					X	10	18	F
Redwing		X		X		4, 7, 8, 9, 16, 54	10 (#'s 8, 16)	C, F, FL
Reed Bunting			X		X	1, 2, 4, 6, 15, 22, 23, 43, 50, 58, 64	10 (# 15)	C, F
Shoveler					X	10	60	F
Skylark			X	X		1, 2, 4, 22, 25, 27, 28, 33, 36, 38, 41, 43, 46, 50, 51, 54, 57, 58, 59	8 (# 59)	C, F, FL, S
Snipe					X	1, 2, 7, 39, 47	3 (# 47)	F, FL
Song Thrush			X		X	4, 7, 8, 13, 14, 17, 18, 22, 27	2 (# 22)	S

Species ⁵⁸	Status					Field Number	Peak Abundance	Behaviours ⁵⁹
	Annex 1	Sched. 1	Section 41	BoCC Red	BoCC Amber			
Starling			X	X		4, 8, 15, 18, 19, 22, 23, 27, 38, 42, 43, 45, 46, 47, 50, 52, 29, 61	450 (# 43)	F, FL, L, R
Stock Dove					X	22, 23, 55, 64	13 (# 22)	F
Wood Pigeon					X	1, 2, 4, 6, 7, 8, 14, 15, 16, 18, 19, 20, 21, 22, 23, 25, 27, 28, 31, 32, 33, 37, 38, 39, 40, 41, 43, 45, 47, 49, 50, 52, 54, 55, 56, 60, 61	500 (# 19)	F, FL, R
Wren					X	2, 4, 7, 10, 16, 18, 20, 21, 22, 33, 54	2 (#'s 16, 18, 33)	C, F, S
Yellowhammer			X	X		16, 20, 21, 22, 27, 43, 58	2 (# 20)	F, FL, R

Breeding

- 1.4.84 During the breeding season counts, 29 Priority Species were recorded, and breeding behaviours were recorded for 16 of them. Two of them (common gull and stock dove) were recorded overflying the survey area only, however while breeding can be ruled out for the former (based on frequency of occurrence and behaviour observed) breeding habitat for stock dove is present in the form of potential nest cavities in farm buildings and trees and it is likely that this species has bred within the survey area.
- 1.4.85 Greylag goose, moorhen and black-headed gull bred at Rosper Road Pools but were otherwise not widespread within the wider survey area. The pools also supported moderate numbers of feeding gadwall and small numbers of feeding and roosting lesser black-backed and herring gulls. Little ringed plover was present feeding at the pools on one occasion early in the breeding season but was not recorded on any subsequent surveys. Non-priority species such as coot and little grebe were also present and probably nested there.
- 1.4.86 Gulls were notable in their relative scarcity away from pools and ponds and thus were not recorded as widespread or abundant species over farmland when compared with the results for winter.
- 1.4.87 Within the wider survey area water birds were more widespread, with few patterns of regular occurrence that can be attributed to specific locations, which is indicative of opportunistic habitat use rather than dependence on particular habitats or locations. However, moorhen occurred regularly at the ponds at “fields” 18 and 50 and non-priority species such as coot and tufted duck were present on the pond at field 50 (although there was no evidence of breeding for this species), the former species also occurring on the pond at field 18.
- 1.4.88 Breeding behaviours were recorded over much of the survey area for Priority Species that are generally common and widespread, including dunnock (singing males), linnet (singing males), skylark (males in songflight), wood pigeon (territorial and displaying adults), yellowhammer (singing males) and yellow wagtail (singing males) although breeding behaviours for yellowhammer and yellow wagtail were recorded predominantly across the southern half of the survey area.
- 1.4.89 The open arable and pastoral farmland that dominate the landscape supported good numbers of breeding skylark, with up to 8 singing males within the mix of unmanaged grassland and bare ground in field 2 at the northern end for the survey area and consistent presence of his species in the adjoining fields of North Killingholme Grazing Marshes (fields 1-7). It was one of the only areas that supported breeding meadow pipit. Large numbers (at least 12) of feeding snipe were present in this area also.
- 1.4.90 Reed bunting was fairly widespread across the survey area but restricted mainly to tall, wet grasslands and reedbeds, singing males occurring widely across the North Killingholme Marshes (Fields 1-8), with scattered records elsewhere.
- 1.4.91 Willow warbler, bullfinch and greenfinch showed restricted distribution tied to trees, scrub and woodland, and only the latter showed any breeding behaviours, however bullfinch is a very “shy” bird that is difficult to detect and as such breeding for this species may have gone undetected at some locations. House sparrow was notable for its very restricted distribution however probable breeding was recorded close to Roxton Farm (Field 52).
- 1.4.92 Singing males of both mistle thrush and song thrush were recorded, the former at one location close to Immingham. Song thrush was more widespread, with males singing from trees and hedgerows across North Killingholme Marshes, in the vicinity of Houlton’s Covert, Immingham Golf Course and close to Roxton Wood.
- 1.4.93 The only Priority Species of warbler was willow warbler, singing males occurring in the scrub across North Killingholme Marshes and Houlton’s Covert.

Table 20: Breeding bird FLL surveys North (notable bird species) March 2022 – August 2022

Species ⁶⁰	Status					Field Number ⁶¹	Peak Abundance	Behaviours ⁶²
	Annex 1	Sched. 1	Section 41	BoCC Red	BoCC Amber			
Black-headed Gull					X	2, 8, 10, 18	55 (# 2)	F, FL, N
Bullfinch			X		X	13, 17, 21, 57	1	C
Dunnock			X		X	2, 3, 6, 14, 16, 17, 23, 27, 28, 30, 35, 40, 46, 54, 58	2 (# 14)	F, S
Gadwall					X	10	43	F, FL, R
Greenfinch				X		26, 32, 35, 38	1	F, S
Greylag Goose					X	6, 8, 10	16 (# 8)	F, Juv
Grey Partridge			X	X		41, 50, 57	8 (# 50)	F
Herring Gull			X	X		10b, 54	6 (# 54)	F, R
House Sparrow			X	X		28, 49, 52	10 (# 52)	C, F, T
Kestrel					X	4, 19, 53, 58	1	F, FL
Lesser Black-backed Gull					X	10, 54	2	F, R

⁶⁰ Records of over flying black-headed gull, common gull and herring gull have been omitted from the data set due to their presence throughout the survey area engaging in frequent flight behaviour. These behaviours provide no evidence of habitat use.

⁶¹ Field numbers in red font are those at which breeding behaviours were recorded.

⁶² Behaviour codes in bold font occurred at the locations for which peak abundance is identified. C = Calling; D = Displaying; F = Foraging; FL = Flying over; Juv = Juveniles present; L = Loafing; N = Nests/nesting; R = Roosting; S = Singing; T = Territorial.

Species ⁶⁰	Status					Field Number ⁶¹	Peak Abundance	Behaviours ⁶²
	Annex 1	Sched. 1	Section 41	BoCC Red	BoCC Amber			
Linnet			X	X		1, 4, 6, 16, 20, 20a, 25, 27, 35, 44, 47, 52, 54, 57, 62	11 (# 20a)	C, F, FL, L, S
Little Ringed Plover		X				10	1	F
Meadow Pipit					X	1, 2, 4, 7, 8, 46	6 (# 2)	C, D, S
Mistle Thrush				X		35	1	S
Moorhen					X	10, 18, 50	3 (# 18)	F
Reed Bunting			X		X	1, 2, 3, 4, 7, 8, 15, 20, 20a, 40	1	C, FL, S
Skylark			X	X		1, 2, 4, 7, 19, 22, 24, 25, 28, 29, 33, 41, 43, 44, 45, 46, 47, 49, 50, 53, 54, 57, 58, 59	8 (# 2)	C, S, FL
Snipe					X	1, 2	12 (# 2)	F, FL
Song Thrush			X		X	2, 4, 6, 7, 14, 16, 19, 21, 27, 58, 60	1	C, FL, S
Sparrowhawk					X	28b	1	F
Starling			X	X		2, 23a	12 (# 23a)	F
Stock Dove					X	1, 24, 52, 63	3 (# 24)	FL
Willow Warbler					X	4, 6, 14, 16	2 (#'s 14, 16)	S
Wood Pigeon					X	2, 4, 5, 6, 7, 8, 15, 16, 17, 18, 19, 20, 20a, 20c, 21, 22, 23,	50 (# 33)	D, F, FL, L, N, R, S, T

Species ⁶⁰	Status					Field Number ⁶¹	Peak Abundance	Behaviours ⁶²
	Annex 1	Sched. 1	Section 41	BoCC Red	BoCC Amber			
						23a, 23b, 25, 26, 27, 27b, 27d, 28, 28b, 28c, 30, 31, 33, 38, 39, 40, 41, 42, 44, 45, 47, 47a, 47b, 49, 50, 51, 52, 54, 59, 60, 61, 62, 63, 65		
Wren					X	2, 3, 7, 10, 16, 17, 18, 21, 26, 27, 30, 38, 46, 47, 49, 50 54	5 (#'s 10)	C, F, S
Yellowhammer			X	X		16, 23, 24, 40, 43, 47, 50, 54, 57, 59	2 (# 16, 43, 45, 50)	C, F, FL, S
Yellow Wagtail			X	X		1, 22, 27, 28, 40, 45, 50, 57, 59, 60	1	C, FL, S

Functionally Linked Land - South

Qualifying Species of Designated Sites

1.4.94 **Table 21** and **Table 22** summarise the counts of species that are qualifying features of the Humber Estuary Ramsar, SPA and SSSI; Saltfleetby - Theddlethorpe Dunes SSSI; and pink-footed goose, recorded during the non-breeding and breeding surveys respectively. The tables set out the locations (expressed as field numbers), dates, and counts for each species with the peak count expressed as a proportion of the SPA population to aid interpretation of the significance of the results. The data (frequency of occurrence and peak count by location) for the whole survey period are represented on the following figures to provide a visual cue to the distribution of the qualifying species of designated sites⁶³:

- Curlew (**Figure 22**);
- Golden plover (**Figure 23**);
- Lapwing (**Figure 24**);
- Mallard (**Figure 25**);
- Oystercatcher (**Figure 26**);
- Pink-footed goose (**Figure 27**);
- Redshank (**Figure 28**);
- Shelduck (**Figure 29**);
- Teal (**Figure 30**); and,
- Wigeon (**Figure 31**).

1.4.95 During non-breeding bird counts the following were recorded within the southern FLL survey area:

- Eleven qualifying features of the Humber Estuary Ramsar and SPA;
- Nine qualifying features of the Humber Estuary SSSI (all of which are shared features with the above SPA); and,
- Four qualifying species features of Saltfleetby – Theddlethorpe Dunes SSSI (all of which are shared features with the Humber Estuary Designations); and
- Pink-footed goose.

1.4.96 The land immediately east of TGT (Viking Fields⁶⁴) includes an intimate mix of wet grasslands, pools and agricultural land in proximity to coastal habitats. Redshank, teal, wigeon, curlew, mallard and lapwing occurred repeatedly (on at least 3 out of the 7 non-breeding counts) in this area (fields 7-11 and in some cases northwards through fields 3-6), indicating its importance to a wide range of SPA qualifying features. Curlew, lapwing, teal and wigeon all exceeded 1% of the SPA population in this area on at least one occasion; the fields immediately north of Theddlethorpe St. Helen (12) attracted large numbers of wigeon and teal in December 2021. Wigeon was not recorded inland of this location.

1.4.97 Further inland, records of wading birds were dominated by curlew and lapwing, with only two counts of golden plover, which was recorded infrequently and in small numbers across the survey area as a whole; and scattered records of ducks, the latter with few regular

⁶³ Figures are not provided for species for which there was only a single record, or that were overflying only (ruff, dunlin, greenshank and hen harrier)

⁶⁴ Viking Fields is the nomenclature used by BTO to define the Wetland Birds Survey (WeBS) core count sector that covers the field between the former TGT site and the dunes to the east. For the sake of clarity this nomenclature has been adopted for the purposes of discussing the occurrence of birds at this location in this report, the confidential ornithology baseline report (*ES Volume IV Appendix 6.8 Confidential Ornithology Baseline Report (Application Document 6.4.6.8)*) and *ES Volume II Chapter 6 (Application Document 6.2.6)*.

patterns of distribution and rarely (or never in the case of teal) occurring in numbers exceeding 1% of the SPA threshold:

- Curlew occurred inland of TGT regularly as far as Gayton le Marsh Grange (approximately 4km from the coast), beyond which there were very few records; and,
- Lapwing was recorded on several fields a short distance north of Manby Washlands and occasionally within some of the fields between Theddlethorpe St. Helen and Gayton le Marsh Grange, however this species occurred regularly within Viking Fields immediately east of TGT, occasionally reaching or exceeding 1% of the SPA population.

1.4.98 Other SPA birds (greenshank, hen harrier, dunlin) occurred but as singles, or flyover records with no observable pattern of distribution or habitat use.

1.4.99 Pink-footed goose occurred every month between and including November 2021 – February 2022 and September – October 2022 in numbers significantly exceeding 1% of the Humber Estuary population. This species was consistently present across a wide area between Grimoldby and TGT, with the largest counts at the western end of this area, occurring most frequently on winter cereal fields between Grimoldby and Saltfleetby St. Peter, and between Manby Washlands and Gayton le Marsh Grange, where they fed in sometimes large flocks often exceeding 500 and occasionally exceeding 2,000 birds. Scattered occurrences were recorded elsewhere across the survey area although with far less regularity, however at Field 47 north of Theddlethorpe all Saints, this species was recorded on at least four occasions in feeding flocks of between 150 and 2,100 (mean 812). The majority of records occurred on fields sown with winter cereals and on stubble; habitat use and therefore distribution of this species would be expected to vary year on year with crop rotation and a consistent pattern of occurrence cannot be determined for this species.

Table 21: Occurrence of qualifying species of Statutory Designated Sites across the southern FLL Survey Area during the non-breeding season

Species	Survey date ⁶⁵	Field Number	Count (Behaviours) ⁶⁶	Peak Count as % of SPA population
Curlew	November 2021	5	2 (F)	3.0% (a)
	November 2021	10	15 (F)	
	November 2021	14	15 (F, L)	
	November 2021	41	28 (F)	
	November 2021	49	5 (F)	
	November 2021	52	1 (C)	
	November 2021	54	50 (F)	
	December 2021	9	6 (F)	
	December 2021	12	10 (F)	
	December 2021	14	15 (F)	
	December 2021	31	2 (F)	
	December 2021	31	15 (F)	
	December 2021	37	16 (F)	
	December 2021	49	45 (F)	

⁶⁵ N=7

⁶⁶ Behaviour Codes: f = feeding; l = loafing; r = roosting; O = Other

Species	Survey date ⁶⁵	Field Number	Count (Behaviours) ⁶⁶	Peak Count as % of SPA population
	December 2021	54	10 (L)	
	December 2021	64	23 (F)	
	December 2021	65	3 (F)	
	January 2022	2	4 (F)	
	January 2022	3	8 (F)	
	January 2022	8	9 (F)	
	January 2022	9	15 (F)	
	January 2022	10	14 (F)	
	January 2022	15	15 (F)	
	January 2022	26	1 (F)	
	January 2022	35	6 (F)	
	January 2022	52	24 (F)	
	January 2022	54	3 (F)	
	January 2022	55	54 (F)	
	January 2022	108	3 (F)	
	February 2022	3	15 (F)	
	February 2022	4	2 (F)	
	February 2022	4	31 (F)	
	February 2022	7	1 (F)	
	February 2022	9	6 (F)	
	February 2022	11	1 (F)	
	February 2022	14	29 (F)	
	February 2022	18	45 (F)	
	February 2022	19	13 (F)	
	February 2022	27	1 (F)	
	February 2022	28	2 (F)	
	February 2022	32	5 (F)	
	February 2022	33	8 (F)	
	February 2022	35	12 (F)	
	March 2022	5	11 (F)	
	March 2022	6	7 (F)	
	March 2022	7	2 (F)	
	March 2022	8	5 (F)	
	March 2022	9	12 (F)	
	March 2022	11	1 (F)	
	March 2022	14	3 (F)	
	March 2022	20	75 (F)	
	March 2022	24	42 (F)	
	March 2022	31	1 (F)	
	September 2022	2	2 (F)	
	September 2022	10	8 (F)	

Species	Survey date ⁶⁵	Field Number	Count (Behaviours) ⁶⁶	Peak Count as % of SPA population
	September 2022	59	20 (F)	
	October 2022	TGT	1 (F)	
	October 2022	6	1 (F)	
	October 2022	20	30 (F)	
	October 2022	35	11 (F)	
	October 2022	36	3 (F)	
	October 2022	79	21 (F)	
Dunlin	January 2022	9	1 (F)	<1.0% (w) <1.0% (p)
Golden Plover	November 2021	64	50 (F)	<1.0% (w)
	September 2022	72	32 (L)	
Greenshank	December 2021	92	1 (F)	2.2% (a)
Hen Harrier	November 2021	59	1 (F)	12.5% (w)
Lapwing	November 2021	32	50 (F)	3.9% (a)
	November 2021	64	150 (F)	
	November 2021	122	6 (F)	
	November 2021	124	38 (F)	
	December 2021	9	160 (F)	
	December 2021	17	24 (F)	
	January 2022	47	600 (F)	
	January 2022	120	200 (F)	
	January 2022	151	50 (F)	
	February 2022	8	7 (F)	
	February 2022	9	135 (F, L)	
	February 2022	120	7 (F)	
	February 2022	123	100 (F)	
	March 2022	9	45 (F)	
	March 2022	10	75 (F)	
	March 2022	11	2 (F)	
	March 2022	75	3 (O)	
September 2022	8	2 (L)		
September 2022	42	60 (L)		
September 2022	43	10 (L)		
Mallard	December 2021	TGT	4 (L)	1.4% (a)
	December 2021	8	2 (F)	
	December 2021	31	5 (F)	
	December 2021	49	2 (F)	
	December 2021	74	2 (F)	
	December 2021	83	2 (L)	

Species	Survey date ⁶⁵	Field Number	Count (Behaviours) ⁶⁶	Peak Count as % of SPA population
	December 2021	120	2 (F)	
	December 2021	142	2 (L)	
	January 2022	33	15 (F)	
	January 2022	119	2 (F)	
	February 2022	8	2 (F)	
	February 2022	9	4 (F)	
	February 2022	33	5 (F)	
	February 2022	145	2 (F)	
	March 2022	9	6 (F)	
	March 2022	10	3 (F)	
	March 2022	11	2 (F)	
	March 2022	32	13 (F)	
	March 2022	107	2 (F)	
	March 2022	112	2 (F)	
	March 2022	154	2 (F)	
	March 2022	189	2 (F)	
Pink-footed Goose	November 2021	10	83 (F)	
	November 2021	73	60 (F)	
	November 2021	90	1000 (R)	
	November 2021	93	193 (F)	
	November 2021	94	350 (F)	
	November 2021	95	700 (F)	
	November 2021	96	553 (F)	
	December 2021	14	85 (F)	
	December 2021	47	400 (F, L)	
	December 2021	118	850 (F)	
	December 2021	132	600 (F)	
	December 2021	151	75 (F, L)	
	December 2021	152	150 (F)	
	December 2021	153	1500 (F)	
	January 2022	10	1 (F)	
	January 2022	47	2100 (F)	
	January 2022	86	850 (F)	
	January 2022	92	7 (F)	
	January 2022	112	290 (F)	
	February 2022	92	900 (F)	
	February 2022	152	2200 (F)	
	February 2022	158	17 (F)	
September 2022	47	600 (F)		
October 2022	47	150 (L)		

8.7% (a)

Species	Survey date ⁶⁵	Field Number	Count (Behaviours) ⁶⁶	Peak Count as % of SPA population
Redshank	January 2022	9	2 (F)	<1.0% (w, p)
	January 2022	TGT	1 (L)	
	January 2022	9	6 (F)	
	March 2022	10	3 (F)	
	March 2022	8	6 (F)	
	March 2022	9	12 (F)	
	March 2022	10	12 (F)	
Teal	November 2021	8	4 (F)	2.4% (a)
	November 2021	9	20 (F)	
	November 2021	10	25 (F)	
	November 2021	32	12 (F)	
	December 2021	8	25 (F)	
	December 2021	9	10 (F)	
	December 2021	11	8 (F)	
	December 2021	12	75 (F, L)	
	December 2021	120	8 (F)	
	December 2021	142	8 (F)	
	January 2022	9	35 (F)	
	January 2022	10	60 (F)	
	January 2022	44	1 (F)	
	January 2022	74	7 (F)	
	January 2022	119	1 (F)	
	February 2022	8	45 (F)	
	February 2022	9	125 (F, L)	
	February 2022	11	15 (F, L)	
	February 2022	63	2 (F)	
	February 2022	92	2 (F)	
	February 2022	94	3 (F)	
	February 2022	141	15 (F)	
	March 2022	8	26 (F)	
	March 2022	9	25 (F)	
	March 2022	10	18 (F)	
	March 2022	32	36 (F)	
October 2022	19	1 (L)		
October 2022	26	4 (L)		
Wigeon	November 2021	9	35 (F)	23.2% (a)
	November 2021	10	25 (F)	
	December 2021	9	110 (F)	
	December 2021	12	260 (F, L)	
	January 2022	8	50 (F)	
	January 2022	9	150 (F)	

Species	Survey date ⁶⁵	Field Number	Count (Behaviours) ⁶⁶	Peak Count as % of SPA population
	January 2022	10	250 (F)	
	January 2022	11	8 (F)	
	February 2022	8	250 (F)	
	February 2022	9	650 (F)	
	February 2022	10	350 (F, L)	
	February 2022	11	450 (F, L)	
	March 2022	8	20 (F)	
	March 2022	9	850 (F)	
	March 2022	10	3 (F)	

1.4.100 Breeding season counts generated records not only of birds engaging in breeding activities, but also of non-breeding birds during passage periods, such records being relevant to the discussion of non-breeding SPA qualifying species. These include redshank, curlew, ruff, teal and wigeon, all of which contributed numbers exceeding 1% of the SPA population for the relevant period (winter and/or passage).

1.4.101 Curlew, lapwing, oystercatcher, redshank, ruff, shelduck, teal and wigeon were recorded predominantly in a small number of fields adjacent to and predominantly east of TGT. Lapwing, redshank, ruff and wigeon were recorded exclusively within the grazing marshes immediately east of TGT (fields 8-11), with ruff occurring on only one of the surveys (in April 2022). Breeding was not recorded for any of these species; and all but lapwing were absent in May – July when they would be expected to be on breeding grounds.

1.4.102 Only mallard occurred across a wider area with any regularity, although not in numbers that are significant in the context of the wintering SPA population. The network of drains, ditches, streams and ponds across the survey area provides suitable habitat for this widespread species.

Table 22: Occurrence of qualifying species of Statutory Designated Sites across the southern FLL Survey Area during the breeding season

Species	Survey date	Field Number	Count (Behaviours) ⁶⁷	Peak count as a % of SPA population
Curlew	March 2022	3	30 (F)	1.2% (a)
	March 2022	5	1 (F)	
	March 2022	9	2 (F)	
	March 2022	14	1 (F)	
	March 2022	17	3 (F)	
	April 2022	8	3 (F)	
	April 2022	19	1 (C)	
	August 2022	7	20 (F)	
Lapwing	March 2022	9	16 (F)	<1.0% (a)
	March 2022	10	15 (F, D)	
	March 2022	11	1 (D)	
	April 2022	8	4 (F – 2 pairs)	
	April 2022	9	8 (F – 4 pairs)	
	April 2022	10	8 (F – 4 pairs)	
	May 2022	10	2 (F – 1 pair)	
	June 2022	8	3 (F – 1 pair)	
	June 2022	9	2 (F – 1 pair)	
June 2022	10	2 (F)		
Mallard	March 2022	17	3 (F)	<1.0% (a)
	March 2022	26	4 (F)	
	March 2022	32	1 (F)	
	March 2022	43	2 (F)	
	April 2022	8	4 (F, 2 pairs)	
	April 2022	10	2 (F, 1 pair)	
	April 2022	33	1 (F)	
	April 2022	62	2 (F)	
	April 2022	75	1 (F)	
	April 2022	83	5 (F)	
	April 2022	125	1 (F)	
	April 2022	139	1 (F)	
	April 2022	140	2 (F)	
	May 2022	10	2 (F)	
	May 2022	11	2 F, pair)	
August 2022	32	10 (F)		
Oystercatcher	March 2022	TGT	2 (F)	<1.0% (a)
	March 2022	9	6 (F)	

⁶⁷ Behaviour Codes: f = feeding; c = courtship; d = breeding/territorial display

Species	Survey date	Field Number	Count (Behaviours) ⁶⁷	Peak count as a % of SPA population
	May 2022	10	2 (F)	
Redshank	March 2022	10	6 (F)	<1.0% (w, p)
	April 2022	10	2 (F – 1 pair)	
	April 2022	11	1 (F)	
Ruff	April 2022	10	4 (F)	3.1% (p)
Shelduck	March 2022	106	2 (F)	<1.0% (w)
	April 2022	8	2 (F – 1 pair)	
	April 2022	9	2 (F – 1 pair)	
	May 2022	11	2 (L)	
Teal	March 2022	8	15 (F)	<1.0% (a)
	March 2022	9	25 (F)	
	March 2022	10	25 (F)	
	March 2022	11	15 (F)	
	March 2022	32	5 (F)	
	April 2022	8	6 (F – 3 pairs)	
	April 2022	9	8 (F – 4 pairs)	
	April 2022	10	8 (F – 4 pairs)	
	April 2022	11	2 (F)	
April 2022	121	2 (F)		
Wigeon	March 2022	8	80 (F)	3.3% (a)
	March 2022	9	60 (F)	
	March 2022	10	120 (F)	
	April 2022	9	3 (F)	

Priority Species

1.4.103 A summary of the Priority Species recorded during FLL bird counts is provided for the non-breeding and breeding periods respectively in **Table 23** and **Table 24**.

Wintering

1.4.104 Thirty-three Priority Species were recorded during the wintering surveys. There are few distinguishable patterns of distribution for most species, which is consistent with the expectation that habitat use by most birds in winter is largely due to opportunistic feeding, rather than reflecting ties to specific locations as would occur during the breeding season. However, some observations of bird behaviours, habitat use, and distribution are made in paragraphs 1.4.117 – 1.4.124, where possible.

1.4.105 Wetland birds other than SPA qualifying species were recorded throughout the survey area but with some clear patterns as follows:

- Gulls (black – headed and herring) were widespread across arable farmland and pastures throughout the survey area with peak counts in the mid hundreds. Both species occurred regularly feeding on the wet pastures east of TGT and black headed gull was also recorded loading on the open ground within TGT;
- Green sandpiper occurred as singles at three locations both inland (close to Manby Washlands) and close to the coast, suggesting some movements inland for this species between foraging and possible roosting areas;
- Greylag goose occurred in small numbers (six or fewer) east of TGT only;
- Little egret was widespread, occurring mainly on the drains and small watercourses that intersect the arable fields; and,
- Shoveler and snipe occurred in small numbers exclusively on the grazing marshes and wet grasslands east of TGT.

1.4.106 Observations of overflying and hunting raptors included occasional peregrine and sparrowhawk, but this species group was disproportionately represented by kestrel, which was present across all of the survey area as single, mostly hunting and flying over, but with occasional roosting and occurrences of territorial behaviours suggestive of breeding.

1.4.107 Typical small farmland passerines were well represented by dunnoek, house sparrow, linnnet, meadow pipit, reed bunting, skylark and yellowhammer feeding, flying through the survey area, all of which were widespread.

1.4.108 Smaller numbers of tree sparrow, grey wagtail, greenfinch, and bullfinch were recorded, all of which were rather isolated in small areas of suitable habitat with no identifiable pattern of occurrence.

1.4.109 Pigeons/doves, winter thrushes (redwing and fieldfare) and starling were all widespread feeding in flocks of various sizes from 1,500 (starling) through to the mid to high hundreds for fieldfare and wood pigeon down to 25 for redwing.

1.4.110 Some rarities and winter visitors occurred on no more than one survey included a single yellow-legged gull loafing on the open ground within TGT and 20 brambling feeding on field 6 adjacent to the coastal dune scrub of Theddlethorpe Dunes.

Table 23: Wintering bird FLL South surveys (priority bird species) November 2021 – March 2022 and September 2022 – October 2022

Species ⁶⁸	Status					Field Number	Peak Abundance	Behaviours ⁶⁹
	Annex 1	Sched. 1	Section 41	BoCC Red	BoCC Amber			
Black-headed Gull					X	TGT, 6, 7, 8, 11, 23, 28, 31, 32, 34, 37, 39, 49, 60, 64, 72, 121, 122, 123, 142, 169	320 (# 142)	F, L
Brambling		X				6	20	F
Bullfinch			X		X	35	1	FL
Dunnock			X		X	TGT, 1, 2, 6, 7, 11, 30, 32, 35, 43, 47, 77, 95, 107, 109, 134	15 (# 1)	C, F, S
Fieldfare		X		X		95, 96, 100, 112, 118, 119, 124, 145, 182	620 (# 182)	F
Greenfinch				X		107, 127, 129	10 (# 127)	C, F
Green Sandpiper		X			X	16, 112, 134	1	C, F, FL
Greylag Goose					X	9, 10	6 (# 9)	F
Grey Partridge			X	X		94, 136	8 (# 94)	F, FL
Grey Wagtail					X	42	1	C
Herring Gull			X	X		7, 10, 14, 37, 47, 49, 52, 56, 92, 93, 128, 142	500 (# 142)	F

⁶⁸ Records of over flying black-headed gull, common gull and herring gull have been omitted from the data set due to their presence throughout the survey area engaging in frequent flight behaviour. These behaviours provide no evidence of habitat use.

⁶⁹ Behaviour codes in **bold** font occurred at the locations for which peak abundance is identified. C = Calling; F = Foraging; FL = Flying over; L = Loafing; R = Roosting; S = Singing.

Species ⁶⁸	Status					Field Number	Peak Abundance	Behaviours ⁶⁹
	Annex 1	Sched. 1	Section 41	BoCC Red	BoCC Amber			
House Sparrow			X	X		1, 24, 53, 55, 56, 76, 92, 112, 122	30 (# 56)	C, F, FL
Kestrel					X	TGT, 6, 11, 18, 22, 23, 26, 27, 28, 31, 34, 36, 43, 46, 47, 49, 52, 54, 57, 59, 64, 67, 69, 70, 72, 78, 80, 87, 90, 92, 100, 107, 112, 118, 119, 121, 125, 132, 134, 140, 144, 150, 154, 171	1	F, FL, L, R, T
Linnet			X	X		TGT, 1, 28, 32, 43, 59, 74, 77, 80, 82, 92, 94, 119, 123, 127, 132, 134, 135, 144, 145	40 (# 1)	F, FL, R
Little Egret	X					31, 67, 92, 95, 109, 111, 112, 114, 121	1	F, L
Meadow Pipit					X	TGT, 6, 8, 20, 74, 93, 100, 104, 118, 136, 154	8 (# 6)	C, F, FL, R
Mistle Thrush					X	45	1	L
Peregrine	X	X				92, 112	1	FL
Redwing		X		X		TGT, 1, 6, 8, 17, 28, 30, 78, 107, 100, 112, 124, 140	25 (# 30)	C, F, FL
Reed Bunting			X		X	1, 30, 32, 41, 72, 74, 75, 95, 123, 125	15 (# 123)	F, L, R
Rook					X	14, 36, 56, 182	35 (# 56)	L, FL

Species ⁶⁸	Status					Field Number	Peak Abundance	Behaviours ⁶⁹
	Annex 1	Sched. 1	Section 41	BoCC Red	BoCC Amber			
Shoveler					X	8, 9, 10, 11	15 (# 10)	F
Skylark			X	X		TGT, 2, 5, 16, 28, 33, 43, 58, 66, 72, 73, 74, 75, 77, 82, 83, 92, 93, 95, 96, 97, 100, 102, 112, 114, 107, 117, 125, 129, 130, 134, 141, 144, 148, 149, 154	93 (# 74)	C, F, FL , S
Snipe					X	8, 9, 11	2 (#s 8, 11)	F
Song Thrush			X		X	TGT, 1, 6, 35	4 (# 6)	C, F
Sparrowhawk					X	1, 17, 49, 119, 128	2 (# 1)	D , F, FL
Starling			X	X		1, 8, 9, 10, 11, 14, 20, 32, 35, 39, 44, 49, 54, 58, 59, 74, 79, 82, 92, 93, 95, 109, 112, 113, 118, 119, 120, 121, 122, 123, 124, 126, 135, 137, 142, 145, 182	1500 (# 93)	F , FL , R
Stock Dove					X	24, 30, 32, 36, 43, 44, 47, 56, 65, 93, 118, 126, 136, 145, 182	45 (# 126)	F , FL
Tree Sparrow			X	X		2, 123, 127	12 (# 123)	C, F , R
Tufted Duck						10	3	F
Wood Pigeon					X	TGT, 2, 7, 8, 10, 16, 17, 18, 19, 20, 24, 26, 28, 29, 30, 31,	750 (# 143)	F, L, R

Species ⁶⁸	Status					Field Number	Peak Abundance	Behaviours ⁶⁹
	Annex 1	Sched. 1	Section 41	BoCC Red	BoCC Amber			
						32, 34, 35, 36, 39, 40, 47, 48, 49, 53, 54, 55, 56, 58, 59, 60, 63, 64, 65, 70, 87, 95, 96, 100, 108, 111, 112, 114, 119, 122, 123, 124, 125, 126, 134, 139, 140, 141, 142, 143, 144, 145, 146, 148, 150, 166, 167, 182		
Wren					X	TGT, 49, 94, 96, 98	1	C, F, FL, S
Yellowhammer			X	X		6, 16, 32, 67, 95, 112, 119, 122, 123, 125, 127, 134, 140, 154, 155	26 (# 125)	C, F, FL, R
Yellow-legged Gull					X	TGT	1	L

Breeding

- 1.4.111 During the breeding season counts, 31 Priority Species were recorded, and breeding behaviours were recorded for 12 of them. There are few discernible patterns of occurrence to report and no obvious hotspots of breeding activity apparent from the data. Further narrative on this is provided in paragraphs 1.4.125– 1.4.130.
- 1.4.112 Wetland birds were represented primarily by black – headed and common gulls, both of which occurred in feeding and loafing parties across the survey area, including TGT, the grazing marshes east of TGT and more widely across the survey area in moderate numbers. Breeding was not recorded for either of these species or for any other wetland birds.
- 1.4.113 Green sandpiper occurred as a foraging single close to Manby Washlands (consistent with the results of the wintering counts as reported in paragraph 6.4.105), greylag goose was recorded foraging in moderate numbers on the grazing marsh east of TGT and lesser black-backed gull occurred as a single bird loafing on TGT. Other than these records, wetland Priority Species were not a significant component of the breeding bird assemblage.
- 1.4.114 Breeding behaviours were widely recorded mainly for passerines associated with open farmland, hedgerows and scrub, and in a small number of cases for thrushes, pigeons/doves and warblers with a more restricted distribution. Of these, skylark was recorded across almost all of the survey area engaging in song flight over open fields. Reed bunting, yellowhammer, meadow pipit, dunnoek, wren and song thrush showed a more restricted distribution and/or occurred in smaller numbers across the survey area as singles, small feeding groups and singing males. Both sedge warbler and willow warbler were recorded as single singing males in the environs of TGT (respectively, within reedbed adjacent to the network of drains that skirt the southern side of TGT, and the dune scrub of Theddlethorpe Dunes). Singing greenfinch was recorded within woodland immediately west of TGT, but other than this species there were few records of breeding birds from this band of woodland.
- 1.4.115 Species that were present in suitable breeding habitat but for which breeding behaviours were not recorded included, in isolated locations as single singing males house sparrow, kestrel (which was recorded hunting over much of the survey area), linnet, tree sparrow (which occurred as a party of 10 feeding birds representing a possible breeding colony), wood pigeon and yellow wagtail.

Table 24: Breeding bird FLL surveys South (Priority bird species) March 2022 – August 2022

Species ⁷⁰	Status					Field Number ⁷¹	Peak Abundance	Behaviours ⁷²
	Annex 1	Sched. 1	Section 41	BoCC Red	BoCC Amber			
Black-headed Gull					X	TGT, 1, 8, 10, 28, 33, 34, 107, 114, 151	75 (# 114)	F, FL, L
Common Gull					X	TGT, 17, 33, 34, 107, 114, 151	45 (# 114)	F, L
Dunnock			X		X	1, 2, 3, 6, 49, 76, 107 112, 120, 123	4 (# 1)	C, F, S
Greenfinch				X		28	1	S
Green Sandpiper		X			X	122	1	F
Greylag Goose					X	11	35	F
Herring Gull			X	X		1, 11, 92, 93, 111, 123, 143, 151	25 (#'s 11, 92)	F, L
House Sparrow			X	X		1, 52	25 (# 52)	F, L
Kestrel					X	14, 15, 16, 17, 18, 36, 40, 43, 51, 57, 59, 64, 66, 76, 84, 92, 112, 139, 167, 176, 180	3 (TGT)	F, FL
Lesser Black-backed Gull					X	TGT	1	L

⁷⁰ Records of over flying black-headed gull, common gull and herring gull have been omitted from the data set due to their presence throughout the survey area engaging in frequent flight behaviour. These behaviours provide no evidence of habitat use.

⁷¹ Field numbers in red font are those at which breeding behaviours were recorded.

⁷² Behaviour codes in bold font occurred at the locations for which peak abundance is identified. C = Calling; D = Displaying; F = Foraging; FL = Flying over; Juv = Juveniles present; L = Loafing; N = Nests/nesting; R = Roosting; S = Singing; T = Territorial.

Species ⁷⁰	Status					Field Number ⁷¹	Peak Abundance	Behaviours ⁷²
	Annex 1	Sched. 1	Section 41	BoCC Red	BoCC Amber			
Linnet			X	X		TGT, 2, 6, 11, 45, 51, 74, 83, 93, 100, 123, 127, 143, 172	55 (# 84)	F, FL, L
Meadow Pipit					X	83, 119, 120	2 (# 120)	F, FL, S
Mistle Thrush					X	33, 44	1	F, FL
Red Kite	X	X				112	1	FL
Redwing		X			X	107, 112, 123	60 (# 123)	F
Reed Bunting			X		X	19, 54, 74, 83, 95, 100, 120, 121, 125, 127	12 (# 83)	F, S
Rook					X	53, 119	35 (# 53)	F
Sedge Warbler					X	19	3	S
Skylark			X	X		1, 2, 8, 13, 15, 16, 19, 28, 32, 34, 35, 44, 45, 56, 59, 64, 74, 75, 76, 77, 82, 83, 92, 93, 97, 100, 108, 109, 111, 119, 120, 121, 122, 123, 125, 126, 127, 128, 135, 140, 141, 148, 154, 155, 158,	4 (# 82)	F, S
Song Thrush			X		X	43, 49, 172	1	S
Sparrowhawk					X	1, 112	1	F, FL
Starling			X	X		8, 35, 56, 69, 70, 92, 123, 132, 145, 177	7 (# 70)	F, FL, L, S

Species ⁷⁰	Status					Field Number ⁷¹	Peak Abundance	Behaviours ⁷²
	Annex 1	Sched. 1	Section 41	BoCC Red	BoCC Amber			
Stock Dove					X	TGT, 10, 34, 42, 61, 121, 123, 136, 128	20 (# 128)	F, L, S
Tree Sparrow			X	X		177	10	F
Whinchat				X		118	1	L
Willow Warbler					X	2	1	S
Wood Pigeon					X	1, 3, 9, 10, 11, 14, 17, 18, 23, 28, 34, 35, 36, 43, 47, 51, 53, 55, 56, 58, 59, 60, 69, 70, 74, 75, 77, 92, 114, 118, 119, 120, 121, 123, 126, 127, 128, 132, 136, 137, 141, 143, 144, 145, 148, 154, 167	75 (# 123)	F, FL, L, R
Wren					X	44, 56, 69, 95, 126, 127, 132	2 (#'s 44, 126, 132)	C, D, F
Yellowhammer			X	X		14, 107, 108, 109, 123, 126, 127	5 (# 123)	C, F, S
Yellow Wagtail			X	X		TGT, 74, 92	15 (TGT)	C, F

Point Counts

Winter Season Counts

- 1.4.116 **Table 25** summarises the birds recorded during point counts undertaken during the wintering period.
- 1.4.117 Winter counts recorded 41 Priority Species of which four (lapwing, golden plover, mallard and Teal) are qualifying features of the Humber Estuary SPA; and pink-footed goose. Of these, pink-footed goose was recorded in flight on two occasions only rather than utilising any of the habitats within visual range of any of the point counts. Golden plover was also recorded in flight and calling only, with no evidence of habitat use at any of the locations surveyed.
- 1.4.118 Lapwing occurred at five count locations, two of which (17 and G) yielded records of foraging and loafing birds; seven lapwing occurred on the fields west of point count 17 in January 2022, within approximately 80m of the DCO Site Boundary, and this was the only inland record of regular habitat use by wintering lapwing that was a significant distance from the FLL survey areas. Up to 70 feeding lapwing were recorded on the field immediately northeast of Point G, 2km beyond the FLL survey area and 235m north of the DCO Site Boundary, east of North Cockerington and this record is replicated in the incidental sightings summarised in **Table 28**. However, lapwing numbers here did not reach the 1 % threshold for significance with respect to the Humber Estuary SPA.
- 1.4.119 During winter counts there were very few records of qualifying species of designated sites regardless of season, and many of the records of such species were of birds flying over.
- 1.4.120 Golden plover appeared as scattered records with little if any regularity of occurrence at any one location and often flying over the survey area. This species is generally widespread over farmland in winter, especially in eastern England, therefore such records are to be expected.
- 1.4.121 Mallard were relatively infrequent on winter point counts but widespread, across the UK countryside where suitable wetland habitats occur, reflecting their occurrence regardless of any designations. The records of overflying teal and mallard at Point Count 1 probably indicate commuting flights to and from Manby Washlands to the South.
- 1.4.122 These observations broadly validate the areas assumed to be functionally linked to the Humber Estuary SPA for wintering and passage birds; beyond these areas, regular occurrence of SPA and SSSI birds in significant numbers did not occur.
- 1.4.123 Of the other species recorded, many were heavily localised and/or infrequently recorded, including: Lesser black-backed gull, great black-backed gull, finches, grey partridge, reed bunting, mistle thrush, house sparrow, tree sparrow, little egret and woodcock (the latter being secretive, hard to detect and therefore probably under-represented by the survey data).
- 1.4.124 Herring, black-headed and common gulls, corvids, pigeons, kestrel, linnet, starling and wren were widespread, with wood pigeon by far the most abundant species, roosting and feeding in flocks numbering over 1,000 at some locations. Red list winter farmland birds such as skylark, starling, winter migrant thrushes (fieldfare and redwing), meadow pipit, and birds associated with hedgerows, trees and woodlands (dunnock, greenfinch, yellowhammer) were widespread in modest numbers.

Table 25: Summary of Wintering bird Point Counts November 2021 – February 2022 and November 2022 – March 2023

Species ⁷³	Status					Point Counts	Peak Abundance	Behaviours ⁷⁴
	Annex 1	Sched. 1	Section 41	BoCC Red	BoCC Amber			
Black-headed Gull					X	1, 2, 3, 4, 5, 6, 7, 11, 13, 14, 15, 16, 17, 18, 20, 22, 24, 25, A, B, C, D, E, F, G, H	140 (#'s 6, 20)	F, FL, L, R
Brambling		X				15	1	C
Bullfinch			X		X	1, 10, A, B, E, F, G	1	C, FL, F
Common gull					X	2, 3, 4, 6, 7, 8, 9, 10, 12, 13, 14, 15, 17, 21, 22, 23, 24, 25, B, C, D, E, F, G, H	137 (# 4)	F, FL, L
Dunnock			X		X	2, 3, 5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, E, F, H	11 (# 9)	C, F
Fieldfare ⁷⁵		X		X		4, 6, 8, 12, 13, 17, 19, A, B, C, D, F, G, H	86 (# 17)	F, FL
Greenfinch				X		1, 15, 16, 19, B, E, F	2 (# 16)	C
Golden Plover	X					1, 4, 6, 7, 8, 12, G	70 (# 6)	C, FL
Great Black-backed Gull					X	E	3	FL
Grey Heron					X	7, 19, 20, H	1 (#7)	F, FL

⁷³ Species in **bold** font are qualifying non-breeding features of Humber Estuary SPA, Ramsar and SSSI

⁷⁴ Behaviour codes in **bold** font occurred at the locations for which peak abundance is identified. C = Calling; F = Foraging; FL = Flying over; L = Loafing; R = Roosting...

⁷⁵ Includes a record of a mixed fieldfare and redwing flock.

Species ⁷³	Status					Point Counts	Peak Abundance	Behaviours ⁷⁴
	Annex 1	Sched. 1	Section 41	BoCC Red	BoCC Amber			
Greylag Goose					X	G	3	F
Grey Partridge			X	X		2, 5, 6, 8	10 (#'s 6, 8)	F
Herring Gull			X	X		1, 3, 4, 6, 11, 12, 13, 14, 18, 19, 24, 28, E, F	16 (# 12)	F, FL
House Sparrow			X	X		2, 16, 21	10 (# 21)	F
Kestrel					X	1, 2, 3, 5, 7, 8, 12, 13, 14, 15, 17, 18, 20, A, B, C, D, E, H	3 (# 20)	F, FL, L
Lapwing			X	X		14, 17, B, F, G, H	300 (#14) 70 foraging at PC G	F, FL, L
Lesser Black-backed Gull					X	D	1	FL
Linnet			X	X		1, 3, 5, 8, 15, 18, 19, 20, 23, 27, D, E, F	13 (# 5)	FL
Little Egret	X					3, 18	3 (# 18)	F, FL
Mallard					X	1, 3, 11, 12, E	2 (#'s 3, 11, 12)	C, FL
Meadow Pipit					X	14, 15, 17, 19, 20, A, E, F, H	7 (# 14)	C, FL
Mistle Thrush					X	17, E	1	C, FL
Moorhen						1	1	C
Mute Swan					X	G	5	P

Species ⁷³	Status					Point Counts	Peak Abundance	Behaviours ⁷⁴
	Annex 1	Sched. 1	Section 41	BoCC Red	BoCC Amber			
Peregrine	X	X				12, 17	1	FL
Pink-footed Goose					X	4, 18	60 (# 18)	FL
Redwing		X		X		1, 2, 4, 5, 6, 8, A, C, D, E, F, H	75 (# A)	C, FL
Reed Bunting			X		X	1, 2, 8, 15	2 (# 1)	C
Rook					X	1, 2, 5, 8, 10, 11, 12, 13, 14, 15, 17, 18, 23, 27, A, B, D, E, F, G	230 (# 17)	L
Skylark			X	X		1, 2, 4, 5, 12, 13, 14, 17, 18, 19, 20, 24, 28, A, B, C, D, E, G, H	60 (# 18)	F
Song Thrush			X		X	1, 3, 9, 15, 26, E, H	1	C, F, FL
Sparrowhawk					X	3, 5, 8, 13, 14, 15, F	2 (# F)	FL
Starling			X	X		3, 6, 7, 10, 17, 18, 22, 23, A, F	200 (# 17)	F, FL
Stock Dove					X	2, 4, 5, 8, 12, 15, 17, 26, E, F	20 (# 17)	F
Teal					X	1	80	C, FL
Tree Sparrow			X	X		4	23	F

Species ⁷³	Status					Point Counts	Peak Abundance	Behaviours ⁷⁴
	Annex 1	Sched. 1	Section 41	BoCC Red	BoCC Amber			
Grey Goose⁷⁶						19, 20, G	115+ (# G)	FL
Woodcock				X		15	1	FL
Wood Pigeon					X	1, 2, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, A, B, C, D, E, F G, H	1251 (# 15)	FL, R
Wren					X	1, 2, 3, 6, 7, 8, 9, 14, 15, 16, 17, 18, 19, 20, 23, A, B, E, G, H	1	C, F
Yellowhammer			X	X		1, 4, 5, 6, 8, 9, 12, 15, 17, 18, 20, 27, A, E, F, H	7 (#'s 5, E)	C, F, FL

⁷⁶ Identification to species level was not possible in the field at the time of the survey, however this species is likely to be either greylag goose or pink-footed goose.

Breeding Season Counts

1.4.125 **Table 26** summarises the birds recorded during point counts undertaken during the breeding period.

1.4.126 Thirty-nine Priority Species were recorded of which one (marsh harrier) is a qualifying feature of the Humber Estuary SPA. However, this single record of a bird flying through the survey area did not include any behaviours indicative of breeding and no evidence for breeding was gathered from any of the surveys undertaken across the whole survey area, therefore this was likely to be a wandering or foraging adult.

1.4.127 The only other record of a Schedule 1 species that breeds in the UK⁷⁷ was of a single red kite flying through the survey area close to Stallingborough in April 2022. There was no evidence, from any surveys, that this species bred in the survey area and therefore this record also is likely to be of a wandering (non-breeding) or foraging adult bird.

1.4.128 Behaviours indicative of breeding with a high degree of certainty (confirmed or probable breeding, including nesting, adults with young, display flights, territorial behaviour and in some cases song) were recorded for some species as follows:

- Corn bunting in song at PC14 close to Irby on Humber;
- Greenfinch in song at PC6 (Ludborough), 23 (North Thoresby), 28 (Stallingborough), E (Little Grimsby) and H (Grimoldby Ings), with scattered but widespread occurrences at six locations overall;
- Lapwing on nests and engaging in display flights over arable fields at PC17 (up to 3 pairs near Aylesby, where feeding lapwing had been recorded in winter – see paragraph 6.4.128) and H (3 displaying adults) near Grimoldby;
- Kestrel at PC F (near Brackenborough);
- House sparrow at PC6 (Ludborough) and PC21 (South Cockerington);
- Linnet at a wide range of point count locations, indicative of widespread breeding;
- Mistle thrush at PC24 (Grainsby Estate) and PCB (north Grainsby Estate);
- Reed bunting at PC3 (Alvingham Sewage Works) and PC7 (Ludborough Station), plus widespread occurrence at six other locations predominantly across the southern half of the survey area;
- Rook at PC2 (Grimoldby), with widespread non-breeding records across the survey area;
- Sedge warbler at PCG (Harrowsea Drain);
- Skylark at most point count locations (indicative of widespread breeding represented by males engaging in songflight over agricultural fields);
- Song thrush in song at 11 point count locations widespread across the survey area;
- Whitethroat at 16 point count locations (representative of widespread occurrence of males in song);
- Yellowhammer at most point count locations (representative of widespread occurrence of males in song); and,
- Yellow wagtail at PC2 (Grimoldby), and PC21 (South Cockerington), with widespread but infrequent occurrence across the rest of the survey area (recorded at six point count locations in total).

1.4.129 Other species present in habitats capable of supporting breeding included bullfinch, dunnock, house martin, swift and meadow pipit (that latter being likely to favour upland

⁷⁷ Fieldfare and redwing are Schedule 1 species that were recorded in the early breeding season counts at a small number of locations, however these migrant thrushes overwinter in the UK and return to breeding grounds in northern continental Europe typically in March. Overlap of wintering and breeding survey periods can generate records of these species during the early breeding season.

habitats and, in the lowlands, pastures and meadows rather than arable fields for breeding and therefore generating no records indicative of breeding during the surveys).

1.4.130 Gulls (all species) were infrequent, with only a few records inland of coastal habitats at a small number of point count locations, the majority of species moving away from inland feeding areas to coastal breeding sites over spring and summer.

Table 26: Summary of Breeding bird Point Count March 2022 – June 2022 and March 2023 – June 2023

Species ⁷⁸	Status					Point Counts ⁷⁹	Peak Abundance	Behaviours ⁸⁰
	Annex 1	Sched. 1	Section 41	BoCC Red	BoCC Amber			
Black-headed Gull					X	23	15	FL
Bullfinch			X		X	B, E, F	3 (# F)	C, FL
Common Gull					X	B, E, G	4 (# E)	FL
Corn Bunting			X	X		14	1	S
Dunnock			X		X	2, 3, 4, 6, 12, 14, 15, 17, 18, 21, 22, 23, 25, 28, B, D, E, H	2 (#'s 14, 15, 22, 23, 28, D)	F, S
Fieldfare		X		X		A	2	F
Greenfinch				X		4, 6, 23, 28, D, E, H	4 (# 6)	C, F, FL, S
Greylag Goose					X	6, 17, H	2 (# 17)	C, F, FL
Herring Gull			X		X	4, F	1	C, FL
House Martin				X		3, 4, 14, 28, E	10 (# 4)	F, FL
House Sparrow			X	X		4, 12, 6, 21	15 (# 4)	C, F, FL, S

⁷⁸ Species in **bold** font are qualifying breeding features of Humber Estuary SPA, Ramsar and SSSI

⁷⁹ Point Count locations identified in **red** font field numbers/letters are those at which possible, probable or confirmed breeding behaviours were recorded (definitions of these terms as per XXXXXX; Ref).

⁸⁰ Behaviour codes in **bold** font occurred at the locations for which peak abundance is identified. C = Calling; D = Displaying; F = Foraging; FL = Flying over; Juv = Juveniles present; L = Loafing; N = Nests/nesting; R = Roosting; P = Preening; S = Singing; T = Territorial.

Species ⁷⁸	Status					Point Counts ⁷⁹	Peak Abundance	Behaviours ⁸⁰
	Annex 1	Sched. 1	Section 41	BoCC Red	BoCC Amber			
Kestrel					X	2, 4, 5, 17, 22, 23, A, B, D, E, F, G, H	4 (# 17)	F, FL, T
Lapwing			X	X		17, H	5 (# 17)	F, N, T
Lesser Black-backed Gull					X	5, 12, E	3 (# 5)	FL
Linnet			X	X		2, 3, 4, 5, 6, 7, 12, 13, 15, 17, 21, 22, 24, 26, 27, 28, A, B, E, D, F, G, H	17 (# 5)	C, F, FL, Juv, R, S
Mallard					X	D, G, H	2 (# G)	FL
Marsh Harrier	X	X			X	17	1	FL
Meadow Pipit					X	5, 13, 23, 25, 27	1	C, FL
Mistle Thrush					X	24, 26, B, C	1	C, S
Mute Swan					X	G	3	F, P
Redwing		X		X		3	1	FL
Red Kite	X	X				18	1	FL
Reed Bunting			X		X	3, 5, 7, 22, A, C, D, H	4 (#'s 7)	C, FL, P, S
Rook					X	2, 5, 12, 15, 17, 18, 21, 24, 27	55 (# 17)	C, F, FL, N (rookery with 20 nests at PC 2), R
Sedge Warbler					X	G, H	1	C, S

Species ⁷⁸	Status					Point Counts ⁷⁹	Peak Abundance	Behaviours ⁸⁰
	Annex 1	Sched. 1	Section 41	BoCC Red	BoCC Amber			
Skylark			X	X		2, 3, 4, 5, 6, 7, 12, 13, 14, 15, 17, 18, 21, 22, 23, 24, 25, 26, 27, 28, A, B, C, D, E, F, G, H	14 (# 25)	S, FL
Song Thrush			X		X	2, 4, 5, 15, 24, 28, B, C, D, E, F	2 (# 2)	S
Sparrowhawk					X	3, 12, 14, 22, F	1 (#'s 3, 12, 14, 22, F)	F, FL
Starling			X	X		5, 7, 21, 22, 24, 28, F	22 (# 5)	FL, R
Stock Dove					X	2, 5, 7, 12, 13, 17, 21, 22, 24, 25, 27, 28, D, E, G	7 (#'s 5, 10)	C, F, FL, L
Swift				X		2, 3, 5, 15	2 (#'s 3, 5)	F, FL
Tree Sparrow			X	X		G	1 (# G)	C
Whitethroat					X	3, 4, 7, 13, 15, 18, 23, 25, 26, 28, A, C, D, E, F, G, H	2 (# 23)	C, S, T
Woodcock				X		5	1 (# 5)	FL
Wood Pigeon					X	2, 3, 4, 5, 6, 7, 12, 13, 14, 15, 17, 18, 21, 22, 23, 24, 25, 26, 27, 28, A, B, C, D, E, F, G, H	201 (# 5)	F, FL, R
Wren					X	2, 3, 4, 6, 12, 14, 15, 21, 22, 23, 24, 26, 27, 28, B, C, E, F, H	3 (#'s 2, E)	C, F, S

Species ⁷⁸	Status					Point Counts ⁷⁹	Peak Abundance	Behaviours ⁸⁰
	Annex 1	Sched. 1	Section 41	BoCC Red	BoCC Amber			
Yellowhammer			X	X		2, 4, 5, 6, 7, 12, 13, 14, 15, 18, 21, 23, 24, 25, 26, 27, 28, A, B, C, E, D, F, G, H	3 (#'s 2, 26, 27, A, F)	C, F, FL, S
Yellow Wagtail			X	X		3, 6, 7, 21, 26, B	2 (# 3)	C, F, S

Winter drive over surveys

- 1.4.131 Species that are qualifying features of the Humber Estuary SPA and SSSI were recorded across the whole survey area. These included pink-footed goose, greenshank, curlew, lapwing, golden plover, shelduck and mallard. These are summarised in **Table 27**.
- 1.4.132 Approximately half of the records were of birds overflying rather than using habitat within the survey area; these are not discussed further below but are included in **Table 27** for completeness. There were very few records of SPA or SSSI qualifying species utilising habitats within the survey area. The majority of such records occurred on the periphery of the FLL survey areas at the northern end of the Proposed Pipeline route, where lapwing were recorded on several occasions feeding on fields in the vicinity of Stallingborough, approximately 270m east of the DCO Site Boundary. A small flock of feeding lapwing was observed near Grimoldby on one occasion. All other records in this area were of overflying birds.
- 1.4.133 Other than the above, there were occasional scattered, widespread records of feeding lapwing and golden plover including in the vicinity of Covenham Reservoir, Yarburgh, Ludborough and Barnoldby le Beck.

Table 27: 1 Summary of Wintering Drive Over Surveys November 2021 – March 2022.

Code	Date	Species ⁸¹	Location	Grid Reference	Proximity to DCO Site Boundary ⁸²	Behaviour	Number
WD1	28/11/22	Pink-footed goose	Near Irby upon Humber	TA1932 0513	842.7 m west of Section 2/3 boundary	Flying northwards. May have briefly settled to feed. Detected aurally - location describes detection point, not exact location of birds	Unknown Small flock
WD2	29/11/22	Greenshank	Grove Farm, near Utterby	TF 3241 9410	Adjacent, east side of boundary	Called once. Not seen. Believed to be in flight towards or away from Covenham Reservoir.	1
WD3	29/11/22	Curlew	Grove Farm, near Little Grimsby	TF 3379 9187	Within Site boundary for Section 4	Flying northwards and calling Not seen.	1
WD4	29/11/22	Lapwing	Grimoldby Ings	TF 4024 9053	790.7 m east of Section 4	Flying south.	3
WD5	29/11/22	Lapwing	East of Grimoldby	TF 4027 8884	211 m southwest of Section 4	Flying southeast.	Approx. 70
WD6	29/11/22	Golden Plover	East of Grimoldby	TF 4027 8884	211 m southwest of Section 4	Flying southeast.	2
WD7	29/11/22	Lapwing	Between Yarburgh and Covenham Reservoir	TF 3651 9434	3.8 km east of Section 4	Circling and feeding on stubble fields.	Approx. 150

⁸¹ Qualifying species of the Humber Estuary SPA in **bold** font.

⁸² Grid references and distances are in most cases approximate because of spatial separation between surveyor and location of birds; movement of birds; and/or occurrence of birds in loose flocks that could not be assigned a precise location.

Code	Date	Species ⁸¹	Location	Grid Reference	Proximity to DCO Site Boundary ⁸²	Behaviour	Number
WD8	29/11/22	Lapwing; other small waders (likely golden plover) in vicinity of Reservoir	East of Covenham Reservoir	None	At least 3.5 km east of Section 4	Various flight activity.	Too distant to count
WD9	29/11/22	Large grey goose	East of Covenham Reservoir	None	At least 3.5 km east of Section 4	Direct flights southeast from Covenham Reservoir. Believed to be Greylag geese.	Not counted
WD10	21/12/22	Lapwing	New Farm, West of Barnoldby le Beck	TA 2244 0333	Adjacent to Section 3	In field feeding. Possibly golden plover too - unsafe to stop to count / check. Location central point of field.	50+
WD11	19/01/23	Lapwing	Red Leas Farm, Grimoldby	TF3896 9077	186 m north of Section 4	In cereal field feeding.	5
WD12	19/01/23	Lapwing	Near Alvingham	TF 3602 9048	Overlapping or adjacent to Section 4	Resting in ploughed field with gulls.	2
WD13	19/01/23	Lapwing, Golden Plover	North of Factory, Ludborough	TF 2786 9757	Overlapping or adjacent to Section 3	Feeding in cropped arable field. More lapwing than golden plover (estimate ratio 5:1). Accurate count hindered by topography.	100+
WD14	20/01/23	Shelduck	Ashby cum Fenby	TA 2604 0059	Within approx. 50m of Section 3	Flying east. Location estimated.	4
WD15	20/01/23	Lapwing	Stallingborough	TA 2025 1100	271 m east of Section 2	Feeding in cereal arable field.	92

Code	Date	Species ⁸¹	Location	Grid Reference	Proximity to DCO Site Boundary ⁸²	Behaviour	Number
						Outside of route corridor, ad hoc observation.	
WD1 6	20/01/23	Lapwing	Stallingborough	TA 1946 1141	Approx. 1.25 km north east of Section 2	Flying north. Ad hoc observation, noted while enroute to survey area. Location estimated.	100+
WD1 7	20/01/23	Lapwing	Stallingborough	TA 1840 1131	Approx. 260 m east of Section 2	Feeding in cereal field.	26
WD1 8	24/02/23	Mallard	South of Ludborough Station	TF 3143 9528	Approx. 70 m east of Section 3	Preening / day roost at arable margin/pond. Grid reference estimated.	6
WD1 9	24/02/23	Mallard	Grange Farm, Yarburgh	TF 3344 9252	Overlapping/adjacent to Section 4	Preening at arable boundary by ditch. Grid reference estimated.	2

TGT Common Birds Census

- 1.4.134 The TGT site formerly held gas terminal infrastructure. However, decommissioning of the terminal in 2020-21 resulted in the removal of most of the above-ground infrastructure, leaving behind a patchwork of bare ground/stony substrate punctuated by tarmac access tracks and sparse patches of scrub. Consequently, there is very little semi-natural habitat for breeding birds within the site, with the exception of some bare ground that could attract ground-nesting species.
- 1.4.135 Within the site, only foraging and overflying birds were recorded. These included linnet, blackbird, wood pigeon, magpie, carrion crow, goldfinch, jackdaw, kestrel, stock dove, skylark, wheatear, lesser black-backed gull, herring gull, pied wagtail, mallard and swallow. The first eight of these nest in scrub, trees and woodland and may have bred in the scrub and trees along the eastern edge of the site. All other species breed within habitats that occur or would be expected to occur in the surrounding area (for instance skylark nest on the ground in grasslands and arable fields).

Raptors, Barn Owl and Kingfisher Surveys

- 1.4.136 Results for these species are confined to *ES Volume IV Appendix 6-8 Confidential Ornithology Baseline and Assessment Report (Application Document 6.4.6.8)*.

Incidental Records

- 1.4.137 Occurrences of species of principal importance recorded between formal survey periods and/or during surveys targeting other taxa/species are summarised in **Table 28**. Records of Schedule 1 birds are restricted to *ES Volume IV Appendix 6-8 Confidential Ornithology Baseline and Assessment Report (Application Document 6.4.6.8)*.
- 1.4.138 The only species that was not also recorded during a formal survey was common tern, which was recorded foraging along Great Eau in June 2023. It is likely that the Great Eau channel is exploited occasionally by foraging common terns owing to its connectivity to the offshore and intertidal habitats of the Lincolnshire Coast rather than to any significant regular occurrence of the species at this location. Breeding was not recorded for this species and breeding sites are mostly located inland, with breeding numbers being at least 120 pairs (**Ref 10**). The WeBS core count data for the section of coast adjacent to TGT includes moderate mean peaks for this species in August; Casey *et al.* (**Ref 10**) describe autumn passage as the key period for common terns with highest numbers usually in August.
- 1.4.139 Yellow wagtail, grey wagtail and corn bunting occurred in habitats that would typically support these species. It is likely that grey wagtail breed on the Louth Canal and / or adjacent watercourses.
- 1.4.140 Records of lapwing, golden plover and pink footed goose feeding in arable fields close to Grimoldby were less than 1 km beyond the limit of the FLL identified at conception of the survey scope for the Proposed Development. Other occurrences of these species were thinly distributed records of birds in flight across the survey area and do not provide evidence of habitat use. The record of curlew close to Immingham did not include details of behaviour and therefore no further comment can be made about it, however there were no other incidental records of habitat use in the northern half of the survey area by any SPA or SSSI qualifying species.

Breeding lapwing was recorded in April 2023 during a Phase 1 Habitat Survey close to Section 2 of the Proposed Development west of Aylesby, which was consistent with the records of breeding lapwing recorded at Point Count 17 in the breeding season of 2022 (see paragraph 6.4.138 and **Table 26**). Lapwing have been present on a year-round basis at this location and it is likely that the presence of expanses of open arable farmland with ephemeral pools at this location is attractive as both a foraging and a breeding resource.

Table 28: Incidental Bird Records

Code	Date	Species ⁸³	Location	Grid reference	Proximity to DCO Site Boundary ⁸⁴	Behaviour	Number
INC1	27/10/2021	Curlew	Field 35 of FLL, immediately west of Immingham	TA1737 1396	415m north-east of Section 1/2 boundary	Not recorded	10
INC2	28/10/2021	Grey wagtail	Louth Canal	TF3534 8956	890m south of Section 4	Not recorded	2
INC3	07/09/2022	Ruff	Yarburgh	TF3444 9262	Approx. 800m north-east of Section 4. Likely to have flown over the Proposed Development	Flying east	4
INC4	24/11/2022	Lapwing	Between Wold Newton and East Ravendale	TF 2361 9835	2.15km west of Section 3	Flying north	150
INC5	24/11/2022	Lapwing	North Thoresby, immediately west of A16	TF 2832 9872	1.35km north -east of Section 3	Flying south	60
INC6	24/11/2022	Lapwing	Near Grimoldby	TF3915 8982	425m south west of Section 5	Feeding on winter wheat field	275
INC7	24/11/2022	Golden plover	Near Grimoldby	TF3915 8982	425m south west of Section 5	Mixed flock with lapwing feeding	60

⁸³ Qualifying species of the Humber Estuary SPA in **bold** font.

⁸⁴ Grid references and distances are in most cases approximate because of spatial separation between surveyor and location of birds; movement of birds; and/or occurrence of birds in loose flocks that could not be assigned a precise location.

Code	Date	Species ⁸³	Location	Grid reference	Proximity to DCO Site Boundary ⁸⁴	Behaviour	Number
						on winter wheat field	
INC8	24/11/2022	Pink-footed goose	Near Grimoldby	TF4068 8910	Overlapping or adjacent to Section 5	Dropping to feed on arable field	200
INC9	25/04/2023	Lapwing	Near Aylesby	TA1974 0805	Approx 240m east of Section 2	Four displaying adults and at least one breeding pair present	4 (min. 1 breeding pair)
INC10	17/06/2023	Yellow wagtail	Gayton le Marsh Grange	TF4516 8674	Overlapping or adjacent to Section 5	Foraging	4
INC11	17/06/2023	Common tern ⁸⁵	Gayton le Marsh Grange	TF4516 8674	180m south of Section 5. May have crossed the DCO Site Boundary while flying along channel.	Flying along Great Eau channel – presumed foraging	6
INC12	17/06/2023	Corn bunting	Gayton le Marsh Grange	TF4516 8674	Overlapping or adjacent to Section 5	Singing males	2

⁸⁵ Qualifying species of Greater Wash SPA with marine components.

1.5 Identification of Key Ornithological Features

1.5.1 The following section provides a summary of the key locations that support birds identified within the Study and Survey Areas. A summary is then provided in **Table 29** of the key ornithological features present with the Study and Survey Areas and a valuation is provided for each of them. Features can be designated sites, assemblages of species or individual species. A method for valuing each is provided in paragraphs 1.5.2– 1.5.5.

Valuation of Ornithological Features

1.5.2 Valuation of ornithological features is made according to the geographical scale at which the features are of value, as set out in chapter 6 of both the Preliminary Environmental Impact Report (PEIR) and the ES. These are:

- International (generally this is within a European context, reflecting the general availability of good data to allow cross-comparison);
- National (Great Britain, but considering the potential for certain ecological features to be more notable (of higher value) in an England context relative to Great Britain as a whole);
- Regional (e.g., North-east);
- County (Lincolnshire);
- District (town or parish area e.g., Grimsby or Louth);
- Local (ecological features that do not meet criteria for valuation at a District or higher level, but that have sufficient value to merit retention or mitigation); and,
- Negligible (common and widespread ecological features of such low priority that they do not require retention or mitigation at the relevant location to otherwise maintain a favourable nature conservation status).

1.5.3 For designated sites, the appropriate value is implicit in the type of designation and/or the legislation under which it is designated, i.e. sites designated under international legislation or the domestic equivalent⁸⁶ include Ramsar and SPA and are valued accordingly; sites designated under national legislation and of importance nationally include SSSIs and NNRs; sites designated as LNR or LWS are generally of importance at the county scale unless there is a clear rationale for upgrading or downgrading their valuation on a site by site basis, such as their playing a critical supporting role to the function and integrity of a nationally or internationally designated site.

1.5.4 Values have been assigned to relevant species features occurring within the Study Area based on the geographic scale at which that population is important. In doing so, consideration has been given to the perceived importance, rarity or vulnerability of the species with reference to:

- Inclusion of Priority Species on the RSPB Red or Amber Lists of Conservation Concern and/or on Schedule 41 of the NERC Act;
- The known abundance of the species within the Lincolnshire Bird Club reporting area (Ref 10) as defined in paragraph 6.5.5;
- Inclusion as a notified feature of a designated site, where there is a clearly defined rationale for assessing these species separately from the relevant designated site itself; and,
- Breeding species monitored by the Rare Breeding Birds Panel⁸⁷ (RBBP).

1.5.5 Species assemblages are valued using professional judgement and the criteria summarised above to determine value based on the “typicalness” of the assemblage in the context of the

⁸⁶ See Section 6.2 for details of legislation relating to the designation of sites.

⁸⁷ [REDACTED], accessed July 2023.

location and habitats present. Species that, in their own right, attain a value of County level or above are assessed separately from the assemblage. For the purposes of this report, and the assessments in Chapter 6 of the ES, County level or greater is defined as any species that is identified in the county Avifauna (**Ref 11**) as “Rare”, “Scarce” or “Fairly Scarce”. Additionally, breeding species monitored by the rare Breeding Birds Panel (RBBP) that are listed as “Scarce”, “Rare” or “Very Rare” are, depending on the status set out in Casey *et al.* (**Ref 11**) assigned a value of “County” or higher⁸⁸. Assemblages of species that are qualifying features of the Humber Estuary SPA, that occur within land that is Functionally Linked to the SPA are also valued separately; this is because qualifying features of designated sites, and by default land that is functionally linked to a designated site, are not necessarily of International “value” in their own right, but they qualify on the basis that the designated site supports internationally important numbers of that species; indeed, even common and widespread species can be listed as qualifying features on this basis (for example mallard, which occurred within the Survey Area and is a qualifying assemblage feature of the Humber Estuary SPA).

Key Locations for Birds

1.5.6 Breeding and non-breeding birds are present throughout the Survey and Study Areas and by default birds will be present with potential to interact with the Proposed Development across its entire footprint. However, the distribution of birds overall, and of individual species, is mostly non-random. To paraphrase there are certain parts of the Study and Survey Areas that support concentrations of some species and these can be regarded as the most relevant or significant locations for the purposes of assessing the potential impacts on birds of the Proposed Development. In summary these are:

- Statutory designated sites (**Figure 7**) within coastal and estuarine habitats (Humber Estuary Ramsar, SPA and SSSI), plus the designations that form part of the SPA or that support a similar or overlapping suite of species and that can be regarded as playing a supporting role to the function of the SPA (particularly North Killingholme Haven Pits SSSI and Saltfleetby -Theddlethorpe Dunes SSSI and NNR; Cleethorpes Sands LNR and Cleethorpes Country park LNR);
- Non – statutory designated sites (**Figure 8**) that by virtue of the species assemblages they support play a supporting role to the Humber Estuary SPA (namely Rosper Road Pools LWS; Great Carlton Wetlands LWS and Manby Wetlands LWS (and associated WeBS core count sector Manby and Carlton Washlands) and/or that feature a range of breeding and non-breeding birds irrespective of any other designations;
- The fields north of Rosper Road Pools and east of Rosper Road (North Killingholme Marshes), which regularly support qualifying species of the Humber Estuary SPA and SSSI over winter, plus some breeding waders and Priority Species of passerine;
- The wet grazing marshes/grasslands immediately east of TGT (referred to as Viking Fields and represented by the WeBS core count sector of that name shown on **Figure 11**), which support several qualifying species of the Humber Estuary SPA in significant numbers over winter, plus a small number of breeding waders;
- A small number of arable fields close to Immingham golf course and Immingham Cemetery, which supported feeding curlew over winter (as shown on the distribution map for Curlew, **Figure 14**);
- For feeding pink-footed goose and, to a lesser extent curlew, lapwing and golden plover in winter the broad area of flat, open arable farmland between TGT and Manby can be

⁸⁸ The list of species monitored by RBBP is published online at [REDACTED] (accessed August 2023). Definitions of the abundance categories for monitored species are provided at [REDACTED] (accessed August 2023).

regarded as a key foraging resource (see **Table 21 – Table 22** and **Figure 22 - Figure 24**). The distribution of these species from year to year will be determined in part by crop rotations and the availability of suitable foraging habitat, however the baseline gathered to date identified that several fields northwest of TGT and some fields further west towards Manby, Grimoldby and Grimoldby Ings are in regular use, with occasional use of other fields throughout the wider area. Notably, there was no more than occasional occurrence of these species between the FLL survey areas identified in Section 6.3 and **Figure 3**);

- The farmland between Aylesby and The Lindens, north-east of the A18 supports both breeding and non-breeding lapwing although given the distance inland from the Humber Estuary SPA and the small numbers of lapwing recorded here this location is not regarded as a key functional link to the SPA; and
- The wider Saltfleetby sub-area of the LCGM Project area, around 400m to the north of Section 5 of the DCO Site Boundary.

- 1.5.7 The areas outlined above are shown on **Figure 32– Figure 45** alongside the summary distribution of individual qualifying species of the Humber Estuary SPA, and pink-footed goose, which have been assembled using the results of all of the surveys presented in the baseline sections of this report.
- 1.5.8 The baseline demonstrates that the qualifying species of the Humber Estuary statutory designations are mostly absent from the central 40 km of the Proposed Pipeline route between approximately Stallingborough in the north and Grimoldby in the south, barring scattered occurrences of curlew, golden plover and lapwing feeding and resting on arable fields (see paragraph 1.5.15 and associated **Figure 33**, **Figure 34** and **Figure 36**). However, the irregular and apparently occasional occurrence of these species points to opportunistic habitat use by birds flying through the survey area rather than any regular dependency on the habitats in these areas.
- 1.5.9 The presence of mallard within suitable habitat across the whole survey area serves as a reminder of the common and widespread occurrence of this species across the British countryside and therefore only those locations that supported this species routinely within habitat that are close (within 2-3 km) to the Humber Estuary, including Rosper Road Pools and Viking Fields, can be confidently identified as functionally linked to the Humber Estuary SPA. A small fishing pond immediately north of Immingham regularly supported this species at numbers that exceeded 1% of the Humber Estuary SPA population and for the purposes of this assessment, in the absence of any evidence to the contrary, this also represents a functional linkage to the SPA.
- 1.5.10 Beyond the survey area, Covenham Reservoir, the fields adjacent to it and much of the coastline of north and east Lincolnshire are known to support large numbers of water birds including roosting and feeding qualifying species of the Humber Estuary SPA at all times of year and this was borne out by some of the casual and incidental observations of lapwing and grey geese summarised in **Table 27**. Casey *et al.* (**Ref 11**) and the records returned by GLNP (see **Table 7**) confirm that Covenham Reservoir is a very important site for birds in North-East Lincolnshire.
- 1.5.11 Irrespective of the occurrence of designated sites and individual species, the environs of the Proposed Development support wintering and breeding bird assemblages typical of open lowland mixed farmland, species being distributed according to their habitat preferences. Among these, there are several species of breeding Schedule 1 birds, the details of which are set out in the Confidential Baseline report (*ES Volume IV Appendix 6-8 Confidential Ornithology Baseline and Assessment Report (Application Document 6.4.6.8)*) and will not be discussed here.

1.5.12 The footprint and immediate environs of the proposed Immingham Facility supports an assemblage of birds in the breeding season, including 24 species that bred, of which 11 are Priority Species (including 2 pairs of lapwing). By contrast, baseline surveys found no evidence for a breeding bird assemblage within the footprint of TGT.

Relevant Ornithology Features

1.5.13 **Table 29** sets out the key ornithology features (designated sites, species assemblages, individual species and broad areas or discrete locations) that make up the ornithology baseline on which the assessments in *ES Volume II Chapter 6: Ecology and Biodiversity (Application Document 6.2.6)* are based. This draws upon the detailed baseline set out in Section 6.4 with reference, where appropriate, to the figures that support the baseline narrative therein.

1.5.14 The proposed pipeline route has been split into Sections 1-5 to facilitate assessment in the ES chapter and this frame of reference is used in addition to more specific locational information where required. Wherever possible **Table 29** sets out the spatial relationship of the ornithology feature to the Proposed Development; because of the linear scale of the Proposed Development, in many cases the spatial context is described in relation only to the relevant parts, elements or sections of the Proposed Development (for example a species occurring at Rosper Road Pools at the northern end of Section 1 would clearly not be affected by the construction and operation of the Theddlethorpe Facility nearly 43 km (as the crow flies) to the south-east at the southern terminus of Section 5).

1.5.15 To support **Table 29, Figure 32 – Figure 45** summarise the spatial distribution of qualifying species of the Humber Estuary Ramsar, SPA and SSSI in the context of the Proposed Development footprint, the designated sites identified within the Study Area and any other locations that have been identified as important for them in the section “Key Locations for Birds” (above). These draw on the results of all surveys carried out by AECOM (including point counts, drive over surveys and incidental records) and the key findings from the desk study, and are set out in the following order:

- Black-tailed godwit (**Figure 32**);
- Curlew (**Figure 33**);
- Golden plover (**Figure 34**);
- Greenshank (**Figure 35**)
- Lapwing (**Figure 36**);
- Mallard (**Figure 37**);
- Oystercatcher (**Figure 38**);
- Redshank (**Figure 39**);
- Ruff (**Figure 40**);
- Shelduck (**Figure 41**);
- Teal (**Figure 42**);
- Whimbrel (**Figure 43**);
- Wigeon (**Figure 44**); and
- Pink-footed goose (**Figure 45**);

Table 29: Key Ornithological Features

Feature	Location(s) ⁸⁹	Section(s)	Distance from Proposed Development	Nature Conservation Value	Justification	Description ⁹⁰	Figure(s)
Humber Estuary Ramsar and SPA	TA238 148	1 and 5	1.27 km northeast of Section 1; Overlapping Section 5	International	Designated under international law (and domestic equivalent)	Supports a range of breeding and non-breeding wetland birds in internationally important numbers. Qualifying species regularly present at Rosper Road Pools, North Killingholme Marshes, Fields adjacent to Immingham Golf Course, Viking Fields, Carlton and Manby Wetlands, Saltfleetby Coastal	Figure 8 Figure 13 – Figure 45 for occurrence of individual species and supporting habitats

⁸⁹ Summarised from both third party and survey data where appropriate.

⁹⁰ In the case of species, primarily described using survey data.

Feature	Location(s) ⁸⁹	Section(s)	Distance from Proposed Development	Nature Conservation Value	Justification	Description ⁹⁰	Figure(s)
						Grazing Marshes, Farmland between TGT and Manby. Detailed description in Table 5	
Greater Wash SPA with marine components	TF821 744	5	Overlapping Proposed Development boundaries offshore and within intertidal habitat	International	Designated under international law (and domestic equivalent)	Supports breeding and non-breeding seabirds in internationally important numbers. No significant occurrence of qualifying species inland. Detailed description in Table 5.	Figure 8
Humber Estuary SSSI	TA232 155	1 and 5	1.28 km northeast of Section 1; Overlapping Section 5	National	Designated at national level.	Supports a range of breeding and non-breeding wetland birds in nationally	Figure 8 Figure 13– Figure 45 for occurrence of individual

Feature	Location(s) ⁸⁹	Section(s)	Distance from Proposed Development	Nature Conservation Value	Justification	Description ⁹⁰	Figure(s)
						important numbers. Qualifying species regularly present at Rosper Road Pools, North Killingholme Marshes, Fields adjacent to Immingham Golf Course, Viking Fields, Carlton and Manby Wetlands, Saltfleetby Coastal Grazing Marshes, Farmland between TGT and Manby. Detailed description in Table 5.	species and supporting habitats
Saltfleetby-Theddlethorpe Dunes &	TF481 908	5	Overlapping	National	Designated at National level	Site supports qualifying features under	Figure 8 Figure 13– Figure 45

Feature	Location(s) ⁸⁹	Section(s)	Distance from Proposed Development	Nature Conservation Value	Justification	Description ⁹⁰	Figure(s)
Gibraltar Point SSSI and NNR						<p>the relevant EC Directives that are of international importance and a breeding bird assemblage in dune scrub</p> <p>Qualifying species regularly present at Viking Fields, Carlton and Manby Wetlands, Saltfleetby Coastal Grazing Marshes and scattered occurrence across farmland between TGT and Manby. Detailed description in Table 5.</p>	<p>for occurrence of individual species and supporting habitats</p>

Feature	Location(s) ⁸⁹	Section(s)	Distance from Proposed Development	Nature Conservation Value	Justification	Description ⁹⁰	Figure(s)
North Killingholme Haven Pits SSSI	TA166 197	1	2.35 km north	National	Designated at National level	Supports non-breeding wetland birds in nationally important numbers. Qualifying species regularly present at Rosper Road Pools and North Killingholme Marshes. Detailed description in Table 5.	Figure 8 Figure 13 – Figure 45 for occurrence of individual species and supporting habitats
Donna Nook NNR	TF447 961	5	6.69 km north	National	Designated at National level	Supports habitats and species of national importance including bird species for which the Humber Estuary SSSI is designated. Further details in Table 5	Figure 8

Feature	Location(s) ⁸⁹	Section(s)	Distance from Proposed Development	Nature Conservation Value	Justification	Description ⁹⁰	Figure(s)
Bradley and Dixon Woods LNR	TA242 059	3	2.27 km northeast	County	Designated at local level under statutory legislation.	Ancient woodland, meadow areas, ponds, and bird feeding area. No further detail available.	Figure 8
Cleethorpes Country Park LNR	TA306 067	3	6.52 km northeast	County	Designated at local level under statutory legislation and plays a supporting role to the Humber Estuary SPA and SSSI in winter.	Supports skylark during summer and overwintering waders in winter; waders use the park as a roosting site at high tide.	Figure 8
Cleethorpes ⁹¹ LNR	TA331 070	3	8.62 km northeast	County/National	Designated at local level under statutory legislation and plays a supporting role to the	Supports wintering and migratory birds including waders.	Figure 8

⁹¹ This site is also widely referred to as Cleethorpes Sands LNR by Natural England (such as on Natural England's Designated Sites View web page: <https://designatedsites.naturalengland.org.uk/SiteLNRDetail.aspx?SiteCode=L1009538>, accessed September 2023).

Feature	Location(s) ⁸⁹	Section(s)	Distance from Proposed Development	Nature Conservation Value	Justification	Description ⁹⁰	Figure(s)
					Humber Estuary SPA and SSSI in winter and passage periods.		
Rosper Road Pools LWS	TA175 170	1	45m east	National	Designated at County level and plays a supporting role to the Humber Estuary SPA and SSSI.	Supports many wintering, breeding, and migrant birds associated with wetland and scrub habitats.	Figure 9
Burkinshaw's Covert LWS	TA160 183	1	881m north-west	County	Designated at County level.	Supports (likely breeding) willow tit populations as the site is adjacent to a known breeding site.	Figure 9
Great Carlton Wetlands LWS	TF409 863	5	1.30 km south-west	County	Designated at County level and plays a supporting role to the Humber	Wetland habitats important for breeding birds of prey including peregrine,	Figure 9

Feature	Location(s) ⁸⁹	Section(s)	Distance from Proposed Development	Nature Conservation Value	Justification	Description ⁹⁰	Figure(s)
					Estuary SPA and SSSI.	hobby, and marsh harrier. Also significant for shoveler, lapwing, little ringed plover, avocet, reed bunting, reed warbler, and sedge warbler. High numbers of grey herons and little egrets.	
Manby Wetlands LWS	TF407 863	5	1.54 km south-west	County	Designated at County level and plays a supporting role to the Humber Estuary SPA and SSSI.	Regular breeding site of lapwing, reed bunting, reed warbler, and sedge warbler. Supports high numbers of wigeon, teal, and shoveler. Important site for autumn passage birds	Figure 9

Feature	Location(s) ⁸⁹	Section(s)	Distance from Proposed Development	Nature Conservation Value	Justification	Description ⁹⁰	Figure(s)
						(green sandpiper, ruff, snipe, and common sandpiper).	
Waterfowl assemblage: Rosper Road Pools	TA175 170	1	45m	Local (evaluated exclusive of qualifying species of the Humber Estuary SPA)	Priority species present as well as non-priority species. All are common and fairly common species of resident, winter and passage bird in Lincolnshire	As well as qualifying species of the Humber Estuary Ramsar and SPA, supports a suite of water birds including coot, moorhen, pintail, greylag goose, mute swan, little grebe, tufted duck, grey heron, herring gull, black – headed gull, lesser black-backed gull.	Location of LWS shown on Figure 9
Breeding terrestrial bird assemblage	Immingham Facility, TA1689 1694	1	Overlapping	Local	Assemblage comprises common and widespread species but	Assemblage of common and widespread breeding	None

Feature	Location(s) ⁸⁹	Section(s)	Distance from Proposed Development	Nature Conservation Value	Justification	Description ⁹⁰	Figure(s)
					includes declining species and Priority Species.	species including 20 Priority species and 24 species that bred, including species that are declining in Lincolnshire (lapwing).	
Non-breeding terrestrial bird assemblage	Proposed pipeline route and up to 1km radius	All	Overlapping	Local	Assemblage comprises common and widespread species but includes declining species and Priority Species.	Regularly occurring assemblage of common and widespread species including 51 Priority Species (exclusive of qualifying species of the Humber Estuary SPA).	None
Breeding terrestrial bird assemblage	Proposed pipeline route and up to 1km radius	All	Overlapping	Local	Assemblage comprises common and widespread species but	Regularly occurring assemblage of common and	None

Feature	Location(s) ⁸⁹	Section(s)	Distance from Proposed Development	Nature Conservation Value	Justification	Description ⁹⁰	Figure(s)
					includes declining species and Priority Species.	widespread species including 47 Priority Species (exclusive of qualifying species of the Humber Estuary SPA). At least 1 pair of lapwing bred near Aylesby (Section 2) and a minimum of 2 pairs bred at Rosper Road Pools and North Killingholme Marshes. Greylag goose and black-headed gull bred at Rosper Road Pools. Corn bunting present as a probable	

Feature	Location(s) ⁸⁹	Section(s)	Distance from Proposed Development	Nature Conservation Value	Justification	Description ⁹⁰	Figure(s)
						breeder near Irby on Humber (Section 3) and Gayton le Marsh (Section 5) with declining status and restricted distribution in Lincolnshire.	
SPA qualifying species within Functionally Linked Land at the Immingham end of the Proposed Development– Black-tailed godwit, curlew, golden plover, lapwing, redshank, mallard, shelduck, teal, wigeon.	Key locations supporting the majority of birds are Rosper Road Pools and North Killingholme Marshes; Fields close to Immingham Golf Course support feeding curlew; scattered records of golden plover across farmland near	Functionally linked land occurs within Sections 1 and 2. Scattered occurrence of individual species across other sections.	Between 100m east at Rosper Road Pools up to 1.1km north-east across north Killingholme Marshes; various distances for curlew and golden plover across arable farmland, from overlapping/adjacent to the proposed Development boundary (curlew), up to 1km from it (golden plover)	County	An assemblage of 9 species including 8 Priority Species ranging from very common to fairly common in Lincolnshire; all occurring within habitats that are outside of the Humber Estuary SPA but that play a supporting	Species feeding and roosting across the locations stated, the details of which are set out in detail within this report.	13-21; 32-45

Feature	Location(s) ⁸⁹	Section(s)	Distance from Proposed Development	Nature Conservation Value	Justification	Description ⁹⁰	Figure(s)
	Stallingborough; and Homestead Park Pond (mallard only). Individual species distributions set out in detail in Section 1.4 and associated figures.				role to the Internationally designated site by supporting these species.		
SPA qualifying species within Functionally Linked Land at the Theddlethorpe end of the Proposed Development – Black-tailed godwit, Curlew, golden plover, greenshank, lapwing, oystercatcher, whimbrel, redshank, ruff, mallard,	Occurrence in variable numbers within Manby Washlands; LCGMP Saltfleetby area; Viking Fields inland variable distances as far as Manby; Viking Fields; and occasional use of TGT by oystercatcher and redshank. Individual species distributions set	Functionally linked land occurs within Sections 4 and 5. Scattered occurrence of individual species across other sections.	Overlapping/immediately adjacent at TGT and Viking Fields; Birds occurring across farmland inland of TGT occur at distances from immediately adjacent to or overlapping the Proposed Development, up to 1km from it.	County	An assemblage of 13 species including 12 Priority Species ranging from very common to fairly common in Lincolnshire; all occurring within habitats that are outside of the Humber Estuary SPA but that play a supporting	Species feeding and roosting across the locations stated, the details of which are set out in detail within this report.	22-31; 32-45

Feature	Location(s) ⁸⁹	Section(s)	Distance from Proposed Development	Nature Conservation Value	Justification	Description ⁹⁰	Figure(s)
shelduck, teal, wigeon.	out in detail in Section 1.4 and associated figures.				role to the Internationally designated site by supporting these species.		
Non-breeding Pink-footed goose	Viking Fields, multiple locations across farmland west of TGT as far as Grimoldby, LCGMP Saltfleetby Area, Manby Washlands	4 and 5	Overlapping and various distances up to approx. 1km between Viking Fields and Grimoldby	District	Priority Species (Amber List). Very common winter visitor to Lincolnshire. Occurs on Humber estuary at internationally important numbers although is not a qualifying feature.	Feeding flocks numbering over 2,000 present on farmland between TGT and Manby Washlands (regularly occurring north of Theddlethorpe All Saints with a peak of 2,100 here; and at Grimoldby lngs with peaks of 2,200). Occasional occurrence at Viking Fields	Figure 27 and Figure 39

Feature	Location(s) ⁸⁹	Section(s)	Distance from Proposed Development	Nature Conservation Value	Justification	Description ⁹⁰	Figure(s)
						with a peak count of 85. Occurs at Manby Washlands, Saltfleetby LCGM areas and coastal sites along the Lincolnshire Coastline.	
Breeding willow tit	Burkinshaw's Covert with potential for more widespread but localised occurrence	1	0.87km north-west	County	Priority species (Amber List and NERC Section 41). Scarce in Lincolnshire.	Has bred and is assumed to be breeding within woodlands. Not recorded during surveys.	Location of LWS in Figure 9
Breeding and non-breeding grey wagtail	Widespread but localised	Potentially all (recorded in Sections 1, 4 and 5)	Overlapping	County	Priority Species (Amber List). Scarce passage migrant and winter visitor in Lincolnshire.	Localised non-breeding occurrence at Immingham Facility and feeding near Theddlethorpe All Saints Recorded on Louth Canal,	None

Feature	Location(s) ⁸⁹	Section(s)	Distance from Proposed Development	Nature Conservation Value	Justification	Description ⁹⁰	Figure(s)
					Scarce breeder in Lincolnshire.	where it is likely to breed.	

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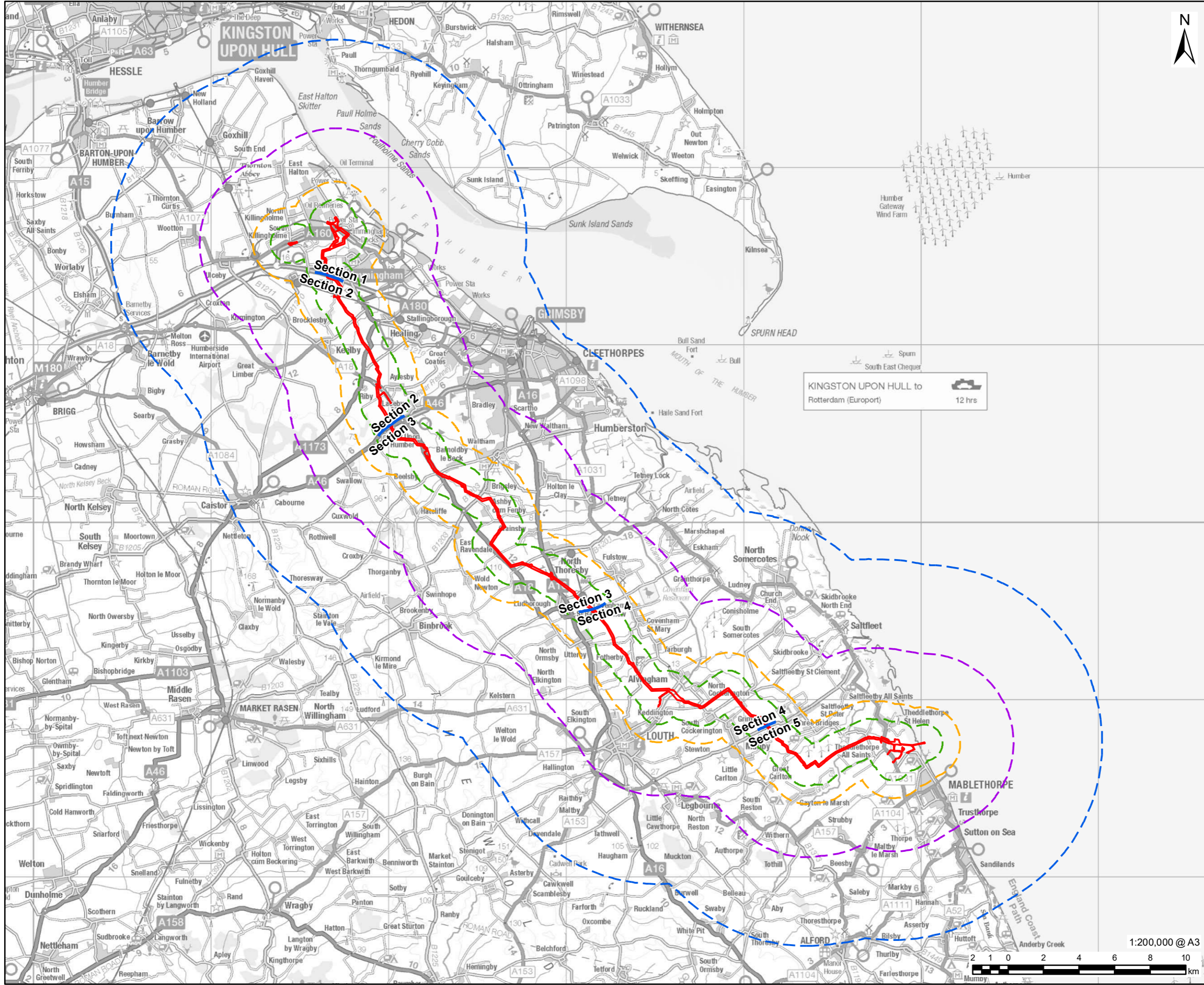
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1.7 Figures



LEGEND

	DCO Site Boundary
	Route Section Break
	1km Study Area
	2km Study Area
	5km Study Area
	10km Study Area

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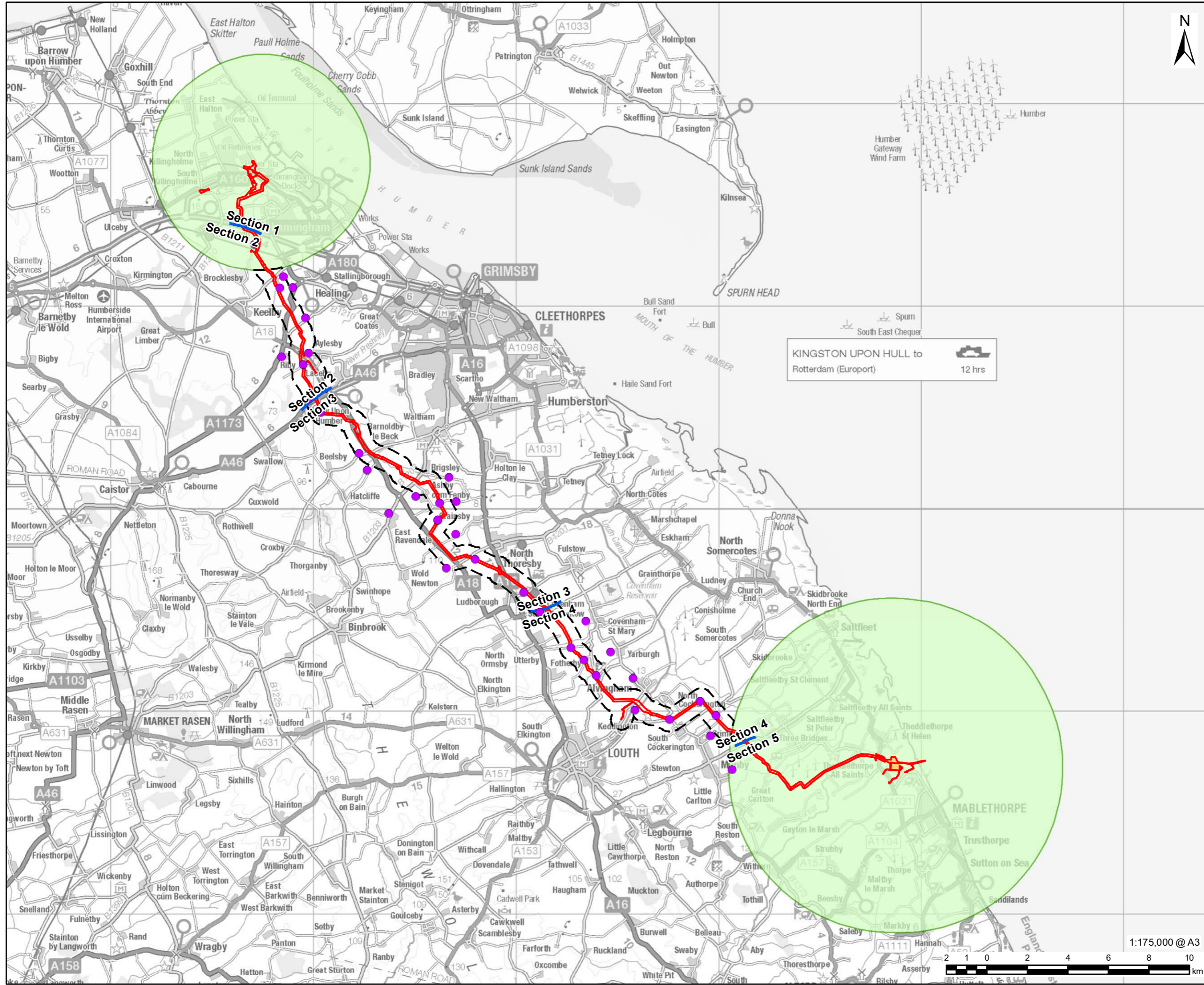
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FIGURE TITLE

Figure 1

Study Areas

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LEGEND

- DCO Site Boundary
- Route Section Break
- Point Count Location
- Drive Over Survey Area
- Functionally Linked Land
- Common Birds Census Survey Area

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FIGURE TITLE

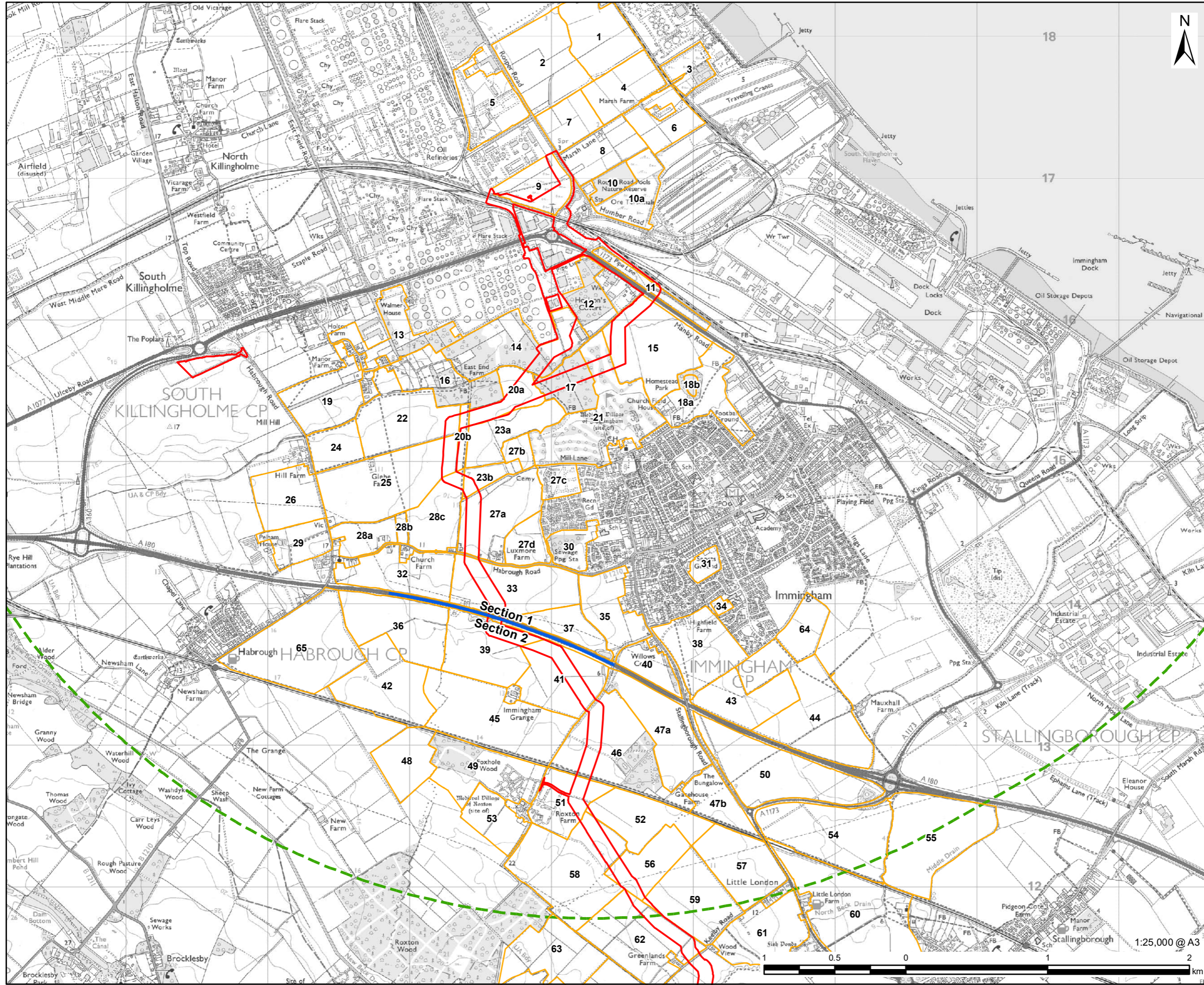
Figure 2
Survey Areas Overview



KINGSTON UPON HULL to Rotterdam (Europort)
 12 hrs



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LEGEND

- DCO Site Boundary
- Route Section Break
- Survey Field Boundary
- Functionally Linked Land

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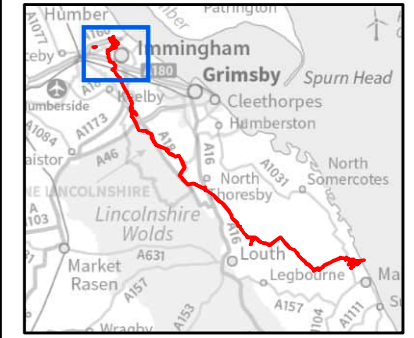


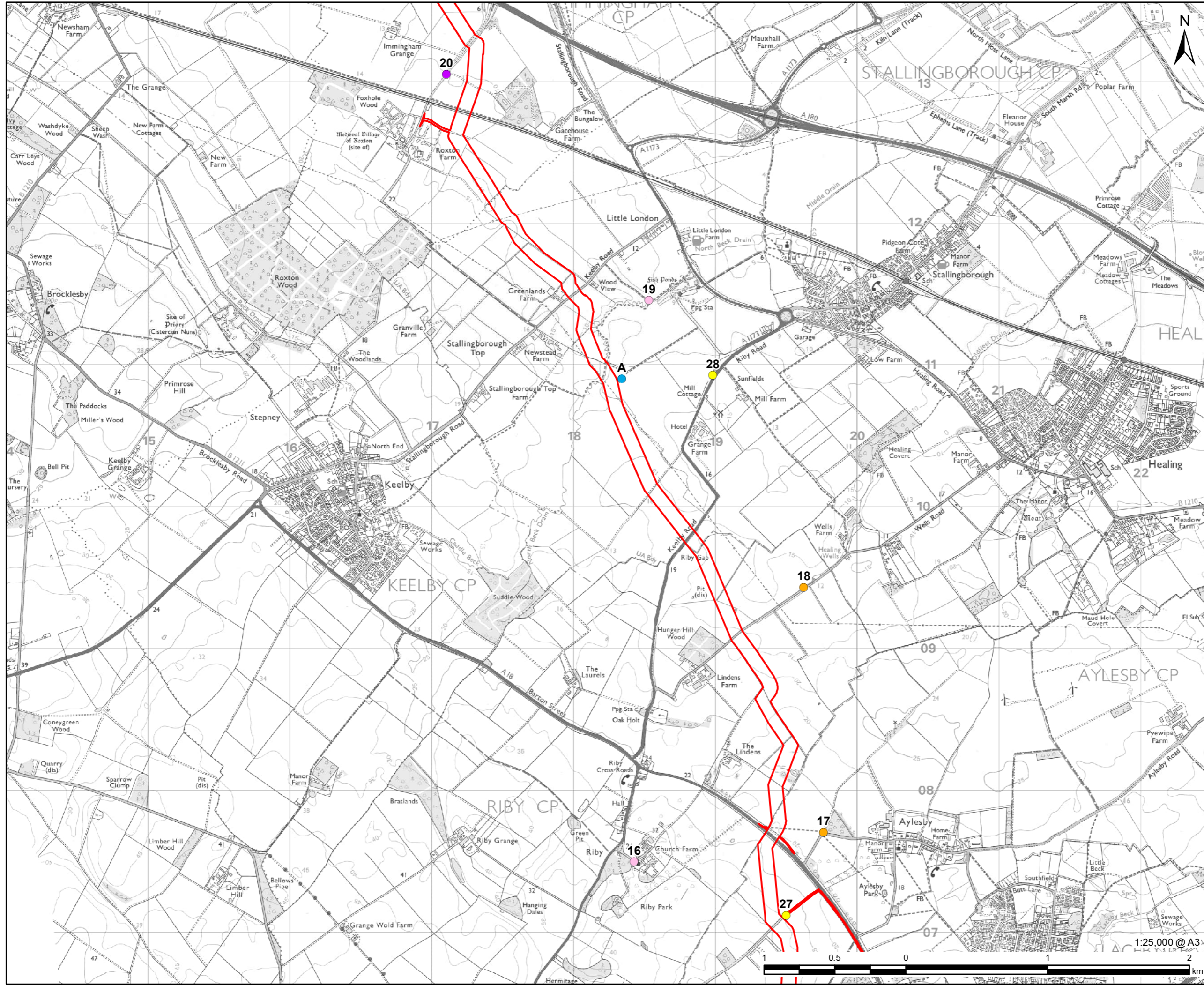
FIGURE TITLE

Figure 3
Survey Area - Functionally Linked Land (North)

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- LEGEND**
- DCO Site Boundary
 - Point Count Location - Survey Date
 - November 2021 to January 2022
 - November 2021 to February 2022
 - November 2021 to June 2022
 - March 2022 to June 2022
 - November 2022 to June 2023

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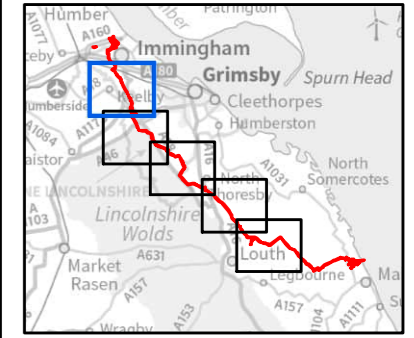
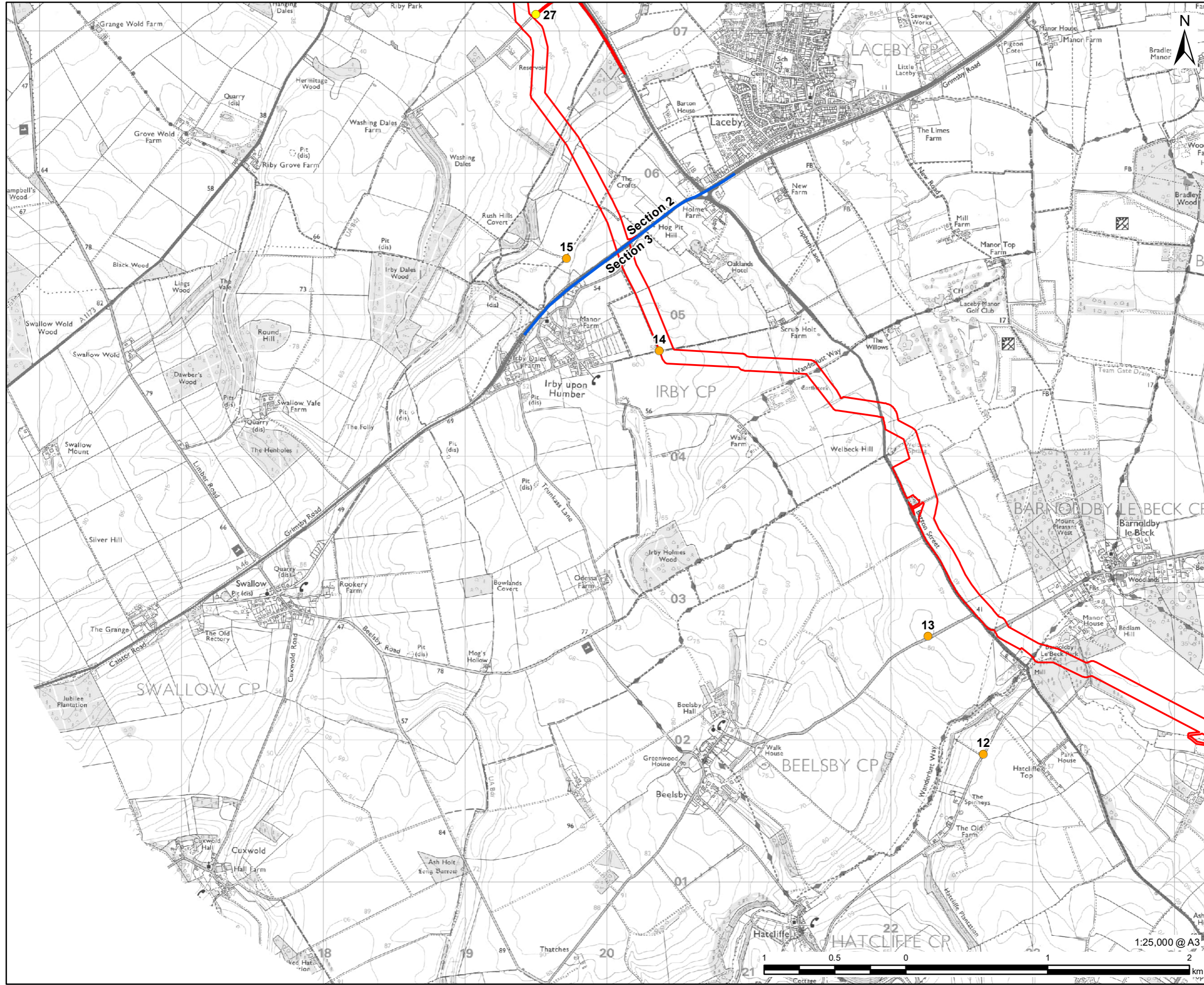


FIGURE TITLE
Figure 5 (1 of 5)
Survey Area - Point Counts

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LEGEND

- DCO Site Boundary
- Route Section Break

Point Count Location - Survey Date

- November 2021 to June 2022
- March 2022 to June 2022

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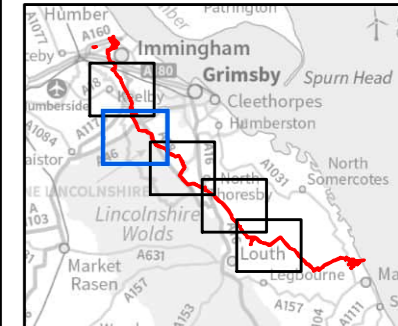
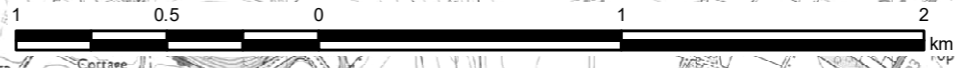


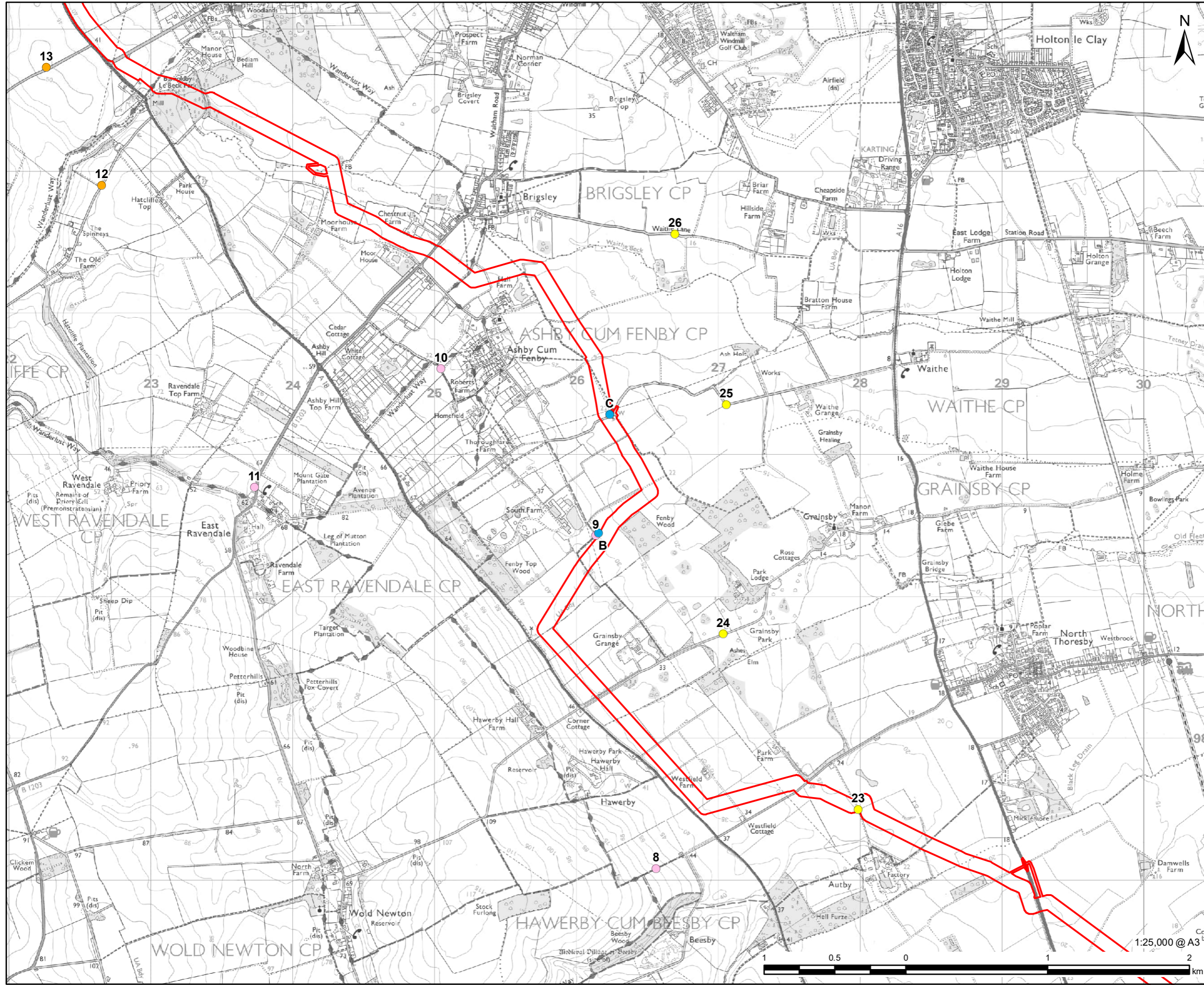
FIGURE TITLE

Figure 5 (2 of 5)
Survey Area - Point Counts

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LEGEND

- DCO Site Boundary
- Point Count Location - Survey Date
 - November 2021 to February 2022
 - November 2021 to June 2022
 - March 2022 to June 2022
 - November 2022 to June 2023

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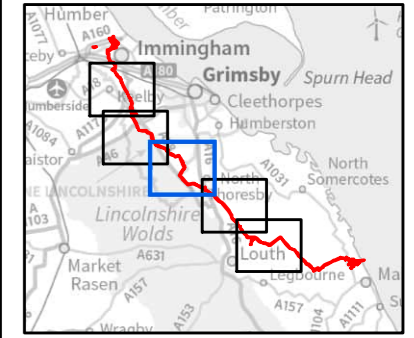
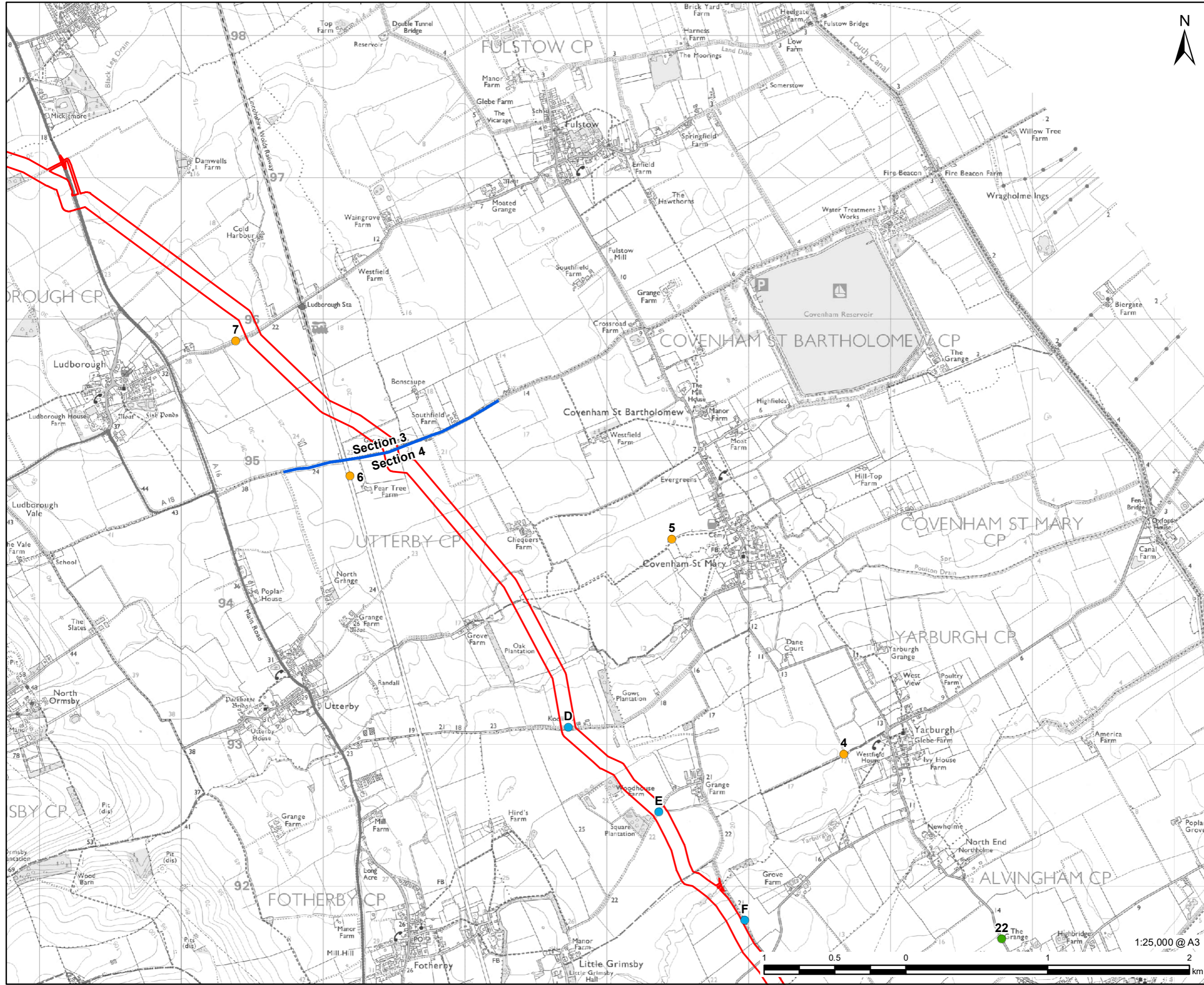


FIGURE TITLE
 Figure 5 (3 of 5)
 Survey Area - Point Counts



- LEGEND**
- DCO Site Boundary
 - Route Section Break
- Point Count Location - Survey Date
- November 2021 to June 2022
 - February 2022 to June 2022
 - November 2022 to June 2023

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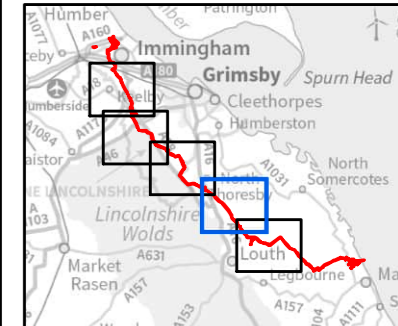
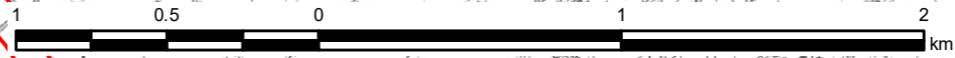
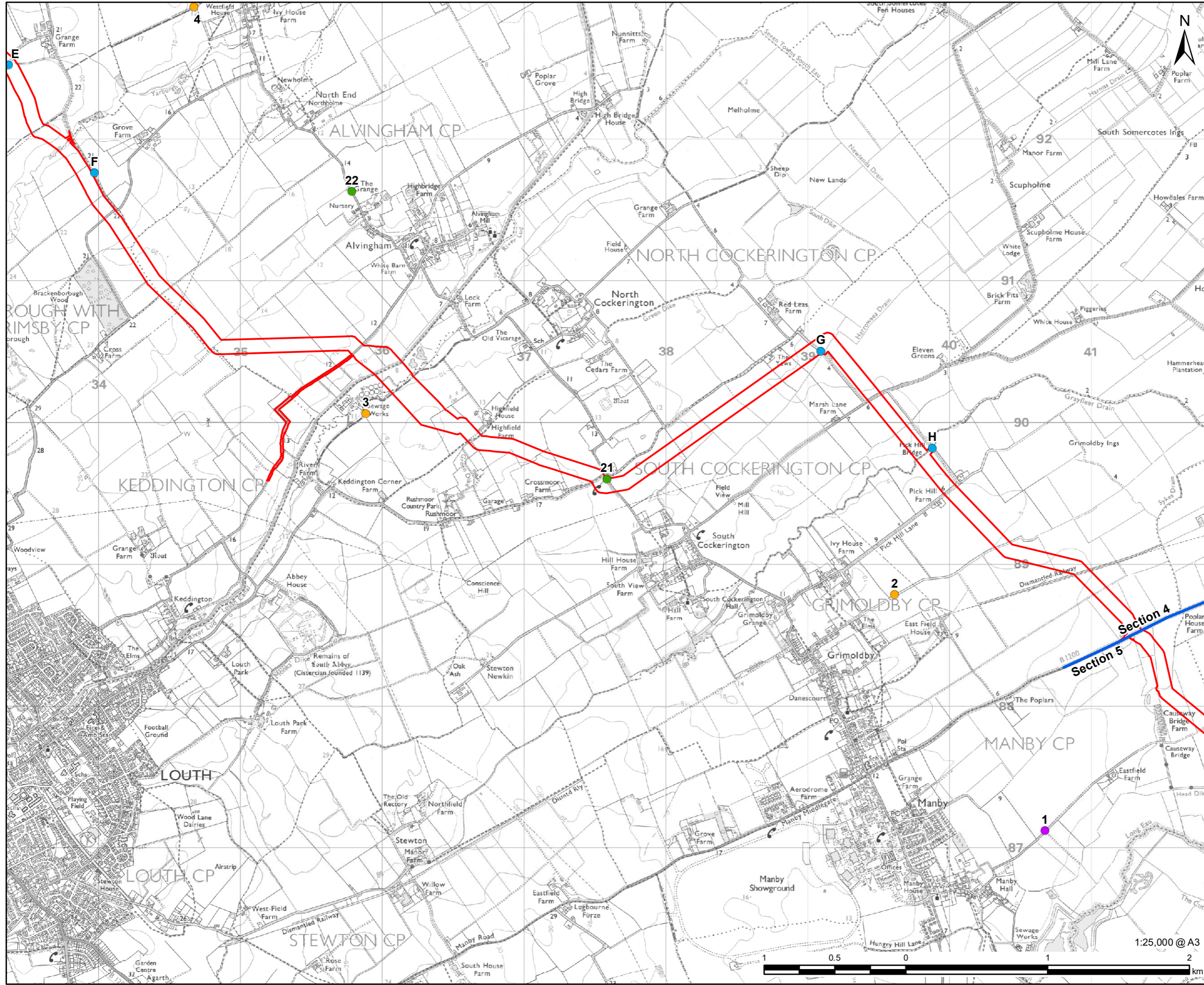


FIGURE TITLE
Figure 5 (4 of 5)
Survey Area - Point Counts

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- LEGEND
- DCO Site Boundary
 - Route Section Break
- Point Count Location - Survey Date
- November 2021 to January 2022
 - November 2021 to June 2022
 - February 2022 to June 2022
 - November 2022 to June 2023

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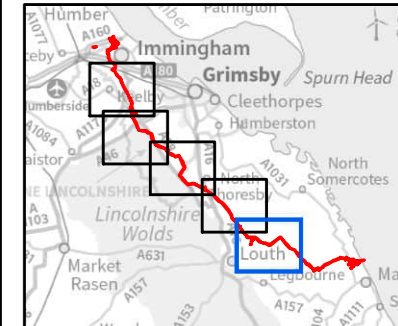


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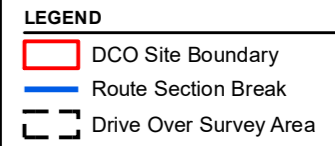
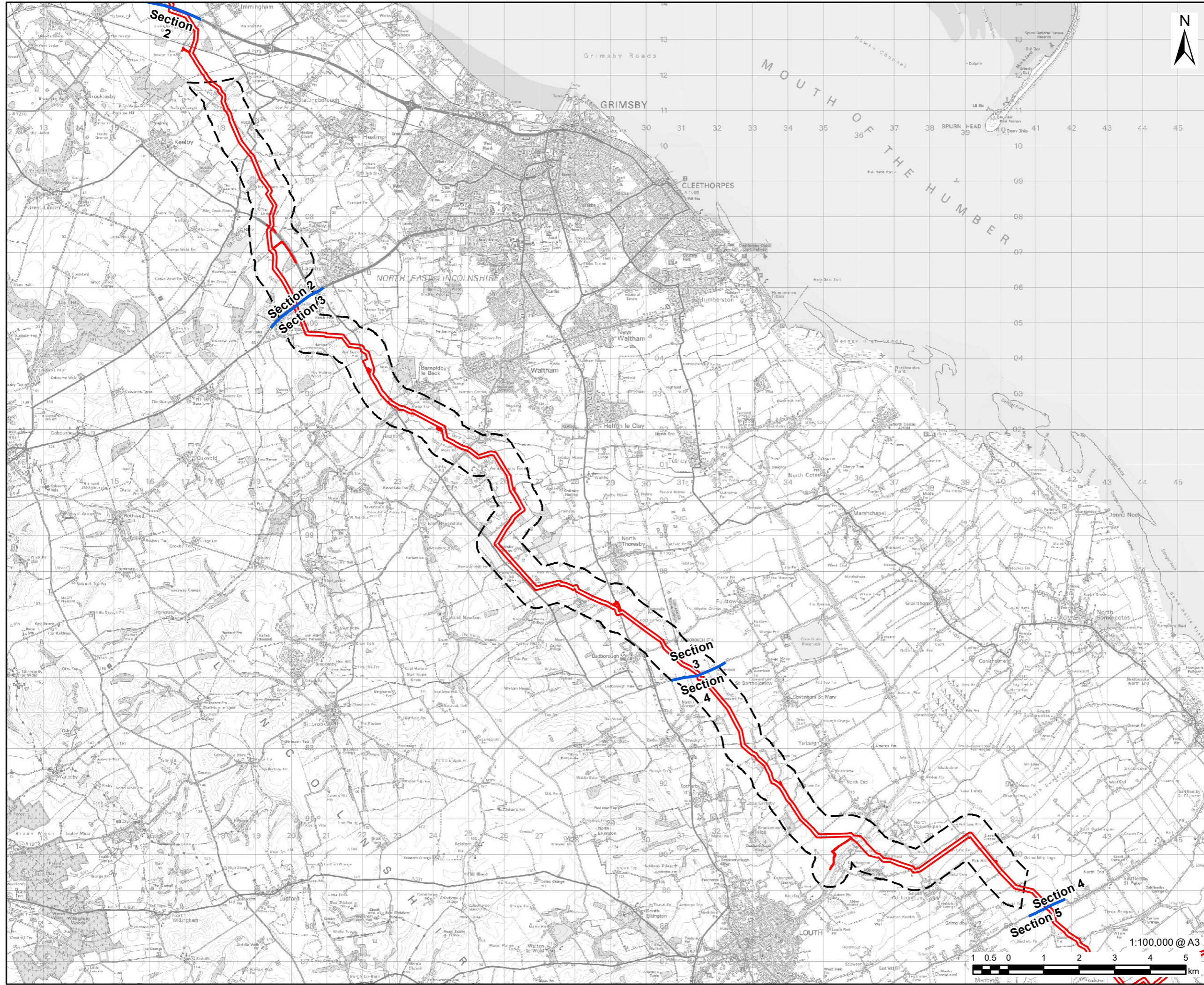
Figure 5 (5 of 5)

Survey Area - Point Counts

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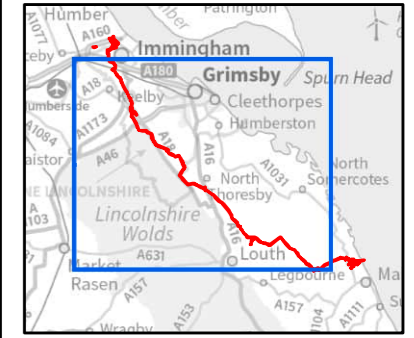
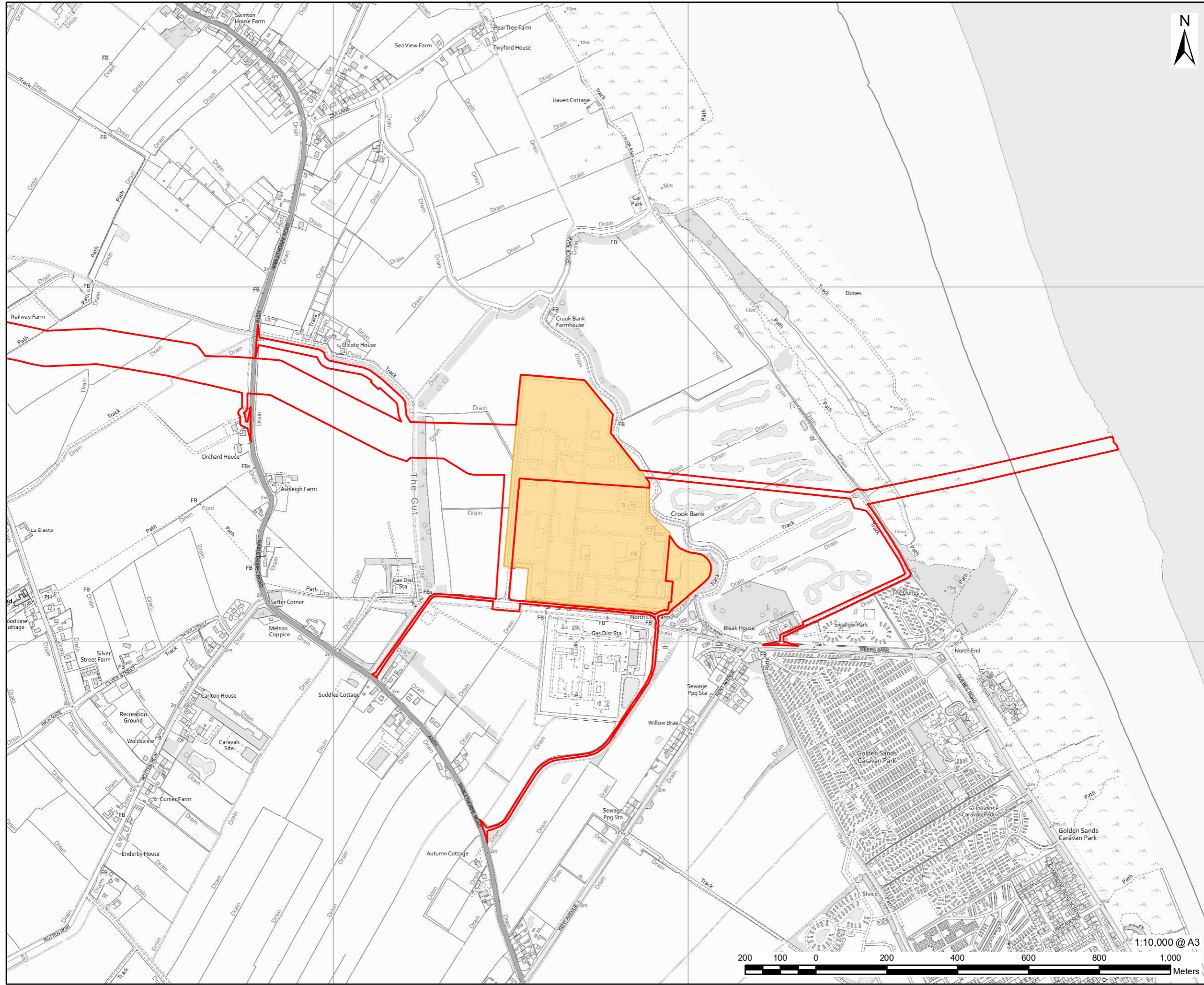


FIGURE TITLE
Figure 6
Survey Area - Drive Over Survey

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- LEGEND**
- DCO Site Boundary
 - Common Birds Census Survey Area

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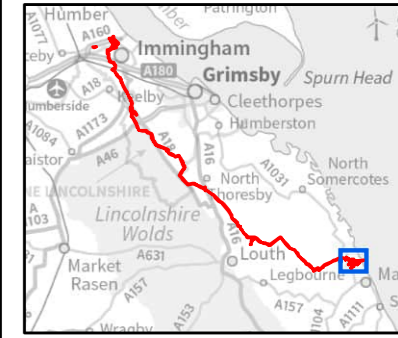
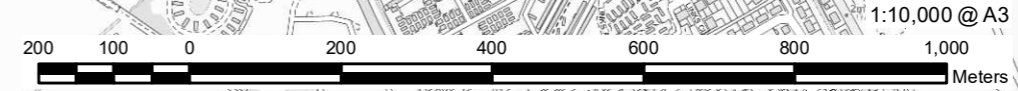
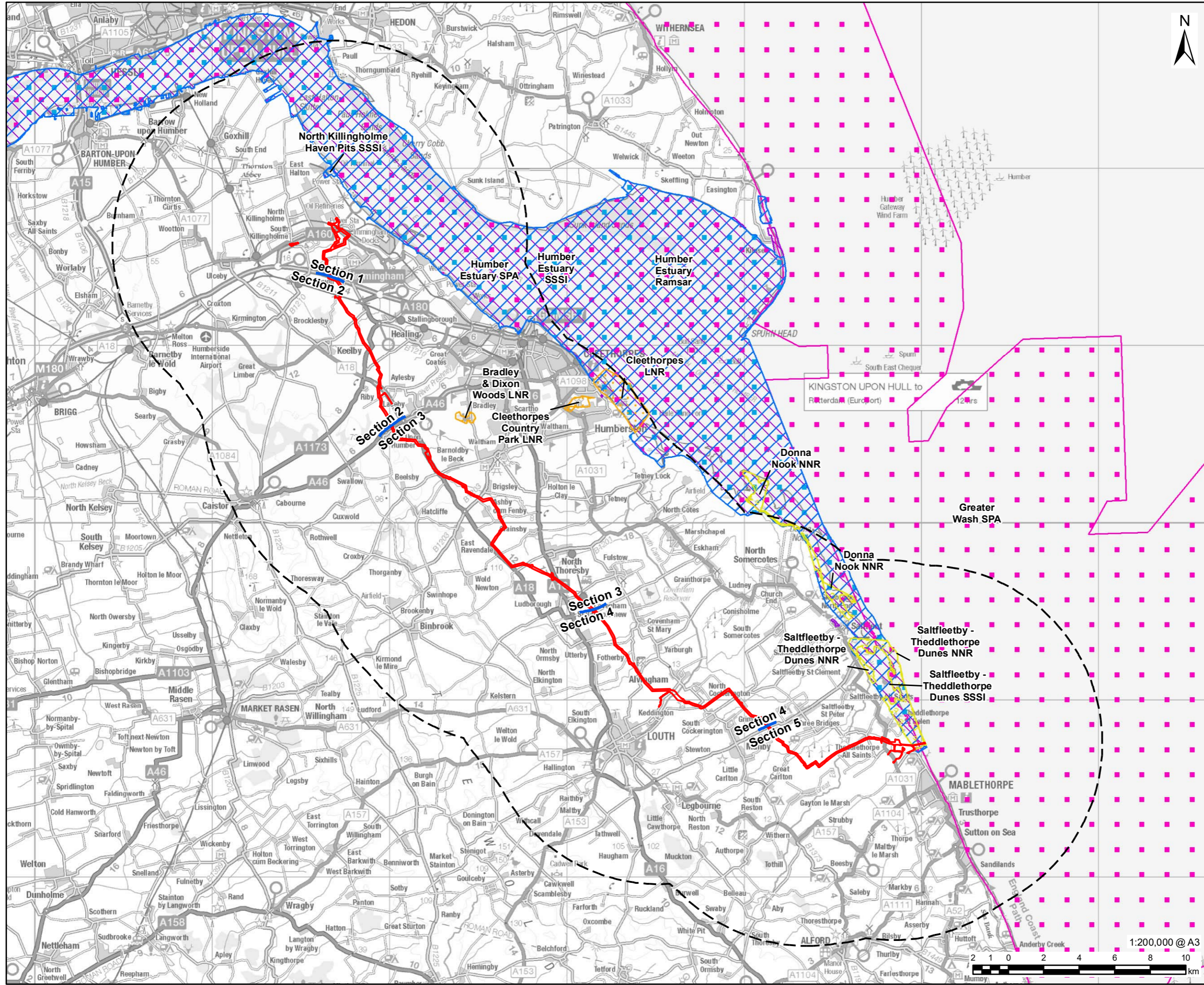


FIGURE TITLE
Figure 7
Survey Area - Common Bird Census

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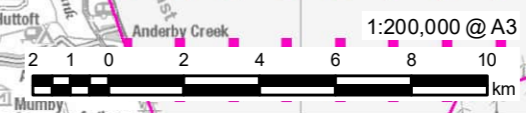


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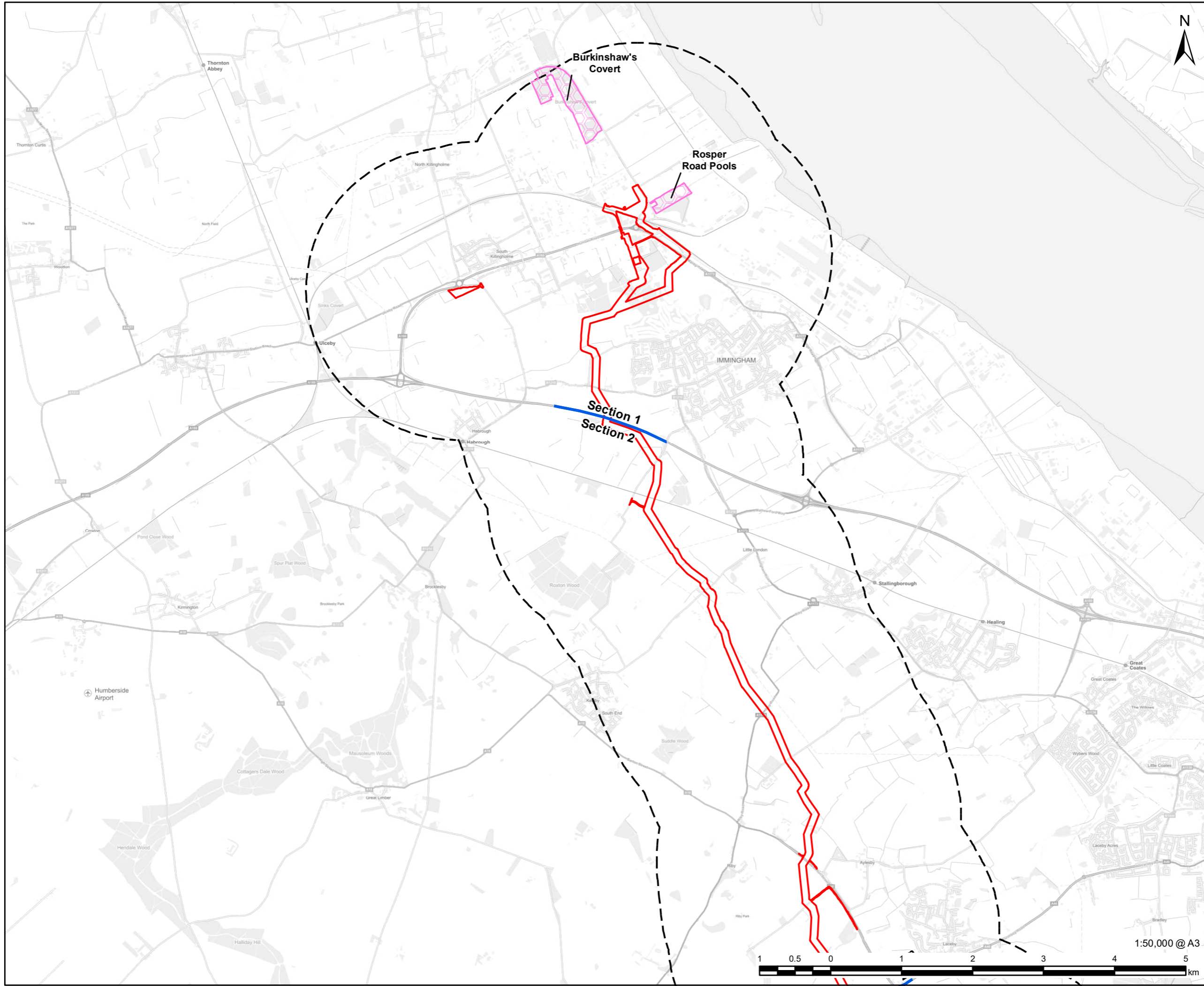
- DCO Site Boundary
- Route Section Break
- 10km Study Area
- Statutory Designated Sites
- Local Nature Reserve (LNR)
- National Nature Reserve (NNR)
- Ramsar
- Special Protection Area (SPA)
- Special Protection Area with Marine Components (SPA)
- Site of Special Scientific Interest (SSSI)

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FIGURE TITLE
Figure 8
Statutory Designated Sites within 10km



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LEGEND

- DCO Site Boundary
- Route Section Break
- 2km Study Area
- Non-Statutory Designated Sites
- Local Wildlife Site

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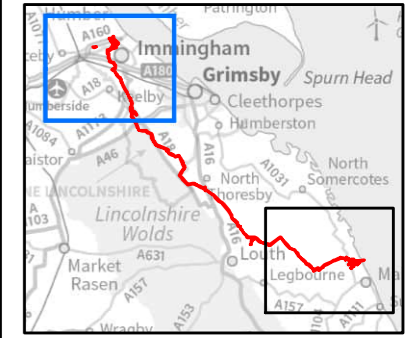
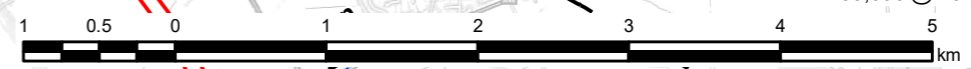


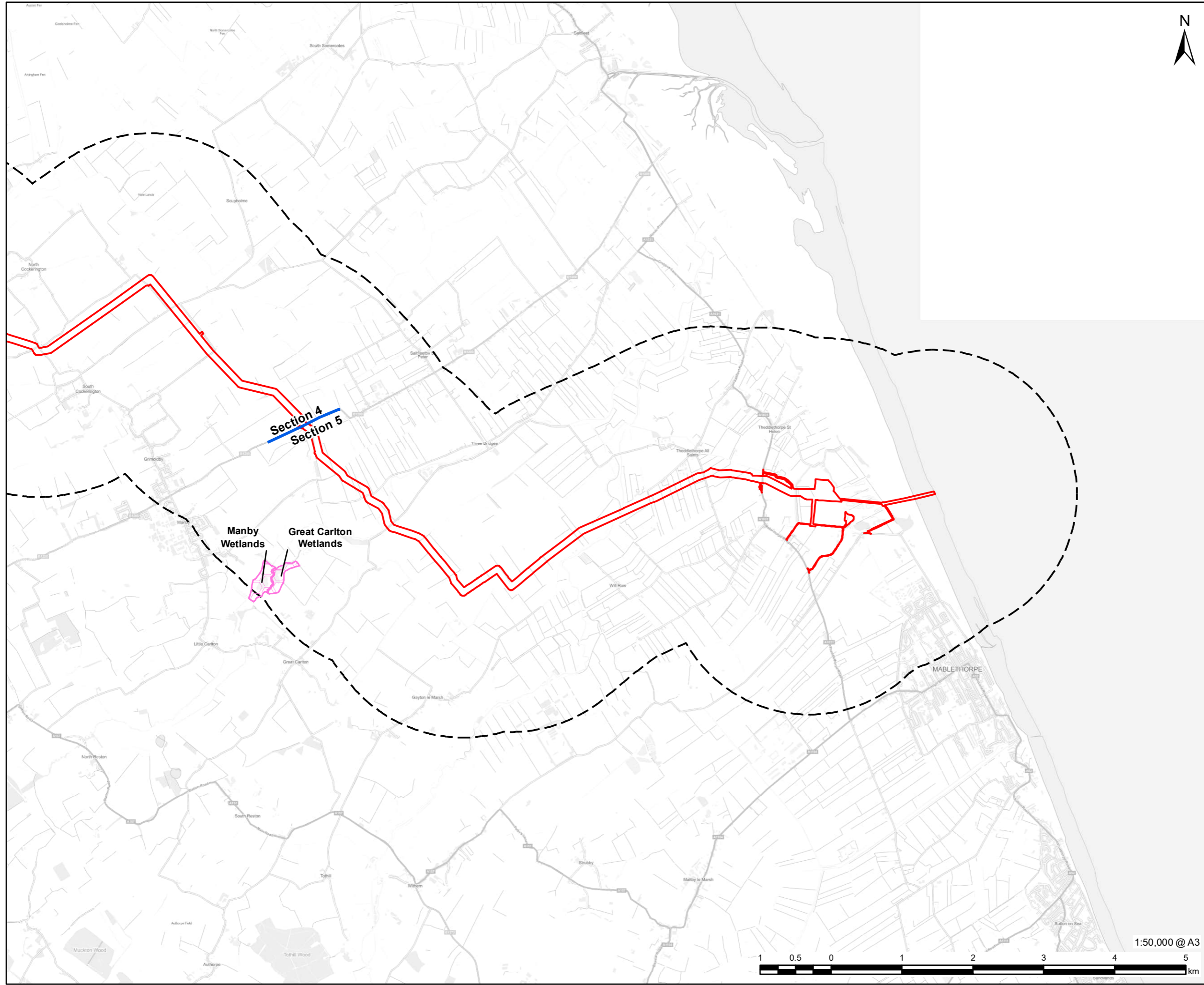
FIGURE TITLE
Figure 9 (1 of 2)
Non-Statutory Designated Sites
within 2km

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- LEGEND**
- DCO Site Boundary
 - Route Section Break
 - 2km Study Area
 - Non-Statutory Designated Sites
 - Local Wildlife Site

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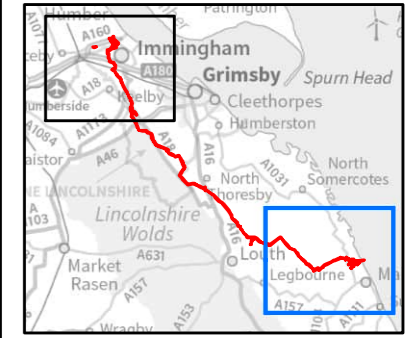
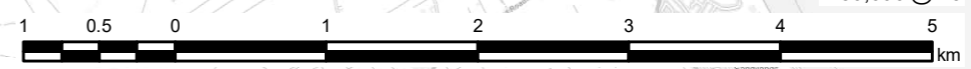
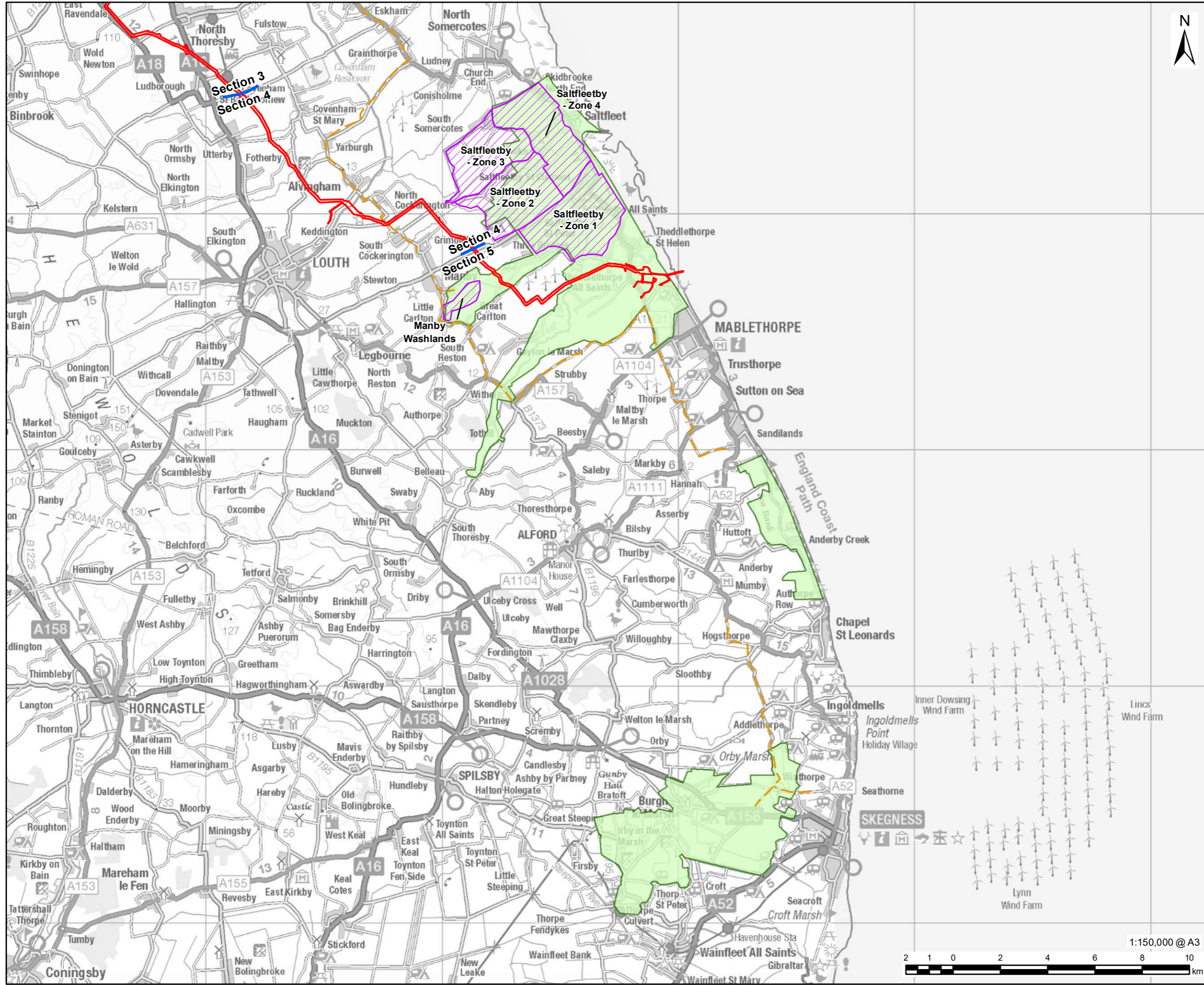


FIGURE TITLE
Figure 9 (2 of 2)
Non-Statutory Designated Sites
within 2km

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LEGEND

- DCO Site Boundary
- Route Section Break
- Lincolnshire Coastal Grazing Marshes Project Long Section Survey Route
- Lincolnshire Coastal Grazing Marshes Project Bird Survey Area
- Lincolnshire Coastal Grazing Marshes Project Target Area

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FIGURE TITLE

Figure 10
Lincolnshire Coastal Grazing Marshes Project Target Areas

ISSUE PURPOSE

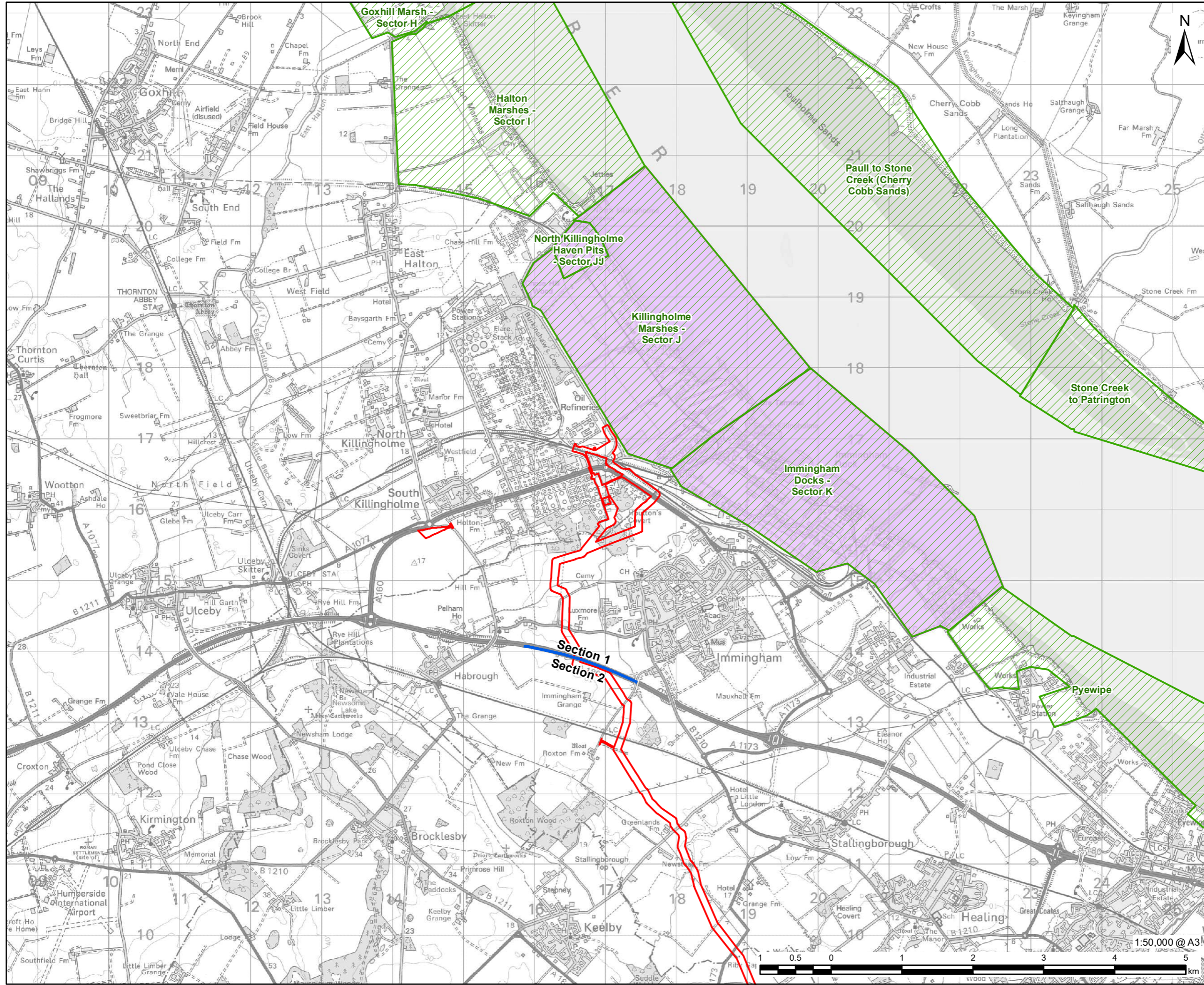
ORNITHOLOGY BASELINE REPORT

PROJECT NUMBER / REFERENCE

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VikingCCS

AECOM

PROJECT
Viking CCS Pipeline

LEGEND

- DCO Site Boundary
- Route Section Break
- WeBS Core Count Sector
- WeBS Count Sector - With Data

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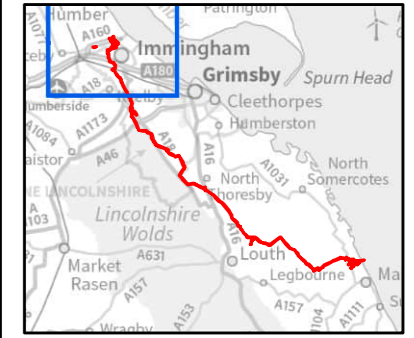
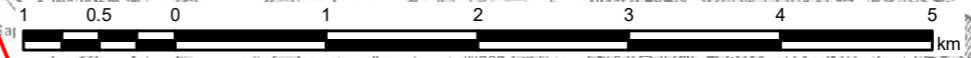


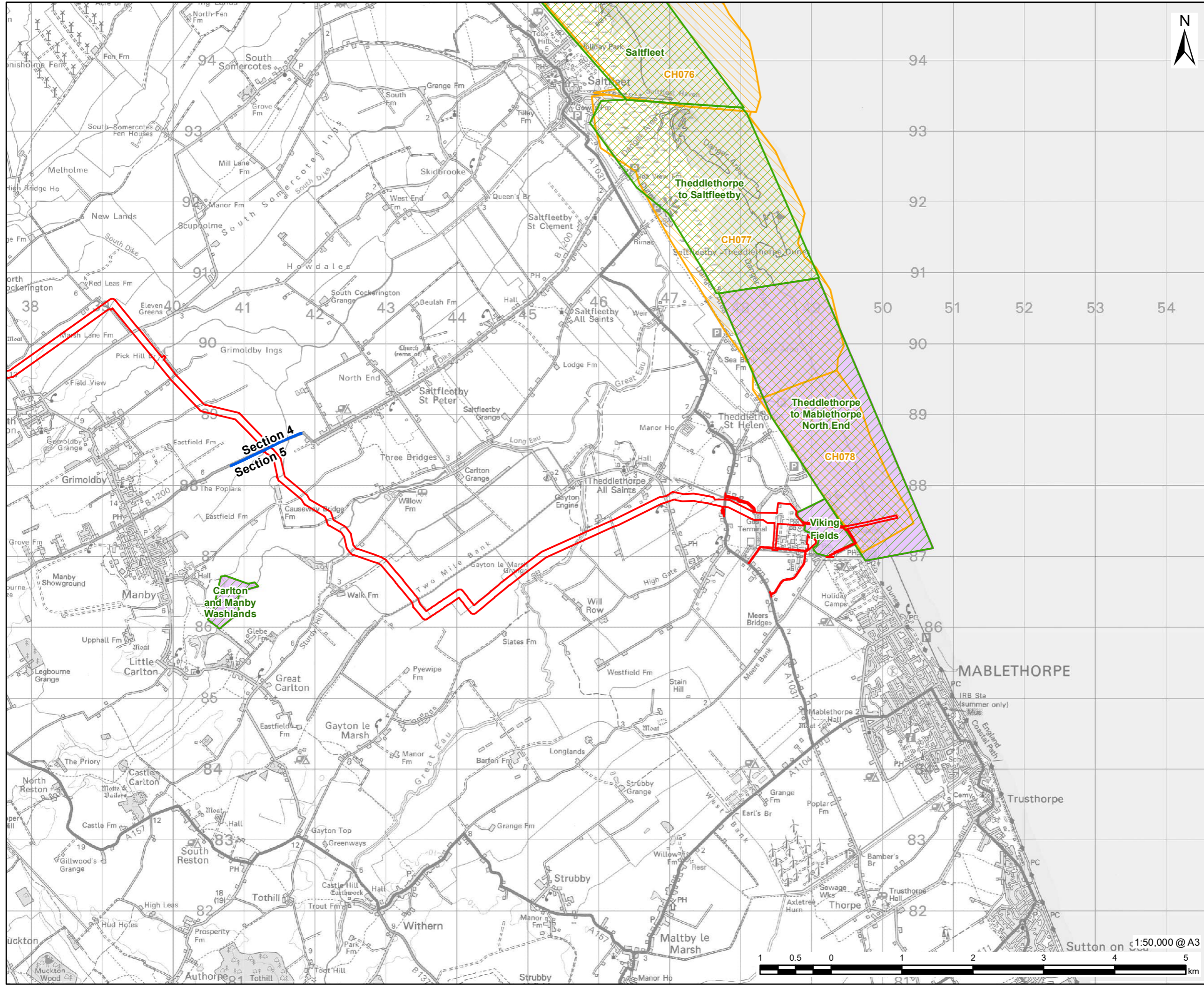
FIGURE TITLE
Figure 11
BTO WeBS Sectors (North)

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 ORNITHOLOGY BASELINE REPORT
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LEGEND

- DCO Site Boundary
- Route Section Break
- WeBS Core Count Sector
- WeBS Low Tide Count Sector
- WeBS Count Sector - With Data

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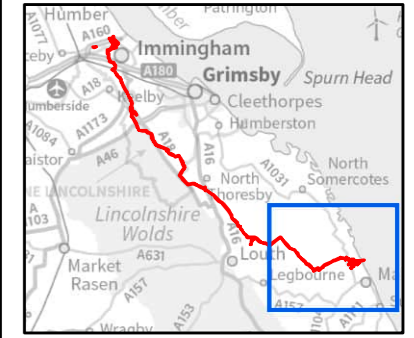
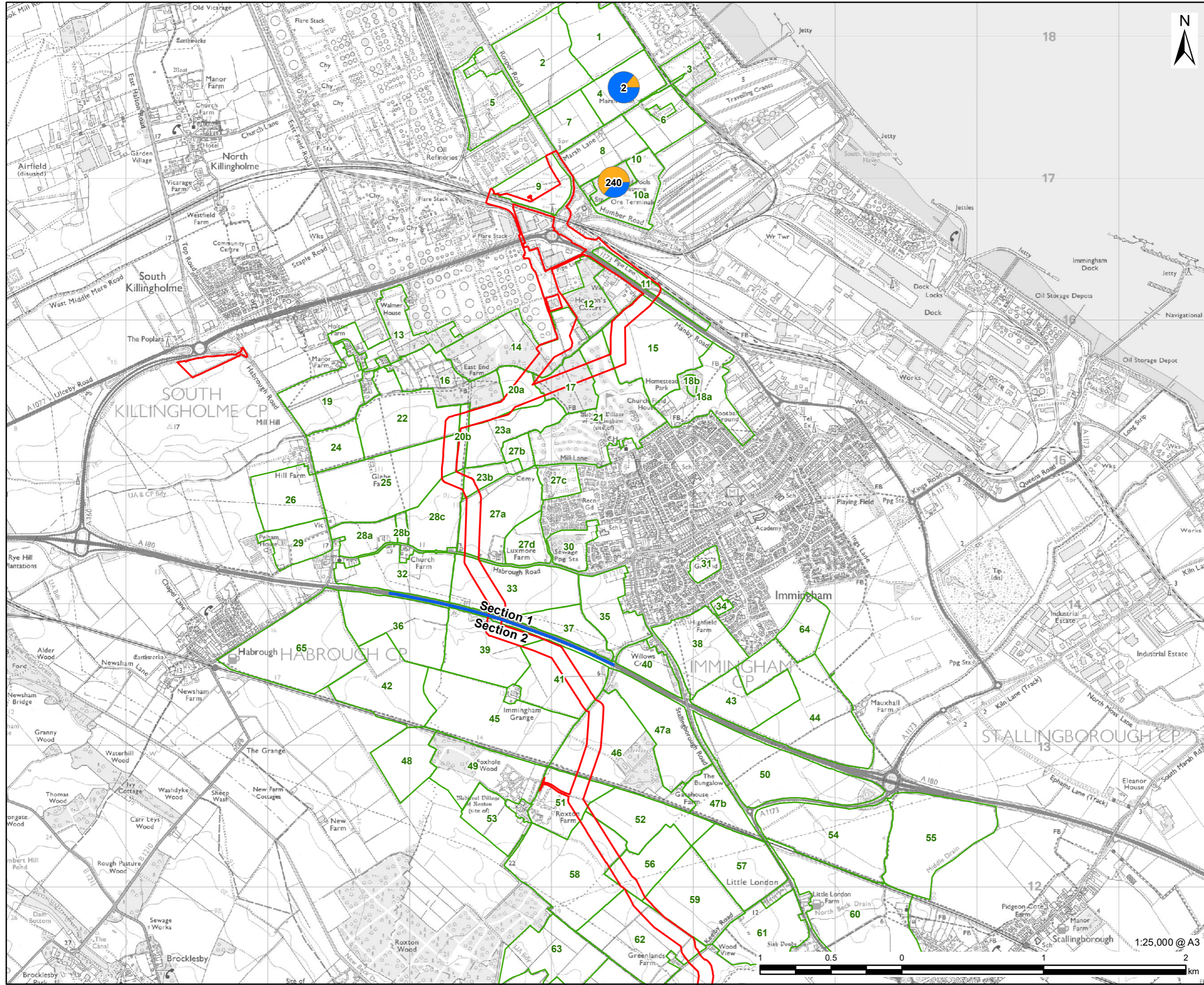


FIGURE TITLE
Figure 12
BTO WeBS Sectors (South)

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LEGEND

- DCO Site Boundary
- Route Section Break
- Survey Field Boundary

Species Distribution:

- X = Peak Count of Species for Whole Survey Period
- Proportion of Surveys in Which Species Present
- Proportion of Surveys in Which Species Absent

Number of Surveys: 14 (Fields 1-10)
13 (Fields 11-65)

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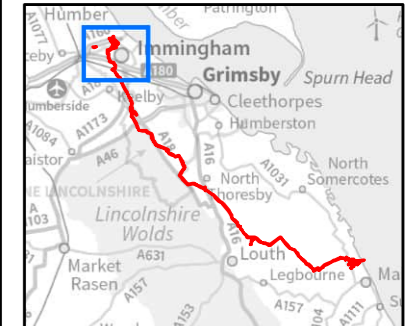
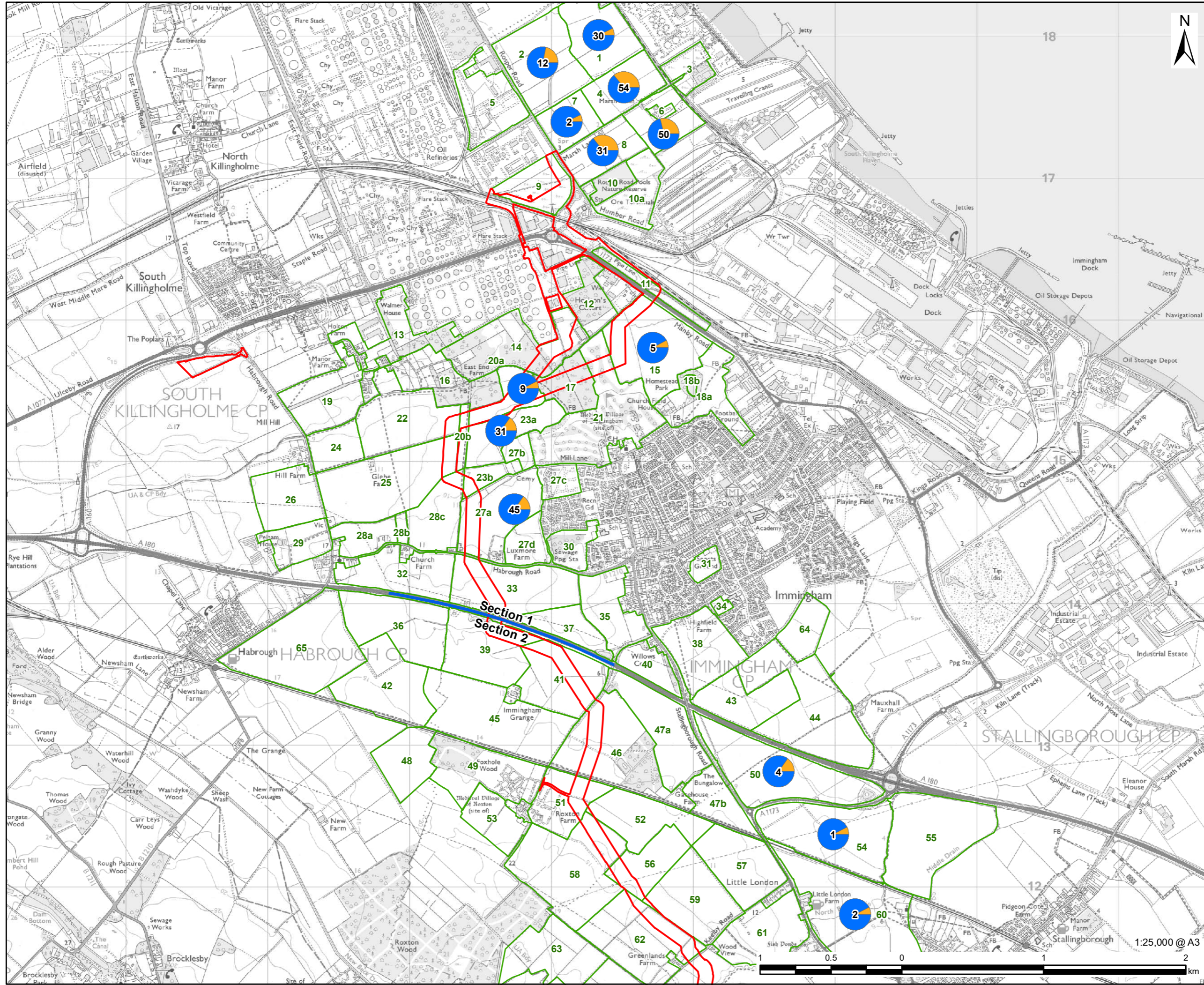


FIGURE TITLE
Figure 13
Black tailed godwit Distribution - North

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LEGEND

- DCO Site Boundary
- Route Section Break
- Survey Field Boundary

Species Distribution:

- X = Peak Count of Species for Whole Survey Period
- Proportion of Surveys in Which Species Present
- Proportion of Surveys in Which Species Absent

Number of Surveys: 14 (Fields 1-10)
13 (Fields 11-65)

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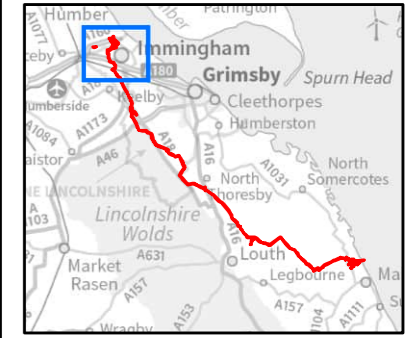
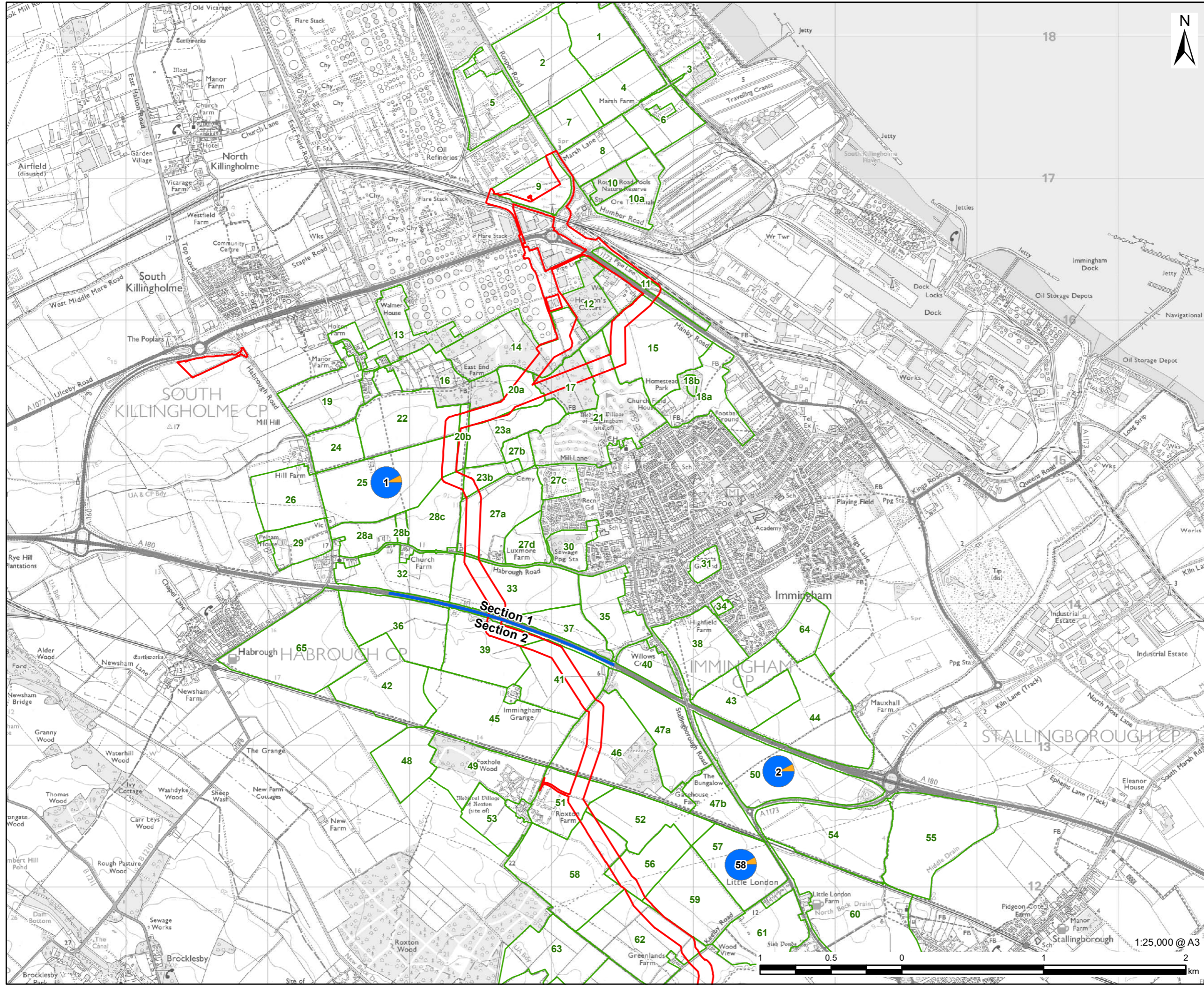


FIGURE TITLE
Figure 14
Curlew Distribution - North

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LEGEND

- DCO Site Boundary
- Route Section Break
- Survey Field Boundary
- Species Distribution:
- X = Peak Count of Species for Whole Survey Period
- Proportion of Surveys in Which Species Present
- Proportion of Surveys in Which Species Absent

Number of Surveys: 14 (Fields 1-10)
13 (Fields 11-65)

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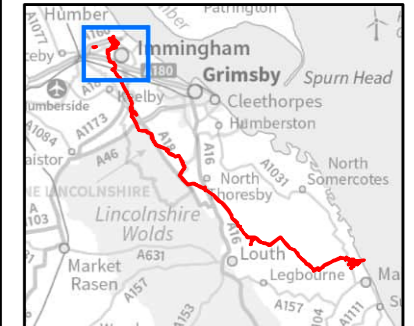
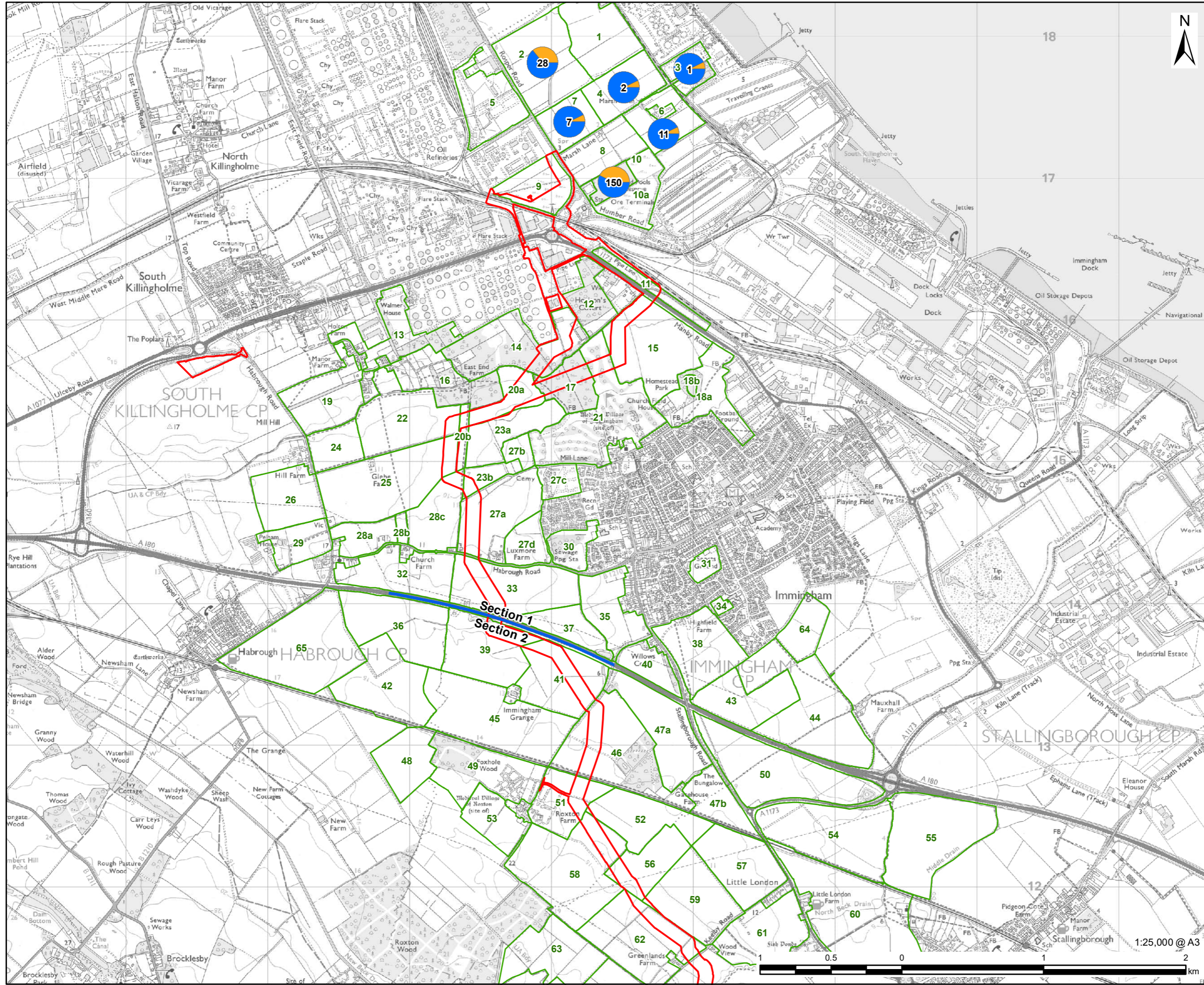


FIGURE TITLE

Figure 15
Golden plover Distribution - North



LEGEND

- DCO Site Boundary
 - Route Section Break
 - Survey Field Boundary
- Species Distribution:
- X = Peak Count of Species for Whole Survey Period
 - Proportion of Surveys in Which Species Present
 - Proportion of Surveys in Which Species Absent

Number of Surveys: 14 (Fields 1-10)
13 (Fields 11-65)

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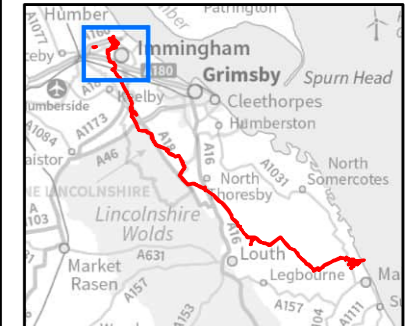
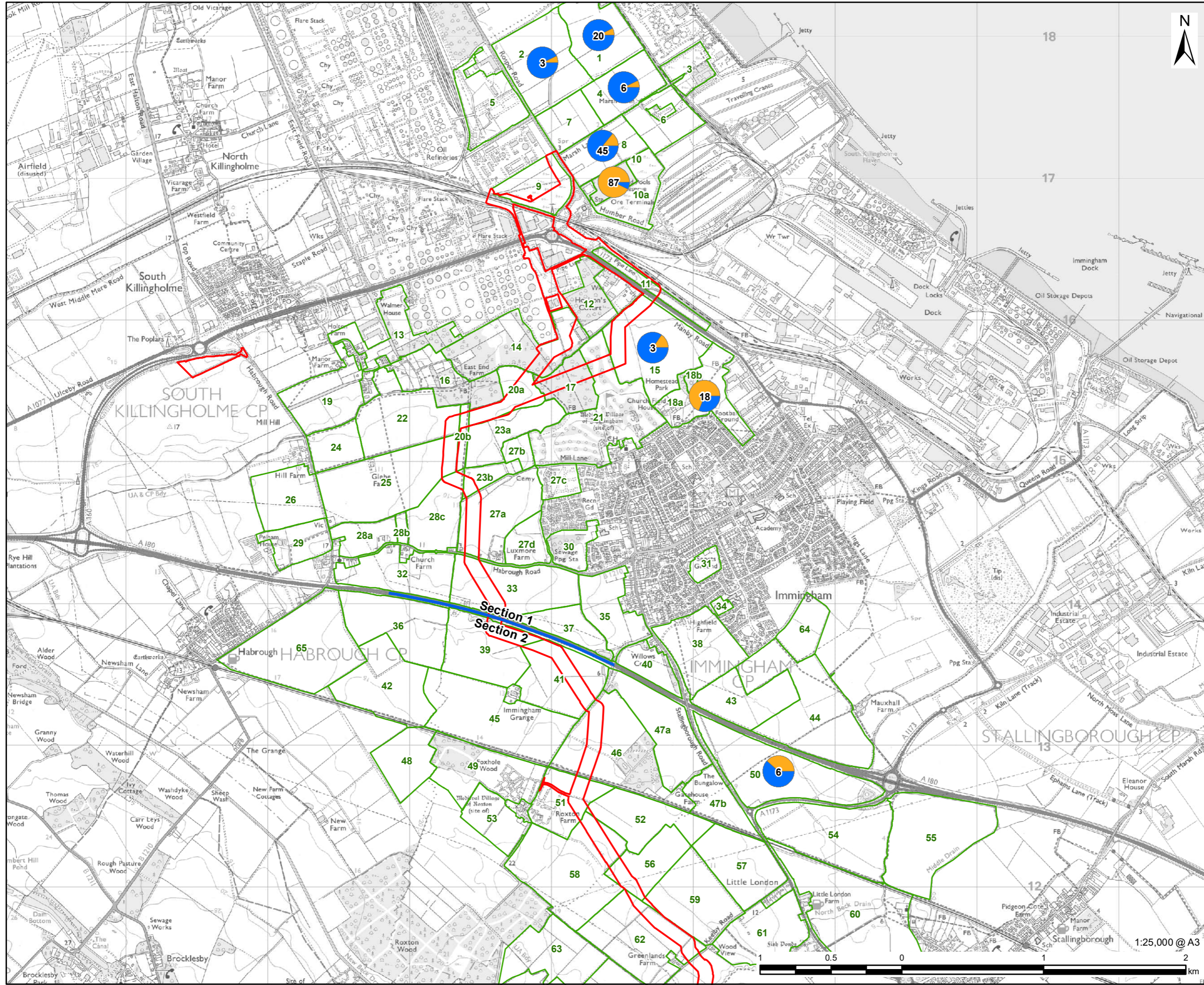


FIGURE TITLE

Figure 16
Lapwing Distribution - North

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- LEGEND**
- DCO Site Boundary
 - Route Section Break
 - Survey Field Boundary
- Species Distribution:
- X = Peak Count of Species for Whole Survey Period
 - Proportion of Surveys in Which Species Present
 - Proportion of Surveys in Which Species Absent
- Number of Surveys: 14 (Fields 1-10)
 13 (Fields 11-65)

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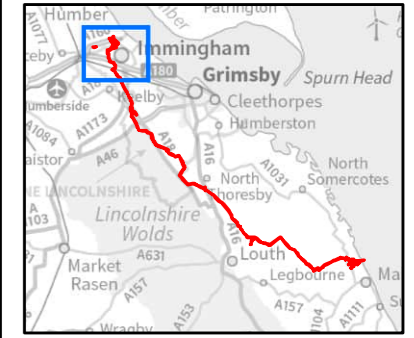
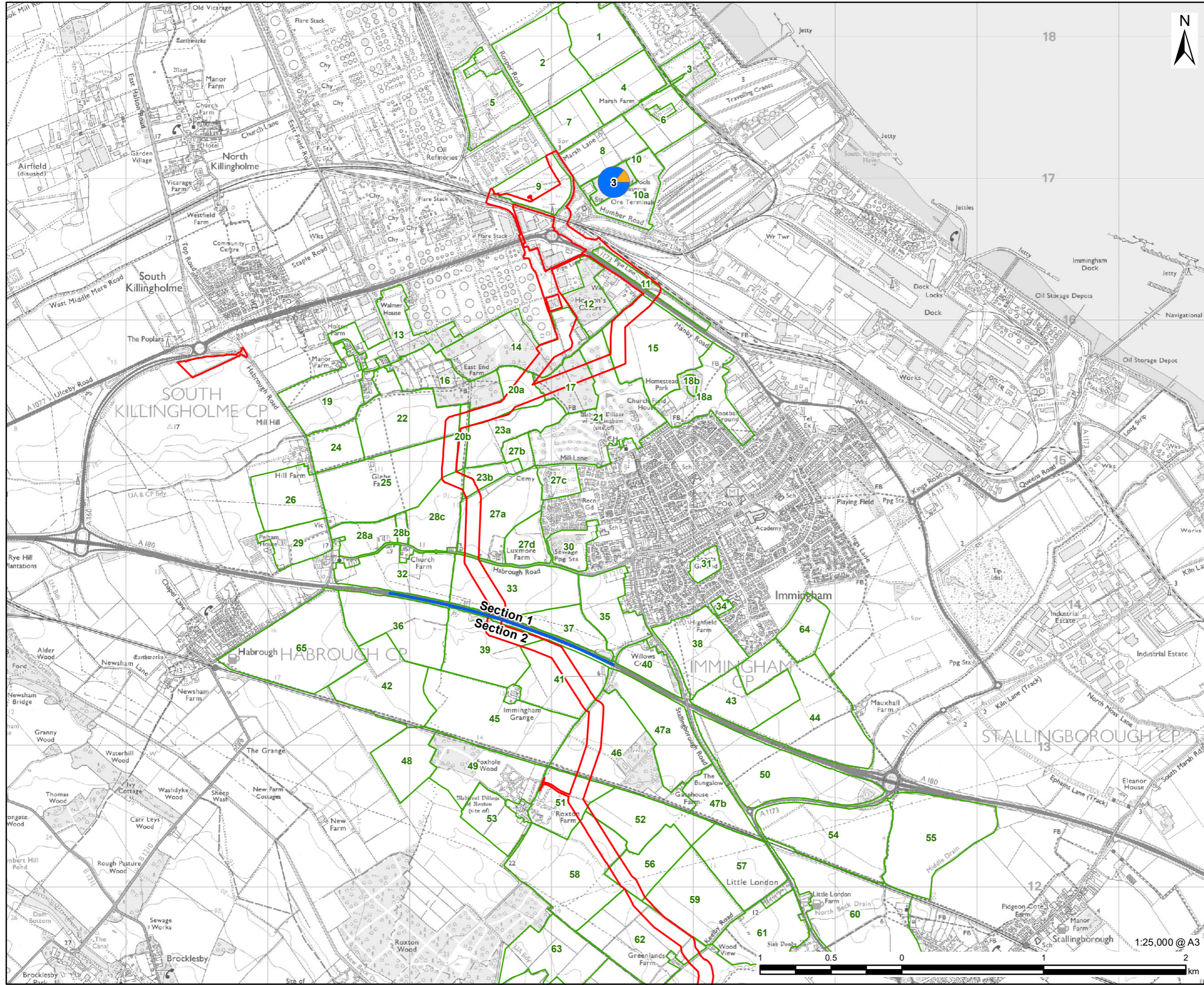


FIGURE TITLE
Figure 17
Mallard Distribution - North



LEGEND

- DCO Site Boundary
- Route Section Break
- Survey Field Boundary

Species Distribution:

- X = Peak Count of Species for Whole Survey Period
- Proportion of Surveys in Which Species Present
- Proportion of Surveys in Which Species Absent

Number of Surveys: 14 (Fields 1-10)
13 (Fields 11-65)

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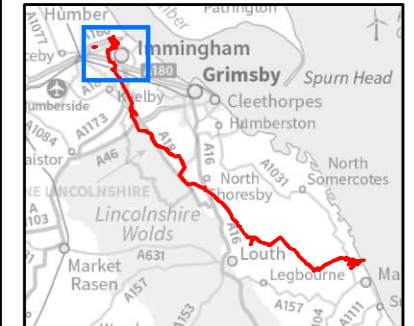
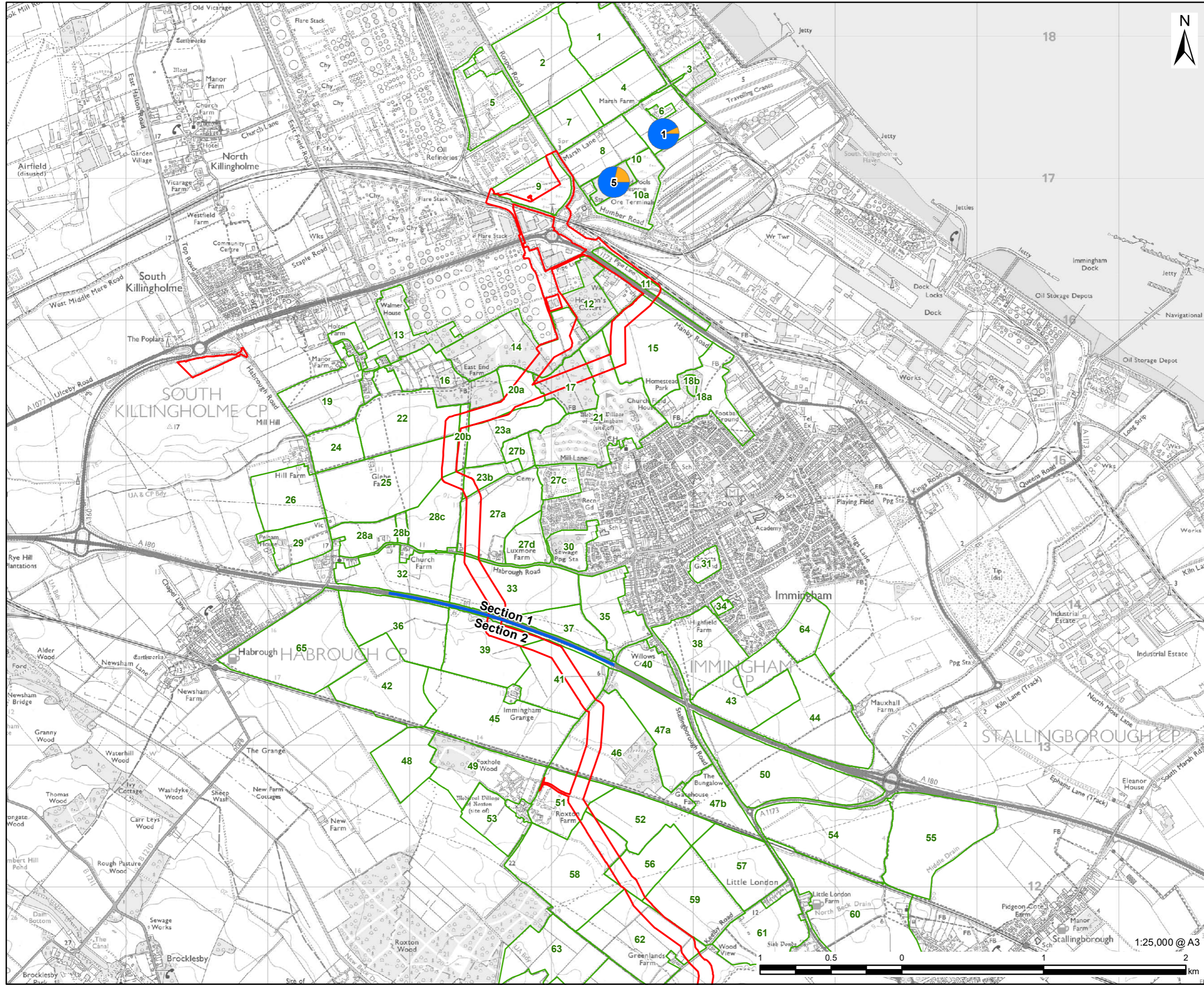


FIGURE TITLE
Figure 18
Redshank Distribution - North

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LEGEND

- DCO Site Boundary
- Route Section Break
- Survey Field Boundary

Species Distribution:

- X = Peak Count of Species for Whole Survey Period
- Proportion of Surveys in Which Species Present
- Proportion of Surveys in Which Species Absent

Number of Surveys: 14 (Fields 1-10)
 13 (Fields 11-65)

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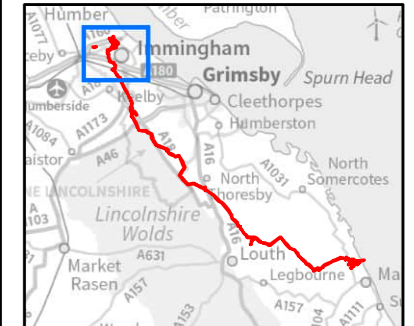
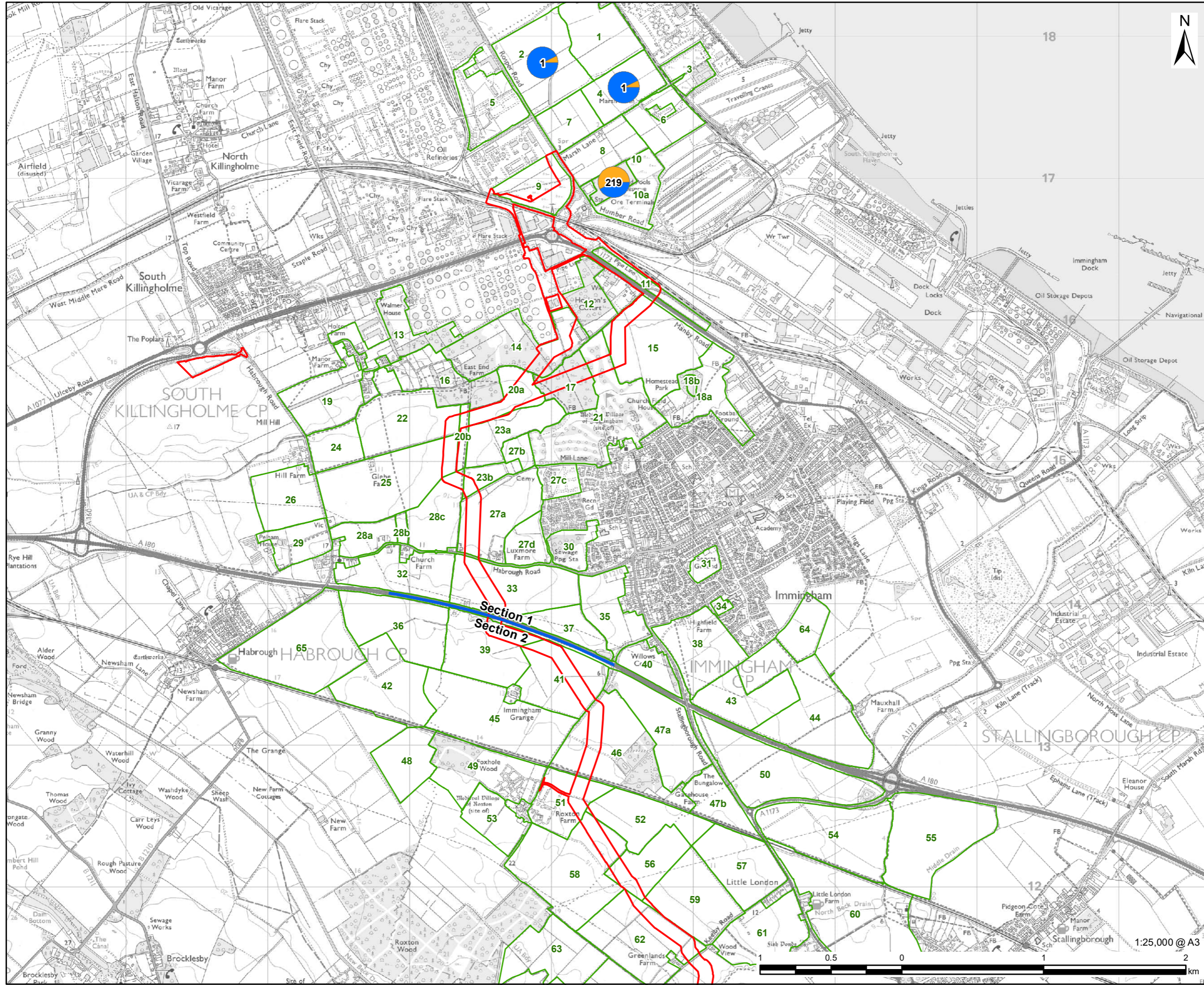


FIGURE TITLE
Figure 19
Shelduck Distribution - North



LEGEND

- DCO Site Boundary
 - Route Section Break
 - Survey Field Boundary
- Species Distribution:
- X = Peak Count of Species for Whole Survey Period
 - Proportion of Surveys in Which Species Present
 - Proportion of Surveys in Which Species Absent

Number of Surveys: 14 (Fields 1-10)
13 (Fields 11-65)

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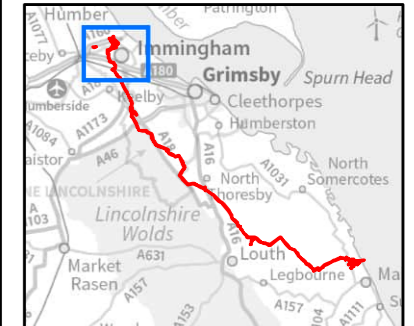
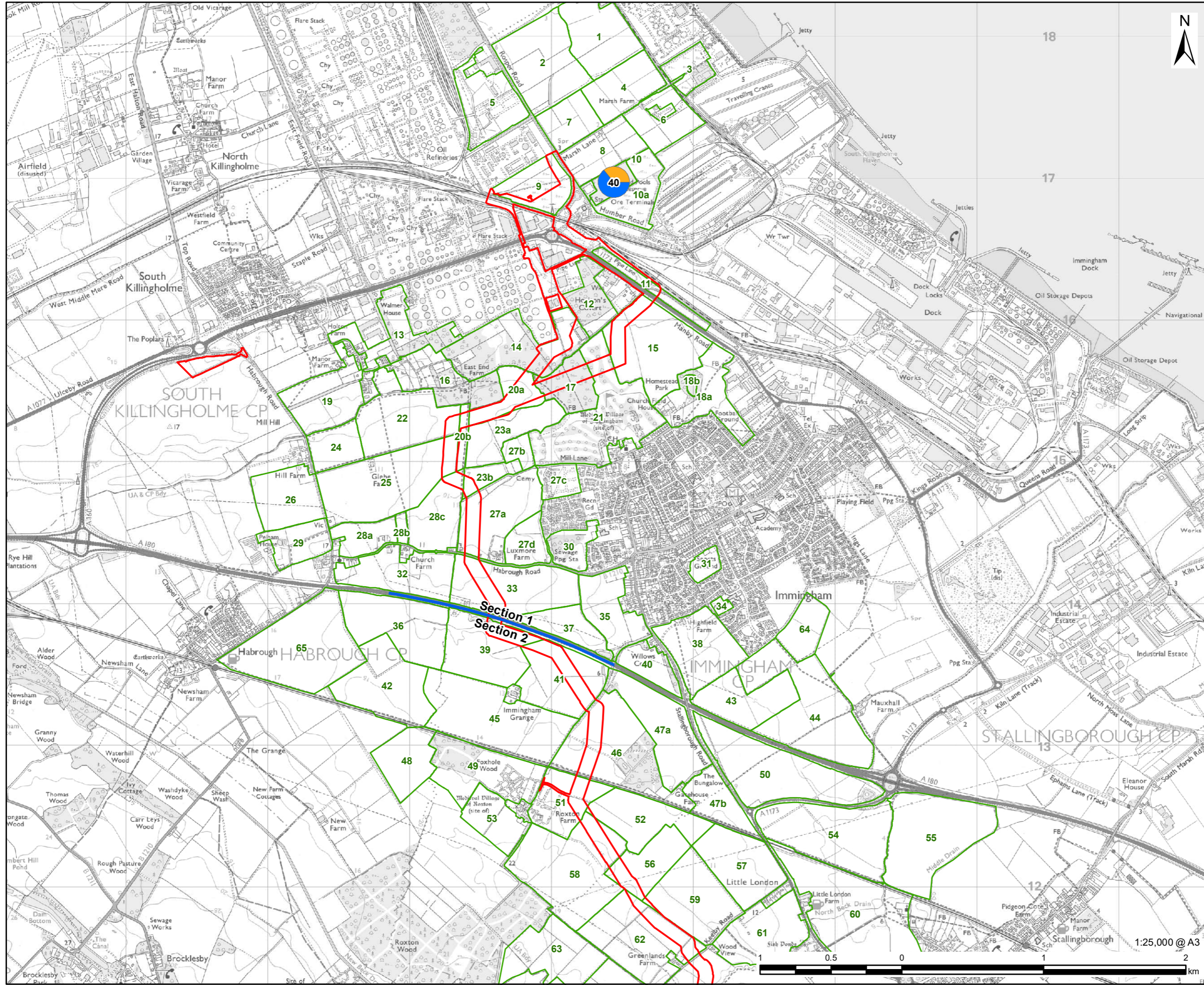


FIGURE TITLE
Figure 20
Teal Distribution - North

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LEGEND

- DCO Site Boundary
- Route Section Break
- Survey Field Boundary

Species Distribution:

- X = Peak Count of Species for Whole Survey Period
- Proportion of Surveys in Which Species Present
- Proportion of Surveys in Which Species Absent

Number of Surveys: 14 (Fields 1-10)
13 (Fields 11-65)

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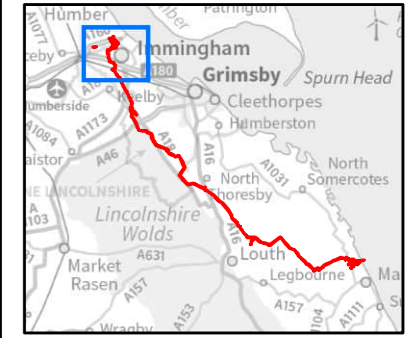
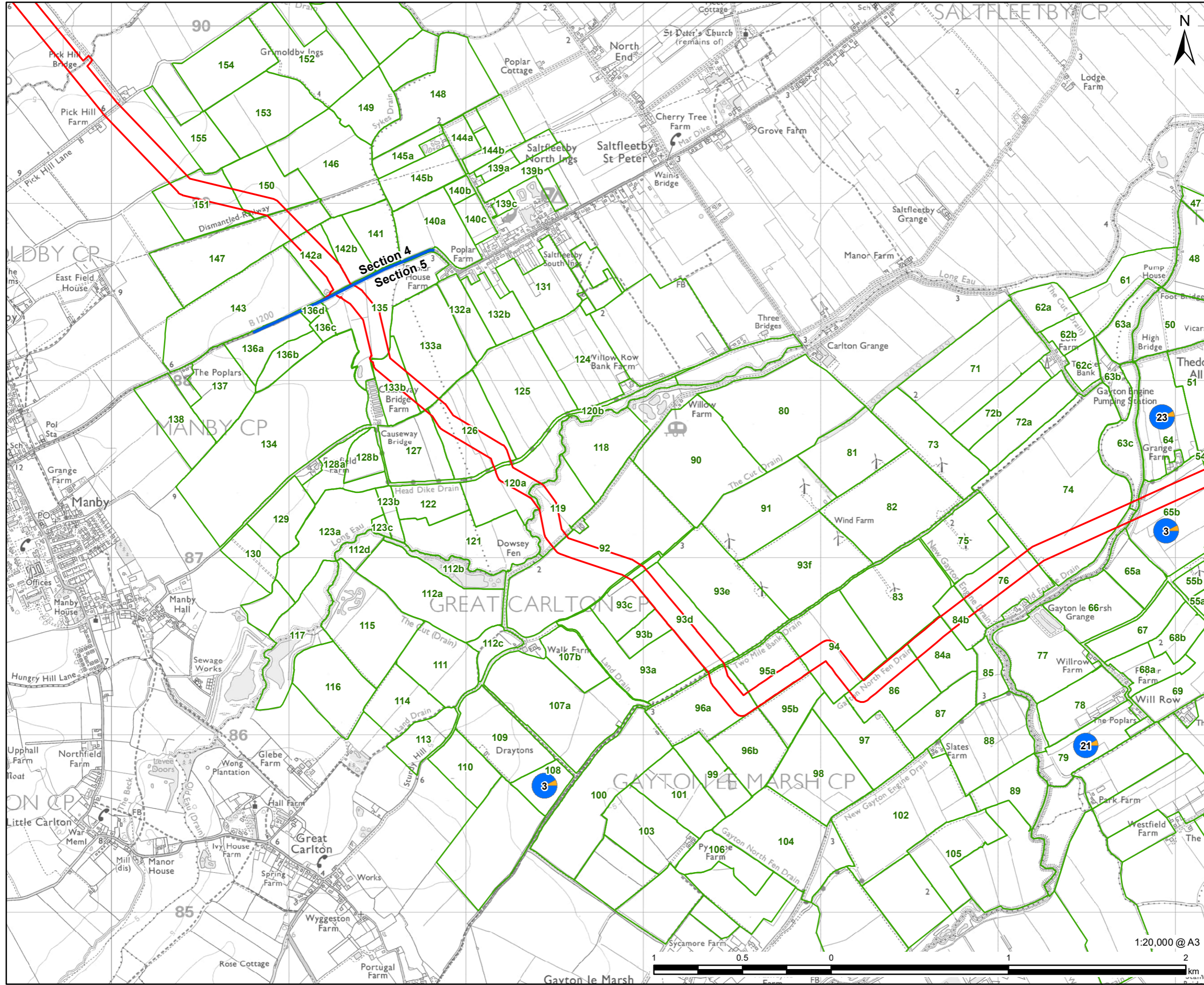


FIGURE TITLE
Figure 21
Wigeon Distribution - North



LEGEND

- DCO Site Boundary
- Route Section Break
- Survey Field Boundary

Species Distribution:

- X = Peak Count of Species for Whole Survey Period
- Proportion of Surveys in Which Species Present
- Proportion of Surveys in Which Species Absent

Number of Surveys: 13

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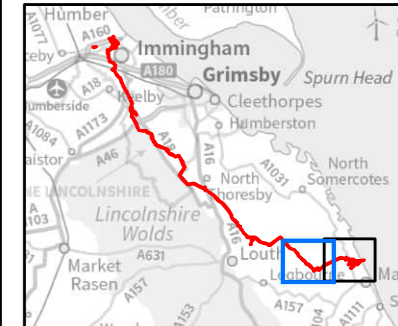
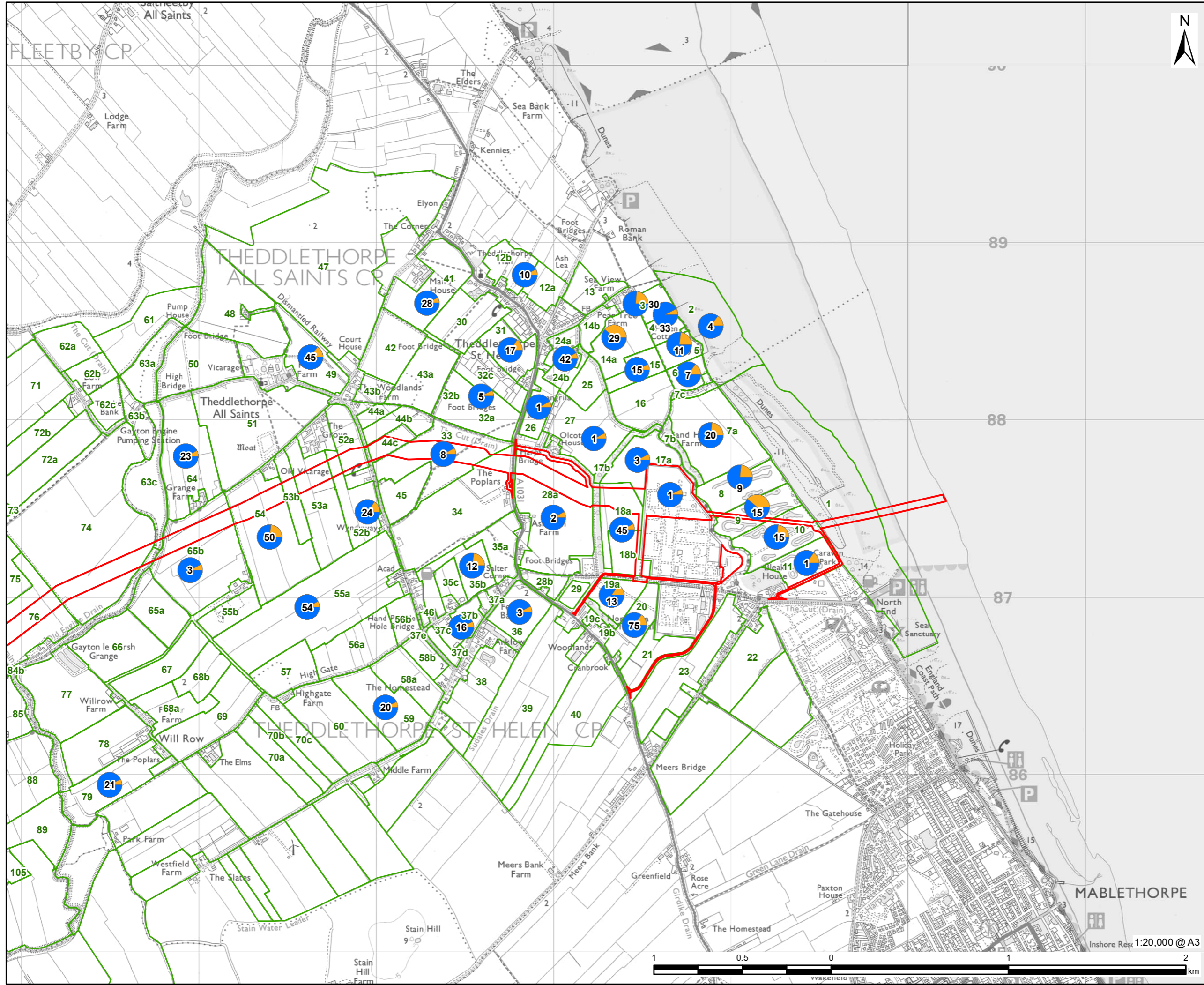


FIGURE TITLE

Figure 22 (1 of 2)
Curlew Distribution - South

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LEGEND

- DCO Site Boundary
 - Route Section Break
 - Survey Field Boundary
- Species Distribution:
- X = Peak Count of Species for Whole Survey Period
 - Proportion of Surveys in Which Species Present
 - Proportion of Surveys in Which Species Absent

Number of Surveys: 13

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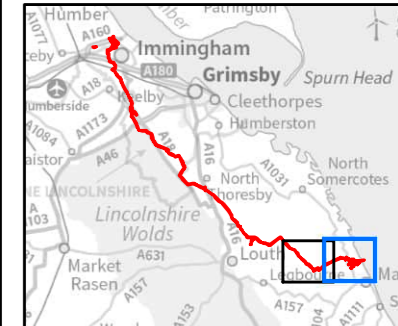
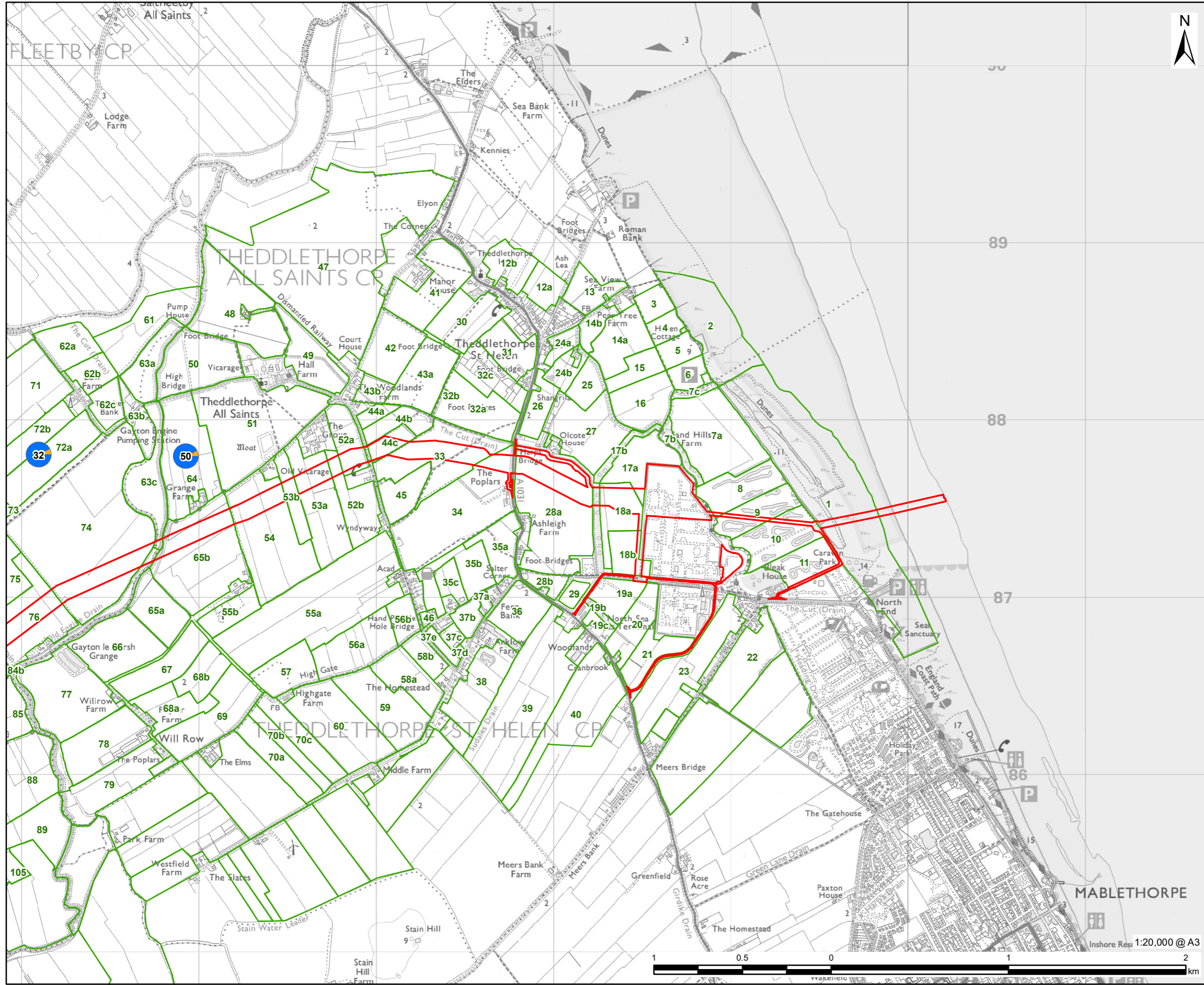


FIGURE TITLE
 Figure 22 (2 of 2)
 Curlew Distribution - South

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LEGEND

- DCO Site Boundary
- Route Section Break
- Survey Field Boundary

Species Distribution:

- X = Peak Count of Species for Whole Survey Period
- Proportion of Surveys in Which Species Present
- Proportion of Surveys in Which Species Absent

Number of Surveys: 13

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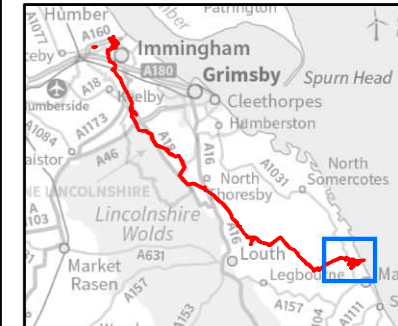
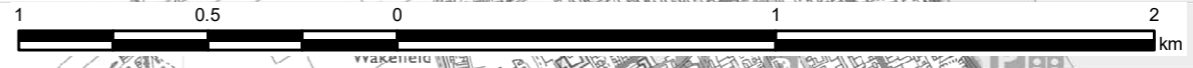
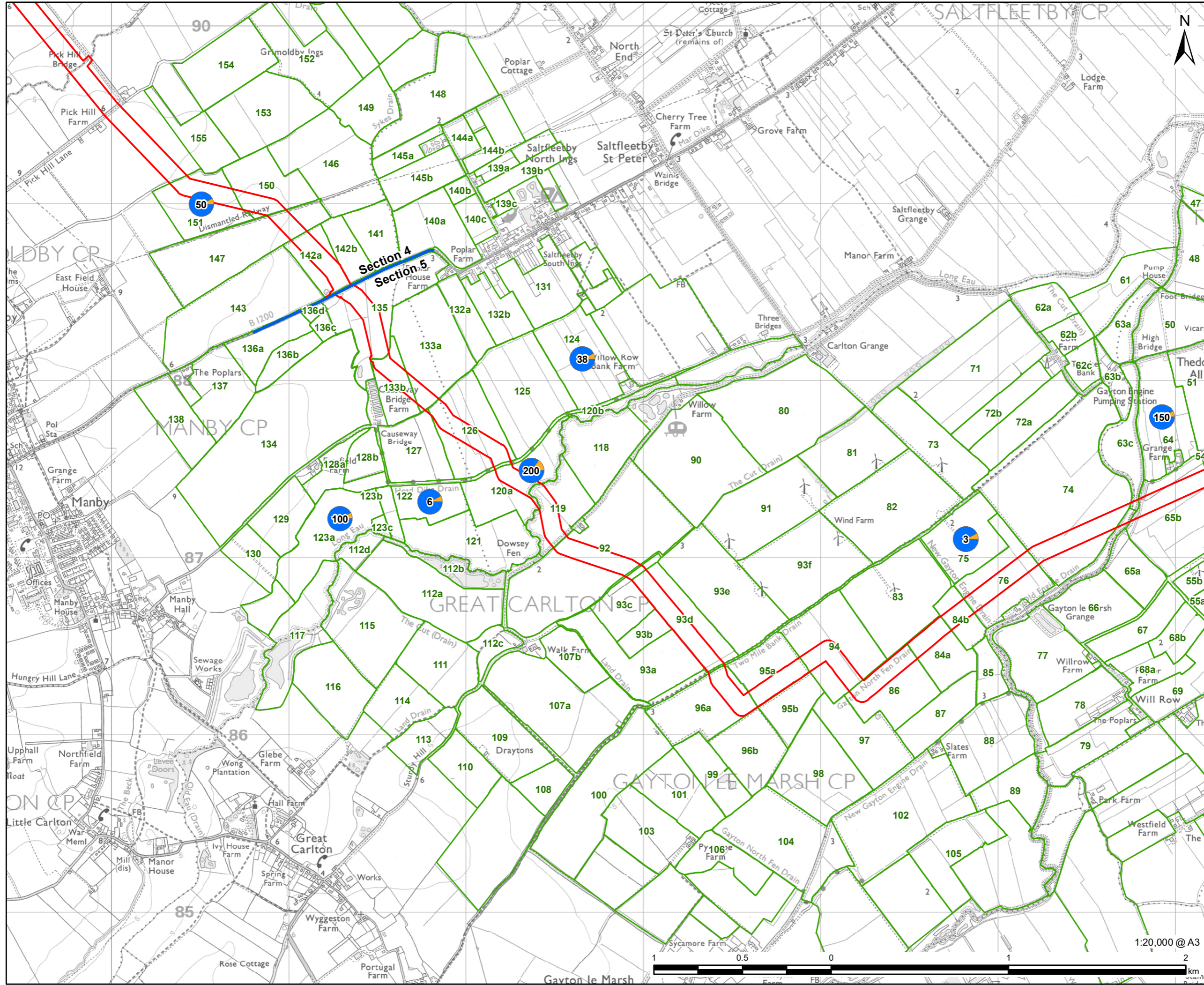


FIGURE TITLE
 Figure 23 (1 of 1)
 Golden plover Distribution - South



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LEGEND

- DCO Site Boundary
- Route Section Break
- Survey Field Boundary

Species Distribution:

- X = Peak Count of Species for Whole Survey Period
- Proportion of Surveys in Which Species Present
- Proportion of Surveys in Which Species Absent

Number of Surveys: 13

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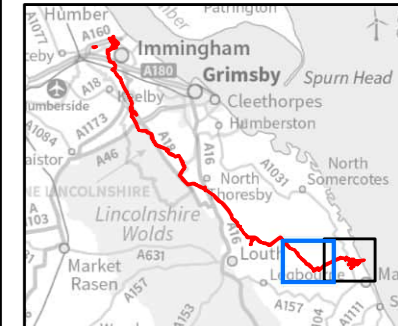
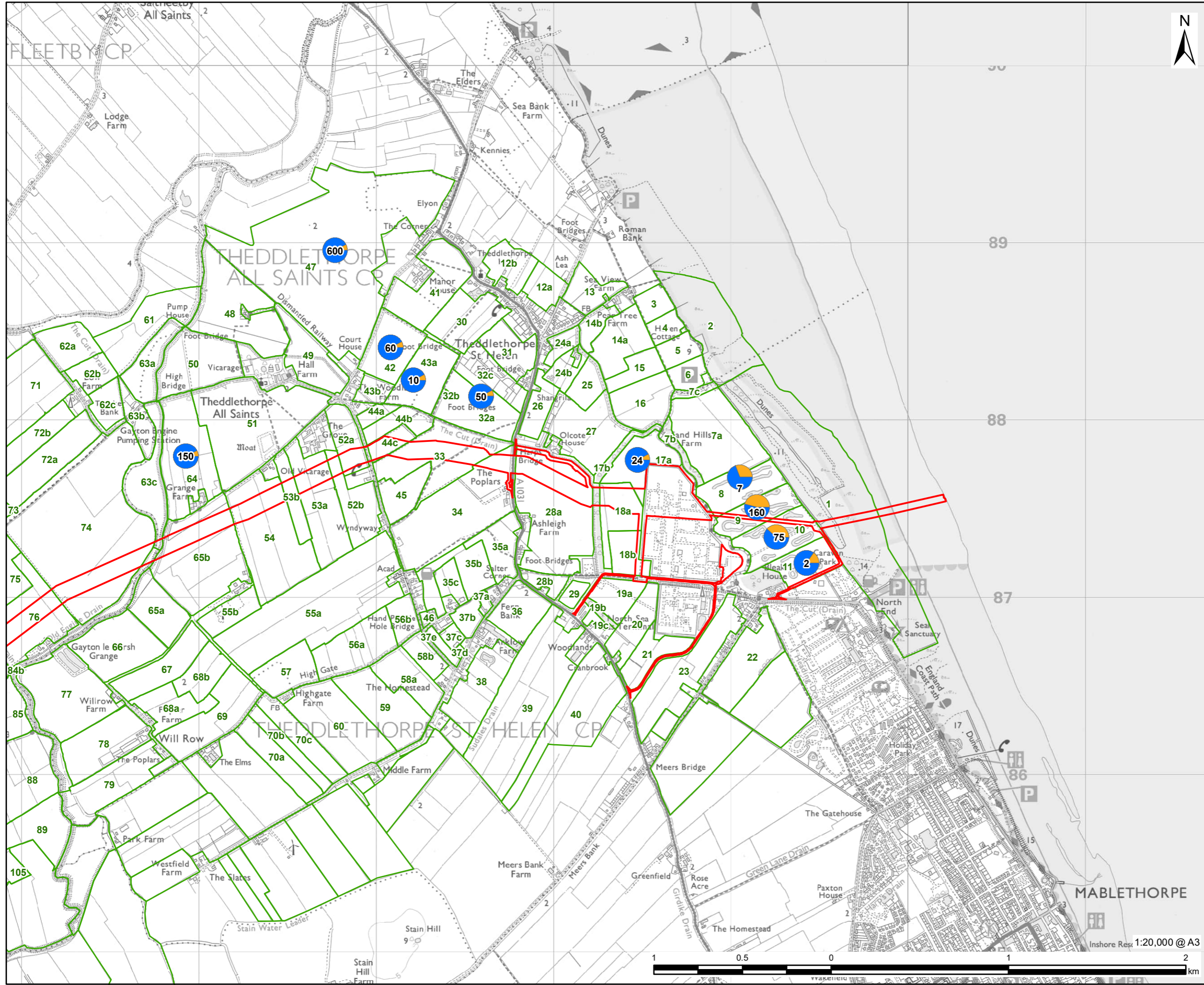


FIGURE TITLE
 Figure 24 (1 of 2)
 Lapwing Distribution - South

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- LEGEND**
- DCO Site Boundary
 - Route Section Break
 - Survey Field Boundary
- Species Distribution:
- X = Peak Count of Species for Whole Survey Period
 - Proportion of Surveys in Which Species Present
 - Proportion of Surveys in Which Species Absent

Number of Surveys: 13

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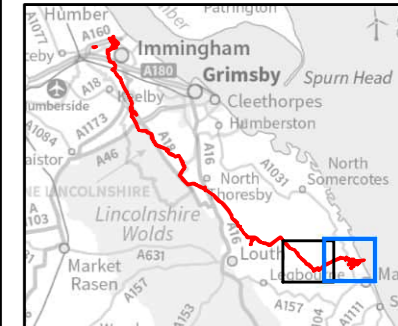
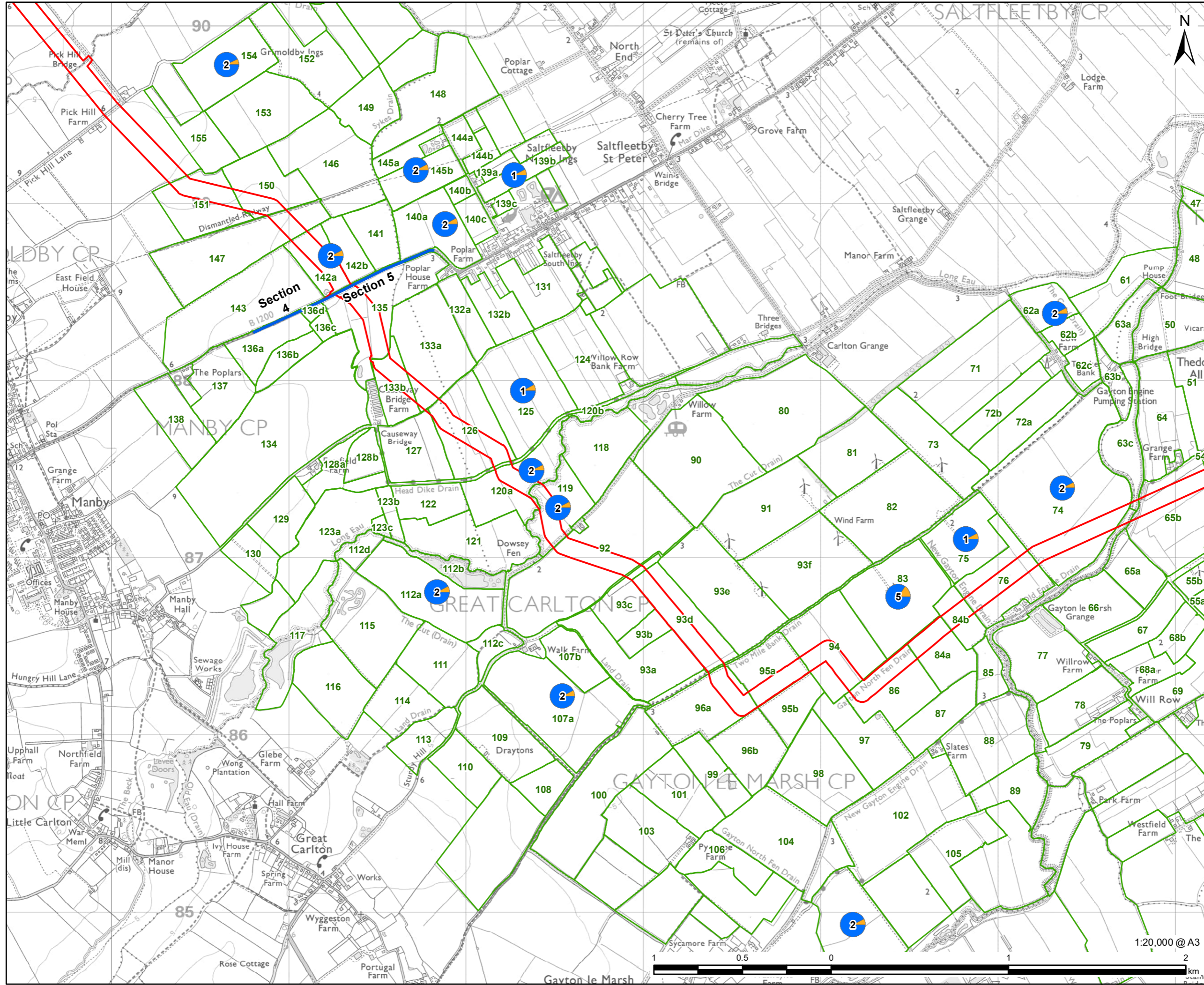


FIGURE TITLE
Figure 24 (2 of 2)
Lapwing Distribution - South

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VikingCCS

AECOM

PROJECT
Viking CCS Pipeline

LEGEND

- DCO Site Boundary
- Route Section Break
- Survey Field Boundary

Species Distribution:

- X = Peak Count of Species for Whole Survey Period
- Proportion of Surveys in Which Species Present
- Proportion of Surveys in Which Species Absent

Number of Surveys: 13

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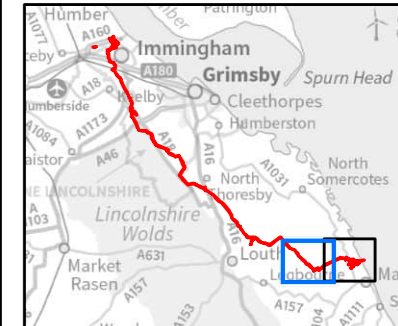
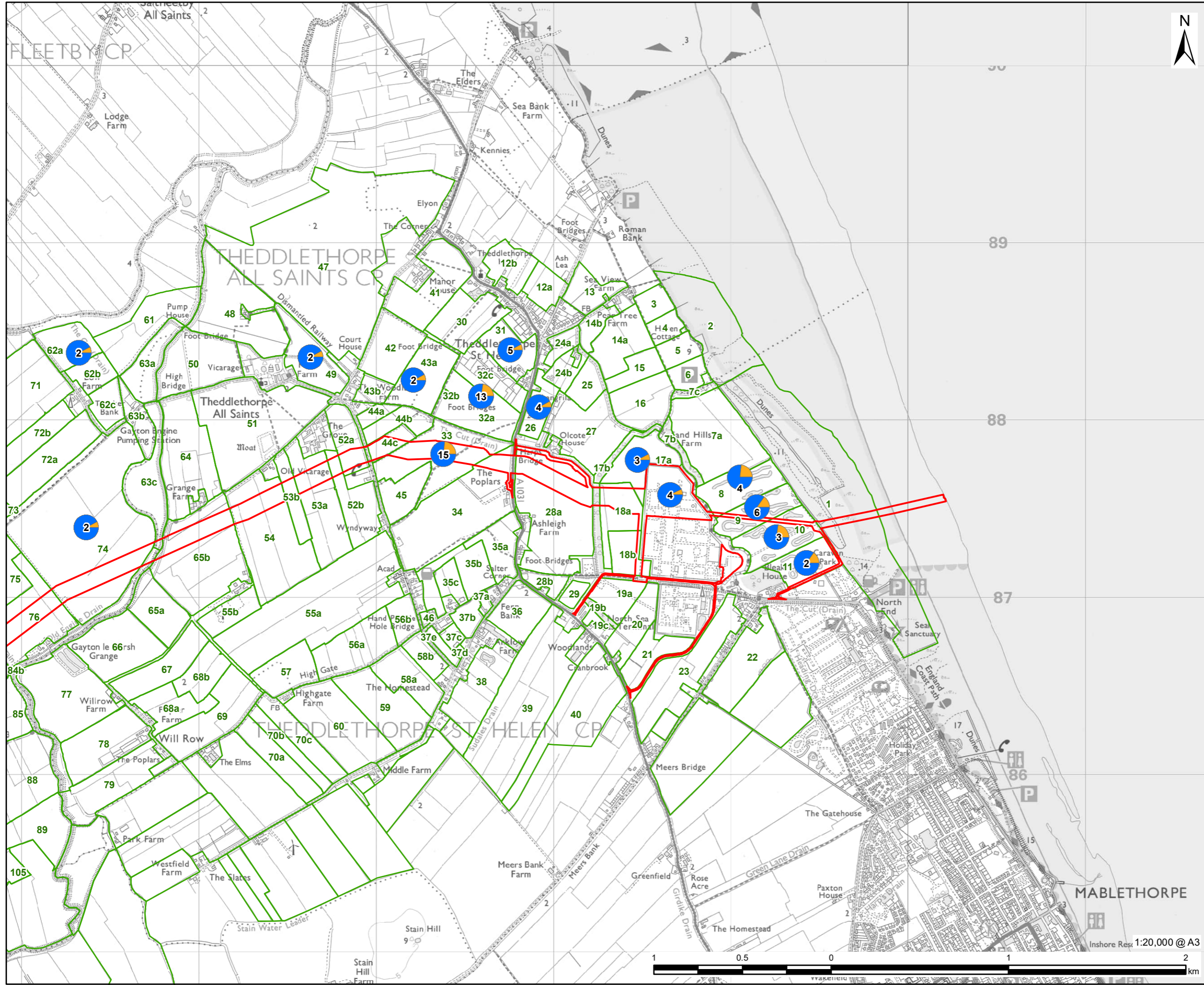


FIGURE TITLE
Figure 25 (1 of 2)
Mallard Distribution - South

ISSUE PURPOSE
ORNITHOLOGY BASELINE REPORT
PROJECT NUMBER / REFERENCE
60668955 / VCCS_230928_OBR_25

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LEGEND

- DCO Site Boundary
- Route Section Break
- Survey Field Boundary

Species Distribution:

- X = Peak Count of Species for Whole Survey Period
- Proportion of Surveys in Which Species Present
- Proportion of Surveys in Which Species Absent

Number of Surveys: 13

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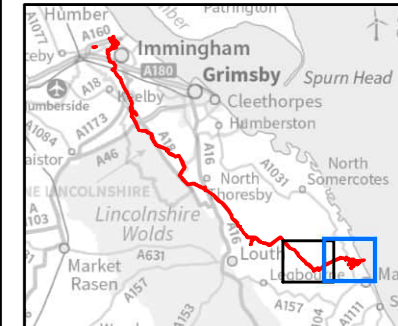
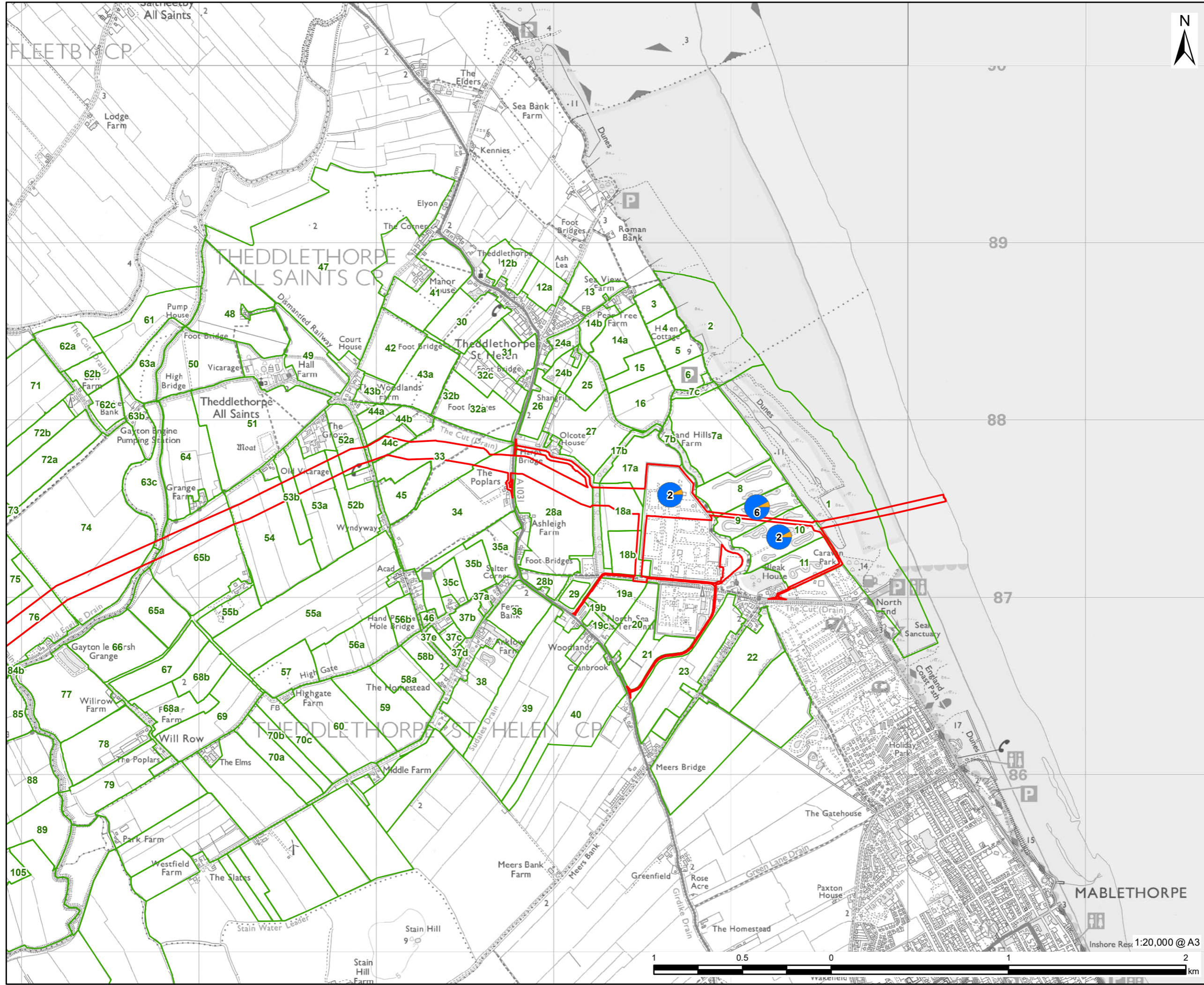


FIGURE TITLE
Figure 25 (2 of 2)
Mallard Distribution - South

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LEGEND

- DCO Site Boundary
- Route Section Break
- Survey Field Boundary

Species Distribution:

- X = Peak Count of Species for Whole Survey Period
- Proportion of Surveys in Which Species Present
- Proportion of Surveys in Which Species Absent

Number of Surveys: 13

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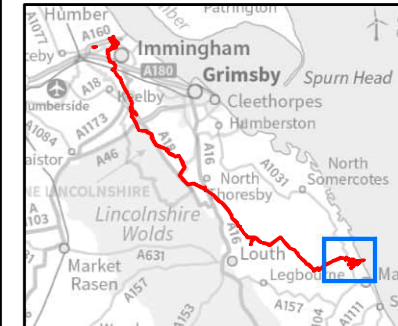
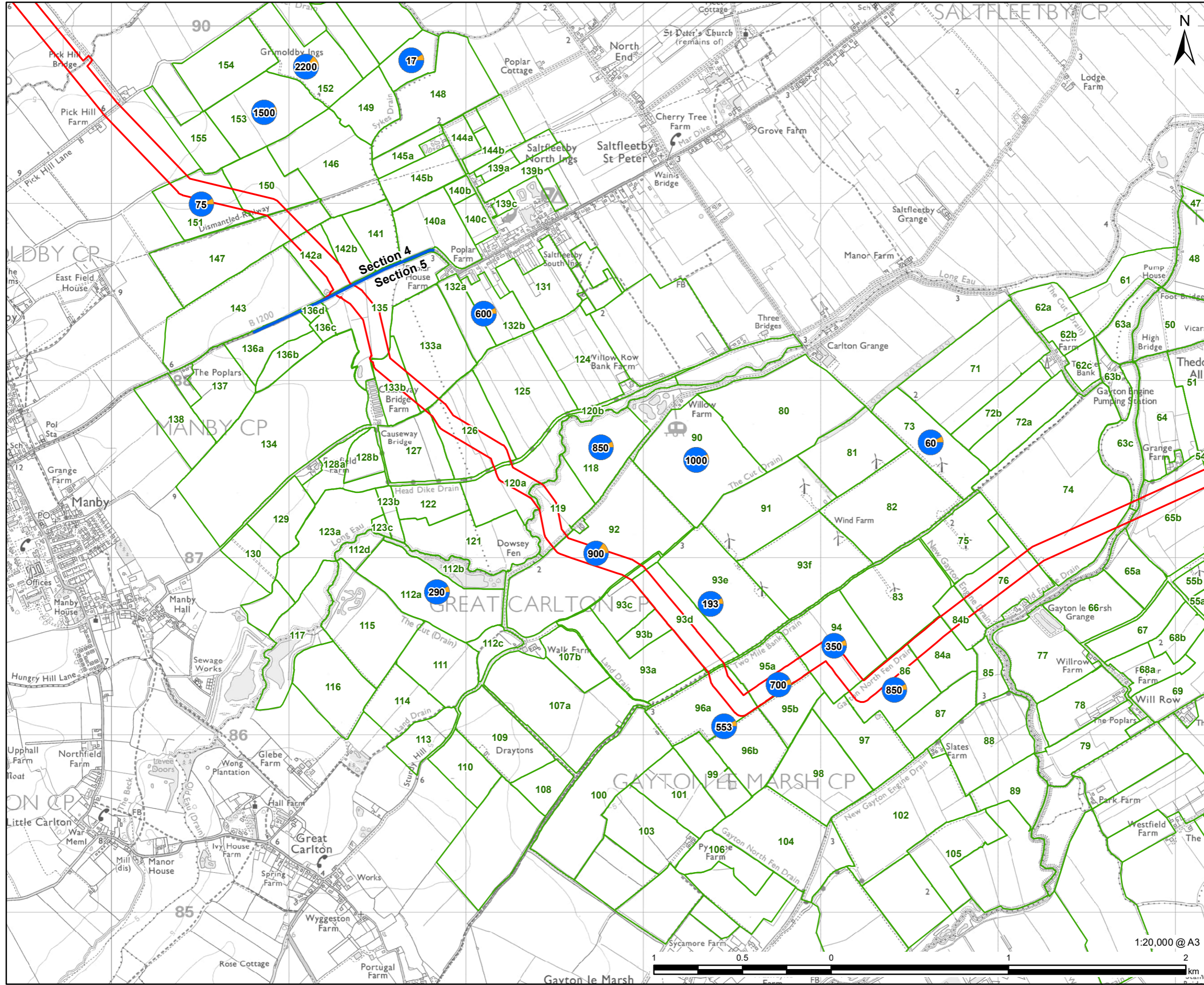


FIGURE TITLE
 Figure 26 (1 of 1)
 Oystercatcher Distribution - South

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LEGEND

- DCO Site Boundary
- Route Section Break
- Survey Field Boundary

Species Distribution:

- X = Peak Count of Species for Whole Survey Period
- Proportion of Surveys in Which Species Present
- Proportion of Surveys in Which Species Absent

Number of Surveys: 13

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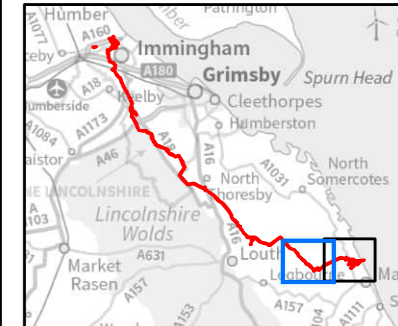
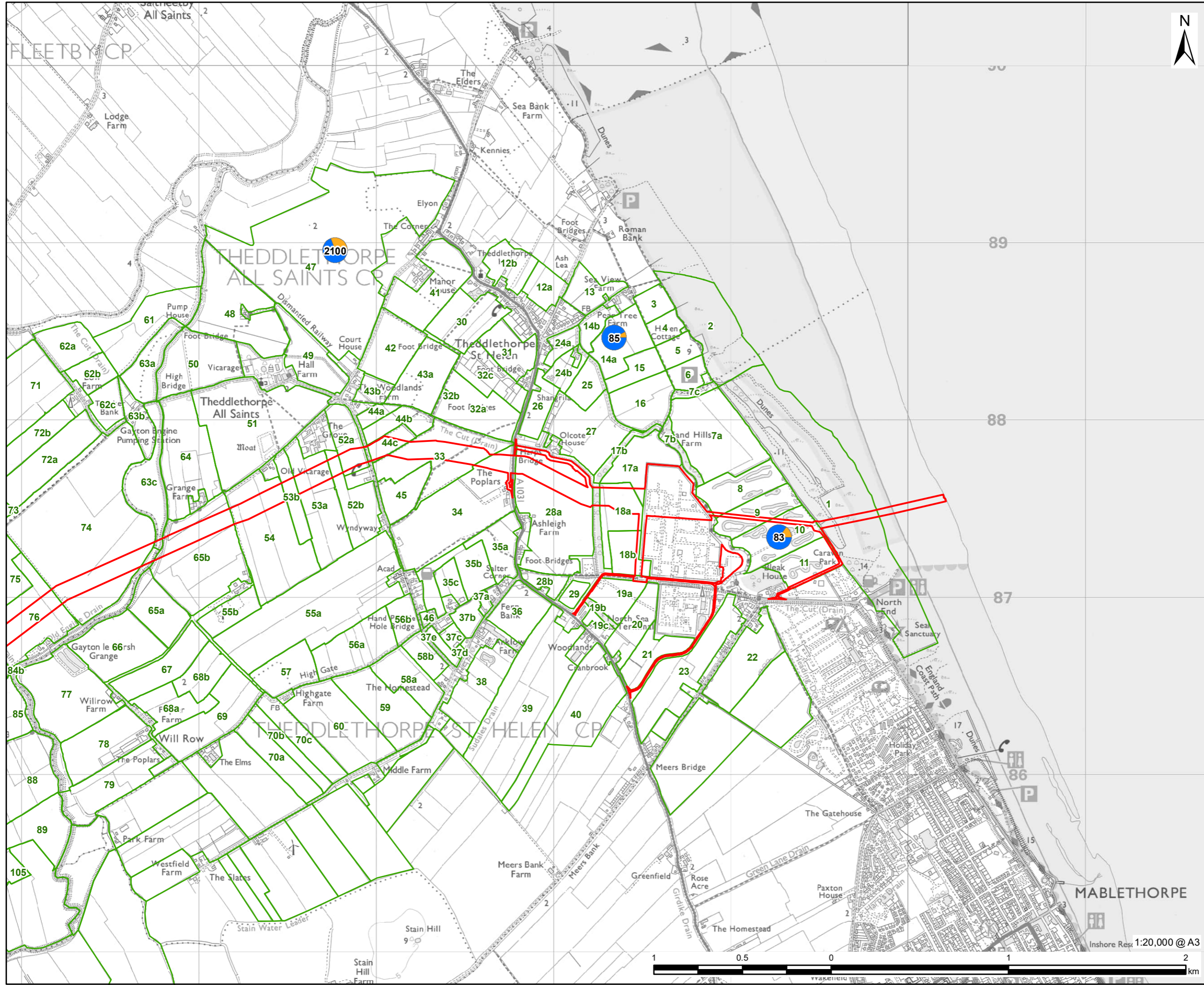


FIGURE TITLE

Figure 27 (1 of 2)
Pink-footed goose Distribution - South

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- LEGEND**
- DCO Site Boundary
 - Route Section Break
 - Survey Field Boundary
- Species Distribution:
- X = Peak Count of Species for Whole Survey Period
 - Proportion of Surveys in Which Species Present
 - Proportion of Surveys in Which Species Absent

Number of Surveys: 13

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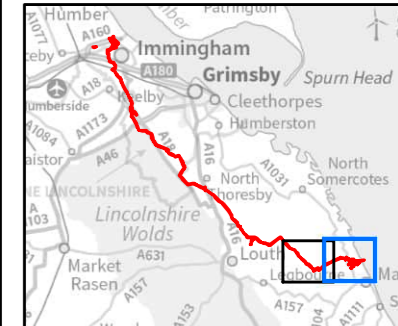
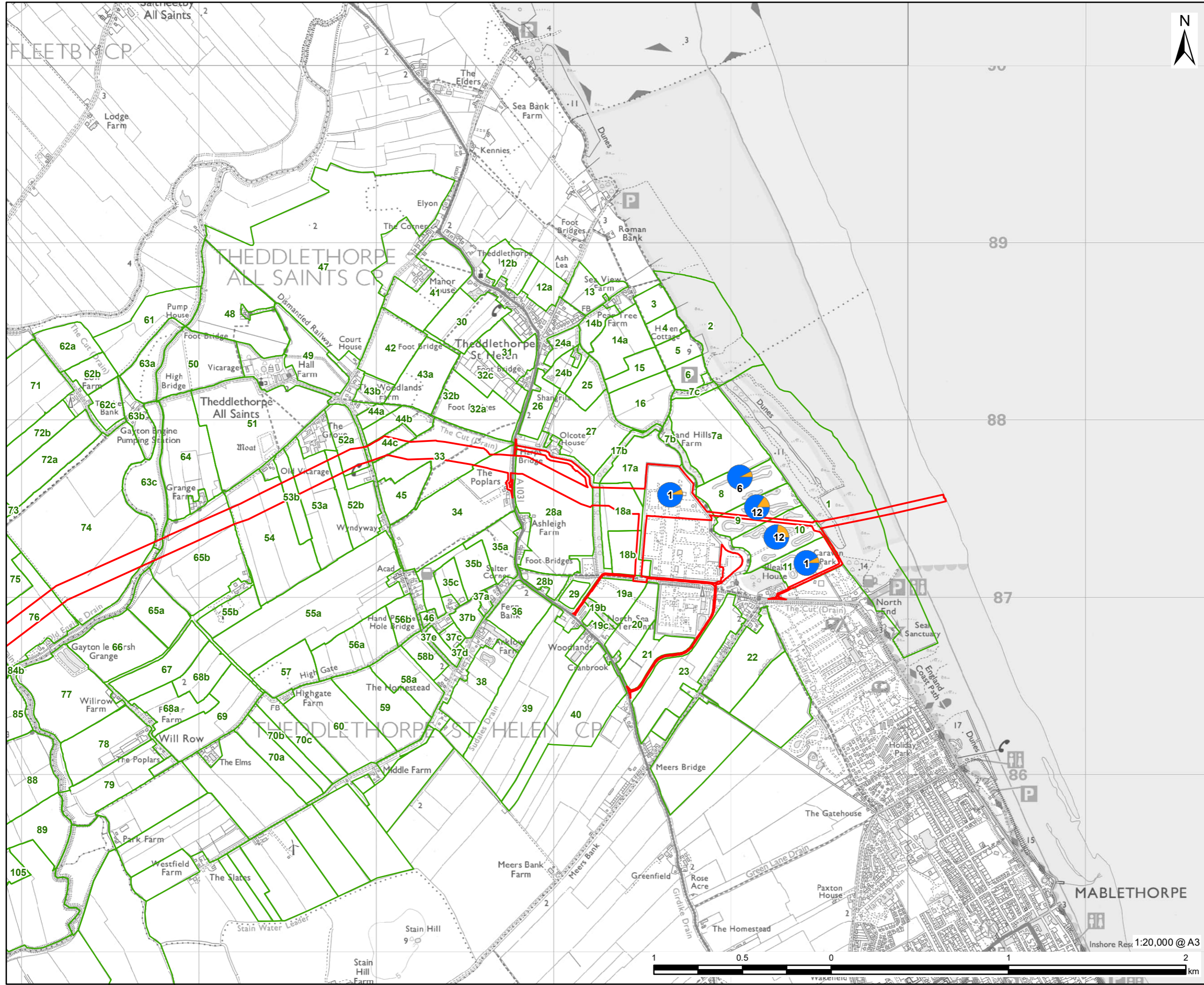


FIGURE TITLE
Figure 27 (2 of 2)
Pink-footed goose Distribution - South

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- LEGEND**
- DCO Site Boundary
 - Route Section Break
 - Survey Field Boundary
- Species Distribution:
- X = Peak Count of Species for Whole Survey Period
 - Proportion of Surveys in Which Species Present
 - Proportion of Surveys in Which Species Absent

Number of Surveys: 13

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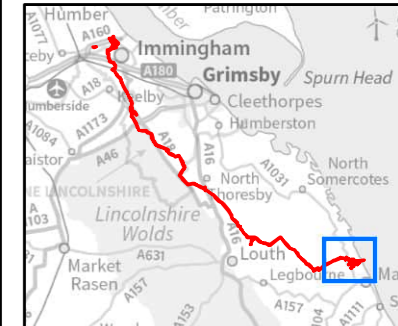
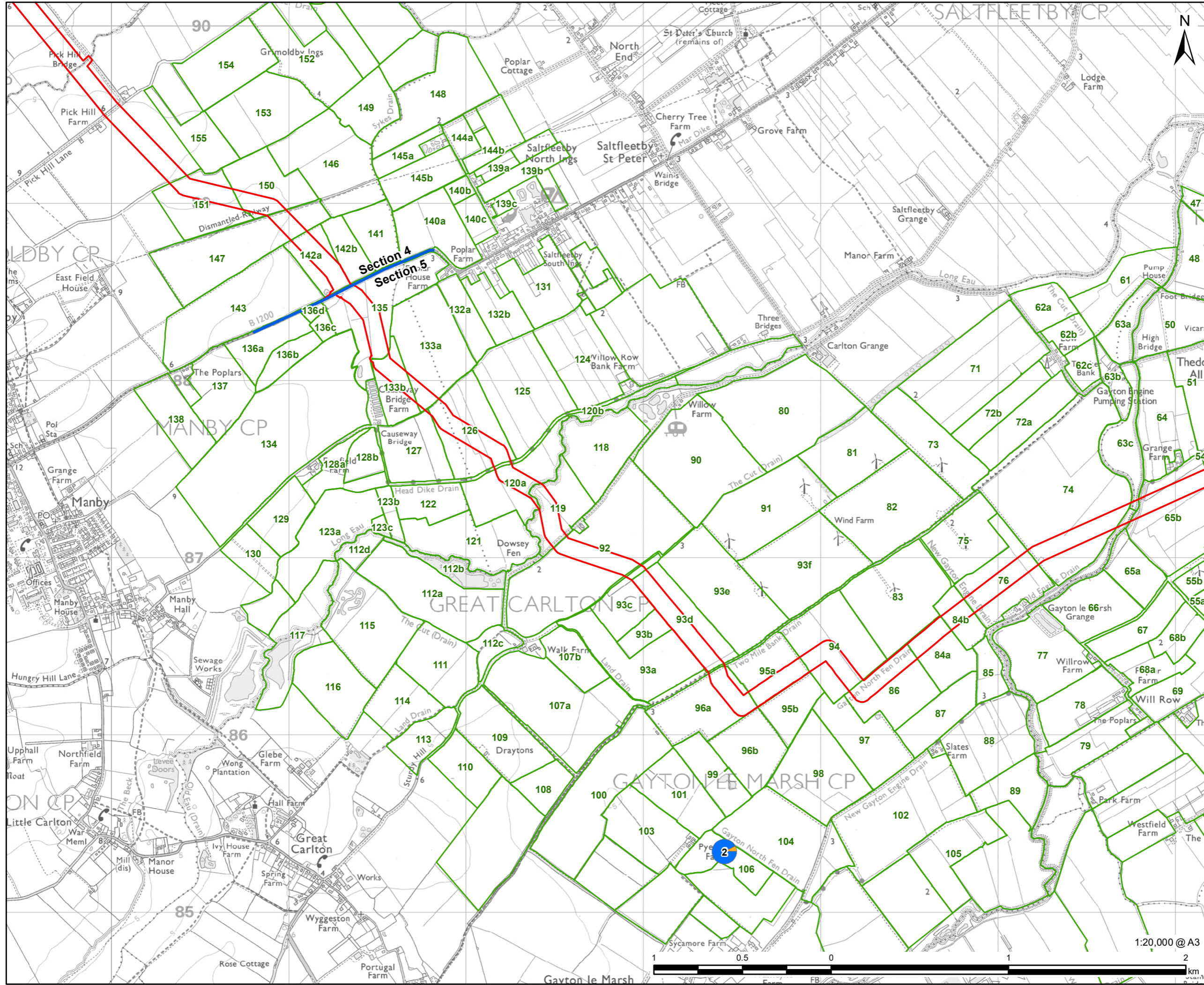


FIGURE TITLE
Figure 28 (1 of 1)
Redshank Distribution - South

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LEGEND

- DCO Site Boundary
- Route Section Break
- Survey Field Boundary

Species Distribution:

- X = Peak Count of Species for Whole Survey Period
- Proportion of Surveys in Which Species Present
- Proportion of Surveys in Which Species Absent

Number of Surveys: 13

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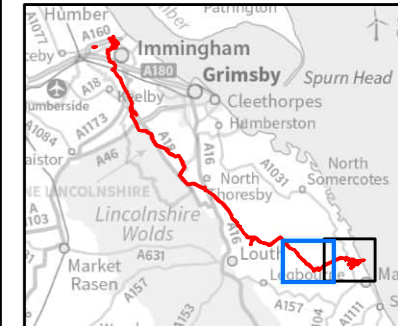
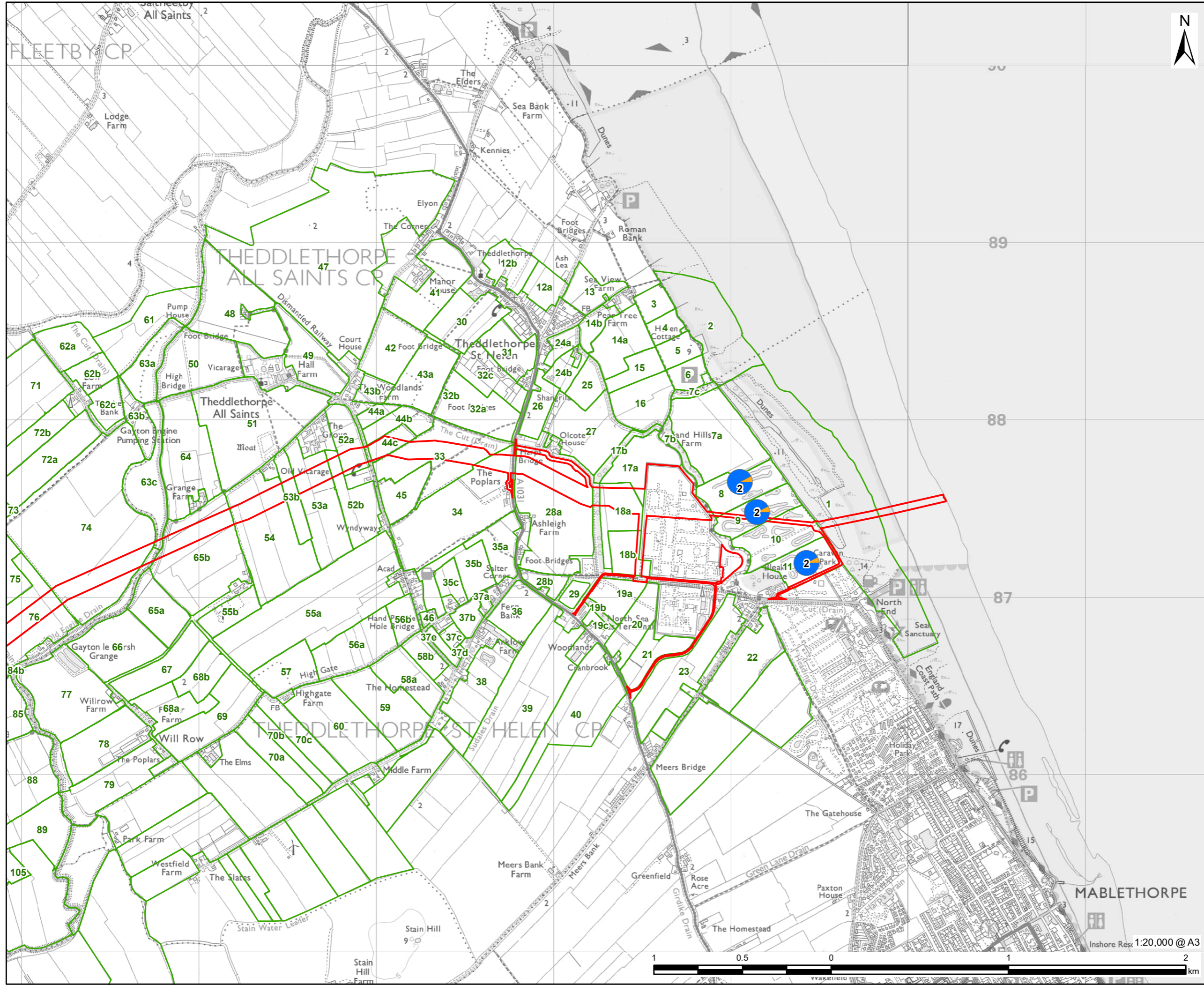


FIGURE TITLE

Figure 29 (1 of 2)
Shelduck Distribution - South

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- LEGEND**
- DCO Site Boundary
 - Route Section Break
 - Survey Field Boundary
- Species Distribution:
- X = Peak Count of Species for Whole Survey Period
 - Proportion of Surveys in Which Species Present
 - Proportion of Surveys in Which Species Absent

Number of Surveys: 13

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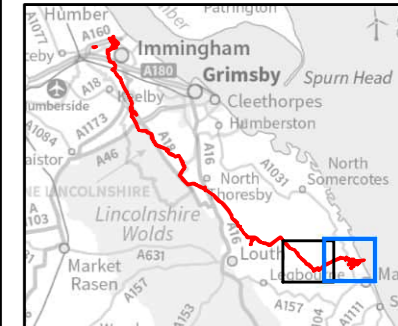
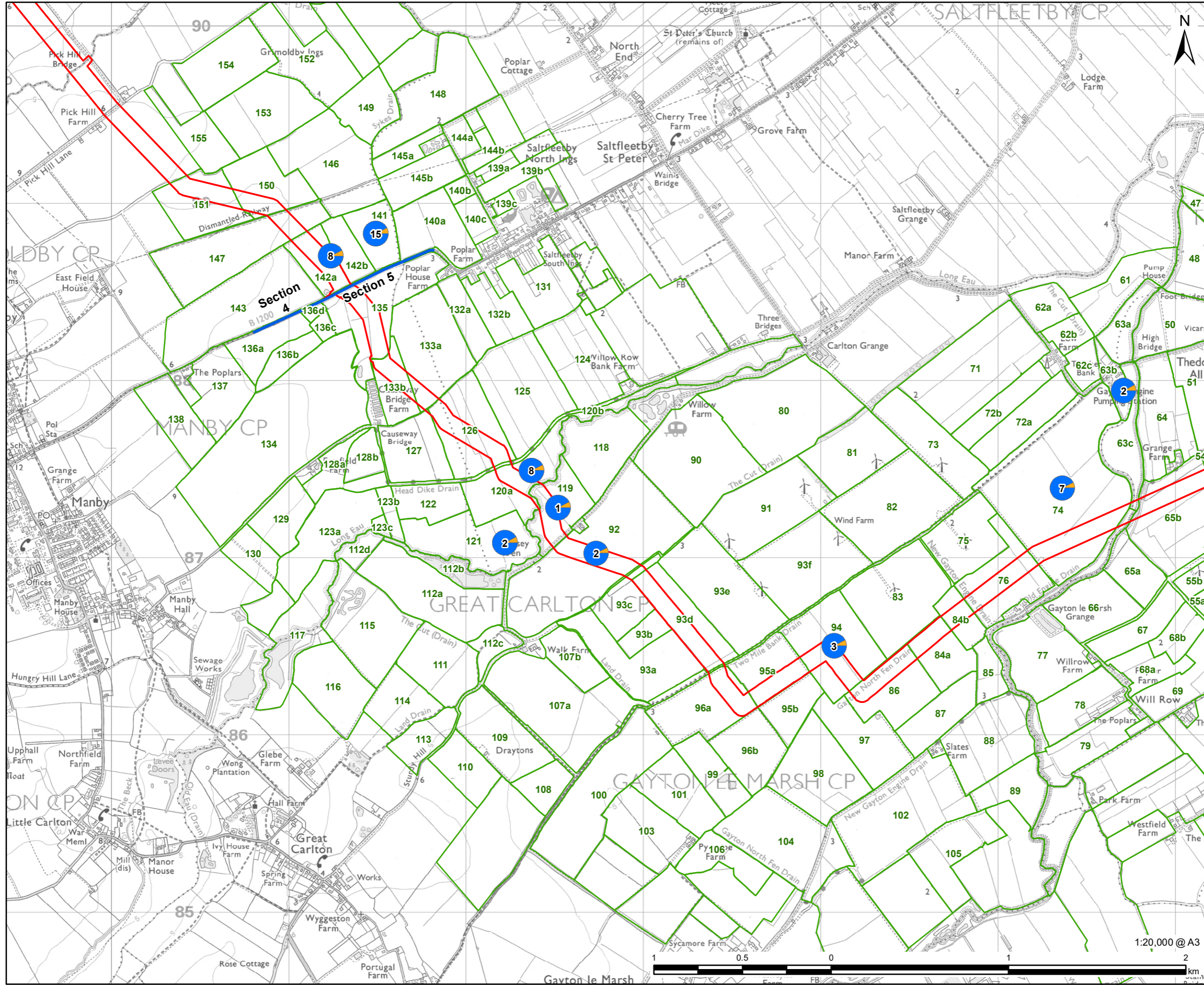


FIGURE TITLE
Figure 29 (2 of 2)
Shelduck Distribution - South



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LEGEND

- DCO Site Boundary
- Route Section Break
- Survey Field Boundary
- Species Distribution:
 - X = Peak Count of Species for Whole Survey Period
 - Proportion of Surveys in Which Species Present
 - Proportion of Surveys in Which Species Absent

Number of Surveys: 13

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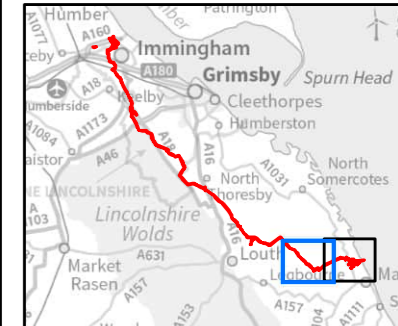
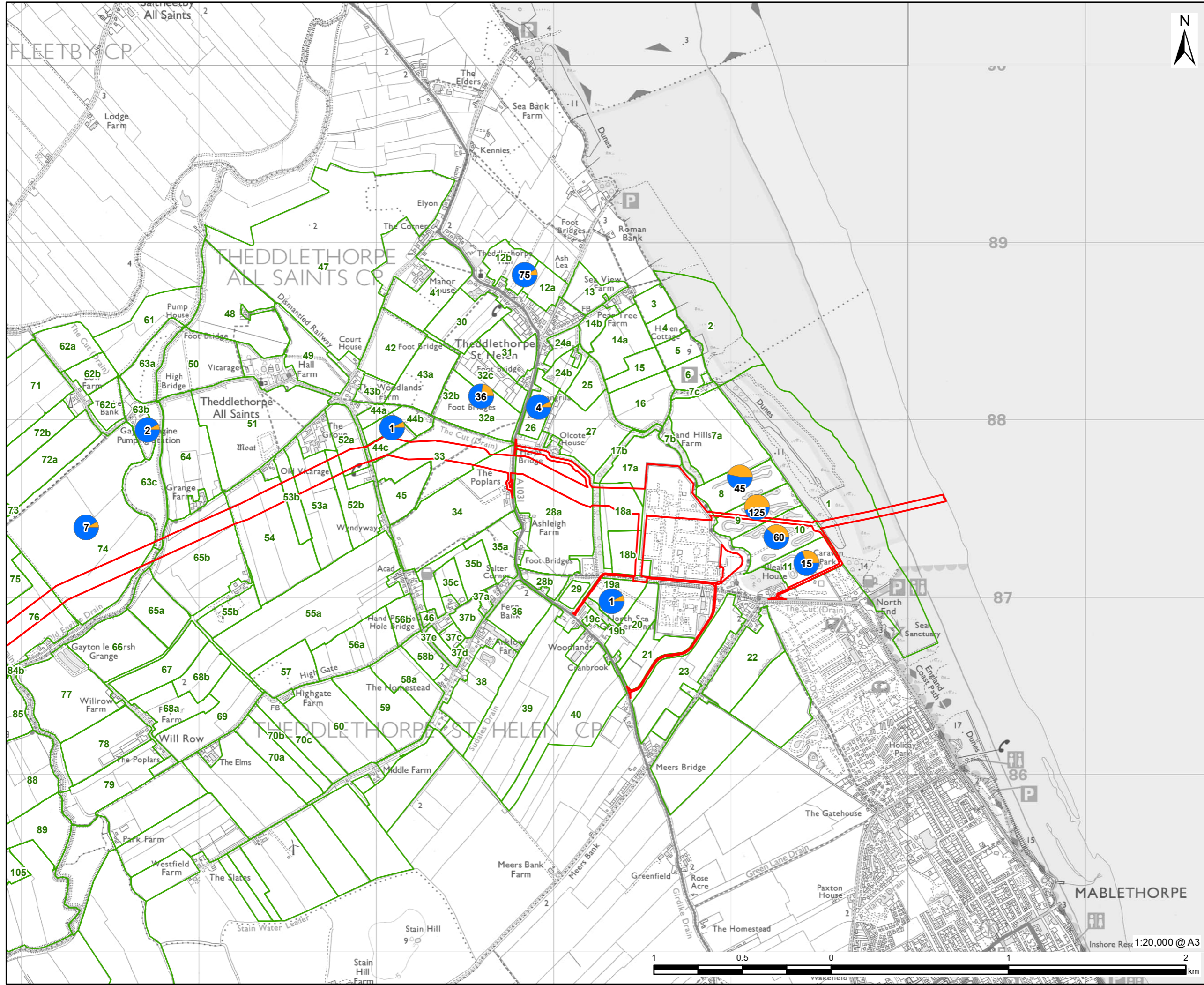


FIGURE TITLE

Figure 30 (1 of 2)
 Teal Distribution - South

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LEGEND

- DCO Site Boundary
 - Route Section Break
 - Survey Field Boundary
- Species Distribution:
- X = Peak Count of Species for Whole Survey Period
 - Proportion of Surveys in Which Species Present
 - Proportion of Surveys in Which Species Absent

Number of Surveys: 13

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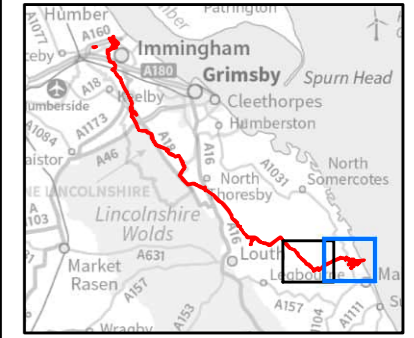
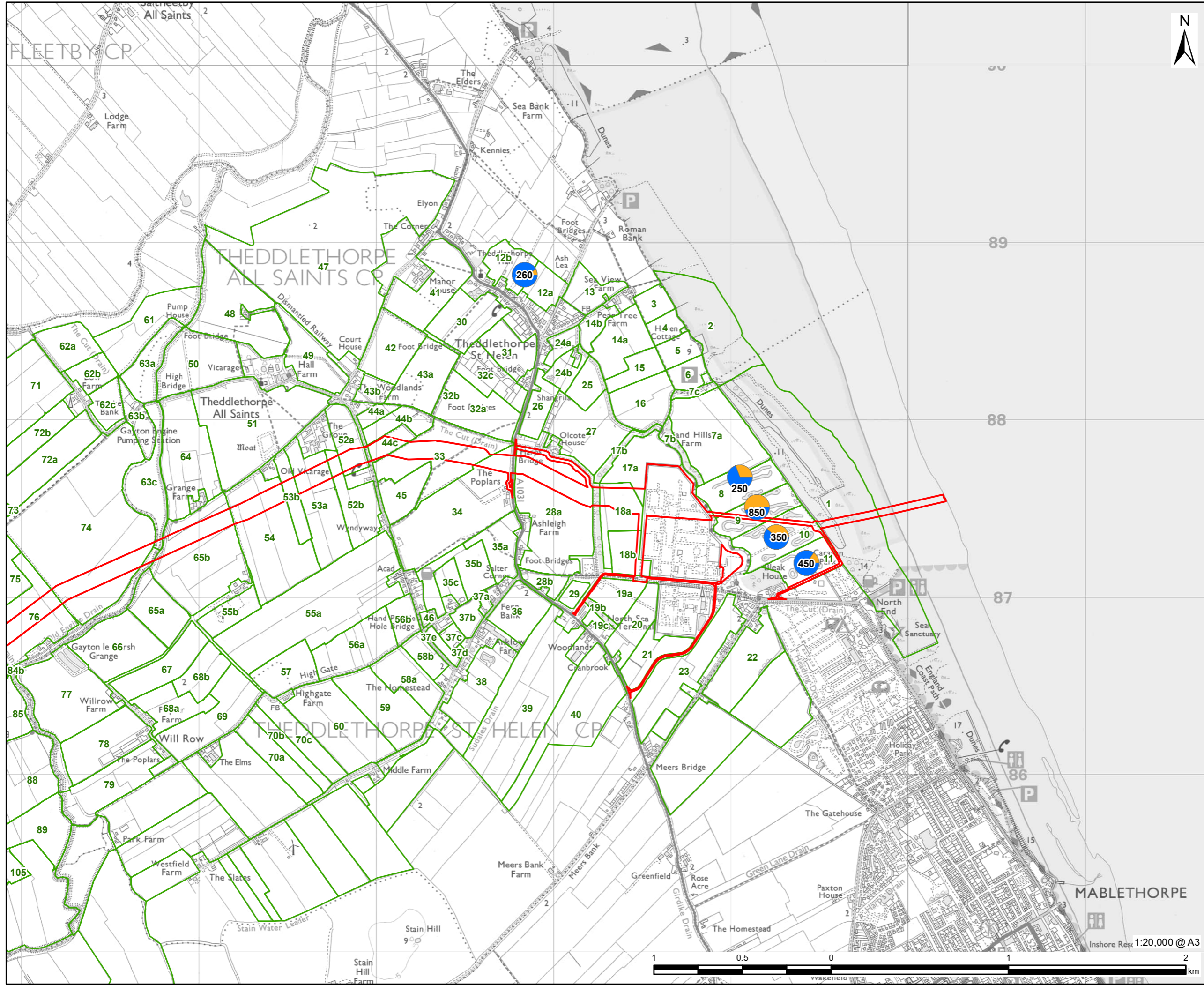


FIGURE TITLE
Figure 30 (2 of 2)
Teal Distribution - South

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LEGEND

- DCO Site Boundary
 - Route Section Break
 - Survey Field Boundary
- Species Distribution:
- X = Peak Count of Species for Whole Survey Period
 - Proportion of Surveys in Which Species Present
 - Proportion of Surveys in Which Species Absent

Number of Surveys: 13

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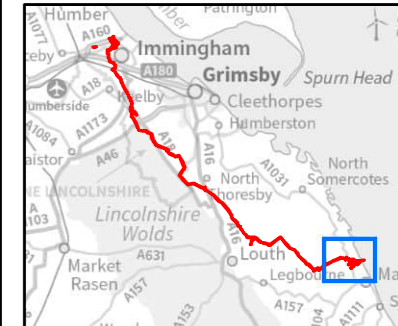
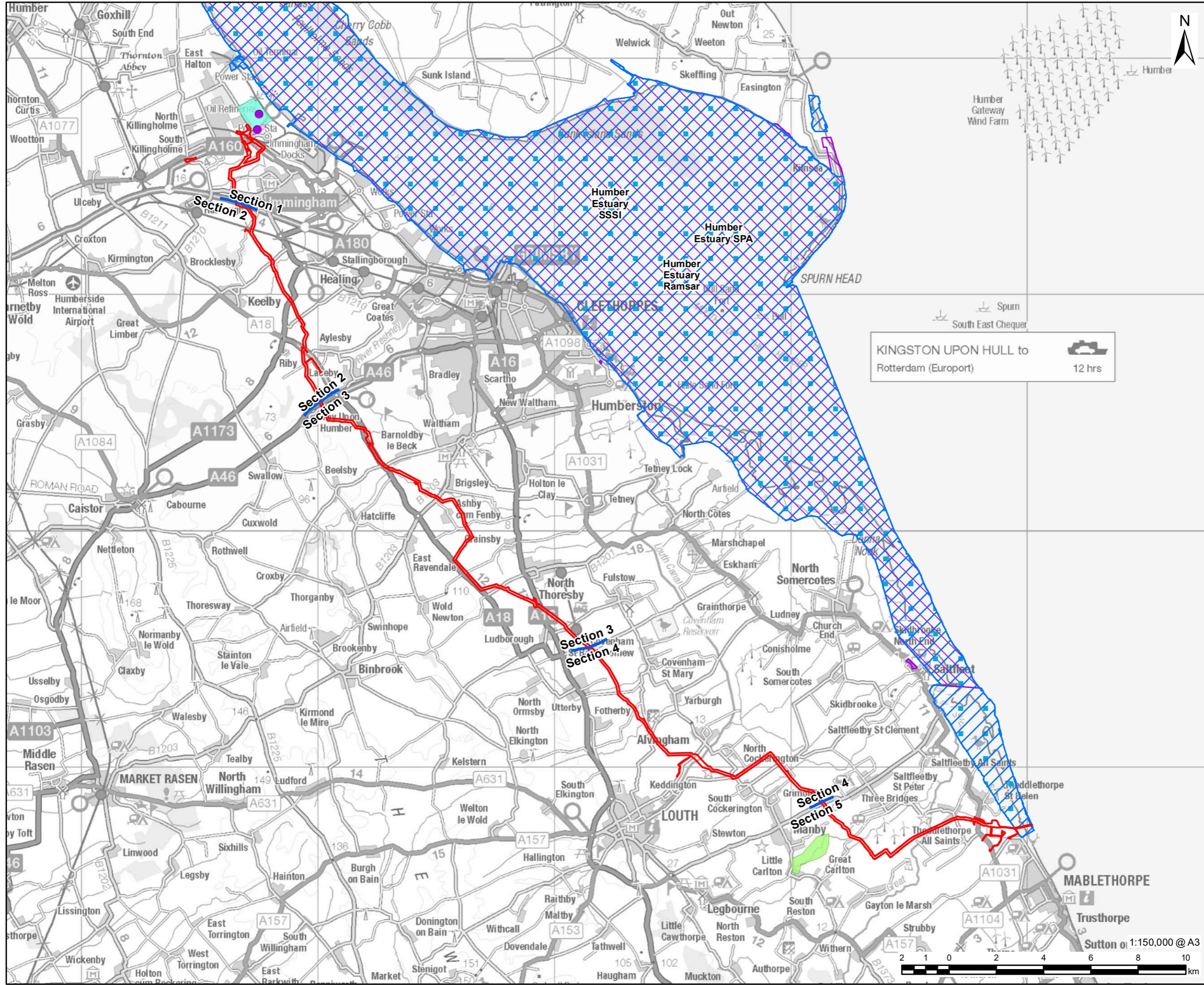


FIGURE TITLE
Figure 31 (1 of 1)
Wigeon Distribution - South

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VikingCCS

AECOM

PROJECT
Viking CCS Pipeline

LEGEND

- DCO Site Boundary
- Route Section Break
- FLL Survey Record - North
- Manby Washlands
- North Killingholme Marshes
- Rosper Road Pools
- Ramsar
- Special Protection Area (SPA)
- Site of Special Scientific Interest (SSSI)

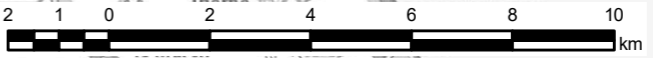
KINGSTON UPON HULL to
Rotterdam (Europort) 12 hrs

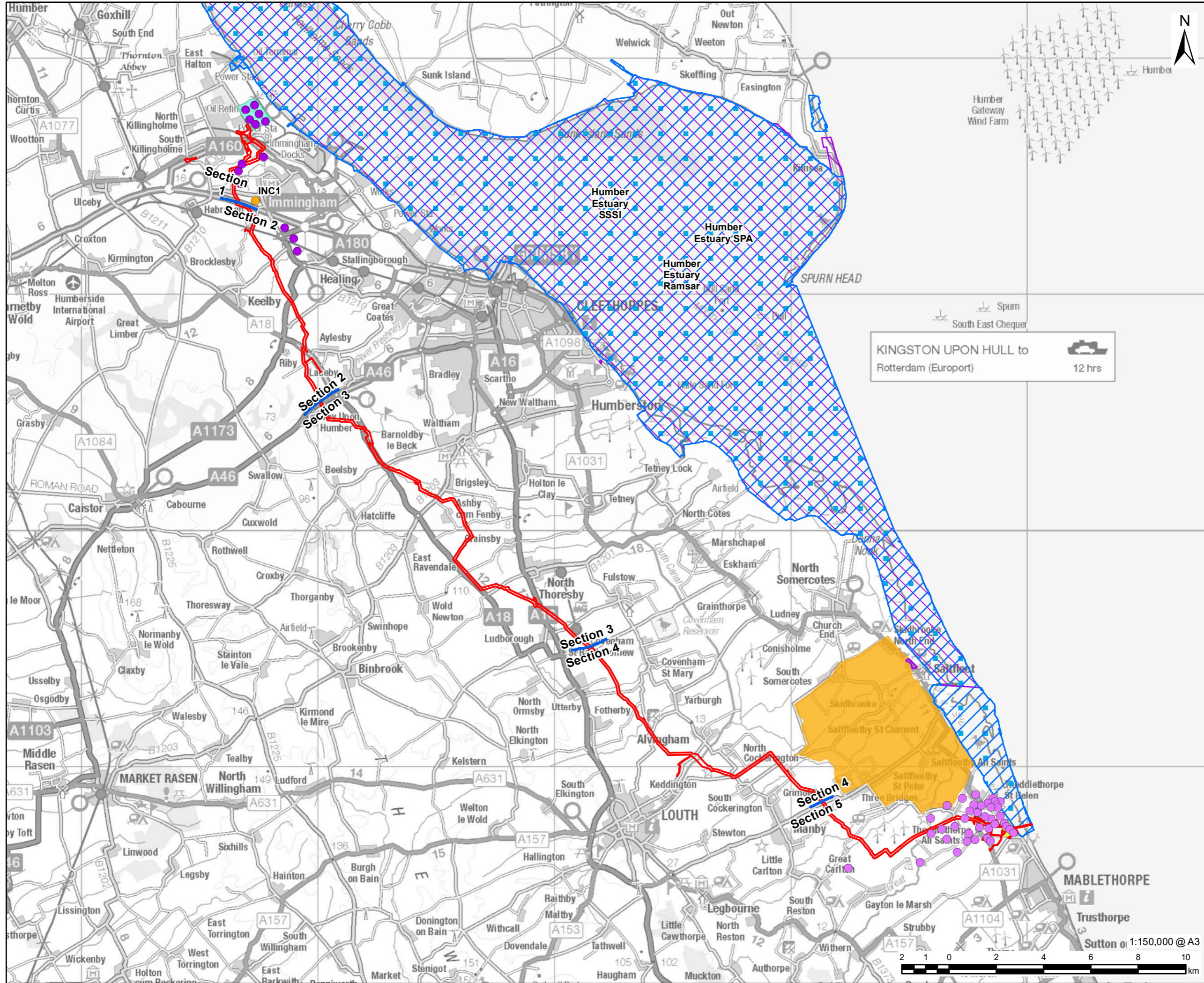
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FIGURE TITLE
Figure 32
Black tailed godwit - Summary Distribution

ISSUE PURPOSE
ORNITHOLOGY BASELINE REPORT

PROJECT NUMBER / REFERENCE
60668955 / VCCS_230928_OBR_32





VikingCCS

AECOM

PROJECT
Viking CCS Pipeline

LEGEND

- DCO Site Boundary
- Route Section Break
- FLL Survey Record - North
- FLL Survey Record - South
- Incidental Record
- Lincolnshire Coastal Grazing Marshes Project Saltfleetby Survey Area
- North Killingholme Marshes
- Viking Fields
- Ramsar
- Special Protection Area (SPA)
- Site of Special Scientific Interest (SSSI)

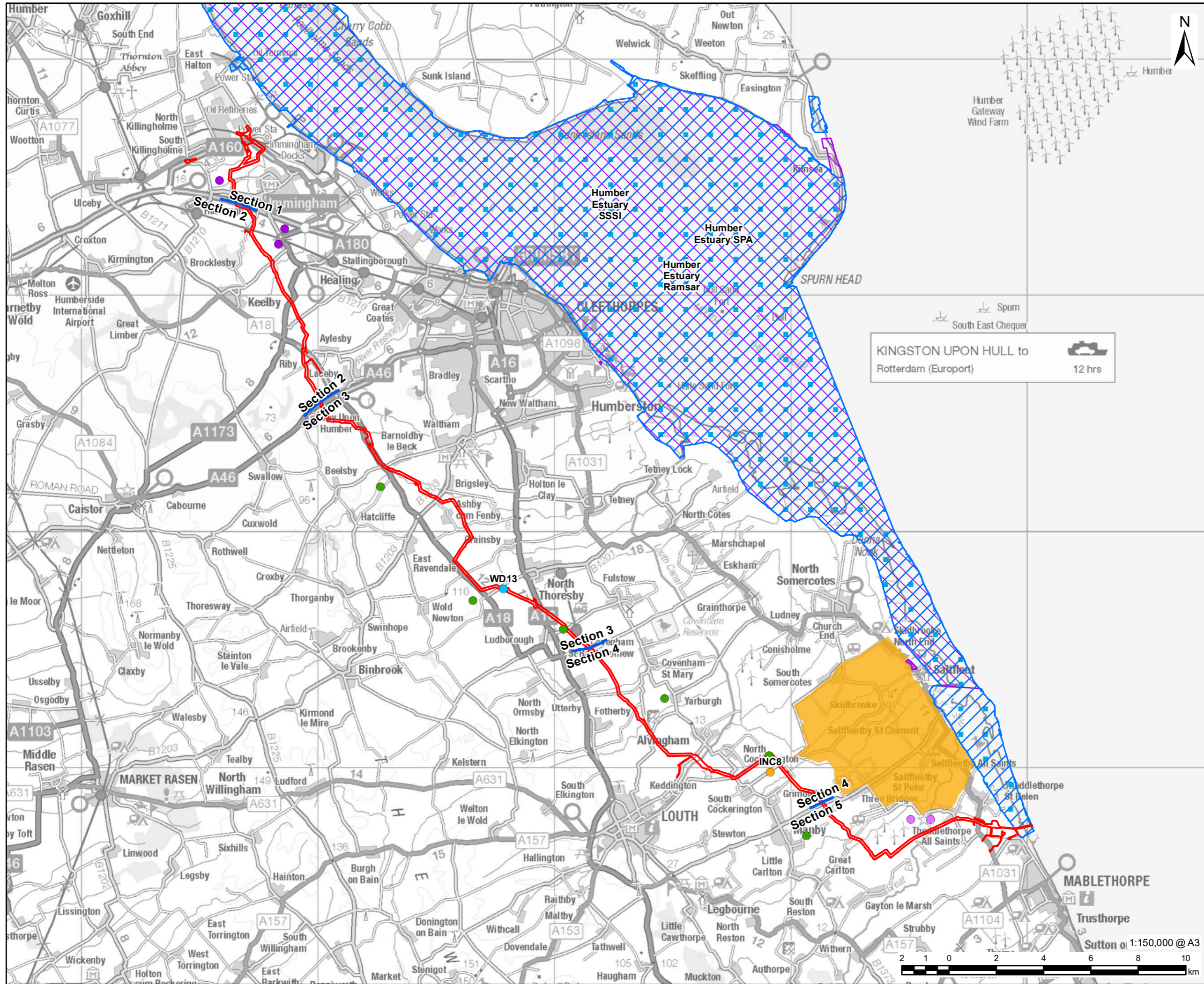
KINGSTON UPON HULL to Rotterdam (Europort) 12 hrs

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FIGURE TITLE
Figure 33
Curlew - Summary Distribution

ISSUE PURPOSE
 ORNITHOLOGY BASELINE REPORT
PROJECT NUMBER / REFERENCE
 60668955 / VCSS_230928_OBR_33

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- LEGEND**
- DCO Site Boundary
 - Route Section Break
 - FLL Survey Record - North
 - FLL Survey Record - South
 - Drive Over Record
 - Incidental Record
 - Point Count Record
 - Lincolnshire Coastal Grazing Marshes Project Saltfleetby Survey Area
 - Ramsar
 - Special Protection Area (SPA)
 - Site of Special Scientific Interest (SSSI)

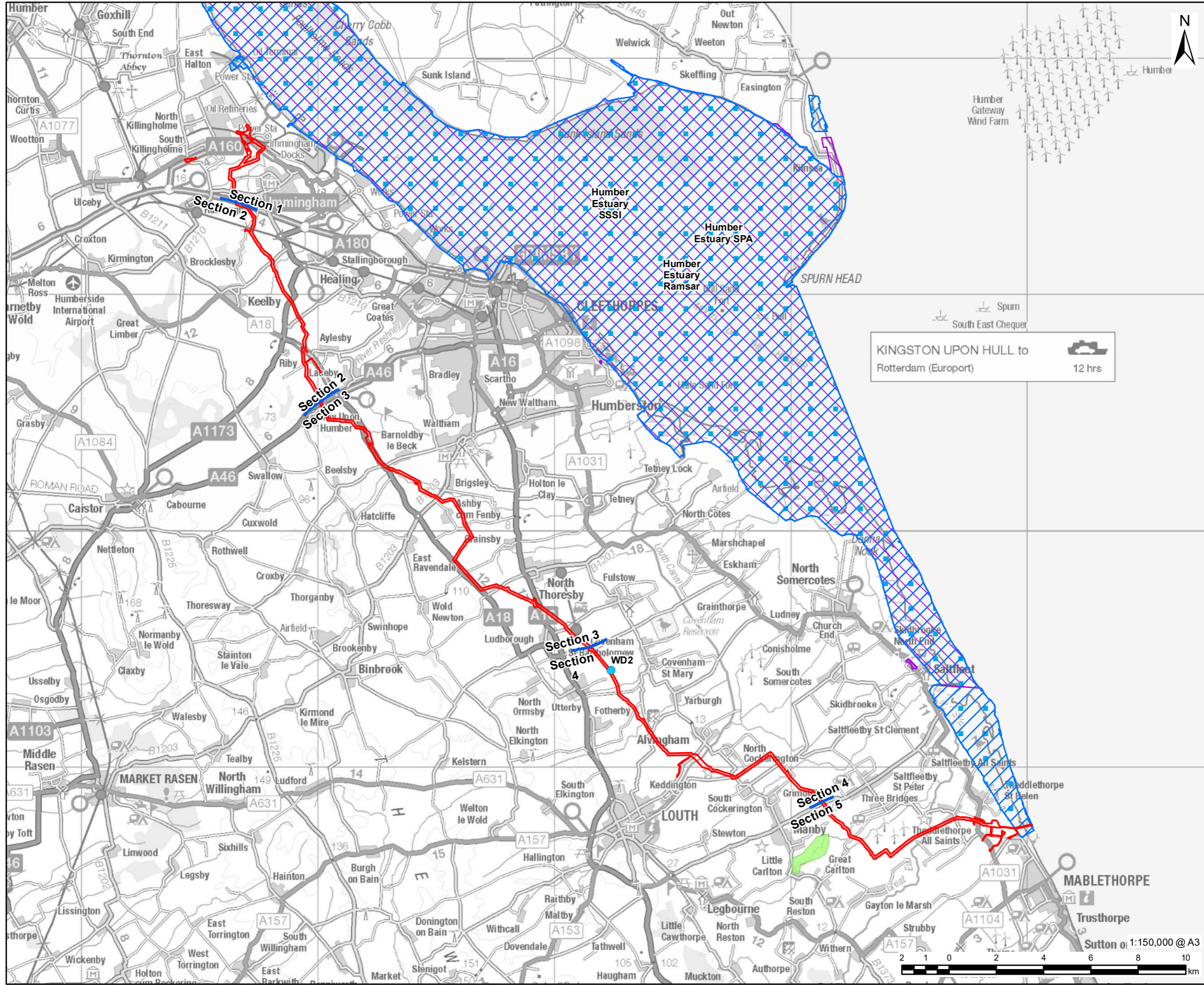
KINGSTON UPON HULL to Rotterdam (Europort) 12 hrs

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FIGURE TITLE

Figure 34
Golden plover - Summary Distribution

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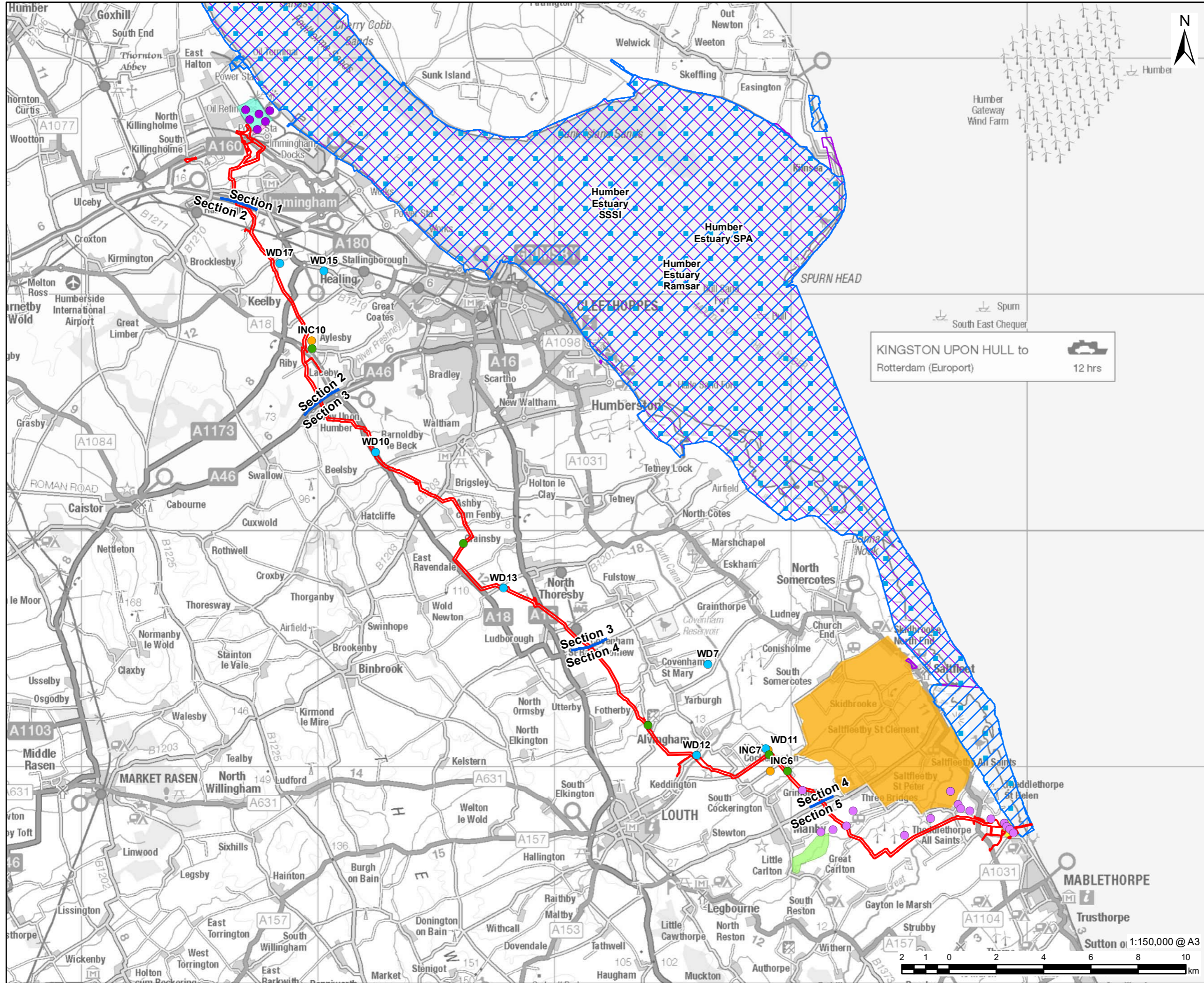


LEGEND

- DCO Site Boundary
- Route Section Break
- Drive Over Record
- Manby Washlands
- Ramsar
- Special Protection Area (SPA)
- Site of Special Scientific Interest (SSSI)

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FIGURE TITLE
Figure 35
Greenshank - Summary Distribution



VikingCCS

AECOM

PROJECT
Viking CCS Pipeline

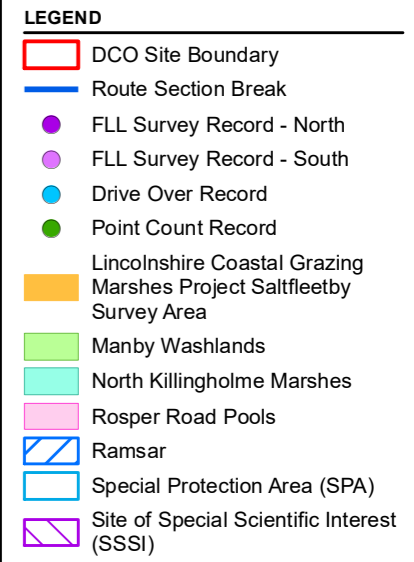
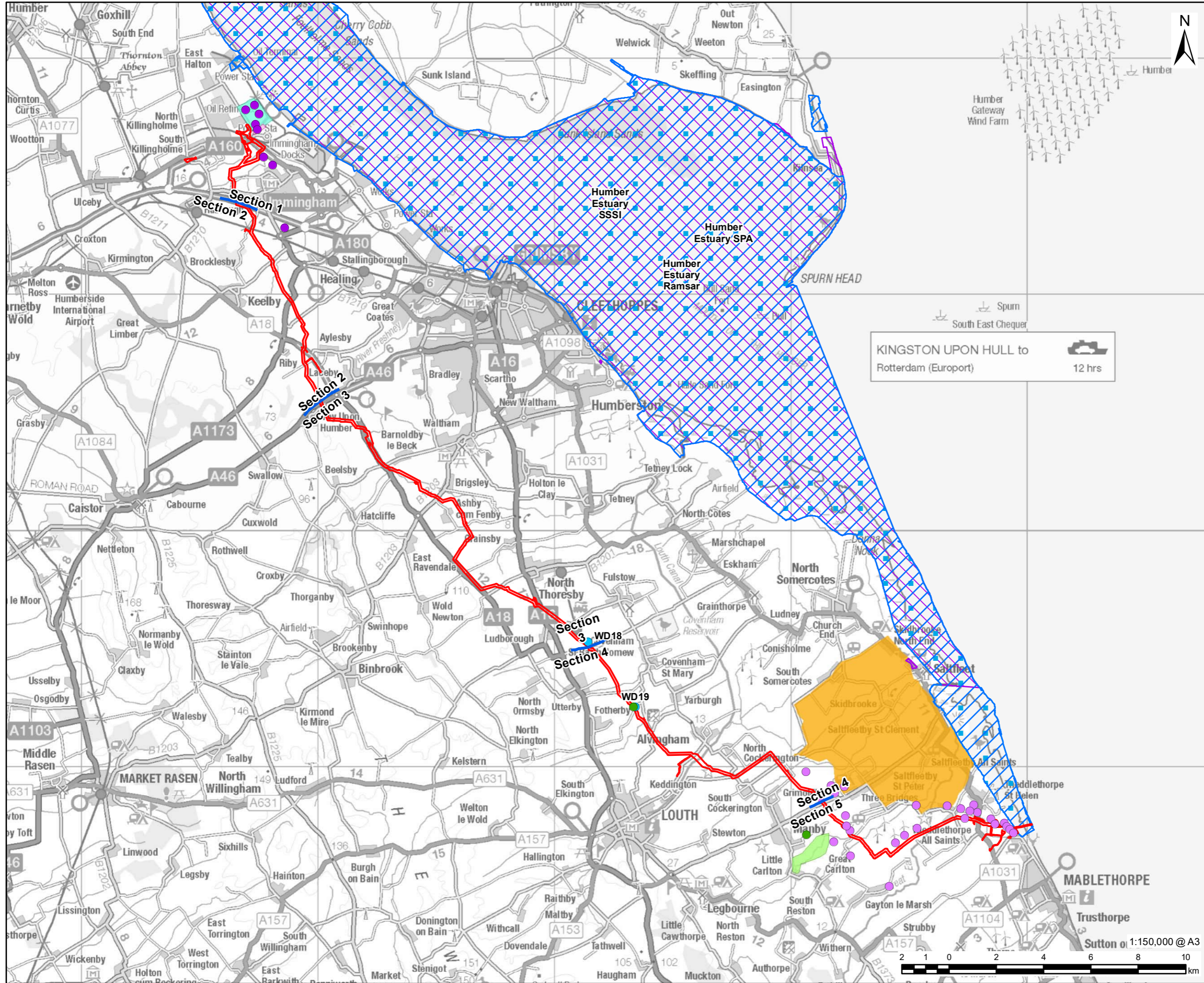
LEGEND

- DCO Site Boundary
- Route Section Break
- FLL Survey Record - North
- FLL Survey Record - South
- Drive Over Record
- Incidental Record
- Point Count Record
- Lincolnshire Coastal Grazing Marshes Project Saltfleetby Survey Area
- Manby Washlands
- North Killingholme Marshes
- Rosper Road Pools
- Viking Fields
- Ramsar
- Special Protection Area (SPA)
- Site of Special Scientific Interest (SSSI)

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FIGURE TITLE
Figure 36
Lapwing - Summary Distribution

ISSUE PURPOSE
ORNITHOLOGY BASELINE REPORT
PROJECT NUMBER / REFERENCE
60668955 / VCSS_230928_OBR_36



KINGSTON UPON HULL to Rotterdam (Europort)

12 hrs

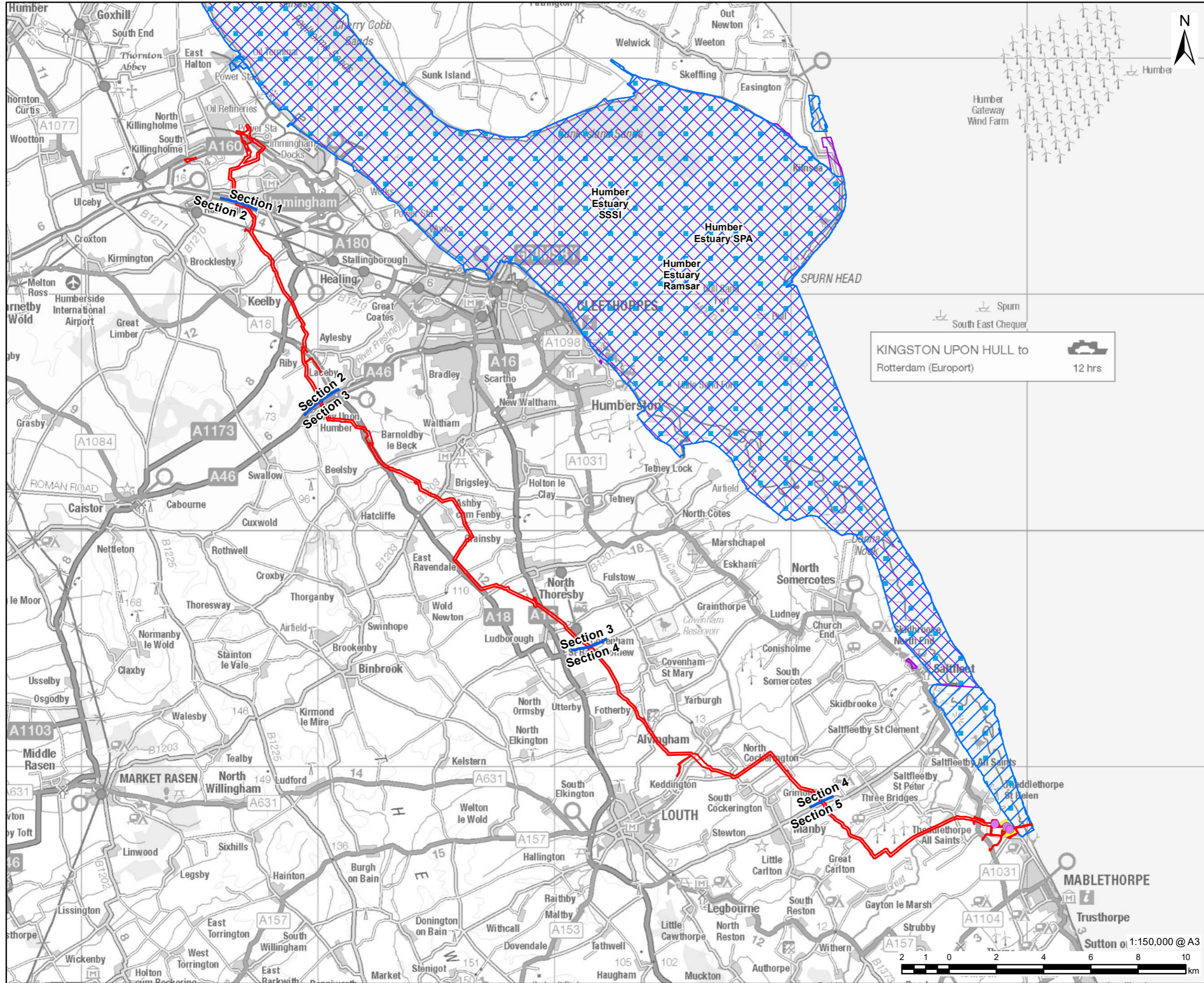
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FIGURE TITLE

Figure 37

Mallard - Summary Distribution



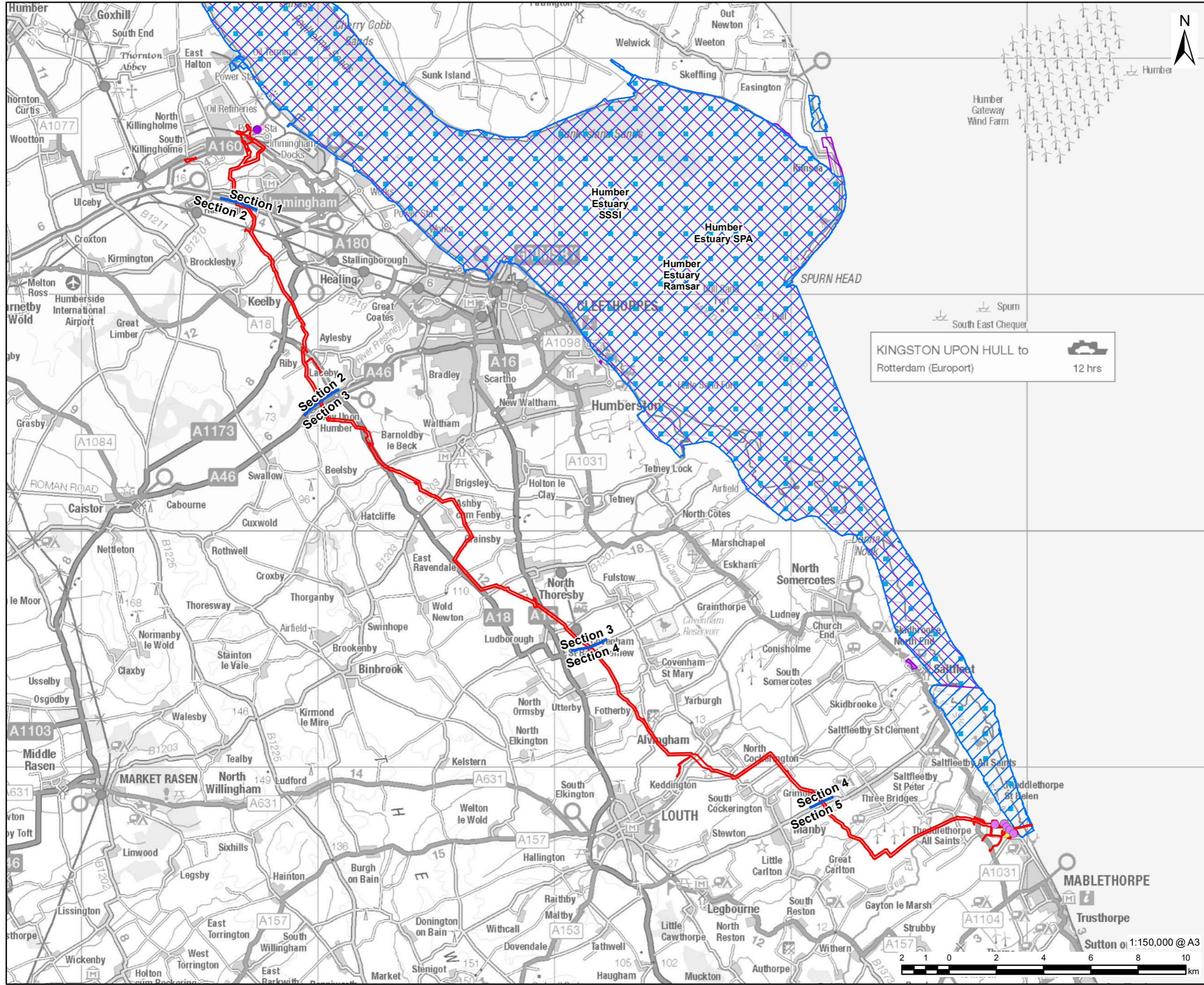
LEGEND

- DCO Site Boundary
- Route Section Break
- FLL Survey Record - South
- Viking Fields
- Ramsar
- Special Protection Area (SPA)
- Site of Special Scientific Interest (SSSI)

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FIGURE TITLE
Figure 38
Oystercatcher - Summary
Distribution

ISSUE PURPOSE
 ORNITHOLOGY BASELINE REPORT
 PROJECT NUMBER / REFERENCE
 60668955 / VCSS_230928_OBR_38



VikingCCS

AECOM

PROJECT
Viking CCS Pipeline

LEGEND

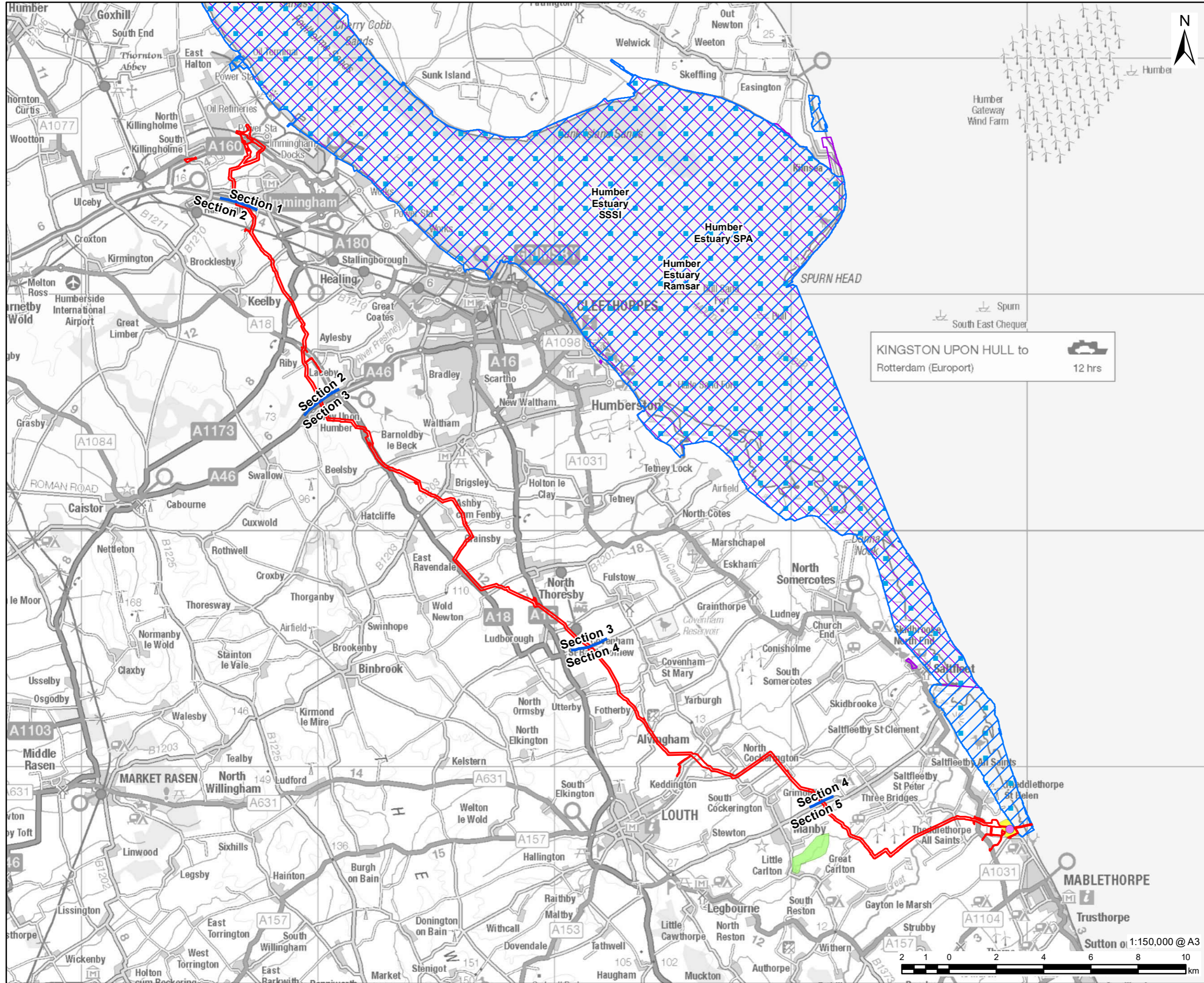
- DCO Site Boundary
- Route Section Break
- FLL Survey Record - North
- FLL Survey Record - South
- Rosper Road Pools
- Viking Fields
- Ramsar
- Special Protection Area (SPA)
- Site of Special Scientific Interest (SSSI)

KINGSTON UPON HULL to Rotterdam (Europort) 12 hrs

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FIGURE TITLE
Figure 39
Redshank - Summary Distribution

ISSUE PURPOSE
 ORNITHOLOGY BASELINE REPORT
PROJECT NUMBER / REFERENCE
 60668955 / VCSS_230928_OBR_39



VikingCCS

AECOM

PROJECT
Viking CCS Pipeline

LEGEND

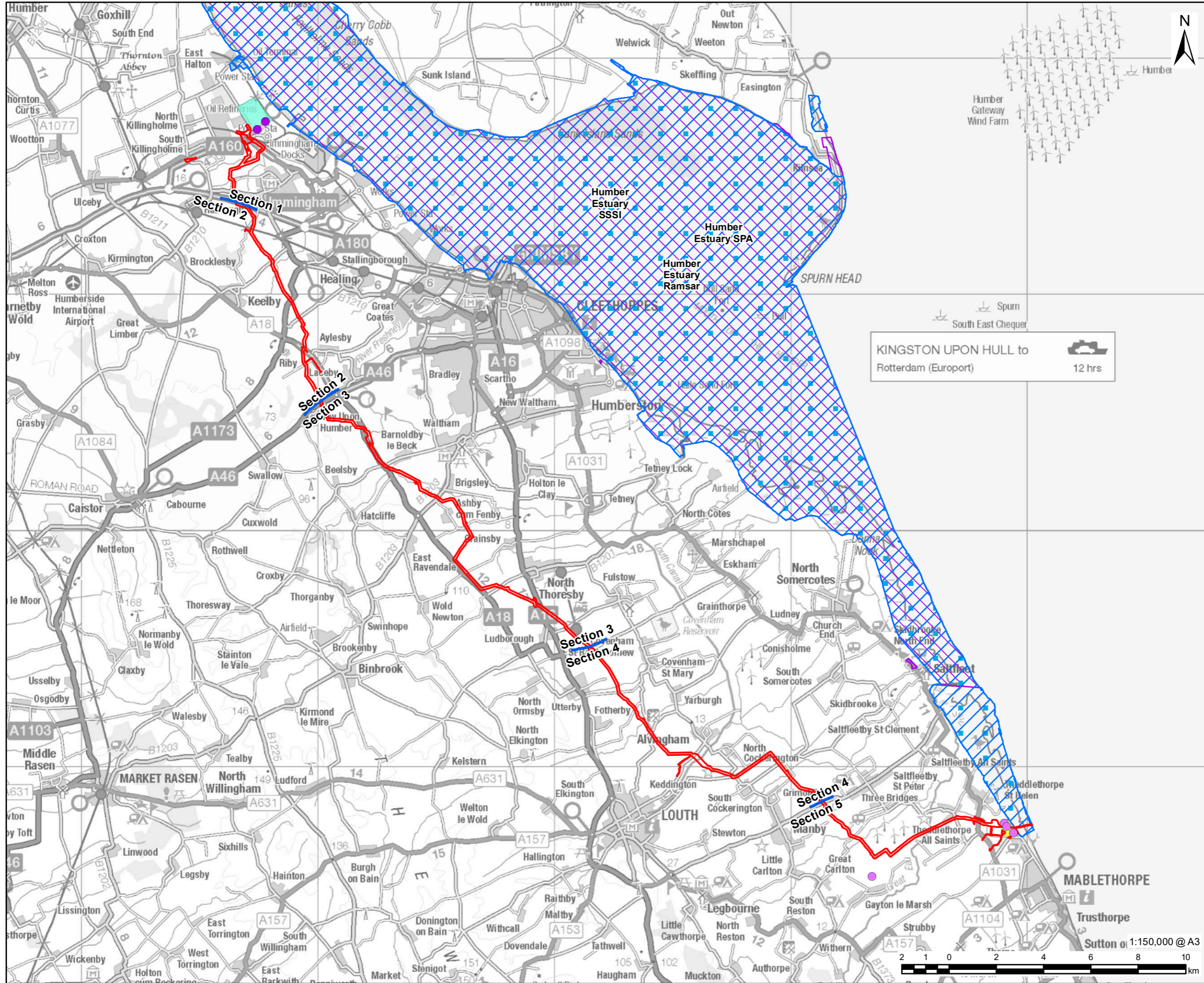
- DCO Site Boundary
- Route Section Break
- FLL Survey Record - South
- Manby Washlands
- Viking Fields
- Ramsar
- Special Protection Area (SPA)
- Site of Special Scientific Interest (SSSI)

KINGSTON UPON HULL to
Rotterdam (Europort)
12 hrs

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FIGURE TITLE
Figure 40
Ruff - Summary Distribution

ISSUE PURPOSE
ORNITHOLOGY BASELINE REPORT
PROJECT NUMBER / REFERENCE
60668955 / VCSS_230928_OBR_40



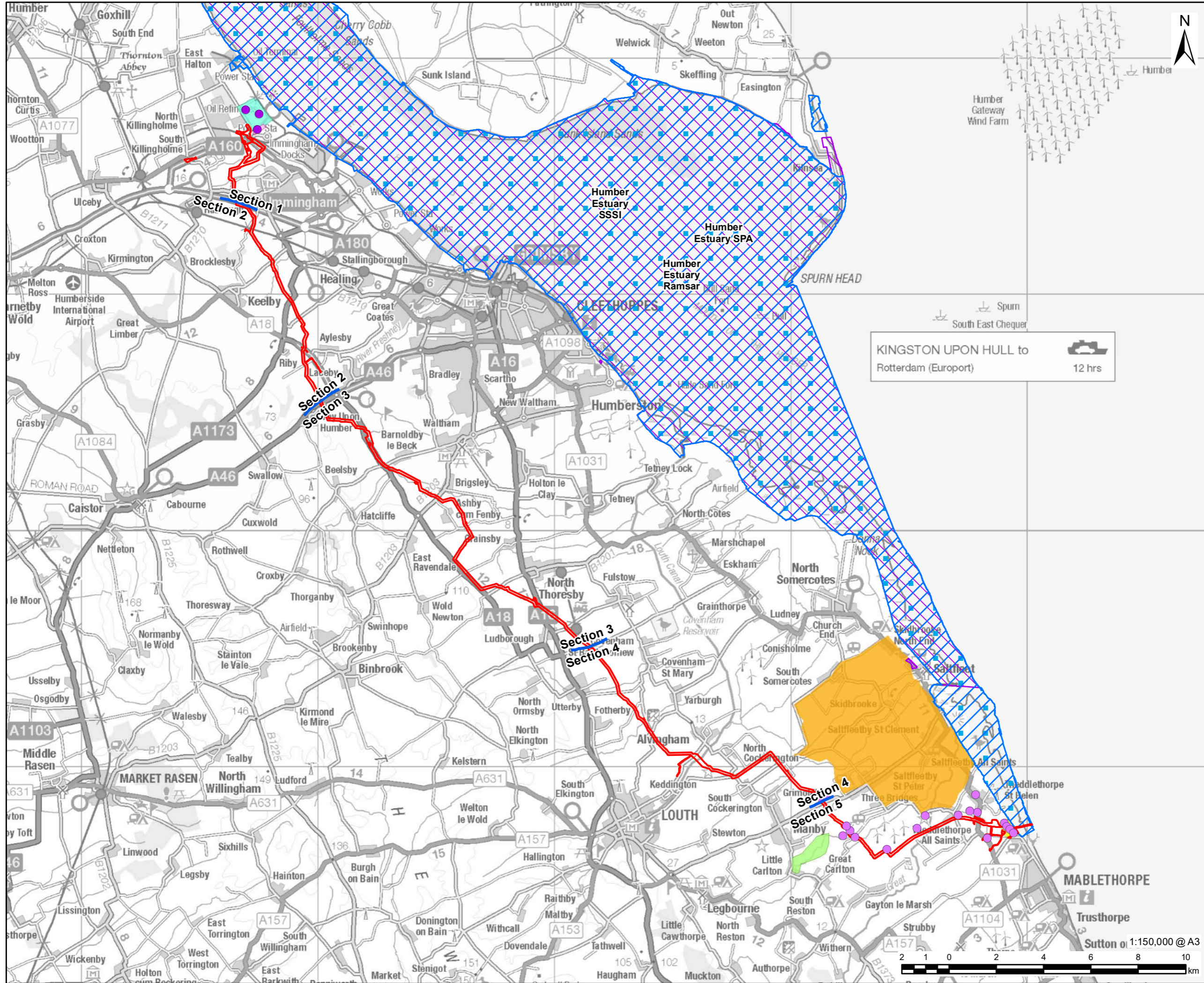
LEGEND

- DCO Site Boundary
- Route Section Break
- FLL Survey Record - North
- FLL Survey Record - South
- North Killingholme Marshes
- Rosper Road Pools
- Viking Fields
- Ramsar
- Special Protection Area (SPA)
- Site of Special Scientific Interest (SSSI)

KINGSTON UPON HULL to
 Rotterdam (Europort)
 12 hrs

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FIGURE TITLE
**Figure 41
 Shelduck - Summary Distribution**



VikingCCS

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PROJECT
Viking CCS Pipeline

LEGEND

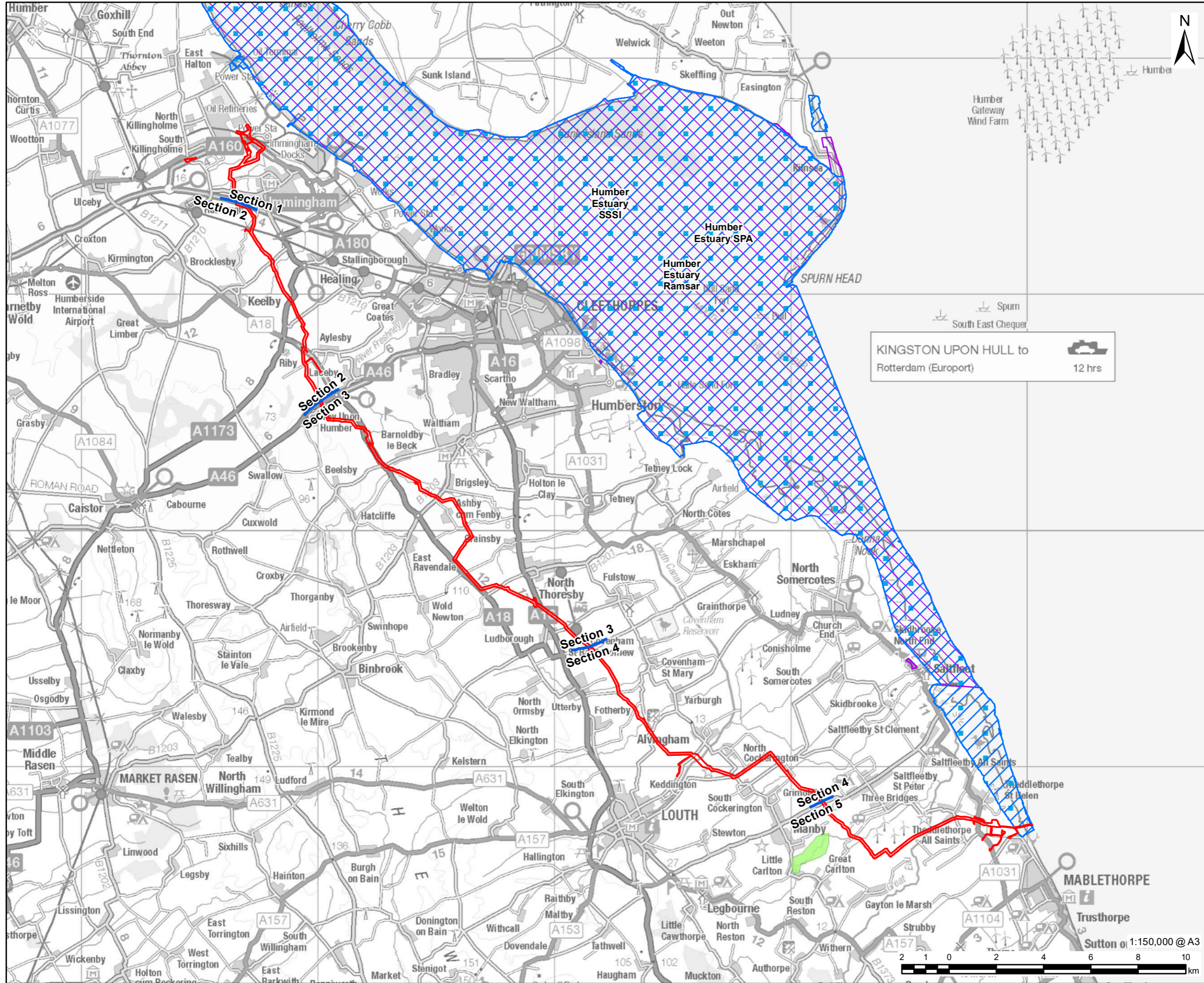
- DCO Site Boundary
- Route Section Break
- FLL Survey Record - North
- FLL Survey Record - South
- Lincolnshire Coastal Grazing Marshes Project Saltfleetby Survey Area
- Manby Washlands
- North Killingholme Marshes
- Rosper Road Pools
- Viking Fields
- Ramsar
- Special Protection Area (SPA)
- Site of Special Scientific Interest (SSSI)

KINGSTON UPON HULL to Rotterdam (Europort)
12 hrs

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FIGURE TITLE
Figure 42
Teal - Summary Distribution

ISSUE PURPOSE
ORNITHOLOGY BASELINE REPORT
PROJECT NUMBER / REFERENCE
60668955 / VCCS_230928_OBR_42



VikingCCS

AECOM

PROJECT
Viking CCS Pipeline

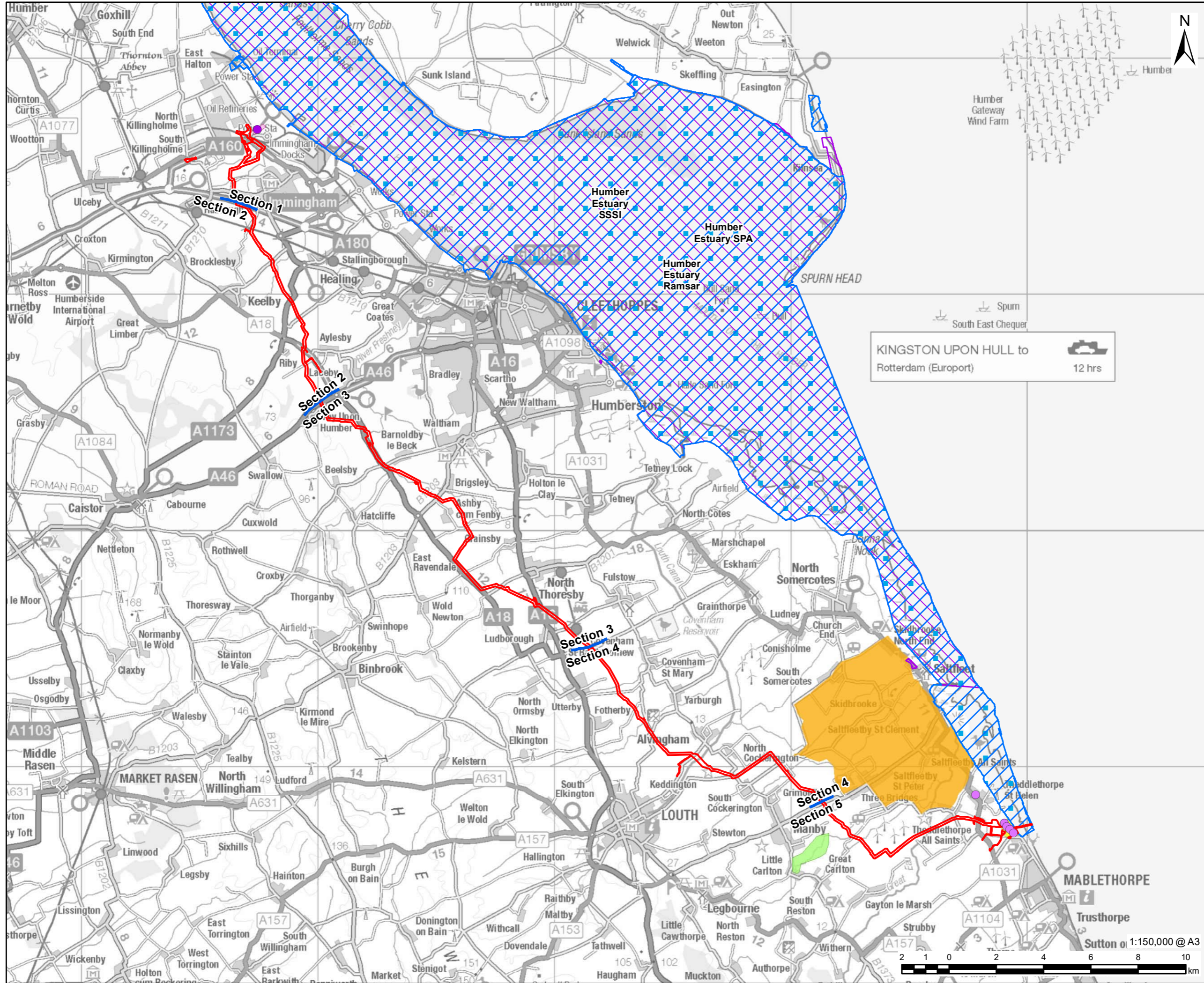
LEGEND

- DCO Site Boundary
- Route Section Break
- Manby Washlands
- Ramsar
- Special Protection Area (SPA)
- Site of Special Scientific Interest (SSSI)

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FIGURE TITLE
Figure 43
Whimbrel - Summary Distribution

ISSUE PURPOSE
 ORNITHOLOGY BASELINE REPORT
 PROJECT NUMBER / REFERENCE
 60668955 / VCSS_230928_OBR_43



VikingCCS

AECOM

PROJECT
Viking CCS Pipeline

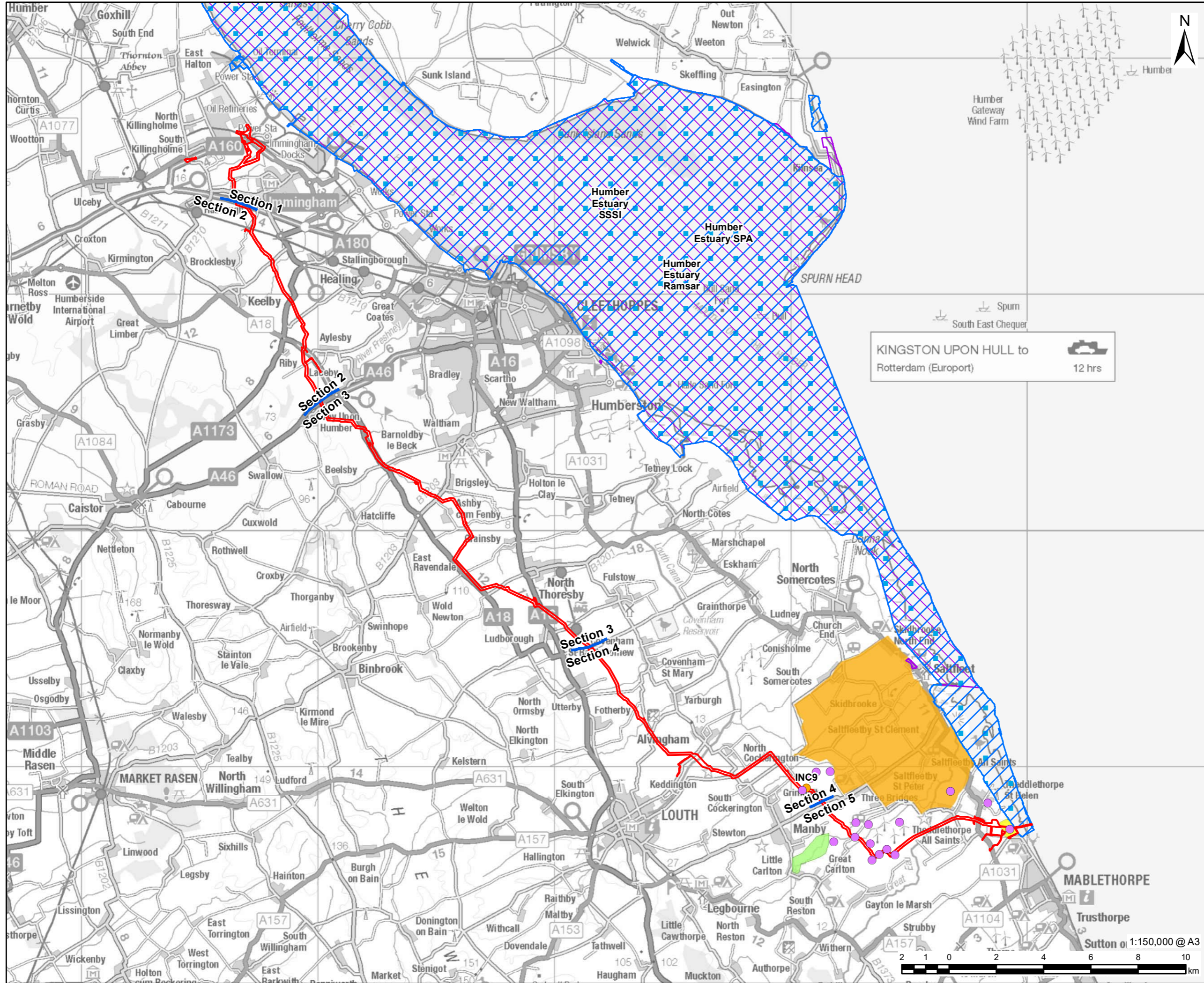
LEGEND

- DCO Site Boundary
- Route Section Break
- FLL Survey Record - North
- FLL Survey Record - South
- Lincolnshire Coastal Grazing Marshes Project Saltfleetby Survey Area
- Manby Washlands
- Rosper Road Pools
- Viking Fields
- Ramsar
- Special Protection Area (SPA)
- Site of Special Scientific Interest (SSSI)

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FIGURE TITLE
Figure 44
Wigeon - Summary Distribution

ISSUE PURPOSE
 ORNITHOLOGY BASELINE REPORT
 PROJECT NUMBER / REFERENCE
 60668955 / VCSS_230928_OBR_44



VikingCCS

AECOM

PROJECT
Viking CCS Pipeline

LEGEND

- DCO Site Boundary
- Route Section Break
- FLL Survey Record - South
- Incidental Record
- Lincolnshire Coastal Grazing Marshes Project Saltfleetby Survey Area
- Manby Washlands
- Viking Fields
- Ramsar
- Special Protection Area (SPA)
- Site of Special Scientific Interest (SSSI)

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FIGURE TITLE
Figure 45
Pink-footed goose - Summary Distribution

ISSUE PURPOSE
 ORNITHOLOGY BASELINE REPORT

PROJECT NUMBER / REFERENCE
 60668955 / VCSS_230928_OBR_45

Annex A Survey Timeline

Table 1: Monthly Occurrence of Ornithology Surveys by Location and Survey Type

Point number	Change	Date of change	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23
Point Counts																						
1	Ceased survey as within FLL	End Jan 22	█	█	█																	
2			█	█	█	█	█	█	█	█												
3			█	█	█	█	█	█	█	█												
4			█	█	█	█	█	█	█	█												
5			█	█	█	█	█	█	█	█												
6			█	█	█	█	█	█	█	█												
7			█	█	█	█	█	█	█	█												
8	Ceased survey as suboptimal for scheme design	End Feb 22	█	█	█	█																
9	Ceased survey as suboptimal for scheme design	End Feb 22	█	█	█	█																
10	Ceased survey as suboptimal for scheme design	End Feb 22	█	█	█	█																
11	Ceased survey as suboptimal for scheme design	End Feb 22	█	█	█	█																
12			█	█	█	█	█	█	█	█												
13			█	█	█	█	█	█	█	█												
14			█	█	█	█	█	█	█	█												
15			█	█	█	█	█	█	█	█												
16	Ceased survey as suboptimal for scheme design	End Feb 22	█	█	█	█																
17			█	█	█	█	█	█	█	█												
18			█	█	█	█	█	█	█	█												
19	Ceased survey as difficult to park and access safely	End Feb 22	█	█	█	█																
20	Ceased survey as within FLL	End Jan 22	█	█	█																	
21	Added to replace 1	Feb-22				█	█	█	█	█												
22	Added to replace 20	Feb-22				█	█	█	█	█												
23	Added to replace 8	Mar-22					█	█	█	█												
24	Added to replace 9	Mar-22					█	█	█	█												
25	Added to replace 10	Mar-22					█	█	█	█												
26	Added to replace 11	Mar-22					█	█	█	█												
27	Added to replace 16	Mar-22					█	█	█	█												
28	Added to replace 19	Mar-22					█	█	█	█												
A	Added to address design freeze	Nov-22													█	█	█	█	█	█	█	█

Point number	Change	Date of change	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	
B	Added to address design freeze	Nov-22																					
C	Added to address design freeze	Nov-22																					
D	Added to address design freeze	Nov-22																					
E	Added to address design freeze	Nov-22																					
F	Added to address design freeze	Nov-22																					
G	Added to address design freeze	Nov-22																					
H	Added to address design freeze	Nov-22																					
Total number of Points			20	20	20	20	20	20	20	20					8	8	8	8	8	8	8	8	8
Broad area and species-specific surveys																							
Non-breeding season surveys of potentially functionally linked land ¹																							
Breeding season surveys of potentially functionally linked land ²																							
Common Birds Census																							
Winter Drive Over Surveys																							
Breeding Hobby Surveys ³																							
Breeding Kingfisher Surveys																							
Breeding Barn Owl Surveys																							

¹ March 2022 visit carried out early March to capture records of later wintering/passage species

² March 2022 visit carried out late March to capture records of early breeders and passage species.

³ August visit to identify suitable habitats and check for occupancy within the preferred alignment and its environs. September visit to carry out transects and Vantage Point watches to identify hobby activity and breeding locations.
October 2023

Annex B Survey metadata

Functionally Linked Land North

Site Visit Number	Date of Survey	Time of Survey	Survey Type	Temp (°C)	Wind Speed (Beaufort)	Wind Direction	Cloud Cover (Oktas)	Rain	Limitations	Reason
1	18.11.21	08:30-16:09	Wintering	10-14	3-4	W	4	None		
2	13.12.21	13:00-15:00	Wintering	7-10	2	S	8	None		
	14.12.21	10:30-14.45	Wintering	2-6	3	NE	7	None		
	20.12.21	10.30-15.10	Wintering	7-11	3	S/SW	4	None		
3	19.01.22	10:40-16:30	Wintering	8	4-5	W	1-2	None		
	20.01.22	09:25-12:00	Wintering	4	3-4	NW	6-7	None		
4	8.02.22	12:00-17:00	Wintering	10-14	3	NE	5	None		
	9.02.22	10:00-16:00	Wintering	7-10	2	NE	4	None		
4(b)	24.02.22	11:15-15:48	Wintering; supplementary survey	3-8	2-6	NW	4-8	Intermittent sleet/hail/showers	Survey of Fields 1 – 10 only	Focused survey to generate supplementary data
5	03.03.22	11:20-16:18	Wintering	7	1-2	SE	7-8	None		

Site Visit Number	Date of Survey	Time of Survey	Survey Type	Temp (°C)	Wind Speed (Beaufort)	Wind Direction	Cloud Cover (Oktas)	Rain	Limitations	Reason
	04.03.22	10:00-15:50	Wintering	7	0-1	W/NW	8	Constant light rain		
6	23.03.22	10:30-15:45	Breeding	11-14	1	E	0	None		
	24.03.22	09:52-14:00	Breeding	11-16	0	-	0	None		
7	13.04.22	12:55-16:15	Breeding	17	2-3	W	4-6	None		
	14.04.22	09:30-13:30	Breeding	11	0-1	W/SW	3-4	None		
8	17.05.22	09:00-15:30	Breeding	20	0-1	E	2	None		
	26.05.22	10:30-12:00	Breeding	16	2-3	N	4	None		
9	08.06.22	11:00-15:15	Breeding	17-20	0-2	N	3	None	Limited views of Rosper Road Pools	Tall reeds and efforts to avoid disturbance
10	11.07.22	11:00-14:30	Breeding	17-26	0-1	N/NE	8	None		
	28.07.22	11:30-13:00	Breeding	14-18	0-1	E	4	None	Limited views of Rosper Road Pools	Tall reeds and efforts to avoid disturbance
11	30.08.22	11:10-18:00	Passage	22	3	SW	3	None		

Site Visit Number	Date of Survey	Time of Survey	Survey Type	Temp (°C)	Wind Speed (Beaufort)	Wind Direction	Cloud Cover (Oktas)	Rain	Limitations	Reason
	31.08.22	09:45-15:40	Passage	20	4	S	4	None	Fields 1 and 2 not surveyed.	Limited access
									Field 6 not surveyed.	Unsafe access
12	28.09.22	12:00-16:40	Passage	13-14	3	NW	5-6	None	Homestead Park Lake ("Field" 18) not surveyed.	No access
	29.09.22	09:30-15:00	Passage	15	2-3	NE	7-8	Occasional brief showers	Field 1, 2 not surveyed.	Limited access
									Field 6 not surveyed.	Unsafe access
13	18.10.22	11:35-16:15	Passage	13	1	N/NE	1-4	None		
	19.10.22	09:25-16:05	Passage	13-14	3-4	E	4-5	None	Field 1, 2 not surveyed.	Limited access
									Field 6 not surveyed.	Unsafe access

Functionally Linked Land South

Site Visit Number	Date of Survey	Survey Time	Survey Type	Temp (°C)	Wind Speed (Beaufort)	Wind Direction	Cloud Cover (Oktas)	Rain	Limitations	Reason
1	22.11.21	11:20-16:00	Wintering	8	2-3	NW	4-8	Shower 13:15-13:30		
	23.11.21	09:40-15:20	Wintering	4-8	1	W	0-2	None		
	24.11.21	10:30-15:30	Wintering	7	1	SW	5-8	None		
2	21.12.21	10:30-15:20	Wintering	4	2	N/NE	5	None		
	22.12.21	09:00-15:10	Wintering	1	1	N	0	None		
	23.12.21	09:15-14:55	Wintering	5	3	N/NE	5	Drizzle		
3	17.01.22	10:15-17:00	Wintering	2-9	1	W	0	None		
	18.01.22	09:00-15:35	Wintering	0-8	1	S/SE	0	None		
4	08.02.22	10.30-15:55	Wintering	11	4	W/SW	3	None		
	09.02.22	09:30-15:20	Wintering	9	3	W/SW	5-6	None		
5	02.03.22	10:30-16:55	Wintering	7	2	N	8	Occasional light drizzle		
	03.03.22	10:00-15:00	Wintering	9	2	E/SE	4	None		
6	22.03.22	10:30-17:00	Breeding	16	0	S	0	None		
	23.03.22	09:00-15:15	Breeding	19	0	E-N/NE	0	None		

Site Visit Number	Date of Survey	Survey Time	Survey Type	Temp (°C)	Wind Speed (Beaufort)	Wind Direction	Cloud Cover (Oktas)	Rain	Limitations	Reason
7	12.4.22	10:30-17:30	Breeding	11-18	2	E	0-2	None		
	13.4.22	09:45-14:00	Breeding	10-16	1	E	0-7	Heavy showers		
8	25.05.22	11:30-15:00	Breeding	14-19	2-4	S	2-3	None		
9	16.06.22	11:30-15:00	Breeding	14-18	2	S	2-4	None	Limited bird presence in fields 9, 10, 11	Hand spraying of weeds
10	13.07.22	10:00-15:00	Breeding	18-27	1	N/NE	3	None		
	14.07.22	09:15-14:30	Breeding	19-26	2	N	6	None		
11	30.08.22	11:00-18:30	Passage	19-23	3	SE	7	None		
	31.08.22	09:30-14:00	Passage	19-24	3	E	7	None		
12	28.09.22	10:30-18:00	Passage	14-20	2	S	6	Occasional light shower		
	29.09.22	09:00-18:00	Passage	15-20	2	SW	4	None		
13	18.10.22	09:30-17:30	Passage	15	3	NE	5	None		
	19.10.22	09:00-15:00	Passage	14	4	E	6	None		

Point Counts

Date of Survey	Points Surveyed	Survey Time	Survey Type	Temp (°C)	Wind Speed (Beaufort)	Wind Direction	Cloud Cover (Oktas)	Visibility	Rain (describe)	Notes
10.11.21	14, 15, 16, 17, 18, 19, 20	10:30-15:30	Wintering	11-12	0-1	NW-W	5-8	-	Light drizzle	
11.11.21	1, 2, 3, 4, 5, 6, 7, 8, 11	10:12-16:22	Wintering	10-11	1-2	W-S	6-8	-		
12.11.21	9, 10, 12, 13	10:25-12:50	Wintering	10-12	3-4	S/SW-S	8	-	Light drizzle	
07.12.21	1, 2, 3, 4, 5, 6, 7	10:30-14:00	Wintering	3-6	6	S/SW	5	<1km	Heavy showers	
08.12.21	8, 9, 10, 11, 12, 13, 14, 15	11:00-15:00	Wintering	2-6	6	S/SE	6	<1km	Heavy showers	
13.12.21	16, 17, 18, 19, 20	10:30-14:00	Wintering	6-8	5	S/SE	4	>3km	Light showers	
20.01.22	9, 10, 11, 12, 13	12:40-16:33	Wintering	4	2-4	NW	6-7	>3km	None	
21.01.22	14, 15, 16, 17, 18, 19, 20	09:40-15:41	Wintering	2-6	1-3	W	0-1	>3km	None	
25.01.22	1, 2, 3, 4, 5, 6, 7, 8	10:30-15:00	Wintering	0.5-3	1-3	N	8	<1.5km	None	
07.02.22	8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19	11:00-17:00	Wintering	0-9	2	NE	7	>3km	None	
15.02.22	1, 2, 3, 4, 5, 6, 7, 20	11:00-15:14	Wintering	7-8	2-3	W-SW	5-8	2km for some, 3km for others	Continuous heavy rain	
18.03.22	2, 3, 4, 5, 6, 7, 21, 22	10:40-15:25	Breeding	9-12	0-2	E-ESE	0	>3km	None	Point 21 replaced 1

Date of Survey	Points Surveyed	Survey Time	Survey Type	Temp (°C)	Wind Speed (Beaufort)	Wind Direction	Cloud Cover (Oktas)	Visibility	Rain (describe)	Notes
										Point 22 replaced 20
22.03.22	12, 13, 14, 15, 17, 18, 23, 24, 25, 26, 27, 28	10.30-15.45	Breeding	9-15	0-2	E-ESE	0	>3km	None	Point 23 replaced 8 Point 24 replaced 9 Point 25 replaced 10 Point 26 replaced 11 Point 27 replaced 16 Point 28 replaced 19
12.04.22	12, 13, 14, 15, 17, 18, 23, 24, 25, 26, 27	10:30-15:55	Breeding	10-18	0-1	E	2	>3km	Heavy showers	
13.04.22	2, 4, 5, 6, 7, 21, 22	10.55-16.15	Breeding	10-15	1-2	E-ESE	3-8	>3km	None	
13.04.22	28	15:03-15:28	Breeding	15	2	W	6-7	>3km	None	
18.05.22	12, 13, 14, 15, 24, 25, 26, 27	08:00-16:30	Breeding	15-20	2	E	2-3	>3km	None	
24.5.22	2, 3, 4, 5, 6, 7, 18, 21, 22, 23, 28	10:30-15:30	Breeding	16-20	3	W	2-4	>3km	None	
09.06.22	12, 13, 14, 15, 17, 24, 25, 26, 27	09:00-15:35	Breeding	18-21	2	N	3	>3km	None	
16.06.22	2, 3, 4, 5, 6, 7, 18, 21, 22, 23, 28	09:00-16:00	Breeding	13-21	3	N	2-5	>3km	None	

Date of Survey	Points Surveyed	Survey Time	Survey Type	Temp (°C)	Wind Speed (Beaufort)	Wind Direction	Cloud Cover (Oktas)	Visibility	Rain (describe)	Notes
24.11.22	C, D, E, F, G, H	10.22-15.24	Wintering	7	3-5	SW	6-8	>3km	None	
25.11.22	A, B	10.05-11.48	Wintering	8-9	3	SW	1	>3km	None	
08.12.22	B, D, E, F, G, H	10.12-15.07	Wintering	1-2	2-3	NW	2-3	>3km	None	
09.12.22	A, C	10.06-11.58	Wintering	0	2	W	0-1	>3km	None	
12.01.23	B, C, D, E, F,	11.07-15.11	Wintering	10	4-5	SW	4-8	>3km	None, light rain for C	
13.01.23	A, G, H	10.33-13.16	Wintering	8-9	3-4	W	4-6	>3km	None, light rain for A	
16.02.23	A, B, C, D, E, F, G, H	10.30-16.50	Wintering	9-11	0-3	W-SW	5-8	>3km	None	
27.03.23	A, B, C, G, H	12:02-16:08	Breeding	8-9	1-2	NW	1-3	>3km	None	
28.03.23	D, E, F	09:43-11:38	Breeding	5-6	3	S	8	>3km	D – None E - Light drizzle F – Light rain	
19.04.23	B, C, G, H	11:05-14:50	Breeding	12-13	4	E	0-5	>3km	None	
20.04.23	A, D, E, F	09:57-12:42	Breeding	11-13	3-4	NE	1	>3km	None	
11.05.23	A, B, C, D, E, F, G, H	11:20-18:05	Breeding	15	1-2	E	4-5	>3km	None, heavy rain / thunder to the north	

Date of Survey	Points Surveyed	Survey Time	Survey Type	Temp (°C)	Wind Speed (Beaufort)	Wind Direction	Cloud Cover (Oktas)	Visibility	Rain (describe)	Notes
									and south of survey areas	

Common Birds Census, Theddlethorpe Gas Terminal

Site Visit Number	Date of Survey	Time of Survey	Temp (°C)	Wind Speed (Beaufort)	Wind Direction	Cloud Cover (Oktas)	Visibility	Rain
1	13.4.22	09:45-10:30	10-14	3-4	W	4	>3km	None
2	25.5.22	09:50-10:50	15-17	2-4	N	5-7	>3km	None
3	15.6.22	10:10-11:10	19	1	W	3	>3km	None
4	3.07.22	10:25-11:00	24	1	N/NE	2	>3km	None

Winter Drive Over Surveys

Site Visit Number	Date of Survey	Drive Route	Survey Time	Notes	Temperature (°C)	Wind Speed (Beaufort)	Wind Direction	Cloud Cover (Oktas)	Visibility	Rain
1	28.11.22	Stallingborough - Ashby cum Fenby	11:15-15:15	Poor light	3.5-7	0	-	8	150 - 500m	None
1	29.11.22	Ashby cum Fenby - Manby	09:30-15:30	Poor light	6	0	-	8	1.5km	None
2	20.12.22	Stallingborough - Yarburgh	09.30-15.00		8-9	3-4	S	0-1	>3 km	None
2	21.12.22	Yarburgh - Grimoldby	10.00-13.00		7-8	3-4	S/SW	2-3	>3 km	None
3	19.01.23	Grimoldby - Ludborough	11.25-15:45		2	1	W	1	>3 km	None
3	20.01.23	Ludborough - Stallingborough	09.25-12.05		1	2	W	0	> 3 km	None
4	23.02.23	Stallingborough - Ludborough	10.25-15.30		7-8	2-3	N	3-6	> 3 km	None
4	24.02.23	Ludborough - Grimoldby	09.30-13.00		8-10	3	N	4-7	> 3 km	Occasional light drizzle

Annex C Kingfisher Habitat Assessment Criteria

Criteria	Description
Bank Features and Substrate	Kingfishers require compact sand and bare earth to excavate for their nests (depth of 60 – 90 cm). Stony or rocky banks prevent nesting tunnel excavations.
Angle of Bank	Kingfisher require a vertical bank for nesting burrow excavation and excavate the burrow 1-2 m above the normal level of water. Sloping banks are more liable to flood the burrow with rising water levels.
Agricultural Management of Banksides	Agriculturally improved banksides have a negative impact on Kingfisher due to the loss of perch availability, increased erosion through stock poaching and lack of vegetation, and the introduction of pesticides, fertilisers and slurry run-off into the watercourse.
Availability of Overhanging Branches	Kingfisher require perches in the form of overhanging branches to watch for fish and to use as markers for limits of their territory.
Water Quality	Pollution will affect the quality of water and therefore the availability of fish. This will have a negative impact on foraging.
River Flow	The flow of the river will affect oxygen levels in the water column and therefore the availability of fish as prey.
Human and Dog Disturbance	Kingfisher are susceptible to disturbance from humans and dogs due to their shy nature and are therefore unlikely to occupy areas with heavy human and dog traffic.

Annex D BTO Data Report

Viking CCS 2km

Compiled on 17 January 2023



SUMMARY

- Background** The BTO Data Report collates and analyses comprehensive (2007–2011) and contemporary (2019–2023) bird data relating to the grid squares spanned by the site: 336 1-km squares, 104 tetrads and 11 10-km squares. For contextual analyses, data from these relevant squares are related to equivalent data from one vice-county, one county, two regions, one country and the UK to assess species' importance in the vicinity of the site to help inform delivery of habitat mitigation, enhancement and biodiversity net gain.
- Data used** Coverage of relevant squares spanned by the site from 2007–2011 is complete at the 10-km resolution and there is moderate coverage of the site by timed visits and good coverage from casual recording in the breeding season (moderate and good respectively in winter). Contemporary information for the period 2019–2023 is available from BirdTrack for 30% of tetrads (100% of 10-km squares) in the breeding season and from one BBS square.
- Results** During 2007–2011, 114 species with breeding evidence and 190 species in winter were recorded in the vicinity of the site at various spatial scales. Breeding season figures include 14 Schedule 1 species, nine Annex 1 species and 26 BoCC Red list species. The following rare breeding birds were recorded in the same 20-km or 50-km squares as the site during 2007–2011: Montagu's Harrier. For confidentiality reasons we cannot reveal fine-scale association with the site: further details may be available from the Rare Breeding Birds Panel.
- During the breeding seasons of 2019–2023, 186 species were recorded in the vicinity of the site at various spatial scales. These included 47 Schedule 1 species, 34 Annex 1 species and 48 BoCC Red list species.
- In a regional context, the site's 10-km squares accounted for up to 100% of regional population size. One hundred fifteen species were notable in at least one region or season. In a county context, the site's 10-km squares accounted for up to 100% of county population size. Seventy-one species were notable in at least one county or season. In a vice-county context, the site's 10-km squares accounted for up to 100% of vice-county population size. Fifty-one species were notable in at least one vice-county or season. Full details of notable species and those showing more positive population trends in the vicinity of the site compared to the wider context are given in the Report.

1. INTRODUCTION

The purpose of the BTO Data Report is to provide information on bird species associated with potential development sites at a range of spatial scales to inform desk studies for ecological impact assessments. The Report uses BTO's long-term ornithological datasets, providing [high quality](#) comprehensive and contemporary information. BTO is grateful to the volunteers who collected all the data, and to the funders and scheme partners, who are listed in Section 3 under the relevant data sources.

The species list in this report can guide the need for detailed field surveys in conjunction with [Bird Survey Guidelines](#) advice. This Report highlights the legal and conservation status assigned to each species in the relevant country. Beyond simple species lists, BTO data are uniquely able to provide context to help quantify the importance of a site and its surroundings in conservation terms. This includes assessments of the percentage of county, regional and national geographic range and population size associated with the site, plus recent population changes, offering the potential to highlight priorities for delivering habitat mitigation, enhancement and biodiversity net gain.

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2. SITE, SQUARES, REGIONS AND FEATURES

2.1 Relevant grid squares

Systematic bird recording in Britain and Ireland typically involves the collection of records for 1-km, 2-km ('tetrad') or 10-km squares, or using the boundaries of user-defined sites, nature reserves and other 'popular places'. Rarely can records be definitively attributed within the boundary of proposed development sites, especially small ones.

Unless otherwise stated, all species detailed in the BTO Data Report concern species present in grid squares *intersected* by the site boundary, rather than species that are definitively *within* the site boundary. Grid squares with at least 1ha overlapping the site are referred to as 'relevant' squares.

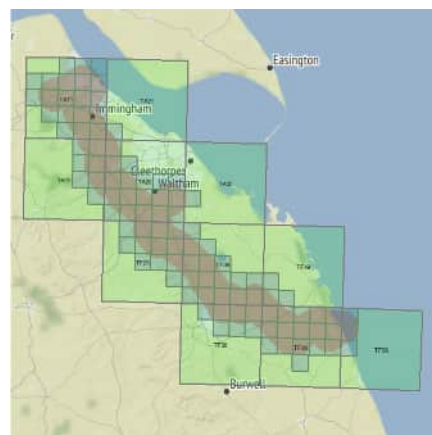
For example 'relevant tetrads' are all 2-km squares with at least 1ha overlapping the site. Data are summarised at the finest spatial scale possible, subject to the size of the site and the availability and spatial precision of BTO datasets in the vicinity of the site.

The number of relevant 1-km squares, tetrads and 10-km squares for the site are listed below. The map above shows the site in relation to relevant tetrads and relevant 10-km squares (for an equivalent map for 1-km squares, and for full lists of relevant 1-km squares, tetrads and 10-km squares, see Appendix 1).

- 336 relevant 1-km squares
- 104 relevant tetrads
- 11 relevant 10-km squares

For reasons of confidentiality the precise locations of certain rare breeding and wintering birds (typically those reported on by the [Rare Breeding Birds Panel](#)) cannot be revealed precisely in BTO Data Reports. For these species we follow the treatment introduced by *Bird Atlas 2007–11* where records were summarised for 20-km and 50-km squares. If any such rare breeding species have been recorded in the same 20-km or 50-km squares as the site, lists and maps of relevant 20-km and/or 50-km squares are included in Appendix 1.

All results in the BTO Data Report, especially those for larger grid resolutions, should be interpreted with respect to the habitats present on the site as some species listed may not occur within the site boundary.



2.2 Relevant county, regional and national contexts

The BTO Data Report contains contextual 'site importance' analyses that aim to highlight species for which the site and its relevant grid squares are important in local, regional, national and UK contexts. For example, does the site and its surroundings support a regionally significant population of a protected species?

National context concerns the site relative to the country it falls within. In addition to the UK (here combined with the Isle of Man and Channel Islands), the site also falls within one country: *England*.

Regional context concerns the site relative to the regions it falls within. For sites in England, regions are defined using the NUTS (Nomenclature of territorial units for statistics) level 1 regions. The following regions are relevant for this site: *East Midlands and Yorkshire and the Humber*.

County context concerns the site relative to counties. The following counties are relevant for this site: *Lincolnshire*.

Vice-county context concerns the site relative to vice-counties. For sites in Great Britain, the Report uses Watsonian Vice-counties. The following vice-counties are relevant for this site: *North Lincolnshire*.

Maps of all these areas can be found in Appendix 1. The grid squares associated with each of these area are used to determine overall range size and abundance at county, regional and national scales with which range size and abundance for the site's relevant grid squares can be calculated. Note that some individual grid squares may be associated with more than one geographical area. For more information see Section 5.

2.3 Relevant features

The BTO Data Report summarises species occurrence and abundance for species of conservation and statutory importance. In addition to the lists of species important across the UK, certain lists are of relevance in the UK's devolved administrations. The table below lists all species lists relevant for UK, Isle of Man and Channel Islands and England. Section 4 summarises the number of species recorded at or around the site for each of these feature lists.

Feature	Description
Schedule 1 UK	Species listed on Schedule 1 of the Wildlife and Countryside Act 1981
BoCC Red	Species on the Red list according to Birds of Conservation Concern 5 (Stanbury et al. 2021)
BoCC Amber	Species on the Amber list, according to Birds of Conservation Concern 5 (Stanbury et al. 2021)
Annex 1	Species on Annex 1 of the EU Birds Directive
IUCN2 Critically Endangered	Species listed as Critically endangered in Great Britain (Stanbury et al. 2021)
IUCN2 Endangered	Species listed as Endangered in Great Britain (Stanbury et al. 2021)
IUCN2 Near Threatened	Species listed as Near Threatened in Great Britain (Stanbury et al. 2021)
IUCN2 Vulnerable	Species listed as Vulnerable in Great Britain (Stanbury et al. 2021)
RBBP	Rare and scarce species considered by the Rare Breeding Birds Panel
Section 41 England	Species listed in Section 41 of the Natural Environment and Rural Communities Act 2006 (England only)
Schedule ZA1 England & Wales	Species listed on Schedule ZA1 of the Wildlife and Countryside Act (England & Wales only)

3. DATA SOURCES AND COVERAGE

The BTO Data Report uses comprehensive atlas distribution data from 2007–11 to give a baseline of high-quality information about species status at and around the site and in the wider context. This is supplemented by the latest records from current schemes, including BirdTrack and BBS. The report considers **269 species** that regularly occur in Britain and Ireland. These include **221 breeding species** and **226 wintering species**. The report includes BOU Category C established non-native species but excludes exotic non-native species (i.e. those without self-sustaining populations). Breeding species are defined as those that were recorded with confirmed breeding evidence in at least one 10-km square in Britain or Ireland in *Bird Atlas 2007–11*. Wintering species are defined as those recorded in at least fifty 10-km squares in *Bird Atlas 2007–11*, plus six rare residents that the 50-square rule excluded (e.g. Cirl Bunting). Species on statutory and conservation status lists, such as Schedule 1, Birds of Conservation Concern 5, or Section 7 (Wales) are highlighted. Some lists consider subspecies or populations (e.g. Greenland White-fronted Goose, Hebridean Song Thrush) for which BTO data are not ideally suited. We therefore include the parent species in these analyses to ensure appropriate warnings are raised and dedicated surveys may be required.

Systematic bird recording often involves the assignment of 'breeding evidence' to records. Breeding evidence is hierarchical, having three levels: possible breeding, probable breeding and confirmed breeding. These are directly inferred from field observations and indicate the certainty that can be ascribed to the record that breeding is taking place at a location. For example, a bird singing in suitable territory is assigned possible breeding evidence, a bird carrying nesting material is assigned probable breeding evidence, whereas recently fledged young amounts to confirmed breeding evidence. Lack of breeding evidence (i.e. simple presence) can reflect either that the observer did not witness appropriate behaviours indicative of breeding, or that submission of breeding evidence was not mandatory for that particular data source.

Lack of breeding evidence in the data should not be assumed to indicate lack of breeding.

See below for details about each dataset and an assessment of the quantity of data relating to the site and its relevant grid squares.

3.1 Comprehensive species assessment 2007–2011



Bird Atlas 2007–11 (BTO, BirdWatch Ireland and the Scottish Ornithologists' Club) provides data at two resolutions: complete 10-km distribution datasets and sample 2-km distribution and relative abundance datasets. Although the Bird Atlas data are now 12 years old, they still provide the most recent and comprehensive assessment of bird distributions available. **All 11 relevant 10-km squares** that the site spans will have been surveyed in winter and the breeding season to provide 10-km resolution distribution information. Unstructured data (i.e. casual records) at tetrad resolution were provided for **72 relevant tetrads** in the breeding season and for **61 relevant tetrads** in winter. The total numbers of records submitted across this set of tetrads in the breeding season and winter were **2462 records** and **2596 records** respectively.

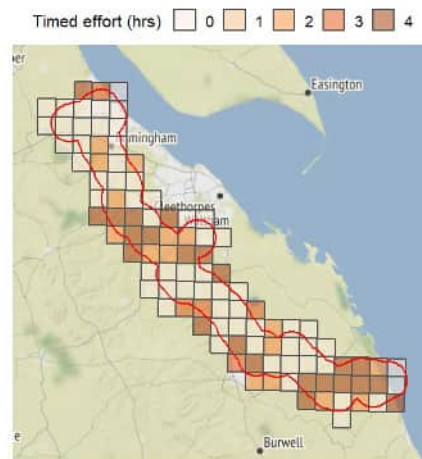
Additionally, at least 32% of tetrads in each 10-km square received timed visits, amounting to structured data for 50089 tetrads across Britain and Ireland. Of the 104 relevant tetrads that the site spans, **44 (42.3%)** received Timed Tetrad Visits in the breeding season (139 hours of recording effort). Similarly, **43 tetrads (42.3%)** were visited in winter (136 hours).

Data quality control: All records have been manually verified prior to use.

Distribution of casual records (breeding)



Distribution of timed effort (breeding)



3.2 Contemporary species assessment 2019-2023

The current species assessment is based on the following data sources.

3.2.1 Breeding Bird Survey



The UK *Breeding Bird Survey* (BBS hereafter; BTO, JNCC, RSPB) is an annual survey of over 4000 randomly selected 1-km squares across the UK. Each square is surveyed twice per breeding season, providing up to date records of bird occurrence in this c.3% sample of the UK. The BBS does not require observers to provide breeding evidence information. Consequently, all records relate to presence information; *it should not be assumed that lack of breeding evidence means species were not breeding at or near the site*. This Report queries data from the 4900 1-km squares surveyed for the BBS during 2017–2020. Only **one** of the relevant 1-km squares was also a BBS square (TF3488). That square was surveyed for four years, most recently in **2020**.

Data quality control: All records have been manually verified prior to use.

3.2.2 BirdTrack



BirdTrack (BTO, RSPB, BirdWatch Ireland, Scottish Ornithologists' Club and Welsh Ornithological Society) provides information on recent sightings of birds throughout Britain and Ireland. Unlike *Bird Atlas*, which has a structured component ensuring complete coverage of 10-km squares, *BirdTrack* is unstructured and coverage is strongly associated with the distribution and birdwatching preferences of observers. The consequent variation in recording effort means that for some areas there be less information to generate a report. A further difference from *Bird Atlas* is that observers are not required to provide breeding evidence information. Consequently, some searches may yield only presence information; it should not be assumed that lack of breeding evidence means species were not breeding at or near the site. Observers are free to birdwatch where they choose, and can provide records with varying levels of spatial precision, from pin-pointed records, to large polygons that may span multiple grid squares. The assessment includes data for the breeding season (March–July inclusive) and non-breeding season (August–February inclusive) for the last five years and is summarised with respect to the relevant grid squares, summarising records to the finest spatial precision that the records permit.

BirdTrack data were available for **30%** of the site's relevant tetrads in the breeding season (100% of 10-km squares), including data from **2022**. Data were available for **30%** of the site's relevant tetrads in winter (100% of 10-km squares), including data from **2023**.

Data quality control: Observers are warned of 'threshold breaking' records at the point of data entry (unusual place or date for a species; unusually high count) and given the opportunity to correct mistakes. Further manual verification occurs but as BirdTrack data are 'live', the verification status of individual records varies. Rejected records and any in an active state of query are excluded from the Report.

4. SPECIES LISTS

4.1 Species assessment 2007–2011

This section summarises comprehensive *Bird Atlas 2007–11* distribution data for the 104 relevant tetrads and 11 relevant 10-km squares the site spans. It also considers data from the four relevant 20-km squares and three relevant 50-km squares for any confidential RBBP species records.

4.1.1 Breeding season

Bird Atlas 2007–11 indicate **114 species** with breeding evidence in the vicinity of the site at a range of spatial resolutions (Table 1). At the highest level of spatial resolution achievable with Bird Atlas data, 90 species were recorded with breeding evidence in the site's relevant tetrads. The following confidential species were recorded with breeding evidence during 2007–11 in the same 50-km square(s) as the site: Montagu's Harrier. See Appendix 3 for the full list of species with breeding evidence recorded in the vicinity of the site.

Table 1. Numbers of species in the breeding season recorded during 2007–11 at different spatial resolutions relative to the site. Rows give figures for all species, and according to various lists of important features. Columns indicate status in relevant grid squares of different sizes.

Species category	2-km	10-km	20-km	50-km
All species	90	23	0	1
Annex 1	3	5	0	1
BoCC Amber	28	8	0	0
BoCC Red	20	5	0	1
IUCN2 Critically Endangered	1	0	0	1
IUCN2 Endangered	7	5	0	0
IUCN2 Near Threatened	12	2	0	0
IUCN2 Vulnerable	15	6	0	0
RBBP	6	11	0	1
Schedule 1 UK	5	8	0	1
Schedule ZA1 England & Wales	0	0	0	0
Section 41 England	20	2	0	0

4.1.2 Winter

Bird Atlas 2007–11 indicates **190 species** were recorded in the vicinity of the site in winter at a range of spatial resolutions (Table 2). At the highest level of spatial resolution achievable with Bird Atlas data, 152 species were recorded in winter in the site's relevant tetrads. No confidential species were recorded in winter in any of the site's relevant 20-km or 50-km squares. See Appendix 3 for the full list of species recorded in the vicinity of the site.

Table 2. Numbers of species in winter during 2007–11 at different spatial resolutions relative to the site. Rows give figures for all species, and according to various lists of important features. Columns indicate status in relevant grid squares of different sizes.

Species category	2-km	10-km	20-km	50-km
All species	152	38	0	0
Annex 1	20	7	0	0
BoCC Amber	57	13	0	0
BoCC Red	36	9	0	0
IUCN2 Critically Endangered	10	3	0	0
IUCN2 Endangered	22	8	0	0
IUCN2 Near Threatened	9	4	0	0
IUCN2 Vulnerable	30	5	0	0
RBBP	46	18	0	0
Schedule 1 UK	29	11	0	0
Schedule ZA1 England & Wales	0	0	0	0
Section 41 England	25	4	0	0

4.2 Species assessment 2019-2023

4.2.1 Breeding season

The assessment of current species associated with the site in the breeding season is based on BBS and BirdTrack. This information summarises species with and without breeding evidence as (unlike Bird Atlas data) these data sources do not require evidence to be submitted. These sources indicate **186 species** recorded in the vicinity of the site in the breeding season at a range of spatial resolutions (Table 3). At the highest level of spatial resolution achievable with these data, 50 species were recorded in the same 1-km square(s) as the site. Some BirdTrack sites spanned 10-km square boundaries; any species associated with these BirdTrack sites and not present at a finer resolution are summarised in the '>10-km' column. Particular care should be taken with such records as the species could have been recorded some distance from the site. See Appendix 4 for the full list of species recorded in the vicinity of the site during 2019-2023.

Table 3. Numbers of species in the breeding season during 2019-2023 at different spatial resolutions relative to the site. Rows give figures for all species, and according to various lists of important features. Columns indicate status in relevant grid squares of different sizes.

Species category	1-km	2-km	10-km	>10-km
All species	50	94	29	13
Annex 1	0	17	7	10
BoCC Amber	15	39	10	7
BoCC Red	12	21	10	5
IUCN2 Critically Endangered	0	7	3	4
IUCN2 Endangered	4	13	7	4
IUCN2 Near Threatened	6	12	2	0
IUCN2 Vulnerable	7	18	5	2
RBBP	0	29	18	11
Schedule 1 UK	2	24	11	10
Schedule ZA1 England & Wales	0	0	1	1
Section 41 England	12	12	4	3

4.2.2 Non-breeding season

The assessment of current species associated with the site is based on BirdTrack and indicate **197 species** recorded in the vicinity of the site in the non-breeding season at a range of spatial resolutions (Table 4). Some BirdTrack sites spanned 10-km square boundaries; any species associated with these BirdTrack sites and not present at a finer resolution are summarised in the '>10-km' column. Particular care should be taken with such records as the species could have been recorded some distance from the site. See Appendix 4 for the full list of species recorded in the vicinity of the site during 2019-2023.

Table 4. Numbers of species in the non-breeding season during 2019-2023 at different spatial resolutions relative to the site. Rows give figures for all species, and according to various lists of important features. Columns indicate status in relevant grid squares of different sizes.

Species category	1-km	2-km	10-km	>10-km
All species	0	163	29	5
Annex 1	0	24	7	0
BoCC Amber	0	69	9	2
BoCC Red	0	36	9	1
IUCN2 Critically Endangered	0	12	2	0
IUCN2 Endangered	0	25	6	0
IUCN2 Near Threatened	0	12	3	0
IUCN2 Vulnerable	0	32	4	1
RBBP	0	48	15	1
Schedule 1 UK	0	35	7	1
Schedule ZA1 England & Wales	0	0	1	0
Section 41 England	0	21	7	0

5. SITE IMPORTANCE

A site may be important if it supports a high proportion of a species' local, regional or national population, or if its population trends are more positive at the site compared to elsewhere. Whilst data are not available at sufficiently fine scales to assess the site itself (see Section 2), here we used *Bird Atlas 2007–11* distribution and relative abundance data for relevant 10-km squares to assess the area in which the site falls.

For each species we express its range and population size in the vicinity of the site relative to the total range size and population size in different geographic contexts, ranging from vice-counties and counties, through regions, to countries. This requires determining how many of the relevant 10-km squares spanned by the site are occupied (e.g. one) and how many 10-km squares in the larger region are occupied (e.g. 20); in this case the site and its vicinity account for 5% (= 1/20) of the species' range in the region. As large sites will tend to account for a higher percentage of range than small sites, such figures need to be bench-marked to allow comparability across sites. This requires knowing how many of the site's relevant 10-km squares fall in the region (e.g. one) and the total number of 10-km squares in the region (e.g. 100); in this case the site's 'percentage size' is 1% (= 1/100). We define **Notable species** as those for which the percentage range is at least twice the site's percentage size. In the above examples the percentage range (5%) is more than double the site's percentage size (1%) so the species would be highlighted as Notable. The exception to this rule is at the scale of United Kingdom where we mark species as **Notable** if the site and vicinity account for 2% or more of the species' UK range.

Distribution data are available for all species for the above analysis. However, distribution data ignore the fact that some species vary widely in abundance within their range. Therefore, to supplement the results above, we undertake a similar exercise using relative abundance data which can help to highlight species for which the site and its vicinity is a particular hot-spot of locally, regionally or nationally high density. *Bird Atlas 2007–11* data give a relative density measure for each terrestrial species in each 10-km square (**colonial seabirds are excluded**). These can be summarised in the same way as distribution data to estimate the percentage of the region's population size found at the site and its vicinity. Calculations of percentages and derivation of Notable species are as above.

Lastly, breeding season relative abundance data are available for two periods, 1988–91 and 2008–11, allowing for an assessment of relative abundance change for terrestrial bird species over this interval for the site and its vicinity (**colonial seabirds are excluded**). By comparing such values with corresponding change measures for the wider region we can identify species for which the site and its vicinity has had more positive population trends (i.e. increasing more than elsewhere, or declining less). This may indicate that the 10-km squares in which the site falls are an important refuge for these species in a local, regional or national context. When interpreted alongside the species lists in Section 4 and the result of any commissioned field surveys, these results can help to identify species for which the site may be particularly important. For very small sites spanning only a single 10-km square these results should be interpreted with caution.

It is important to remember that all these calculations use 10-km resolution data so relate to the site and its vicinity, not strictly to the site alone.

5.1 Country: UK, Isle of Man and Channel Islands

Overall, 11 of the 10-km squares that include the site fall in UK, Isle of Man and Channel Islands, accounting for 0.36% of 10-km squares in UK, Isle of Man and Channel Islands. According to *Bird Atlas* data, these squares support between 0% and 6.5% of the geographic range in UK, Isle of Man and Channel Islands of all the species considered (breeding and winter combined). In terms of abundance, these squares represent between 0% and 15.7% of the total population size in UK, Isle of Man and Channel Islands. In the context of the United Kingdom, **notable species** are defined as those for which the site's relevant 10-km squares account for at least 2% of geographic range in the UK. If any species qualify they are listed below, with those on the **BoCC Red List** and **BoCC Amber List** highlighted in corresponding colour:

- Breeding range, zero species:
- Winter range, six species: **Velvet Scoter**, **Avocet**, Pomarine Skua, **Cattle Egret**, Rough-legged Buzzard, **Shore Lark**
- Breeding abundance, six species: **Ringed Plover**, Barn Owl, Reed Warbler, Lesser Whitethroat, **Tree Sparrow**, **Yellow Wagtail**
- Winter abundance, 16 species: **Shelduck**, **Stock Dove**, Great Crested Grebe, **Lapwing**, Golden Plover, **Grey Plover**, **Bar-tailed Godwit**, **Black-tailed Godwit**, **Knot**, Grey Phalarope, Little Egret, **Short-eared Owl**, **Tree Sparrow**, **Water Pipit**, Rock Pipit, **Lapland Bunting**

Between 1988–91 and 2008–11, there were 53 species for which relative abundance increased more (or decreased less) at/near the site compared to the relative abundance changes apparent across the rest of UK, Isle of Man and Channel Islands. The ten species with the most positive difference in trend between site and region are listed below and all species can be seen in Figure 5.1 in Appendix 5.

- **Mallard**, Pheasant, **Moorhen**, **Redshank**, **Short-eared Owl**, Chiffchaff, Lesser Whitethroat, **Mistle Thrush**, **Tree Sparrow**, Pied/White Wagtail

There were 46 species for which the opposite was the case, i.e. that they were declining more (or increasing less) at/near the site compared to the rest of UK, Isle of Man and Channel Islands. The ten species with the most negative difference in trend between site and region were:

- **Pochard**, **Cuckoo**, **Turtle Dove**, Grey Heron, **Tawny Owl**, Sand Martin, **Willow Warbler**, **Song Thrush**, **Spotted Flycatcher**, Lesser Redpoll

5.2 Country: England

Overall, 11 of the 10-km squares that include the site fall in England, accounting for 0.74% of 10-km squares in England. According to *Bird Atlas* data, these squares support between 0.1% and 7.9% of the geographic range in England of all the species considered (breeding and winter combined). In terms of abundance, these squares represent between 0% and 100% of the total population size in England. **Notable species** for England are listed below, with those on the **BoCC Red List** and **BoCC Amber List** highlighted in corresponding colour:

- Breeding range, four species: **Little Tern**, **Marsh Harrier**, **Tree Sparrow**, **Corn Bunting**
- Winter range, 46 species: **Brent Goose**, **Pink-footed Goose**, **Taiga/Tundra Bean Goose**, **Bewick's Swan**, Green-winged Teal, **Eider**, **Velvet Scoter**, **Common Scoter**, **Long-tailed Duck**, **Smew**, **Avocet**, **Grey Plover**, **Ringed Plover**, **Bar-tailed Godwit**, **Black-tailed Godwit**, **Turnstone**, **Knot**, **Sanderling**, **Dunlin**, **Purple Sandpiper**, Grey Phalarope, **Spotted Redshank**, **Greenshank**, **Great Skua**, Pomarine Skua, Arctic Skua, Little Auk, **Guillemot**, **Puffin**, Red-throated Diver, **Black-throated Diver**, **Gannet**, **Shag**, **Cattle Egret**, **Marsh Harrier**, Rough-legged Buzzard, Hooded Crow, **Shore Lark**, Pallas's Warbler, Lesser Whitethroat, **Ring Ouzel**, Richard's Pipit, **Water Pipit**, **Twite**, **Lapland Bunting**, **Snow Bunting**
- Breeding abundance, 21 species: **Greylag Goose**, **Shelduck**, **Teal**, Tufted Duck, **Moorhen**, **Oystercatcher**, **Ringed Plover**, **Redshank**, Barn Owl, **Short-eared Owl**, **Skylark**, Swallow, **Sedge Warbler**, Reed Warbler, Lesser Whitethroat, **Starling**, **Tree Sparrow**, **Yellow Wagtail**, **Linnet**, **Yellowhammer**, **Reed Bunting**
- Winter abundance, 43 species: **Brent Goose**, **Greylag Goose**, **Shelduck**, **Mallard**, **Goldeneye**, **Stock Dove**, Collared Dove, **Moorhen**, Little Grebe, Great Crested Grebe, **Lapwing**, Golden Plover, **Grey Plover**, **Curlew**, **Bar-tailed Godwit**, **Black-tailed Godwit**, **Knot**, **Dunlin**, **Woodcock**, Jack Snipe, **Snipe**, Grey Phalarope, **Green Sandpiper**, **Redshank**, Little Gull, **Common Gull**, **Great Black-backed Gull**, Cormorant, Little Egret, **Hen Harrier**, Barn Owl, **Short-eared Owl**, **Merlin**, **Skylark**, **Tree Sparrow**, **Water Pipit**, Rock Pipit, **Twite**, **Lapland Bunting**,

Snow Bunting, Corn Bunting, Yellowhammer, Reed Bunting

Between 1988–91 and 2008–11, there were 58 species for which relative abundance increased more (or decreased less) at/near the site compared to the relative abundance changes apparent across the rest of England. The ten species with the most positive difference in trend between site and region are listed below and all species can be seen in Figure 5.2 in Appendix 5.

- Mallard, Pheasant, Moorhen, Redshank, Short-eared Owl, Rook, Lesser Whitethroat, Mistle Thrush, Tree Sparrow, Pied/White Wagtail

There were 41 species for which the opposite was the case, i.e. that they were declining more (or increasing less) at/near the site compared to the rest of England. The ten species with the most negative difference in trend between site and region were:

- Garganey, Pochard, Turtle Dove, Grey Heron, Tawny Owl, Great Spotted Woodpecker, Green Woodpecker, Sand Martin, Song Thrush, Lesser Redpoll

5.3 Region: East Midlands

Overall, 10 of the 10-km squares that include the site fall in East Midlands, accounting for 4.9% of 10-km squares in East Midlands. According to *Bird Atlas* data, these squares support between 0.7% and 75% of the geographic range in East Midlands of all the species considered (breeding and winter combined). In terms of abundance, these squares represent between 0.2% and 100% of the total population size in East Midlands. **Notable species** for East Midlands are listed below, with those on the **BoCC Red List** and **BoCC Amber List** highlighted in corresponding colour:

- Breeding range, two species: Little Tern, Ring-necked Parakeet
- Winter range, 57 species: Brent Goose, Taiga/Tundra Bean Goose, Green-winged Teal, Eider, Velvet Scoter, Common Scoter, Long-tailed Duck, Slavonian Grebe, Avocet, Grey Plover, Ringed Plover, Whimbrel, Bar-tailed Godwit, Black-tailed Godwit, Turnstone, Knot, Ruff, Sanderling, Dunlin, Purple Sandpiper, Little Stint, Grey Phalarope, Spotted Redshank, Greenshank, Little Gull, Great Skua, Pomarine Skua, Arctic Skua, Little Auk, Guillemot, Puffin, Red-throated Diver, Black-throated Diver, Great Northern Diver, Fulmar, Gannet, Shag, Spoonbill, Cattle Egret, Marsh Harrier, Rough-legged Buzzard, Hooded Crow, Shore Lark, Swallow, House Martin, Yellow-browed Warbler, Pallas's Warbler, Lesser Whitethroat, Firecrest, Ring Ouzel, Wheatear, Richard's Pipit, Water Pipit, Rock Pipit, Twite, Lapland Bunting, Snow Bunting
- Breeding abundance, 18 species: Shelduck, Shoveler, Teal, Tufted Duck, Moorhen, Oystercatcher, Ringed Plover, Redshank, Barn Owl, Swallow, Sedge Warbler, Reed Warbler, Lesser Whitethroat, Tree Sparrow, Yellow Wagtail, Meadow Pipit, Linnet, Corn Bunting
- Winter abundance, 48 species: Brent Goose, Barnacle Goose, White-fronted Goose, Shelduck, Teal, Eider, Long-tailed Duck, Goldeneye, Stock Dove, Little Grebe, Great Crested Grebe, Oystercatcher, Avocet, Lapwing, Golden Plover, Grey Plover, Ringed Plover, Curlew, Bar-tailed Godwit, Black-tailed Godwit, Turnstone, Knot, Ruff, Sanderling, Dunlin, Woodcock, Jack Snipe, Snipe, Grey Phalarope, Green Sandpiper, Redshank, Kittiwake, Little Gull, Common Gull, Great Black-backed Gull, Herring Gull, Red-throated Diver, Cormorant, Little Egret, Short-eared Owl, Merlin, Peregrine, Skylark, Tree Sparrow, Water Pipit, Rock Pipit, Lapland Bunting, Snow Bunting

Between 1988–91 and 2008–11, there were 53 species for which relative abundance increased more (or decreased less) at/near the site compared to the relative abundance changes apparent across the rest of East Midlands. The ten species with the most positive difference in trend between site and region are listed below and all species can be seen in Figure 5.3 in Appendix 5.

- Greylag Goose, Shelduck, Mallard, Tufted Duck, Pheasant, Moorhen, Lesser Whitethroat, Starling, Mistle Thrush, Tree Sparrow

There were 45 species for which the opposite was the case, i.e. that they were declining more (or increasing less) at/near the site compared to the rest of East Midlands. The ten species with the most negative difference in trend between site and region were:

- Pochard, Turtle Dove, Curlew, Grey Heron, Buzzard, Tawny Owl, Green Woodpecker, Kestrel, Sand Martin, Song Thrush

5.4 Region: Yorkshire and the Humber

5.4 REGION: YORKSHIRE AND THE HUMBER

Overall, six of the 10-km squares that include the site fall in Yorkshire and the Humber, accounting for 3% of 10-km squares in Yorkshire and the Humber. According to *Bird Atlas* data, these squares support between 0.7% and 50% of the geographic range in Yorkshire and the Humber of all the species considered (breeding and winter combined). In terms of abundance, these squares represent between 0% and 100% of the total population size in Yorkshire and the Humber. **Notable species** for Yorkshire and the Humber are listed below, with those on the **BoCC Red List** and **BoCC Amber List** highlighted in corresponding colour:

- Breeding range, nine species: **Gadwall**, **Pochard**, **Herring Gull**, **Little Tern**, Little Egret, Hobby, Ring-necked Parakeet, Cetti's Warbler, **Black Redstart**
- Winter range, 49 species: **Brent Goose**, **Bewick's Swan**, **Eider**, **Velvet Scoter**, **Common Scoter**, **Long-tailed Duck**, **Smew**, **Red-necked Grebe**, **Slavonian Grebe**, **Avocet**, **Grey Plover**, **Ringed Plover**, **Bar-tailed Godwit**, **Black-tailed Godwit**, **Turnstone**, **Knot**, **Ruff**, **Sanderling**, **Dunlin**, **Purple Sandpiper**, **Grey Phalarope**, **Green Sandpiper**, **Spotted Redshank**, **Greenshank**, **Kittiwake**, **Little Gull**, **Mediterranean Gull**, **Caspian Gull**, **Yellow-legged Gull**, **Pomarine Skua**, **Arctic Skua**, **Little Auk**, **Guillemot**, **Red-throated Diver**, **Gannet**, **Shag**, **Cattle Egret**, **Great White Egret**, **Little Egret**, **Marsh Harrier**, **Ring-necked Parakeet**, **Hooded Crow**, **Bearded Tit**, **Shore Lark**, **Yellow-browed Warbler**, **Ring Ouzel**, **Water Pipit**, **Rock Pipit**, **Lapland Bunting**
- Breeding abundance, 11 species: **Shelduck**, **Stock Dove**, **Woodpigeon**, **Oystercatcher**, **Ringed Plover**, **Redshank**, **Short-eared Owl**, **Swallow**, **Lesser Whitethroat**, **Yellow Wagtail**, **Corn Bunting**
- Winter abundance, 34 species: **Brent Goose**, **Barnacle Goose**, **Shelduck**, **Red-legged Partridge**, **Little Grebe**, **Oystercatcher**, **Lapwing**, **Golden Plover**, **Grey Plover**, **Ringed Plover**, **Curlew**, **Bar-tailed Godwit**, **Black-tailed Godwit**, **Knot**, **Sanderling**, **Dunlin**, **Jack Snipe**, **Snipe**, **Green Sandpiper**, **Redshank**, **Greenshank**, **Black-headed Gull**, **Little Gull**, **Common Gull**, **Great Black-backed Gull**, **Little Egret**, **Merlin**, **Peregrine**, **Pied/White Wagtail**, **Rock Pipit**, **Twite**, **Snow Bunting**, **Corn Bunting**, **Yellowhammer**

Between 1988–91 and 2008–11, there were 51 species for which relative abundance increased more (or decreased less) at/near the site compared to the relative abundance changes apparent across the rest of Yorkshire and the Humber. The ten species with the most positive difference in trend between site and region are listed below and all species can be seen in Figure 5.4 in Appendix 5.

- **Grey Partridge**, **Pheasant**, **Redshank**, **Magpie**, **Rook**, **Whitethroat**, **Mistle Thrush**, **Tree Sparrow**, **Pied/White Wagtail**, **Linnet**

There were 44 species for which the opposite was the case, i.e. that they were declining more (or increasing less) at/near the site compared to the rest of Yorkshire and the Humber. The ten species with the most negative difference in trend between site and region were:

- **Turtle Dove**, **Curlew**, **Tawny Owl**, **Green Woodpecker**, **Hobby**, **Sand Martin**, **Willow Warbler**, **Sedge Warbler**, **Song Thrush**, **Spotted Flycatcher**

5.5 County: Lincolnshire

Overall, 11 of the 10-km squares that include the site fall in Lincolnshire, accounting for 12% of 10-km squares in Lincolnshire. According to *Bird Atlas* data, these squares support between 2% and 80% of the geographic range in Lincolnshire of all the species considered (breeding and winter combined). In terms of abundance, these squares represent between 0.8% and 100% of the total population size in Lincolnshire. **Notable species** for Lincolnshire are listed below, with those on the **BoCC Red List** and **BoCC Amber List** highlighted in corresponding colour:

- Breeding range, five species: **Little Tern**, **Goshawk**, **Short-eared Owl**, **Ring-necked Parakeet**, **Black Redstart**
- Winter range, 49 species: **Taiga/Tundra Bean Goose**, **Eider**, **Velvet Scoter**, **Common Scoter**, **Long-tailed Duck**, **Red-breasted Merganser**, **Avocet**, **Grey Plover**, **Bar-tailed Godwit**, **Black-tailed Godwit**, **Turnstone**, **Knot**, **Sanderling**, **Dunlin**, **Purple Sandpiper**, **Grey Phalarope**, **Spotted Redshank**, **Kittiwake**, **Little Gull**, **Mediterranean Gull**, **Great Skua**, **Pomarine Skua**, **Arctic Skua**, **Little Auk**, **Guillemot**, **Puffin**, **Red-throated Diver**, **Black-throated Diver**, **Great Northern Diver**, **Fulmar**, **Gannet**, **Shag**, **Spoonbill**, **Cattle Egret**, **Goshawk**, **Ring-necked Parakeet**, **Hooded Crow**, **Shore Lark**, **Swallow**, **Pallas's Warbler**, **Lesser Whitethroat**, **Ring Ouzel**, **Black Redstart**, **Wheatear**, **Dipper**, **Richard's Pipit**, **Water Pipit**, **Lapland Bunting**, **Snow Bunting**
- Breeding abundance, eight species: **Shelduck**, **Teal**, **Oystercatcher**, **Ringed Plover**, **Redshank**, **Short-eared Owl**, **Swallow**, **Lesser Whitethroat**
- Winter abundance, 30 species: **Barnacle Goose**, **Eider**, **Long-tailed Duck**, **Goldeneye**, **Stock Dove**, **Great Crested Grebe**, **Lapwing**, **Golden Plover**, **Grey Plover**, **Bar-tailed Godwit**, **Black-tailed Godwit**, **Sanderling**,

Dunlin, Jack Snipe, Grey Phalarope, Redshank, Kittiwake, Little Gull, Common Gull, Great Black-backed Gull, Herring Gull, Red-throated Diver, Cormorant, Little Egret, Peregrine, Water Pipit, Rock Pipit, Siskin, Lapland Bunting, Snow Bunting

Between 1988–91 and 2008–11, there were 48 species for which relative abundance increased more (or decreased less) at/near the site compared to the relative abundance changes apparent across the rest of Lincolnshire. The ten species with the most positive difference in trend between site and region are listed below and all species can be seen in Figure 5.5 in Appendix 5.

- Canada Goose, Shelduck, Mallard, Pheasant, Moorhen, Ringed Plover, Redshank, Short-eared Owl, Mistle Thrush, Tree Sparrow

There were 50 species for which the opposite was the case, i.e. that they were declining more (or increasing less) at/near the site compared to the rest of Lincolnshire. The ten species with the most negative difference in trend between site and region were:

- Pochard, Curlew, Tawny Owl, Green Woodpecker, Kestrel, Carrion Crow, Sand Martin, Willow Warbler, Blackcap, Yellow Wagtail

5.6 Vice-county: North Lincolnshire

Overall, 11 of the 10-km squares that include the site fall in North Lincolnshire, accounting for 18% of 10-km squares in North Lincolnshire. According to *Bird Atlas* data, these squares support between 3% and 100% of the geographic range in North Lincolnshire of all the species considered (breeding and winter combined). In terms of abundance, these squares represent between 1.3% and 100% of the total population size in North Lincolnshire. **Notable species** for North Lincolnshire are listed below, with those on the **BoCC Red List** and **BoCC Amber List** highlighted in corresponding colour:

- Breeding range, three species: Goshawk, Ring-necked Parakeet, Black Redstart
- Winter range, 27 species: Taiga/Tundra Bean Goose, Velvet Scoter, Knot, Sanderling, Purple Sandpiper, Kittiwake, Little Gull, Great Skua, Pomarine Skua, Little Auk, Guillemot, Black-throated Diver, Great Northern Diver, Gannet, Shag, Spoonbill, Cattle Egret, Goshawk, Ring-necked Parakeet, Hooded Crow, Shore Lark, Swallow, Firecrest, Ring Ouzel, Black Redstart, Dipper, Richard's Pipit
- Breeding abundance, five species: Shelduck, Oystercatcher, Ringed Plover, Short-eared Owl, Nuthatch
- Winter abundance, 22 species: Barnacle Goose, Eider, Long-tailed Duck, Goldeneye, Stock Dove, Great Crested Grebe, Bar-tailed Godwit, Black-tailed Godwit, Sanderling, Jack Snipe, Grey Phalarope, Kittiwake, Little Gull, Great Black-backed Gull, Herring Gull, Red-throated Diver, Cormorant, Water Pipit, Rock Pipit, Siskin, Lapland Bunting, Snow Bunting

Between 1988–91 and 2008–11, there were 48 species for which relative abundance increased more (or decreased less) at/near the site compared to the relative abundance changes apparent across the rest of North Lincolnshire. The ten species with the most positive difference in trend between site and region are listed below and all species can be seen in Figure 5.6 in Appendix 5.

- Canada Goose, Shelduck, Mallard, Pheasant, Moorhen, Ringed Plover, Redshank, Short-eared Owl, Lesser Whitethroat, Mistle Thrush

There were 50 species for which the opposite was the case, i.e. that they were declining more (or increasing less) at/near the site compared to the rest of North Lincolnshire. The ten species with the most negative difference in trend between site and region were:

- Garganey, Pochard, Ruddy Duck, Turtle Dove, Curlew, Tawny Owl, Green Woodpecker, Carrion Crow, Sand Martin, Yellow Wagtail

APPENDICES

Appendix 1. Contextual maps

Maps of the site with reference to geographical context areas at different scales, and for different sized grids used for data extraction. Note that for some of the larger context areas the site may be too small to see on the map.

Country

Country = UK, Isle of Man and Channel Islands, England



Region

Region = East Midlands, Yorkshire and the Humber



County

County = Lincolnshire



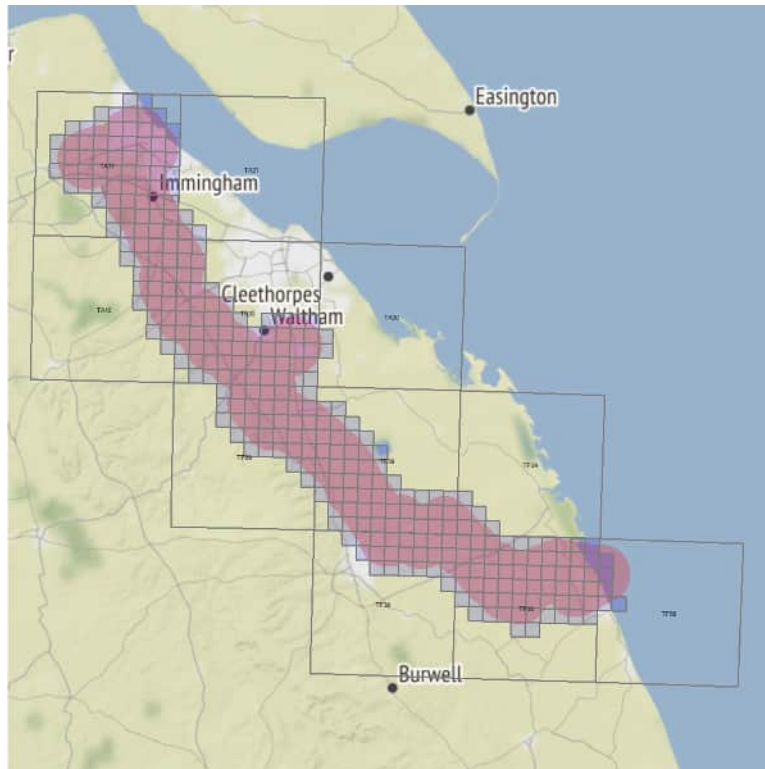
Vice-county

Vice-county = North Lincolnshire



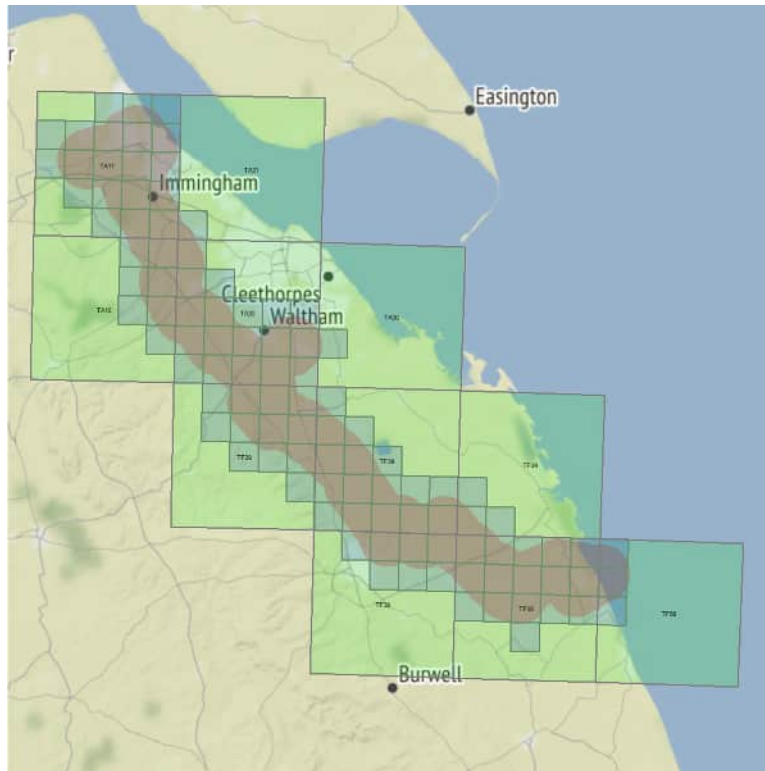
Site with 1-km squares

Three hundred thirty-six relevant 1-km squares (too many to list).



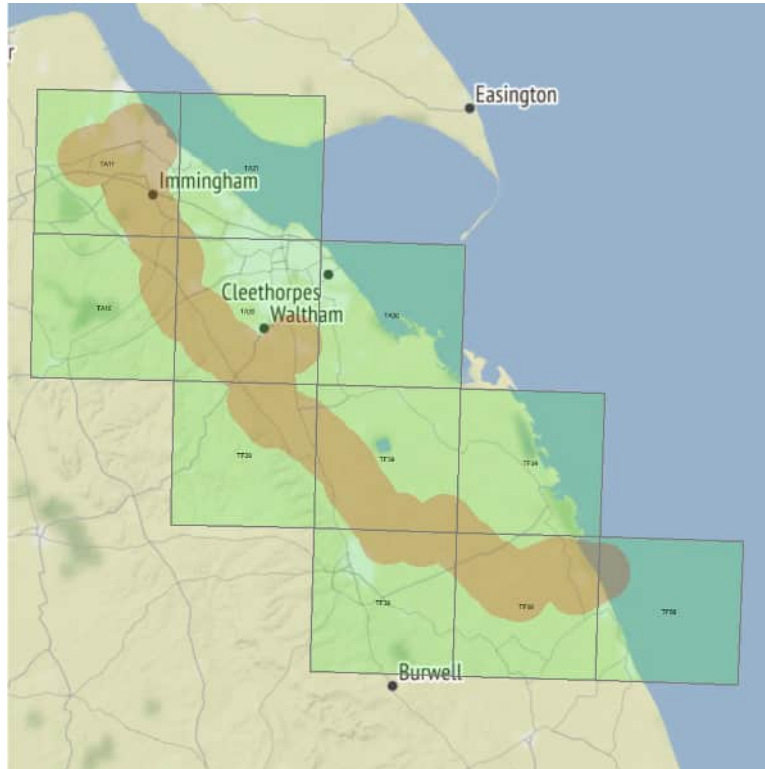
Site with tetrads

One hundred four relevant tetrads (too many to list).



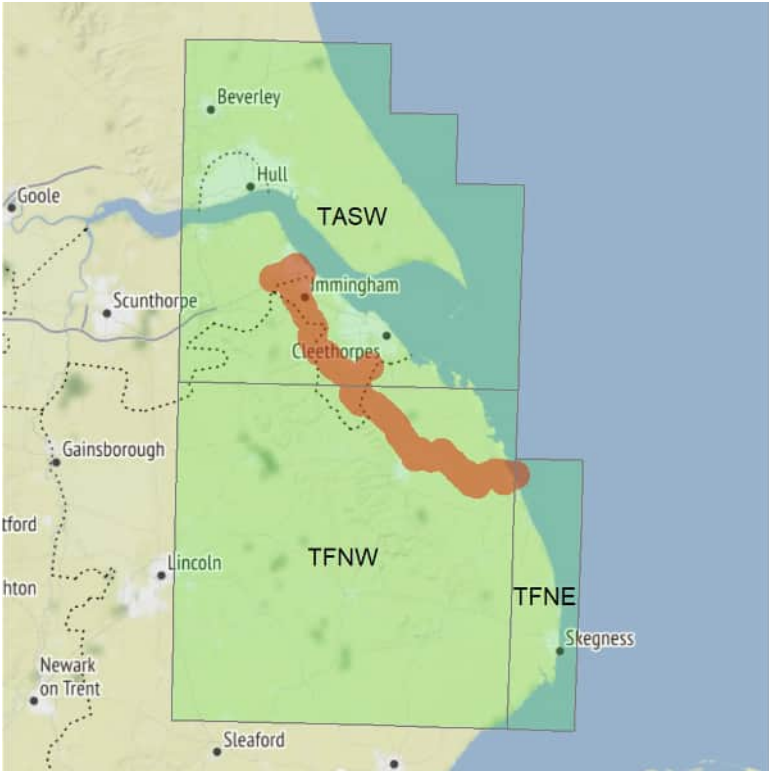
Site with 10-km squares

Eleven relevant 10-km squares : TA10, TA11, TA20, TA21, TA30, TF29, TF38, TF39, TF48, TF49, TF58



Site with 50-km squares

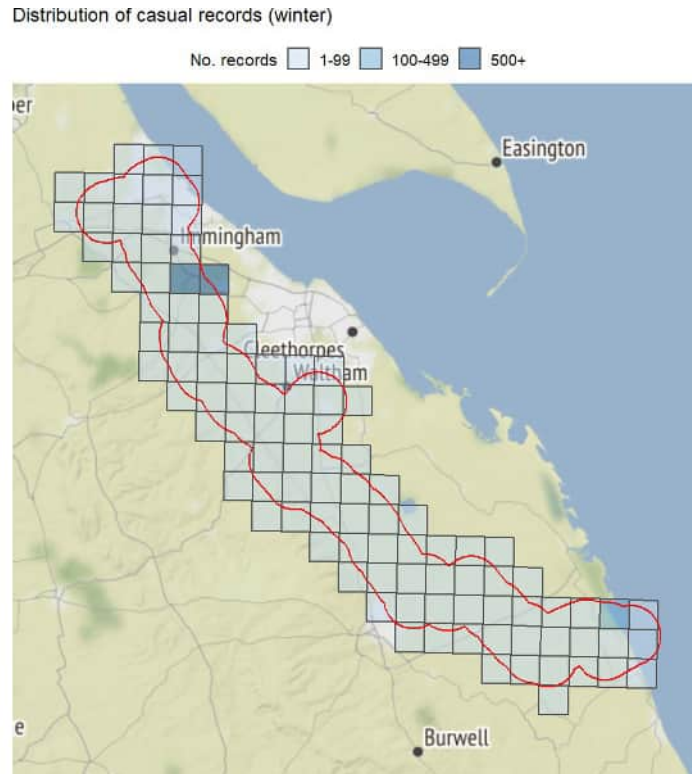
Three relevant 50-km squares : TASW, TFNE, TFNW



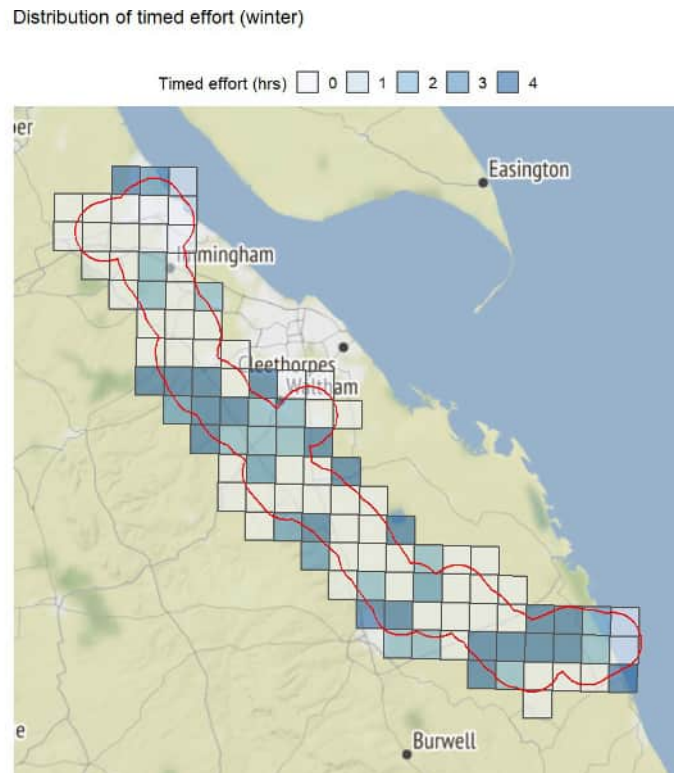
Appendix 2. Additional coverage maps

Atlas winter coverage

Map of unstructured Bird Atlas coverage in winter

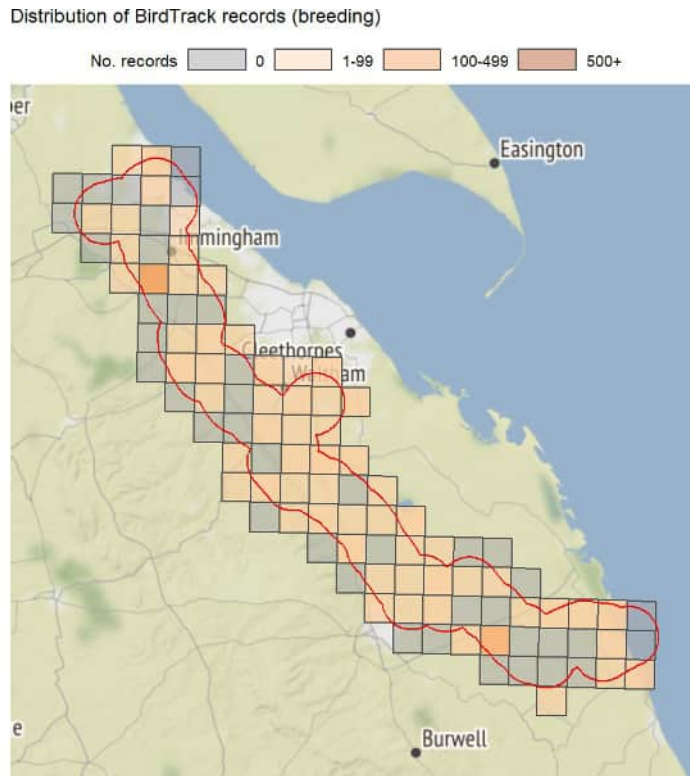


Map of structured Bird Atlas coverage in winter

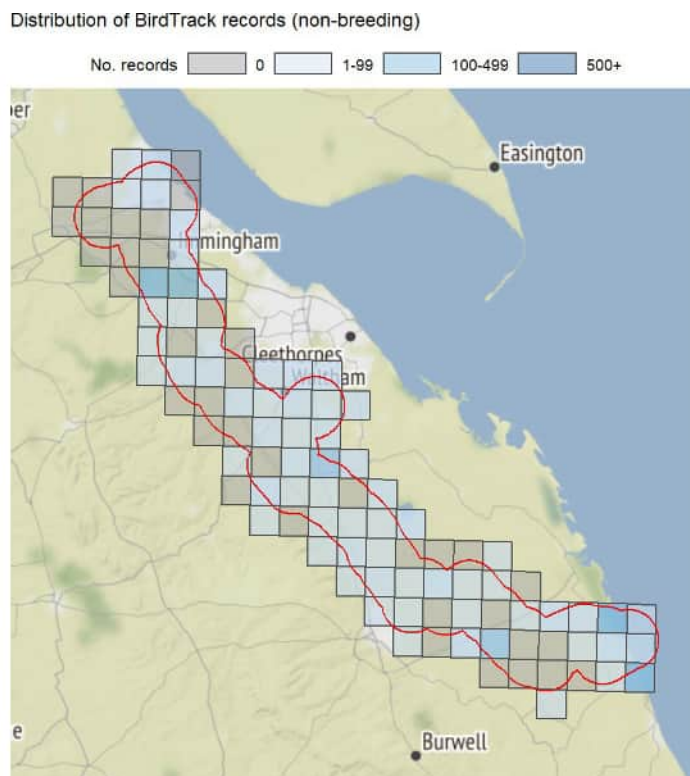


BirdTrack coverage

Map of BirdTrack recording effort in the breeding season. Grey shading indicates no sites centred in the tetrad, although sites from bordering tetrads may have extended into the tetrad.



Map of BirdTrack recording effort in the non-breeding season. Grey shading indicates no sites centred in the tetrad, although sites from bordering tetrads may have extended into the tetrad.



Appendix 3. Species list 2007–11

Feature column heading abbreviations: S1 = Schedule 1 UK; A1 = Annex 1; Amber, Red = BoCC5 Amber and Red list; CR, EN, NT, VU = GB IUCN2 Critically Endangered, Endangered, Near Threatened and Vulnerable; S41E = Section 41 England; SZA1EW = Schedule ZA1 England & Wales; S1AS = Schedule 1A Scotland; SA1S = Schedule A1 Scotland; SBL = Scottish Biodiversity List; S7W = Section 7 Wales.

Breeding season

Code	Species	S1	Red	Amber	CR	EN	NT	VU	A1	RBBP	S41E	SZA1EW	Tetrad	10-km/20-km/50-km
CG	Canada Goose												Confirmed	Confirmed
GJ	Greylag Goose			Y									Confirmed	Confirmed
MS	Mute Swan												Confirmed	Confirmed
SU	Shelduck			Y		Y							Confirmed	Confirmed
MN	Mandarin Duck													Possible
GY	Garganey		Y	Y		Y				Y				Probable
SV	Shoveler			Y						Y			Confirmed	Confirmed
GA	Gadwall			Y									Probable	Confirmed
MA	Mallard			Y				Y					Confirmed	Confirmed
T.	Teal			Y									Confirmed	Confirmed
PO	Pochard		Y			Y				Y				Probable
TU	Tufted Duck							Y					Confirmed	Confirmed
RY	Ruddy Duck												Possible	Confirmed
P.	Grey Partridge		Y					Y			Y		Confirmed	Confirmed
PH	Pheasant												Confirmed	Confirmed
Q.	Quail		Y	Y		Y				Y			Possible	Probable
RL	Red-legged Partridge												Confirmed	Confirmed
SI	Swift		Y			Y							Confirmed	Confirmed
CK	Cuckoo		Y								Y		Confirmed	Confirmed
DV	Rock Dove												Confirmed	Confirmed
SD	Stock Dove			Y									Confirmed	Confirmed
WP	Woodpigeon			Y									Confirmed	Confirmed
TD	Turtle Dove		Y		Y					Y	Y		Confirmed	Confirmed
CD	Collared Dove						Y						Confirmed	Confirmed
WA	Water Rail												Possible	Confirmed
MH	Moorhen			Y				Y					Confirmed	Confirmed
CO	Coot							Y					Confirmed	Confirmed
LG	Little Grebe												Confirmed	Confirmed
GG	Great Crested Grebe													Confirmed
OC	Oystercatcher			Y				Y					Confirmed	Confirmed
AV	Avocet		Y	Y					Y	Y			Confirmed	Confirmed
L.	Lapwing		Y					Y			Y		Confirmed	Confirmed
RP	Ringed Plover		Y					Y						Confirmed
LP	Little Ringed Plover		Y							Y			Probable	Probable
CU	Curlew		Y			Y					Y		Possible	Probable
SN	Snipe			Y				Y						Probable
RK	Redshank			Y				Y					Probable	Confirmed
BH	Black-headed Gull			Y				Y						Confirmed
HG	Herring Gull		Y			Y					Y			Confirmed
LB	Lesser Black-backed Gull			Y										Probable

Code	Species	S1	Red	Amber	CR	EN	NT	VU	A1	RBBP	S41E	SZA1EW	Tetrad	10-km/20-km/50-km
AF	Little Tern	Y		Y				Y	Y	Y				Confirmed
CN	Common Tern			Y			Y		Y				Probable	Probable
H.	Grey Heron							Y					Possible	Confirmed
ET	Little Egret								Y	Y				Confirmed
SH	Sparrowhawk			Y				Y					Confirmed	Confirmed
GI	Goshawk	Y					Y			Y				Probable
MR	Marsh Harrier	Y		Y					Y	Y				Confirmed
MO	Montagu's Harrier	Y	Y		Y				Y	Y				Confirmed (50-km)
BZ	Buzzard												Confirmed	Confirmed
BO	Barn Owl	Y											Confirmed	Confirmed
LO	Little Owl												Confirmed	Confirmed
SE	Short-eared Owl			Y		Y			Y	Y				Probable
TO	Tawny Owl			Y			Y						Confirmed	Confirmed
KF	Kingfisher	Y						Y	Y				Confirmed	Confirmed
LS	Lesser Spotted Woodpecker		Y			Y				Y	Y		Possible	Possible
GS	Great Spotted Woodpecker												Confirmed	Confirmed
G.	Green Woodpecker						Y						Confirmed	Confirmed
K.	Kestrel			Y				Y					Confirmed	Confirmed
HY	Hobby	Y					Y			Y				Confirmed
PE	Peregrine	Y							Y	Y				Confirmed
RI	Ring-necked Parakeet													Confirmed
J.	Jay												Probable	Confirmed
MG	Magpie												Confirmed	Confirmed
JD	Jackdaw												Confirmed	Confirmed
RO	Rook			Y			Y						Confirmed	Confirmed
C.	Carrion Crow												Confirmed	Confirmed
CT	Coal Tit												Confirmed	Confirmed
WT	Willow Tit		Y			Y				Y	Y			Confirmed
BT	Blue Tit												Confirmed	Confirmed
GT	Great Tit												Confirmed	Confirmed
S.	Skylark		Y								Y		Confirmed	Confirmed
SM	Sand Martin												Confirmed	Confirmed
SL	Swallow							Y					Confirmed	Confirmed
HM	House Martin		Y				Y						Confirmed	Confirmed
CW	Cetti's Warbler	Y												Probable
LT	Long-tailed Tit												Confirmed	Confirmed
WW	Willow Warbler			Y									Confirmed	Confirmed
CC	Chiffchaff												Confirmed	Confirmed
SW	Sedge Warbler			Y			Y						Confirmed	Confirmed
RW	Reed Warbler												Confirmed	Confirmed
GH	Grasshopper Warbler		Y								Y		Confirmed	Confirmed
BC	Blackcap												Confirmed	Confirmed
GW	Garden Warbler												Probable	Confirmed
LW	Lesser Whitethroat												Confirmed	Confirmed
WH	Whitethroat			Y									Confirmed	Confirmed
GC	Goldcrest												Confirmed	Confirmed
WR	Wren			Y									Confirmed	Confirmed
NH	Nuthatch												Confirmed	Confirmed
TC	Treecreeper												Confirmed	Confirmed
SG	Starling		Y					Y			Y		Confirmed	Confirmed

Code	Species	S1	Red	Amber	CR	EN	NT	VU	A1	RBBP	S41E	SZA1EW	Tetrad	10-km/20-km/50-km
ST	Song Thrush			Y							Y		Confirmed	Confirmed
M.	Mistle Thrush		Y				Y						Confirmed	Confirmed
B.	Blackbird												Confirmed	Confirmed
SF	Spotted Flycatcher		Y				Y				Y		Confirmed	Confirmed
R.	Robin												Confirmed	Confirmed
N.	Nightingale		Y					Y						Possible
BX	Black Redstart		Y	Y				Y		Y				Probable
SC	Stonechat													Probable
TS	Tree Sparrow		Y					Y			Y		Confirmed	Confirmed
HS	House Sparrow		Y								Y		Confirmed	Confirmed
D.	Dunnock			Y							Y		Confirmed	Confirmed
YW	Yellow Wagtail		Y				Y				Y		Confirmed	Confirmed
GL	Grey Wagtail			Y			Y						Confirmed	Confirmed
PW	Pied Wagtail												Confirmed	Confirmed
MP	Meadow Pipit			Y									Confirmed	Confirmed
CH	Chaffinch					Y							Confirmed	Confirmed
BF	Bullfinch			Y							Y		Confirmed	Confirmed
GR	Greenfinch		Y			Y							Confirmed	Confirmed
LI	Linnet		Y								Y		Confirmed	Confirmed
GO	Goldfinch												Confirmed	Confirmed
SK	Siskin													Possible
CB	Corn Bunting		Y				Y				Y		Probable	Confirmed
Y.	Yellowhammer		Y								Y		Confirmed	Confirmed
RB	Reed Bunting			Y							Y		Confirmed	Confirmed

Winter

Code	Species	S1	Red	Amber	CR	EN	NT	VU	A1	RBBP	S41E	SZA1EW	Tetrad	10-km/20-km/50-km
BG	Brent Goose			Y							Y		Present	Present
CG	Canada Goose												Present	Present
BY	Barnacle Goose			Y					Y				Present	Present
GJ	Greylag Goose			Y									Present	Present
PG	Pink-footed Goose			Y						Y			Present	Present
BE	Taiga/Tundra Bean Goose			Y		Y								Present
WG	White-fronted Goose		Y			Y					Y		Present	Present
MS	Mute Swan												Present	Present
BS	Bewick's Swan		Y	Y		Y			Y	Y	Y		Present	Present
WS	Whooper Swan		Y		Y	Y			Y	Y			Present	Present
EG	Egyptian Goose												Present	Present
SU	Shelduck			Y		Y							Present	Present
MN	Mandarin Duck												Present	Present
SV	Shoveler			Y						Y			Present	Present
GA	Gadwall			Y									Present	Present
WN	Wigeon			Y				Y		Y			Present	Present
MA	Mallard			Y				Y					Present	Present
PT	Pintail			Y	Y					Y			Present	Present
T.	Teal			Y									Present	Present
TA	Green-winged Teal									Y				Present
PO	Pochard		Y			Y				Y			Present	Present
TU	Tufted Duck							Y					Present	Present
SP	Scaup		Y	Y		Y				Y	Y		Present	Present
E.	Eider			Y		Y							Present	Present
VS	Velvet Scoter		Y	Y				Y		Y			Present	Present
CX	Common Scoter		Y	Y		Y				Y	Y		Present	Present
LN	Long-tailed Duck		Y	Y			Y			Y			Present	Present
GN	Goldeneye		Y					Y		Y			Present	Present
SY	Smew		Y		Y				Y	Y			Present	Present
GD	Goosander												Present	Present
RM	Red-breasted Merganser			Y				Y		Y			Present	Present
RY	Ruddy Duck												Present	Present
P.	Grey Partridge		Y					Y			Y		Present	Present
PH	Pheasant												Present	Present
RL	Red-legged Partridge												Present	Present
DV	Rock Dove												Present	Present
SD	Stock Dove			Y									Present	Present
WP	Woodpigeon			Y									Present	Present
CD	Collared Dove						Y						Present	Present
WA	Water Rail												Present	Present
MH	Moorhen			Y				Y					Present	Present
CO	Coot							Y					Present	Present
LG	Little Grebe												Present	Present
RX	Red-necked Grebe		Y		Y					Y				Present
GG	Great Crested Grebe												Present	Present
SZ	Slavonian Grebe		Y	Y		Y			Y	Y				Present
OC	Oystercatcher			Y				Y					Present	Present

Code	Species	S1	Red	Amber	CR	EN	NT	VU	A1	RBBP	S41E	SZA1EW	Tetrad	10-km/20-km/50-km
AV	Avocet	Y		Y					Y	Y			Present	Present
L.	Lapwing		Y					Y			Y		Present	Present
GP	Golden Plover								Y				Present	Present
GV	Grey Plover			Y				Y					Present	Present
RP	Ringed Plover		Y					Y					Present	Present
WM	Whimbrel	Y	Y			Y				Y				Present
CU	Curlew		Y			Y					Y		Present	Present
BA	Bar-tailed Godwit			Y				Y	Y	Y			Present	Present
BW	Black-tailed Godwit	Y	Y			Y				Y			Present	Present
TT	Turnstone			Y				Y	Y					Present
KN	Knot			Y									Present	Present
RU	Ruff	Y	Y		Y				Y	Y			Present	Present
SS	Sanderling			Y						Y			Present	Present
DN	Dunlin		Y					Y	Y				Present	Present
PS	Purple Sandpiper	Y	Y		Y					Y			Present	Present
LX	Little Stint													Present
WK	Woodcock		Y					Y					Present	Present
JS	Jack Snipe									Y			Present	Present
SN	Snipe			Y				Y					Present	Present
PL	Grey Phalarope												Present	Present
GE	Green Sandpiper	Y		Y	Y					Y			Present	Present
RK	Redshank			Y				Y					Present	Present
DR	Spotted Redshank			Y		Y								Present
GK	Greenshank	Y		Y						Y				Present
KI	Kittiwake		Y		Y									Present
BH	Black-headed Gull			Y				Y					Present	Present
LU	Little Gull	Y							Y	Y				Present
MU	Mediterranean Gull	Y		Y					Y	Y			Present	Present
CM	Common Gull			Y									Present	Present
GB	Great Black-backed Gull			Y		Y							Present	Present
GZ	Glaucous Gull			Y				Y	Y					Present
HG	Herring Gull		Y			Y					Y		Present	Present
YC	Caspian Gull			Y				Y						Present
YG	Yellow-legged Gull			Y		Y				Y				Present
LB	Lesser Black-backed Gull			Y									Present	Present
NX	Great Skua			Y									Present	Present
PK	Pomarine Skua													Present
AC	Arctic Skua		Y		Y					Y			Present	Present
LK	Little Auk												Present	Present
GU	Guillemot			Y									Present	Present
PU	Puffin		Y											Present
RH	Red-throated Diver	Y					Y		Y	Y			Present	Present
BV	Black-throated Diver	Y		Y				Y	Y	Y			Present	Present
ND	Great Northern Diver	Y		Y					Y	Y			Present	Present
F.	Fulmar			Y									Present	Present
GX	Gannet			Y									Present	Present
CA	Cormorant						Y						Present	Present
SA	Shag		Y			Y							Present	Present
NB	Spoonbill	Y		Y				Y	Y	Y				Present
BI	Bittern	Y		Y				Y	Y	Y	Y		Present	Present

Code	Species	S1	Red	Amber	CR	EN	NT	VU	A1	RBBP	S41E	SZA1EW	Tetrad	10-km/20-km/50-km
EC	Cattle Egret			Y				Y		Y			Present	Present
H.	Grey Heron							Y					Present	Present
HW	Great White Egret			Y		Y			Y	Y				Present
ET	Little Egret								Y	Y			Present	Present
SH	Sparrowhawk			Y				Y					Present	Present
GI	Goshawk	Y					Y			Y				Present
MR	Marsh Harrier	Y		Y					Y	Y				Present
HH	Hen Harrier	Y	Y			Y			Y	Y	Y		Present	Present
KT	Red Kite	Y							Y					Present
RF	Rough-legged Buzzard									Y			Present	Present
BZ	Buzzard												Present	Present
BO	Barn Owl	Y											Present	Present
LO	Little Owl												Present	Present
LE	Long-eared Owl									Y				Present
SE	Short-eared Owl			Y		Y			Y	Y			Present	Present
TO	Tawny Owl			Y			Y						Present	Present
KF	Kingfisher	Y						Y	Y				Present	Present
LS	Lesser Spotted Woodpecker	Y				Y				Y	Y		Present	Present
GS	Great Spotted Woodpecker												Present	Present
G.	Green Woodpecker						Y						Present	Present
K.	Kestrel			Y				Y					Present	Present
ML	Merlin	Y	Y			Y			Y	Y			Present	Present
PE	Peregrine	Y							Y	Y			Present	Present
RI	Ring-necked Parakeet													Present
SR	Great Grey Shrike									Y				Present
J.	Jay												Present	Present
MG	Magpie												Present	Present
JD	Jackdaw												Present	Present
RO	Rook			Y			Y						Present	Present
C.	Carrion Crow												Present	Present
HC	Hooded Crow												Present	Present
RN	Raven													Present
WX	Waxwing									Y			Present	Present
CT	Coal Tit												Present	Present
WT	Willow Tit		Y			Y				Y	Y		Present	Present
BT	Blue Tit												Present	Present
GT	Great Tit												Present	Present
BR	Bearded Tit	Y								Y			Present	Present
WL	Woodlark	Y							Y	Y	Y			Present
S.	Skylark		Y								Y		Present	Present
SX	Shore Lark	Y		Y		Y				Y			Present	Present
SL	Swallow							Y					Present	Present
HM	House Martin		Y				Y							Present
LT	Long-tailed Tit												Present	Present
YB	Yellow-browed Warbler			Y		Y								Present
PA	Pallas's Warbler													Present
CC	Chiffchaff												Present	Present
BC	Blackcap												Present	Present
LW	Lesser Whitethroat													Present
FC	Firecrest	Y											Present	Present

Code	Species	S1	Red	Amber	CR	EN	NT	VU	A1	RBBP	S41E	SZA1EW	Tetrad	10-km/20-km/50-km
GC	Goldcrest												Present	Present
WR	Wren			Y									Present	Present
NH	Nuthatch												Present	Present
TC	Treecreeper												Present	Present
SG	Starling		Y					Y			Y		Present	Present
ST	Song Thrush			Y							Y		Present	Present
M.	Mistle Thrush		Y				Y						Present	Present
RE	Redwing	Y		Y	Y					Y			Present	Present
B.	Blackbird												Present	Present
FF	Fieldfare	Y	Y		Y					Y			Present	Present
RZ	Ring Ouzel		Y				Y				Y			Present
R.	Robin												Present	Present
BX	Black Redstart	Y		Y				Y		Y				Present
SC	Stonechat												Present	Present
W.	Wheatear			Y		Y								Present
DI	Dipper			Y									Present	Present
TS	Tree Sparrow		Y					Y			Y		Present	Present
HS	House Sparrow		Y								Y		Present	Present
D.	Dunnock			Y							Y		Present	Present
GL	Grey Wagtail			Y			Y						Present	Present
PW	Pied Wagtail												Present	Present
PR	Richard's Pipit													Present
MP	Meadow Pipit			Y									Present	Present
WI	Water Pipit			Y		Y							Present	Present
RC	Rock Pipit												Present	Present
CH	Chaffinch					Y							Present	Present
BL	Brambling	Y								Y			Present	Present
HF	Hawfinch		Y			Y				Y	Y			Present
BF	Bullfinch			Y							Y		Present	Present
GR	Greenfinch		Y			Y							Present	Present
TW	Twite		Y			Y					Y		Present	Present
LI	Linnet		Y								Y		Present	Present
FR	Common Redpoll									Y			Present	Present
LR	Lesser Redpoll		Y								Y		Present	Present
FQ	Common/Lesser Redpoll													Present
CR	Common Crossbill	Y												Present
GO	Goldfinch												Present	Present
SK	Siskin												Present	Present
LA	Lapland Bunting	Y		Y				Y		Y			Present	Present
SB	Snow Bunting	Y		Y		Y				Y			Present	Present
CB	Corn Bunting		Y				Y				Y			Present
Y.	Yellowhammer		Y								Y		Present	Present
RB	Reed Bunting			Y							Y		Present	Present

Appendix 4. Species list 2019-2023

Feature column heading abbreviations: S1 = Schedule 1 UK; A1 = Annex 1; Amber, Red = BoCC5 Amber and Red list; CR, EN, NT, VU = GB IUCN2 Critically Endangered, Endangered, Near Threatened and Vulnerable; S41E = Section 41 England; SZA1EW = Schedule ZA1 England & Wales; S1AS = Schedule 1A Scotland; SA1S = Schedule A1 Scotland; SBL = Scottish Biodiversity List; S7W = Section 7 Wales.

Breeding season

Code	Species	S1	Red	Amber	CR	EN	NT	VU	A1	RBBP	S41E	SZA1EW	1-km	2-km	10-km	>10-km
CG	Canada Goose													Confirmed	Confirmed	Present
GJ	Greylag Goose			Y									Present	Confirmed	Confirmed	Confirmed
PG	Pink-footed Goose			Y						Y				Present	Present	Present
MS	Mute Swan													Confirmed	Confirmed	Probable
WS	Whooper Swan	Y		Y		Y			Y	Y				Present	Present	Present
EG	Egyptian Goose														Present	
SU	Shelduck			Y		Y								Confirmed	Confirmed	Confirmed
MN	Mandarin Duck													Present	Present	
GY	Garganey	Y		Y		Y				Y				Present	Present	Present
SV	Shoveler			Y						Y				Confirmed	Confirmed	Probable
GA	Gadwall			Y										Confirmed	Confirmed	Present
WN	Wigeon			Y				Y		Y				Present	Present	
MA	Mallard			Y				Y					Present	Confirmed	Confirmed	Probable
PT	Pintail			Y	Y					Y				Present	Present	
T.	Teal			Y										Present	Present	Present
PO	Pochard		Y			Y				Y				Present	Present	Present
TU	Tufted Duck							Y						Confirmed	Confirmed	Present
E.	Eider			Y		Y								Present	Present	Present
CX	Common Scoter	Y	Y		Y					Y	Y			Present	Present	Probable
GN	Goldeneye		Y					Y		Y				Present	Present	
GD	Goosander													Present	Present	Present
RM	Red-breasted Merganser			Y				Y		Y					Present	
P.	Grey Partridge		Y					Y			Y			Present	Present	Possible
PH	Pheasant												Present	Confirmed	Confirmed	Confirmed
Q.	Quail	Y		Y		Y				Y					Possible	Present
RL	Red-legged Partridge													Present	Present	Probable
NJ	Nightjar			Y					Y		Y					Present
SI	Swift		Y			Y							Present	Present	Confirmed	Possible
CK	Cuckoo		Y								Y			Probable	Probable	Confirmed
DV	Rock Dove													Present	Confirmed	
SD	Stock Dove			Y									Present	Confirmed	Confirmed	Confirmed
WP	Woodpigeon			Y									Present	Confirmed	Confirmed	Confirmed
TD	Turtle Dove		Y		Y					Y	Y			Possible	Possible	Probable
CD	Collared Dove						Y						Present	Probable	Probable	Probable
WA	Water Rail													Confirmed	Confirmed	Present
MH	Moorhen			Y				Y					Present	Confirmed	Confirmed	Probable
CO	Coot							Y						Present	Confirmed	Present
AN	Crane			Y				Y	Y	Y						Present
LG	Little Grebe													Present	Confirmed	Present
GG	Great Crested Grebe													Present	Confirmed	

Code	Species	S1	Red	Amber	CR	EN	NT	VU	A1	RBBP	S41E	SZA1EW	1-km	2-km	10-km	>10-km
SZ	Slavonian Grebe	Y	Y		Y			Y	Y							Present
BN	Black-necked Grebe	Y		Y		Y				Y				Present	Present	
OC	Oystercatcher			Y				Y					Confirmed	Confirmed	Present	
AV	Avocet	Y		Y					Y	Y			Confirmed	Confirmed	Confirmed	
L.	Lapwing		Y					Y			Y		Confirmed	Confirmed	Present	
GP	Golden Plover								Y						Present	
RP	Ringed Plover		Y					Y					Present	Probable	Present	
LP	Little Ringed Plover	Y								Y			Confirmed	Confirmed	Present	
DO	Dotterel	Y	Y					Y	Y	Y					Present	Present
WM	Whimbrel	Y	Y			Y				Y			Present	Present	Present	
CU	Curlew		Y			Y					Y		Present	Possible	Probable	
BW	Black-tailed Godwit	Y	Y			Y				Y			Present	Present	Present	
DN	Dunlin		Y					Y	Y				Present	Present	Present	
PS	Purple Sandpiper	Y	Y		Y					Y					Present	Present
WK	Woodcock		Y					Y					Present	Present	Present	
SN	Snipe			Y				Y					Present	Present	Present	
NK	Red-necked Phalarope	Y	Y			Y			Y	Y						Present
CS	Common Sandpiper			Y			Y						Present	Present		
GE	Green Sandpiper	Y		Y	Y					Y			Present	Present	Present	
RK	Redshank			Y				Y					Present	Confirmed		
OD	Wood Sandpiper	Y		Y		Y			Y	Y			Present	Present	Present	
GK	Greenshank	Y		Y						Y			Present	Present		
KI	Kittiwake		Y		Y										Present	Present
BH	Black-headed Gull			Y				Y					Probable	Confirmed	Present	
MU	Mediterranean Gull	Y		Y					Y	Y			Present	Present	Present	
CM	Common Gull			Y									Present	Possible	Probable	
GB	Great Black-backed Gull			Y		Y							Present	Present	Present	
HG	Herring Gull		Y			Y					Y		Present	Present	Confirmed	Present
YG	Yellow-legged Gull			Y		Y				Y					Present	
LB	Lesser Black-backed Gull			Y									Present	Present	Confirmed	Confirmed
TE	Sandwich Tern			Y					Y				Present	Present		
AF	Little Tern	Y		Y				Y	Y	Y					Confirmed	
CN	Common Tern			Y			Y		Y				Present	Present	Present	
AE	Arctic Tern			Y				Y	Y				Present	Present	Present	
NX	Great Skua			Y												Present
AC	Arctic Skua		Y		Y					Y						Present
GU	Guillemot			Y									Present	Present		
RH	Red-throated Diver	Y					Y		Y	Y			Present	Present	Present	
BV	Black-throated Diver	Y		Y				Y	Y	Y						Present
F.	Fulmar			Y											Present	Present
GX	Gannet			Y									Present	Present	Present	
CA	Cormorant						Y						Present	Confirmed	Probable	
SA	Shag		Y			Y									Present	Present
NB	Spoonbill	Y		Y				Y	Y	Y			Present	Present	Present	
LL	Little Bittern	Y		Y	Y				Y	Y			Present	Present	Present	
EC	Cattle Egret			Y				Y		Y					Present	
H.	Grey Heron							Y					Present	Present	Confirmed	Probable
UR	Purple Heron	Y							Y	Y			Present	Present	Present	
ET	Little Egret								Y	Y			Present	Confirmed	Present	
OP	Osprey	Y		Y			Y		Y	Y		Y			Present	Present

Code	Species	S1	Red	Amber	CR	EN	NT	VU	A1	RBBP	S41E	SZA1EW	1-km	2-km	10-km	>10-km	
HZ	Honey-buzzard	Y		Y		Y			Y	Y							Possible
SH	Sparrowhawk			Y				Y						Present	Confirmed		Probable
MR	Marsh Harrier	Y		Y					Y	Y				Present	Probable		Present
HH	Hen Harrier	Y	Y			Y			Y	Y	Y					Present	Present
MO	Montagu's Harrier	Y	Y		Y				Y	Y							Present
KT	Red Kite	Y							Y					Present	Present		Probable
WE	White-tailed Eagle	Y		Y		Y			Y	Y		Y					Present
BZ	Buzzard													Probable	Confirmed		Probable
BO	Barn Owl	Y											Present	Confirmed	Confirmed		Confirmed
LO	Little Owl													Present	Present		Probable
LE	Long-eared Owl									Y							Possible
SE	Short-eared Owl			Y		Y			Y	Y						Present	Present
TO	Tawny Owl			Y			Y							Confirmed	Confirmed		Present
KF	Kingfisher	Y							Y	Y				Present	Confirmed		Probable
GS	Great Spotted Woodpecker												Present	Present	Confirmed		Possible
G.	Green Woodpecker						Y							Present	Present		Present
K.	Kestrel			Y					Y				Present	Present	Confirmed		Probable
ML	Merlin	Y	Y			Y			Y	Y						Present	Present
HY	Hobby	Y					Y			Y				Present	Confirmed		Probable
PE	Peregrine	Y							Y	Y				Present	Confirmed		Probable
RI	Ring-necked Parakeet															Present	Present
ED	Red-backed Shrike	Y	Y		Y				Y	Y							Present
OL	Golden Oriole	Y								Y						Present	
J.	Jay													Present	Present		Present
MG	Magpie												Present	Possible	Probable		Confirmed
JD	Jackdaw												Present	Confirmed	Confirmed		Confirmed
RO	Rook			Y			Y						Present	Confirmed	Confirmed		Present
C.	Carrion Crow												Present	Confirmed	Confirmed		Confirmed
HC	Hooded Crow															Present	Present
RN	Raven													Present	Confirmed		Present
CT	Coal Tit												Present	Present	Possible		Possible
WT	Willow Tit		Y			Y				Y	Y					Present	Present
BT	Blue Tit												Present	Confirmed	Confirmed		Probable
GT	Great Tit												Present	Confirmed	Confirmed		Probable
BR	Bearded Tit	Y								Y						Present	
WL	Woodlark	Y							Y	Y	Y						Present
S.	Skylark		Y								Y		Present	Probable	Confirmed		Confirmed
SM	Sand Martin													Present	Present		Present
SL	Swallow							Y					Present	Confirmed	Confirmed		Probable
HM	House Martin		Y				Y						Present	Confirmed	Confirmed		Possible
CW	Cetti's Warbler	Y											Present	Possible	Possible		Probable
LT	Long-tailed Tit												Present	Probable	Confirmed		Confirmed
WO	Wood Warbler		Y						Y		Y			Present	Present		Present
WW	Willow Warbler			Y										Probable	Probable		Probable
CC	Chiffchaff												Present	Confirmed	Confirmed		Confirmed
SW	Sedge Warbler			Y			Y							Probable	Confirmed		Confirmed
RW	Reed Warbler													Probable	Probable		Possible
MW	Marsh Warbler	Y	Y		Y					Y	Y						Present
IC	Icterine Warbler									Y						Present	
GH	Grasshopper Warbler		Y								Y			Present	Possible		

Code	Species	S1	Red	Amber	CR	EN	NT	VU	A1	RBBP	S41E	SZA1EW	1-km	2-km	10-km	>10-km
BC	Blackcap												Present	Probable	Probable	Confirmed
GW	Garden Warbler													Present	Present	Probable
LW	Lesser Whitethroat												Present	Confirmed	Confirmed	Confirmed
WH	Whitethroat			Y									Present	Probable	Confirmed	Confirmed
FC	Firecrest	Y												Present	Present	
GC	Goldcrest												Present	Confirmed	Confirmed	Probable
WR	Wren			Y									Present	Confirmed	Confirmed	Confirmed
NH	Nuthatch													Present	Possible	Possible
TC	Treecreeper													Present	Confirmed	Present
SG	Starling		Y					Y			Y		Present	Confirmed	Confirmed	Confirmed
ST	Song Thrush			Y							Y		Present	Probable	Probable	Confirmed
M.	Mistle Thrush		Y				Y						Present	Possible	Confirmed	Probable
RE	Redwing	Y		Y	Y					Y				Present	Probable	Present
B.	Blackbird												Present	Confirmed	Confirmed	Confirmed
FF	Fieldfare	Y	Y		Y					Y				Present	Present	Probable
RZ	Ring Ouzel		Y				Y				Y			Present	Present	Present
SF	Spotted Flycatcher		Y				Y				Y				Possible	Present
R.	Robin												Present	Confirmed	Confirmed	Confirmed
PF	Pied Flycatcher			Y			Y							Present	Present	Present
BX	Black Redstart	Y		Y				Y		Y					Present	Present
RT	Redstart			Y											Present	Present
WC	Whinchat		Y				Y							Present	Present	Present
SC	Stonechat													Present	Probable	
W.	Wheatear			Y		Y								Present	Present	Present
TS	Tree Sparrow		Y					Y			Y		Present	Confirmed	Confirmed	Present
HS	House Sparrow		Y								Y		Present	Confirmed	Confirmed	Probable
D.	Dunnock			Y							Y		Present	Confirmed	Confirmed	Confirmed
YW	Yellow Wagtail		Y				Y				Y		Present	Present	Confirmed	Probable
GL	Grey Wagtail			Y			Y						Present	Present	Confirmed	Possible
PW	Pied Wagtail												Present	Confirmed	Confirmed	Confirmed
MP	Meadow Pipit			Y										Present	Confirmed	Probable
TP	Tree Pipit		Y								Y				Present	Present
RC	Rock Pipit													Present	Present	
CH	Chaffinch					Y							Present	Possible	Confirmed	Confirmed
BF	Bullfinch			Y							Y		Present	Possible	Confirmed	Probable
GR	Greenfinch		Y			Y							Present	Probable	Confirmed	Confirmed
TW	Twite		Y			Y					Y			Present	Present	Present
LI	Linnet		Y								Y		Present	Possible	Confirmed	Confirmed
LR	Lesser Redpoll		Y								Y			Present	Present	
CR	Common Crossbill	Y													Present	
GO	Goldfinch												Present	Confirmed	Confirmed	Probable
SK	Siskin													Present	Present	Present
SB	Snow Bunting	Y		Y		Y				Y						Present
CB	Corn Bunting		Y				Y				Y			Present	Confirmed	Probable
Y.	Yellowhammer		Y								Y		Present	Possible	Confirmed	Probable
RB	Reed Bunting			Y							Y		Present	Probable	Confirmed	Probable

Non-breeding season

Code	Species	S1	Red	Amber	CR	EN	NT	VU	A1	RBBP	S41E	SZA1EW	1-km	2-km	10-km	>10-km
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Code	Species	S1	Red	Amber	CR	EN	NT	VU	A1	RBBP	S41E	SZA1EW	1-km	2-km	10-km	>10-km
BG	Brent Goose			Y							Y			Present	Present	Present
CG	Canada Goose													Present	Present	Present
BY	Barnacle Goose			Y				Y							Present	
GJ	Greylag Goose			Y										Present	Present	Present
PG	Pink-footed Goose			Y					Y					Present	Present	Present
WG	White-fronted Goose		Y			Y					Y			Present	Present	Present
MS	Mute Swan													Present	Present	Present
BS	Bewick's Swan	Y	Y		Y			Y	Y	Y				Present	Present	Present
WS	Whooper Swan	Y		Y		Y		Y	Y					Present	Present	Present
EG	Egyptian Goose													Present	Present	Present
SU	Shelduck			Y		Y								Present	Present	Present
MN	Mandarin Duck														Present	Present
GY	Garganey	Y		Y		Y			Y					Present	Present	Present
SV	Shoveler			Y						Y				Present	Present	Present
GA	Gadwall			Y										Present	Present	Present
WN	Wigeon			Y				Y	Y					Present	Present	Present
MA	Mallard			Y				Y						Present	Present	Present
PT	Pintail			Y	Y					Y				Present	Present	Present
T.	Teal			Y										Present	Present	Present
PO	Pochard		Y			Y				Y				Present	Present	Present
TU	Tufted Duck							Y						Present	Present	Present
SP	Scaup	Y	Y			Y				Y	Y				Present	Present
E.	Eider			Y		Y								Present	Present	Present
VS	Velvet Scoter	Y	Y					Y	Y					Present	Present	Present
CX	Common Scoter	Y	Y		Y					Y	Y			Present	Present	Present
LN	Long-tailed Duck	Y	Y					Y		Y				Present	Present	Present
GN	Goldeneye		Y					Y	Y					Present	Present	Present
SY	Smew		Y		Y				Y	Y					Present	Present
GD	Goosander													Present	Present	Present
RM	Red-breasted Merganser			Y				Y	Y					Present	Present	Present
P.	Grey Partridge		Y					Y			Y			Present	Present	Present
PH	Pheasant													Present	Present	Present
RL	Red-legged Partridge													Present	Present	Present
DV	Rock Dove													Present	Present	Present
SD	Stock Dove			Y										Present	Present	Present
WP	Woodpigeon			Y										Present	Present	Present
CD	Collared Dove							Y						Present	Present	Present
WA	Water Rail													Present	Present	Present
MH	Moorhen			Y				Y						Present	Present	Present
CO	Coot							Y						Present	Present	Present
AN	Crane			Y				Y	Y	Y					Present	
LG	Little Grebe													Present	Present	Present
RX	Red-necked Grebe		Y		Y					Y				Present	Present	Present
GG	Great Crested Grebe													Present	Present	Present
SZ	Slavonian Grebe	Y	Y		Y				Y	Y				Present	Present	Present
BN	Black-necked Grebe	Y		Y		Y				Y					Present	Present
OC	Oystercatcher			Y				Y						Present	Present	Present
AV	Avocet	Y		Y					Y	Y				Present	Present	
L.	Lapwing		Y					Y			Y			Present	Present	Present
GP	Golden Plover								Y					Present	Present	Present

Code	Species	S1	Red	Amber	CR	EN	NT	VU	A1	RBBP	S41E	SZA1EW	1-km	2-km	10-km	>10-km
GV	Grey Plover			Y				Y						Present	Present	Present
RP	Ringed Plover		Y					Y						Present	Present	Present
WM	Whimbrel	Y	Y			Y				Y				Present	Present	
CU	Curlew		Y			Y					Y			Present	Present	Present
BA	Bar-tailed Godwit			Y				Y	Y	Y				Present	Present	Present
BW	Black-tailed Godwit	Y	Y			Y				Y				Present	Present	Present
TT	Turnstone			Y				Y		Y				Present	Present	Present
KN	Knot			Y										Present	Present	Present
RU	Ruff	Y	Y		Y				Y	Y				Present	Present	
CV	Curlew Sandpiper			Y										Present	Present	Present
SS	Sanderling			Y						Y				Present	Present	Present
DN	Dunlin		Y					Y	Y					Present	Present	Present
PS	Purple Sandpiper	Y	Y		Y					Y				Present	Present	Present
LX	Little Stint													Present	Present	Present
WK	Woodcock		Y					Y						Present	Present	Present
JS	Jack Snipe									Y				Present	Present	Present
SN	Snipe			Y				Y						Present	Present	Present
PL	Grey Phalarope													Present	Present	
CS	Common Sandpiper			Y			Y							Present	Present	
GE	Green Sandpiper	Y		Y	Y					Y				Present	Present	Present
RK	Redshank			Y				Y						Present	Present	Present
DR	Spotted Redshank			Y		Y								Present	Present	Present
GK	Greenshank	Y		Y						Y				Present	Present	
KI	Kittiwake		Y		Y									Present	Present	Present
BH	Black-headed Gull			Y				Y						Present	Present	Present
LU	Little Gull	Y							Y	Y					Present	Present
MU	Mediterranean Gull	Y		Y					Y	Y				Present	Present	Present
CM	Common Gull			Y										Present	Present	Present
GB	Great Black-backed Gull			Y		Y								Present	Present	Present
GZ	Glaucous Gull			Y				Y		Y				Present	Present	Present
IG	Iceland Gull			Y			Y							Present	Present	Present
HG	Herring Gull		Y			Y					Y			Present	Present	Present
YC	Caspian Gull			Y				Y							Present	Present
YG	Yellow-legged Gull			Y		Y				Y				Present	Present	Present
LB	Lesser Black-backed Gull			Y										Present	Present	Present
TE	Sandwich Tern			Y					Y					Present	Present	Present
AE	Arctic Tern			Y				Y	Y						Present	Present
NX	Great Skua			Y										Present	Present	Present
PK	Pomarine Skua													Present	Present	Present
AC	Arctic Skua		Y		Y					Y				Present	Present	Present
LK	Little Auk													Present	Present	Present
GU	Guillemot			Y										Present	Present	Present
RA	Razorbill			Y										Present	Present	Present
TY	Black Guillemot			Y												Present
PU	Puffin		Y													Present
RH	Red-throated Diver	Y					Y		Y	Y				Present	Present	Present
BV	Black-throated Diver	Y		Y				Y	Y	Y				Present	Present	Present
ND	Great Northern Diver	Y		Y					Y	Y				Present	Present	Present
TL	Leach's Petrel	Y	Y		Y				Y						Present	
F.	Fulmar			Y											Present	Present

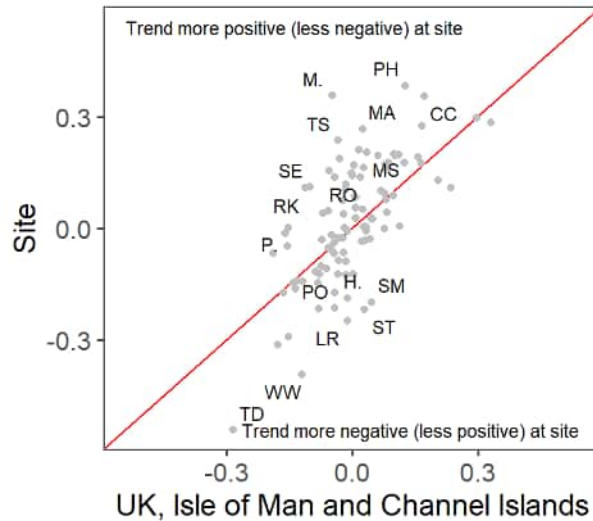
Code	Species	S1	Red	Amber	CR	EN	NT	VU	A1	RBBP	S41E	SZA1EW	1-km	2-km	10-km	>10-km
OT	Sooty Shearwater														Present	Present
MX	Marx Shearwater			Y										Present	Present	Present
GX	Gannet			Y										Present	Present	Present
CA	Cormorant						Y							Present	Present	Present
SA	Shag		Y			Y								Present	Present	Present
NB	Spoonbill	Y		Y				Y	Y	Y				Present	Present	Present
BI	Bittern	Y		Y				Y	Y	Y	Y			Present	Present	
EC	Cattle Egret			Y				Y		Y					Present	Present
H.	Grey Heron							Y						Present	Present	Present
HW	Great White Egret			Y		Y			Y	Y				Present	Present	Present
ET	Little Egret								Y	Y				Present	Present	Present
SH	Sparrowhawk			Y				Y						Present	Present	Present
MR	Marsh Harrier	Y		Y					Y	Y				Present	Present	
HH	Hen Harrier	Y	Y			Y			Y	Y	Y			Present	Present	
KT	Red Kite	Y							Y					Present	Present	Present
WE	White-tailed Eagle	Y		Y		Y			Y	Y		Y			Present	
RF	Rough-legged Buzzard									Y					Present	
BZ	Buzzard													Present	Present	Present
BO	Barn Owl	Y												Present	Present	Present
LO	Little Owl													Present	Present	Present
LE	Long-eared Owl									Y					Present	
SE	Short-eared Owl			Y		Y			Y	Y				Present	Present	Present
TO	Tawny Owl			Y			Y							Present	Present	Present
KF	Kingfisher	Y						Y	Y					Present	Present	Present
GS	Great Spotted Woodpecker													Present	Present	Present
G.	Green Woodpecker						Y							Present	Present	Present
K.	Kestrel			Y				Y						Present	Present	Present
ML	Merlin	Y	Y			Y			Y	Y				Present	Present	Present
PE	Peregrine	Y							Y	Y				Present	Present	Present
SR	Great Grey Shrike									Y					Present	Present
J.	Jay													Present	Present	Present
MG	Magpie													Present	Present	Present
JD	Jackdaw													Present	Present	Present
RO	Rook			Y			Y							Present	Present	Present
C.	Carrion Crow													Present	Present	Present
HC	Hooded Crow													Present	Present	
RN	Raven														Present	Present
WX	Waxwing									Y					Present	Present
CT	Coal Tit													Present	Present	Present
MT	Marsh Tit		Y				Y				Y				Present	
WT	Willow Tit		Y			Y				Y	Y				Present	Present
BT	Blue Tit													Present	Present	Present
GT	Great Tit													Present	Present	Present
BR	Bearded Tit	Y								Y					Present	
S.	Skylark		Y								Y			Present	Present	Present
SX	Shore Lark	Y		Y		Y				Y				Present	Present	Present
SL	Swallow							Y						Present	Present	Present
HM	House Martin		Y				Y							Present	Present	Present
CW	Cetti's Warbler	Y												Present	Present	Present
LT	Long-tailed Tit													Present	Present	Present

Code	Species	S1	Red	Amber	CR	EN	NT	VU	A1	RBBP	S41E	SZA1EW	1-km	2-km	10-km	>10-km
YB	Yellow-browed Warbler			Y		Y								Present	Present	Present
PA	Pallas's Warbler															Present
CC	Chiffchaff													Present	Present	Present
BC	Blackcap													Present	Present	
LW	Lesser Whitethroat													Present	Present	Present
FC	Firecrest		Y											Present	Present	Present
GC	Goldcrest													Present	Present	Present
WR	Wren			Y										Present	Present	Present
NH	Nuthatch													Present	Present	Present
TC	Treecreeper													Present	Present	Present
SG	Starling		Y					Y			Y			Present	Present	Present
ST	Song Thrush			Y							Y			Present	Present	Present
M.	Mistle Thrush		Y				Y							Present	Present	Present
RE	Redwing		Y	Y	Y					Y				Present	Present	Present
B.	Blackbird													Present	Present	Present
FF	Fieldfare		Y	Y		Y				Y				Present	Present	Present
RZ	Ring Ouzel		Y				Y				Y				Present	Present
R.	Robin													Present	Present	Present
BX	Black Redstart		Y	Y				Y		Y						Present
SC	Stonechat													Present	Present	Present
W.	Wheatear			Y		Y								Present	Present	Present
TS	Tree Sparrow		Y					Y			Y			Present	Present	Present
HS	House Sparrow		Y								Y			Present	Present	Present
D.	Dunnock			Y							Y			Present	Present	Present
GL	Grey Wagtail			Y			Y							Present	Present	Present
PW	Pied Wagtail													Present	Present	Present
PR	Richard's Pipit															Present
MP	Meadow Pipit			Y										Present	Present	Present
WI	Water Pipit			Y		Y									Present	Present
RC	Rock Pipit													Present	Present	Present
CH	Chaffinch					Y								Present	Present	Present
BL	Brambling		Y							Y				Present	Present	Present
HF	Hawfinch		Y			Y				Y	Y				Present	Present
BF	Bullfinch			Y							Y			Present	Present	Present
GR	Greenfinch		Y			Y								Present	Present	Present
TW	Twite		Y			Y					Y			Present	Present	Present
LI	Linnet		Y								Y			Present	Present	Present
FR	Common Redpoll									Y					Present	Present
LR	Lesser Redpoll		Y								Y				Present	Present
CR	Common Crossbill		Y												Present	Present
GO	Goldfinch													Present	Present	Present
SK	Siskin													Present	Present	Present
LA	Lapland Bunting		Y	Y				Y		Y				Present	Present	Present
SB	Snow Bunting		Y	Y		Y				Y				Present	Present	Present
CB	Corn Bunting		Y				Y				Y				Present	Present
Y.	Yellowhammer		Y								Y			Present	Present	Present
RB	Reed Bunting			Y							Y			Present	Present	Present

Appendix 5. Abundance change figures

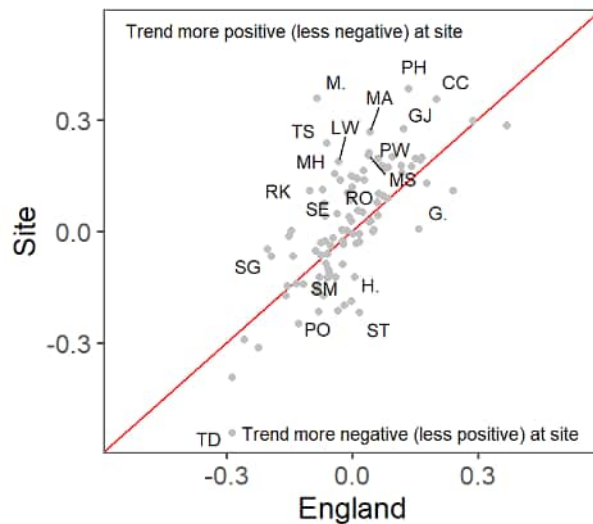
5.1 Country: UK, Isle of Man and Channel Islands

Relative abundance changes for the site and its vicinity compared to the rest of UK, Isle of Man and Channel Islands. Species above the line of equality have more positive/less negative trends at/near the site compared to the country (see Appendix 4 for species codes).



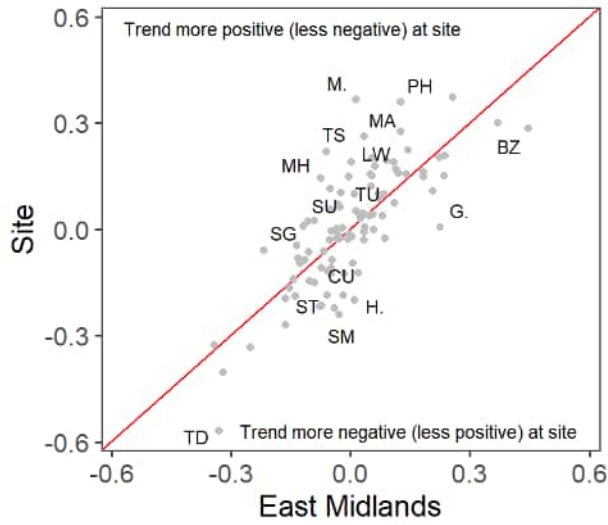
5.2 Country: England

Relative abundance changes for the site and its vicinity compared to the rest of England. Species above the line of equality have more positive/less negative trends at/near the site compared to the country (see Appendix 4 for species codes).



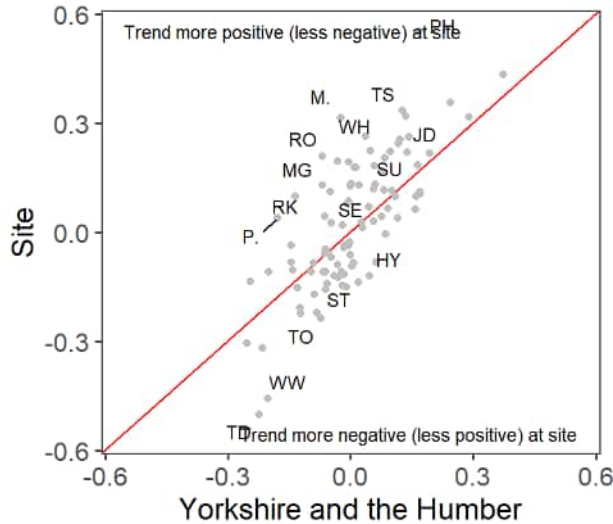
5.3 Region: East Midlands

Relative abundance changes for the site and its vicinity compared to the rest of East Midlands. Species above the line of equality have more positive/less negative trends at/near the site compared to the country (see Appendix 4 for species codes).



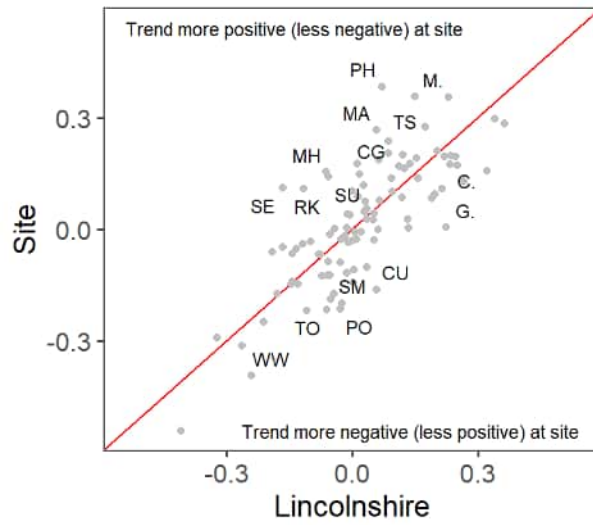
5.4 Region: Yorkshire and the Humber

Relative abundance changes for the site and its vicinity compared to the rest of Yorkshire and the Humber. Species above the line of equality have more positive/less negative trends at/near the site compared to the country (see Appendix 4 for species codes).



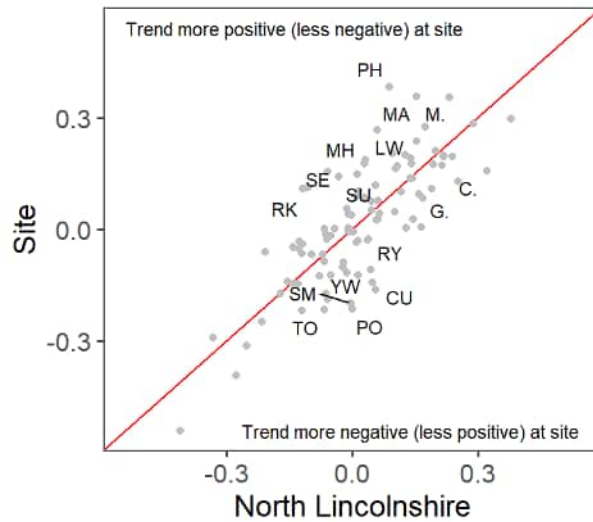
5.5 County: Lincolnshire

Relative abundance changes for the site and its vicinity compared to the rest of Lincolnshire. Species above the line of equality have more positive/less negative trends at/near the site compared to the country (see Appendix 4 for species codes).



5.6 Vice-county: North Lincolnshire

Relative abundance changes for the site and its vicinity compared to the rest of North Lincolnshire. Species above the line of equality have more positive/less negative trends at/near the site compared to the country (see Appendix 4 for species codes).





Images: Landscape, Simon Gillings; Barn Owl, Liz Cutting

BTO Data Report

BTO Data Reports provide rigorous scientific information to inform desk studies for ecological impact assessment of proposed development sites. Reports collate comprehensive and contemporary bird distribution and abundance data from the BTO's ornithological datasets. As most biological data are collected in grid squares, spatial analyses identify which grid squares can be associated with the site and its vicinity at different spatial scales. Reports lists all species present at or near the site in the breeding season and in winter, highlighting those of statutory or conservation importance (e.g. Schedule 1, Red List). They also assess the potential importance of the site across a local, regional and national context, listing species for which the site and vicinity account for a high proportion of local, regional or national geographical range and population size.

BTO Data Reports provide unique insights into the bird community present in the vicinity of potential development sites, helping to guide the need for detailed field surveys and highlighting potential priorities for delivering habitat mitigation, enhancement and biodiversity net gain.

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Annex E BTO WeBS Data

Five year summary for Killingholme Marshes - Sector J

Table 1: Total Counts - All Species Combined.

Peak monthly total = maximum of the sum of the counts of all species within each month.

Seasonal peaks = sum of the maximum counts of for each species within each Season.

Year	Peak Monthly Total	Autumn Peak	Winter Peak	Spring Peak
16/17	()	N/C	N/C	N/C
17/18	1742 (AUG)	1915	1681	750
18/19	2868 (JAN)	1803	3821	608
19/20	4340 (DEC)	1141	5182	157
20/21	2459 (DEC)	3318	2467	1095
MEAN	2852	2044	3288	653

Data provided by the British Trust for Ornithology on behalf of The Wetland Bird Survey.

These tabulations are based exclusively on data collected as part of the monthly Core Counts.

For some species (e.g. wintering geese) data collected by other surveys may be more appropriate for the purpose of site assessment.

Missing or unexpectedly low counts for gulls and terns should be treated with caution - counting these groups is optional and determination of count effort not always possible.

The Wetland Bird Survey is a partnership jointly funded by the British Trust for Ornithology, the Royal Society for the Protection of Birds and the Joint Nature Conservation Committee, in association with the Wildfowl and Wetlands Trust, with fieldwork conducted by volunteers.

Five year summary for Killingholme Marshes - Sector J

Table2: Five-year average monthly counts of each species.

Figure in parentheses give number of complete and incomplete counts upon which the average is based.
Incomplete counts are excluded from calculations where, if included, they would depress the mean.

Species	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Greylag Goose (British/Irish)	11(1,,)	10(3,,)	60(3,,)	0(4,,)	12(3,,)	20(4,,)	21(2,,)	13(1,2)	20(3,,)	28(2,1)	14(4,,)	4(2,,)
Mute Swan	0(1,,)	0(3,,)	1(3,,)	2(4,,)	1(3,,)	1(4,,)	0(2,,)	0(1,2)	0(3,,)	0(2,1)	1(4,,)	2(2,,)
Shelduck	7(1,,)	1(3,,)	16(3,,)	9(4,,)	8(3,,)	9(4,,)	39(2,,)	110(1,2)	63(3,,)	27(2,1)	26(4,,)	30(2,,)
Shoveler	3(1,,)	3(3,,)	45(3,,)	0(4,,)	25(3,,)	38(4,,)	60(2,,)	47(1,2)	39(3,,)	24(2,1)	4(4,,)	2(2,,)
Gadwall	0(1,,)	0(3,,)	21(3,,)	4(4,,)	1(3,,)	32(4,,)	18(2,,)	26(1,2)	7(3,,)	3(2,1)	2(4,,)	11(2,,)
Wigeon	0(1,,)	0(3,,)	10(3,,)	0(4,,)	0(3,,)	4(4,,)	0(2,,)	0(1,2)	1(3,,)	0(2,1)	0(4,,)	0(2,,)
Mallard	68(1,,)	30(3,,)	29(3,,)	17(4,,)	17(3,,)	54(4,,)	44(2,,)	23(1,2)	9(3,,)	5(2,1)	11(4,,)	40(2,,)
Pintail	0(1,,)	0(3,,)	0(3,,)	0(4,,)	1(3,,)	2(4,,)	3(2,,)	3(1,2)	3(3,,)	1(2,1)	0(4,,)	0(2,,)
Teal	7(1,,)	7(3,,)	42(3,,)	173(4,,)	217(3,,)	265(4,,)	402(2,,)	273(1,2)	127(3,,)	52(2,1)	0(4,,)	0(2,,)
Tufted Duck	1(1,,)	0(3,,)	0(3,,)	0(4,,)	0(3,,)	1(4,,)	0(2,,)	0(1,2)	0(3,,)	0(2,1)	2(4,,)	1(2,,)
Little Grebe	4(1,,)	0(3,,)	1(3,,)	0(4,,)	0(3,,)	0(4,,)	0(2,,)	0(1,2)	0(3,,)	0(2,1)	1(4,,)	2(2,,)
Great Crested Grebe	0(1,,)	0(3,,)	0(3,,)	0(4,,)	0(3,,)	0(4,,)	0(2,,)	0(1,2)	0(3,,)	0(2,1)	0(4,,)	1(2,,)
Grey Heron	0(1,,)	0(3,,)	0(3,,)	0(4,,)	1(3,,)	1(4,,)	2(2,,)	0(1,2)	0(3,,)	1(2,1)	0(4,,)	0(2,,)
Little Egret	0(1,,)	1(3,,)	0(3,,)	0(4,,)	0(3,,)	0(4,,)	0(2,,)	0(1,2)	0(3,,)	0(2,1)	0(4,,)	0(2,,)
Cormorant	0(1,,)	0(3,,)	1(3,,)	1(4,,)	0(3,,)	0(4,,)	1(2,,)	0(1,2)	0(3,,)	1(2,1)	0(4,,)	0(2,,)
Water Rail	0(1,,)	0(3,,)	0(3,,)	0(4,,)	0(3,,)	0(4,,)	0(2,,)	1(1,2)	0(3,,)	0(2,1)	0(4,,)	0(2,,)
Moorhen	0(1,,)	2(3,,)	2(3,,)	5(4,,)	1(3,,)	1(4,,)	0(2,,)	1(1,2)	2(3,,)	0(2,1)	1(4,,)	1(2,,)
Coot	29(1,,)	11(3,,)	8(3,,)	1(4,,)	2(3,,)	2(4,,)	4(2,,)	11(1,2)	18(3,,)	10(2,1)	12(4,,)	16(2,,)
Oystercatcher	2(1,,)	0(3,,)	0(3,,)	0(4,,)	0(3,,)	0(4,,)	0(2,,)	6(1,2)	5(3,,)	5(2,1)	2(4,,)	1(2,,)
Avocet	2(1,,)	0(3,,)	0(3,,)	12(4,,)	1(3,,)	4(4,,)	0(2,,)	12(1,2)	71(3,,)	31(2,1)	18(4,,)	17(2,,)
Lapwing	2(1,,)	1(3,,)	0(3,,)	19(4,,)	266(3,,)	545(4,,)	1164(2,,)	606(1,2)	12(3,,)	2(2,1)	1(4,,)	8(2,,)
Ringed Plover	0(1,,)	0(3,,)	7(3,,)	1(4,,)	0(3,,)	0(4,,)	1(2,,)	1(1,2)	2(3,,)	0(2,1)	24(4,,)	0(2,,)
Little Ringed Plover	1(1,,)	0(3,,)	0(3,,)	0(4,,)	0(3,,)	0(4,,)	0(2,,)	0(1,2)	0(3,,)	1(2,1)	1(4,,)	0(2,,)
Curlew	8(1,,)	26(3,,)	21(3,,)	24(4,,)	38(3,,)	40(4,,)	25(2,,)	66(1,2)	39(3,,)	28(2,1)	4(4,,)	0(2,,)
Bar-tailed Godwit	0(1,,)	0(3,,)	0(3,,)	0(4,,)	0(3,,)	2(4,,)	1(2,,)	0(1,2)	0(3,,)	0(2,1)	0(4,,)	0(2,,)
Black-tailed Godwit	500(1,,)	1650(3,,)	553(3,,)	280(4,,)	2(3,,)	602(4,,)	11(2,,)	249(1,2)	229(3,,)	427(2,1)	22(4,,)	0(2,,)
Turnstone	0(1,,)	0(3,,)	0(3,,)	2(4,,)	5(3,,)	0(4,,)	0(2,,)	0(1,2)	0(3,,)	0(2,1)	0(4,,)	0(2,,)
Knot	0(1,,)	0(3,,)	0(3,,)	3(4,,)	0(3,,)	0(4,,)	0(2,,)	0(1,2)	0(3,,)	0(2,1)	0(4,,)	0(2,,)
Ruff	0(1,,)	0(3,,)	0(3,,)	0(4,,)	0(3,,)	0(4,,)	0(2,,)	0(1,2)	0(3,,)	1(2,1)	0(4,,)	0(2,,)
Sanderling	0(1,,)	0(3,,)	0(3,,)	0(4,,)	0(3,,)	0(4,,)	0(2,,)	0(1,2)	0(3,,)	0(2,1)	1(4,,)	0(2,,)
Dunlin	0(1,,)	2(3,,)	227(3,,)	134(4,,)	175(3,,)	478(4,,)	224(2,,)	262(1,2)	23(3,,)	0(2,1)	23(4,,)	0(2,,)
Snipe	0(1,,)	0(3,,)	0(3,,)	0(4,,)	1(3,,)	0(4,,)	0(2,,)	0(1,2)	1(3,,)	1(2,1)	0(4,,)	0(2,,)
Common Sandpiper	2(1,,)	1(3,,)	0(3,,)	0(4,,)	0(3,,)	0(4,,)	0(2,,)	0(1,2)	0(3,,)	0(2,1)	0(4,,)	0(2,,)
Redshank	0(1,,)	17(3,,)	0(3,,)	36(4,,)	66(3,,)	79(4,,)	108(2,,)	154(1,2)	28(3,,)	106(2,1)	0(4,,)	0(2,,)
Kingfisher	0(1,,)	0(3,,)	1(3,,)	0(4,,)	0(3,,)	0(4,,)	0(2,,)	0(1,2)	0(3,,)	0(2,1)	0(4,,)	0(2,,)

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For some species (e.g. wintering geese) data collected by other surveys may be more appropriate for the purpose of site assessment.

Missing or unexpectedly low counts for gulls and terns should be treated with caution - counting these groups is optional and determination of count effort not always possible.

Five year summary for Killingholme Marshes - Sector J

Table3: Five-year peak monthly counts of each species.

The value reported represents the highest count obtained over the five-year period during the month in question and the species in question.

Species	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Greylag Goose (British/Irish)	11	31	180	0	37	33	41	20	28	34	26	7
Mute Swan	0	0	2	7	3	3	0	0	0	0	2	4
Shelduck	7	2	31	18	24	14	50	110	93	31	32	55
Shoveler	3	5	93	0	70	91	78	47	58	40	10	4
Gadwall	0	0	64	17	3	61	18	46	16	5	6	12
Wigeon	0	0	31	0	0	12	0	0	2	0	0	0
Mallard	68	58	73	43	46	98	47	23	16	7	18	48
Pintail	0	0	0	0	2	6	6	3	8	2	0	0
Teal	7	12	67	298	303	463	428	273	150	63	0	0
Tufted Duck	1	0	0	0	0	2	0	0	0	0	2	1
Little Grebe	4	0	2	0	0	0	0	0	0	0	2	4
Great Crested Grebe	0	0	0	0	0	0	0	0	0	0	0	1
Grey Heron	0	0	0	0	1	2	3	1	0	1	0	0
Little Egret	0	2	0	0	0	0	0	0	1	0	0	0
Cormorant	0	0	2	1	1	0	1	0	0	2	0	0
Water Rail	0	0	0	0	0	0	0	1	0	0	0	0
Moorhen	0	5	5	18	4	4	0	2	4	0	2	2
Coot	29	26	20	4	5	5	8	11	25	12	17	31
Oystercatcher	2	0	0	0	0	0	0	6	8	7	3	1
Avocet	2	0	0	48	2	15	0	13	131	33	32	31
Lapwing	2	4	0	48	317	1418	1930	876	22	4	2	16
Ringed Plover	0	0	22	2	0	0	1	1	5	0	94	0
Little Ringed Plover	1	0	0	0	0	0	0	0	0	2	1	0
Curlew	8	48	53	34	97	120	26	66	56	64	13	0
Bar-tailed Godwit	0	0	0	0	0	6	1	0	0	0	0	0
Black-tailed Godwit	500	2240	1660	1120	4	2400	19	600	578	570	63	0
Turnstone	0	0	1	5	16	0	0	0	1	0	0	0
Knot	0	0	0	12	0	0	0	0	0	0	0	0
Ruff	0	0	0	0	0	0	0	0	0	1	0	0
Sanderling	0	0	0	0	0	0	0	0	0	0	3	0
Dunlin	0	5	680	380	349	1000	245	400	48	0	90	0
Snipe	0	0	0	0	4	1	0	0	3	1	0	0
Common Sandpiper	2	2	0	0	0	0	0	0	0	0	0	0
Redshank	0	52	1	86	124	180	166	154	58	210	0	0
Kingfisher	0	0	3	0	0	0	0	0	0	0	0	0

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Five year summary for Killingholme Marshes - Sector J

Table4a: Five-year autumn peak counts, and month in which this was recorded, of each species.

The value reported represents the highest count obtained between July and October for the year in question and the species in question

Where a count is enclosed by parentheses this indicates that it was considered incomplete i.e. those parts of the site not visited typically holds at least 25% of the species in question. Incomplete counts are excluded from calculation where, if included, they would depress the mean. When all counts are considered to be incomplete the maximum replaces the mean.

Species	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	Mean of Peaks
Greylag Goose (British/Irish)	N/C	0	0	0	180 (SEP)	45
Mute Swan	N/C	0	7 (OCT)	2 (SEP)	1 (SEP)	3
Shelduck	N/C	31 (SEP)	11 (OCT)	10 (SEP)	7 (JUL)	15
Shoveler	N/C	0	3 (AUG)	93 (SEP)	43 (SEP)	35
Gadwall	N/C	0	0	64 (SEP)	0	16
Wigeon	N/C	0	0	31 (SEP)	0	8
Mallard	N/C	0	58 (AUG)	73 (SEP)	68 (JUL)	50
Teal	N/C	57 (OCT)	298 (OCT)	67 (SEP)	270 (OCT)	173
Tufted Duck	N/C	0	0	0	1 (JUL)	0
Little Grebe	N/C	0	0	2 (SEP)	4 (JUL)	2
Little Egret	N/C	2 (AUG)	1 (AUG)	0	0	1
Cormorant	N/C	0	0	2 (SEP)	1 (OCT)	1
Moorhen	N/C	0	1 (AUG)	18 (OCT)	5 (AUG)	6
Coot	N/C	0	26 (AUG)	20 (SEP)	29 (JUL)	19
Oystercatcher	N/C	0	0	0	2 (JUL)	1
Avocet	N/C	0	48 (OCT)	0	2 (JUL)	13
Lapwing	N/C	0	26 (OCT)	2 (OCT)	48 (OCT)	19
Ringed Plover	N/C	0	2 (OCT)	22 (SEP)	0	6
Little Ringed Plover	N/C	0	0	0	1 (JUL)	0
Curlew	N/C	53 (SEP)	48 (AUG)	34 (OCT)	8 (JUL)	36
Black-tailed Godwit	N/C	1650 (AUG)	1120 (OCT)	0	2240 (AUG)	1253
Turnstone	N/C	0	2 (OCT)	5 (OCT)	2 (OCT)	2
Knot	N/C	0	0	12 (OCT)	0	3
Dunlin	N/C	70 (OCT)	65 (OCT)	680 (SEP)	380 (OCT)	299
Common Sandpiper	N/C	0	1 (AUG)	0	2 (JUL)	1
Redshank	N/C	52 (AUG)	86 (OCT)	1 (SEP)	24 (OCT)	41
Kingfisher	N/C	0	0	3 (SEP)	0	1

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For some species (e.g. wintering geese) data collected by other surveys may be more appropriate for the purpose of site assessment.

Missing or unexpectedly low counts for gulls and terns should be treated with caution - counting these groups is optional and determination of count effort not always possible.

Five year summary for Killingholme Marshes - Sector J

Table 4b: Five-year winter peak counts, and month in which this was recorded, of each species.

The value reported represents the highest count obtained between November and March for the winter in question and the species in question

Where a count is enclosed by parentheses this indicates that it was considered incomplete i.e. those parts of the site not visited typically holds at least 25% of the species in question. Incomplete counts are excluded from calculation where, if included, they would depress the mean. When all counts are considered to be incomplete the maximum replaces the mean.

Species	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	Mean Peak
Greylag Goose (British/Irish)	N/C	28 (MAR)	41 (JAN)	23 (MAR)	33 (DEC)	31
Mute Swan	N/C	0	3 (NOV)	0	3 (DEC)	2
Shelduck	N/C	110 (FEB)	58 (MAR)	93 (MAR)	7 (DEC)	67
Shoveler	N/C	78 (JAN)	70 (NOV)	91 (DEC)	6 (NOV)	61
Gadwall	N/C	17 (JAN)	18 (JAN)	49 (DEC)	61 (DEC)	36
Wigeon	N/C	1 (MAR)	0	5 (DEC)	12 (DEC)	5
Mallard	N/C	41 (JAN)	64 (DEC)	98 (DEC)	54 (DEC)	64
Pintail	N/C	2 (FEB)	6 (JAN)	8 (MAR)	6 (DEC)	6
Teal	N/C	376 (JAN)	428 (JAN)	192 (DEC)	463 (DEC)	365
Tufted Duck	N/C	0	2 (DEC)	0	0	1
Grey Heron	N/C	0	3 (JAN)	(1) (FEB)	1 (NOV)	1
Little Egret	N/C	0	0	1 (MAR)	0	0
Cormorant	N/C	1 (NOV)	0	0	0	0
Water Rail	N/C	1 (FEB)	0	0	0	0
Moorhen	N/C	0	4 (NOV)	4 (DEC)	0	2
Coot	N/C	14 (MAR)	16 (MAR)	25 (MAR)	0	14
Oystercatcher	N/C	6 (FEB)	(2) (FEB)	8 (MAR)	0	5
Avocet	N/C	21 (MAR)	60 (MAR)	131 (MAR)	0	53
Lapwing	N/C	397 (JAN)	1930 (JAN)	(876) (FEB)	1418 (DEC)	1248
Ringed Plover	N/C	5 (MAR)	0	0	0	1
Curlew	N/C	97 (NOV)	120 (DEC)	31 (DEC)	0	62
Bar-tailed Godwit	N/C	6 (DEC)	0	0	0	2
Black-tailed Godwit	N/C	52 (FEB)	578 (MAR)	2400 (DEC)	4 (NOV)	759
Turnstone	N/C	0	16 (NOV)	1 (MAR)	0	4
Dunlin	N/C	245 (JAN)	349 (NOV)	1000 (DEC)	370 (DEC)	491
Snipe	N/C	3 (MAR)	4 (NOV)	0	0	2
Redshank	N/C	180 (DEC)	49 (JAN)	(145) (FEB)	29 (DEC)	101

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Five year summary for Killingholme Marshes - Sector J

Table4c: Five-year spring peak counts, and month in which this was recorded, of each species.

The value reported represents the highest count obtained between April and June for the year in question and the species in question
Where a count is enclosed by parentheses this indicates that it was considered incomplete
i.e. those parts of the site not visited typically holds at least 25% of the species in question.
Incomplete counts are excluded from calculation where, if included, they would depress the mean.
When all counts are considered to be incomplete the maximum replaces the mean.

Species	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	Mean Peak
Greylag Goose (British/Irish)	N/C	34 (APR)	21 (APR)	16 (MAY)	(9) (APR)	24
Mute Swan	N/C	0	2 (MAY)	4 (JUN)	(0)	2
Shelduck	N/C	32 (MAY)	23 (APR)	25 (MAY)	55 (JUN)	34
Shoveler	N/C	40 (APR)	8 (APR)	4 (JUN)	(0)	17
Gadwall	N/C	0	5 (APR)	12 (JUN)	9 (JUN)	7
Mallard	N/C	8 (MAY)	11 (MAY)	32 (JUN)	48 (JUN)	25
Pintail	N/C	2 (APR)	0	0	(0)	1
Teal	N/C	63 (APR)	41 (APR)	0	(5) (APR)	35
Tufted Duck	N/C	2 (MAY)	0	2 (MAY)	2 (MAY)	2
Little Grebe	N/C	1 (MAY)	0	4 (JUN)	(0)	2
Great Crested Grebe	N/C	0	0	1 (JUN)	(0)	0
Grey Heron	N/C	1 (APR)	0	0	(0)	0
Cormorant	N/C	2 (APR)	0	0	(0)	1
Moorhen	N/C	2 (MAY)	0	2 (MAY)	1 (MAY)	1
Coot	N/C	12 (APR)	17 (MAY)	31 (JUN)	1 (MAY)	15
Oystercatcher	N/C	7 (APR)	3 (APR)	1 (MAY)	(3) (APR)	4
Avocet	N/C	29 (APR)	33 (APR)	2 (MAY)	32 (MAY)	24
Lapwing	N/C	0	4 (APR)	2 (MAY)	16 (JUN)	6
Ringed Plover	N/C	0	0	0	94 (MAY)	24
Little Ringed Plover	N/C	1 (MAY)	2 (APR)	1 (MAY)	1 (MAY)	1
Curlew	N/C	13 (MAY)	16 (APR)	2 (MAY)	(64) (APR)	24
Black-tailed Godwit	N/C	290 (APR)	420 (APR)	16 (MAY)	(570) (APR)	324
Ruff	N/C	1 (APR)	0	0	(0)	0
Sanderling	N/C	0	0	0	3 (MAY)	1
Dunlin	N/C	0	0	0	90 (MAY)	23
Snipe	N/C	0	1 (APR)	0	(0)	0
Redshank	N/C	210 (APR)	1 (APR)	0	(92) (APR)	76

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Five year summary for Killingholme Marshes - Sector J

Table4d: Five-year annual peak counts, and month in which this was recorded, of each species.

The value reported represents the highest count obtained between July and June for the year in question and the species in question
 Where a count is enclosed by parentheses this indicates that it was considered incomplete
 i.e. those parts of the site not visited typically holds at least 25% of the species in question.
 Incomplete counts are excluded from calculation where, if included, they would depress the mean.
 When all counts are considered to be incomplete the maximum replaces the mean.

Species	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	Mean Peak
Greylag Goose (British/Irish)	N/C	34 (APR)	41 (JAN)	23 (MAR)	180 (SEP)	70
Mute Swan	N/C	0	7 (OCT)	4 (JUN)	3 (DEC)	4
Shelduck	N/C	110 (FEB)	58 (MAR)	93 (MAR)	55 (JUN)	79
Shoveler	N/C	78 (JAN)	70 (NOV)	93 (SEP)	43 (SEP)	71
Gadwall	N/C	17 (JAN)	18 (JAN)	64 (SEP)	61 (DEC)	40
Wigeon	N/C	1 (MAR)	0	31 (SEP)	12 (DEC)	11
Mallard	N/C	41 (JAN)	64 (DEC)	98 (DEC)	68 (JUL)	68
Pintail	N/C	2 (APR)	6 (JAN)	8 (MAR)	6 (DEC)	6
Teal	N/C	376 (JAN)	428 (JAN)	192 (DEC)	463 (DEC)	365
Tufted Duck	N/C	2 (MAY)	2 (DEC)	2 (MAY)	2 (MAY)	2
Little Grebe	N/C	1 (MAY)	0	4 (JUN)	4 (JUL)	2
Great Crested Grebe	N/C	0	0	1 (JUN)	0	0
Grey Heron	N/C	1 (APR)	3 (JAN)	(1) (FEB)	1 (NOV)	2
Little Egret	N/C	2 (AUG)	1 (AUG)	1 (MAR)	0	1
Cormorant	N/C	2 (APR)	0	2 (SEP)	1 (OCT)	1
Water Rail	N/C	1 (FEB)	0	0	0	0
Moorhen	N/C	2 (MAY)	4 (NOV)	18 (OCT)	5 (AUG)	7
Coot	N/C	14 (MAR)	26 (AUG)	31 (JUN)	29 (JUL)	25
Oystercatcher	N/C	7 (APR)	3 (APR)	8 (MAR)	(3) (APR)	6
Avocet	N/C	29 (APR)	60 (MAR)	131 (MAR)	32 (MAY)	63
Lapwing	N/C	397 (JAN)	1930 (JAN)	(876) (FEB)	1418 (DEC)	1248
Ringed Plover	N/C	5 (MAR)	2 (OCT)	22 (SEP)	94 (MAY)	31
Little Ringed Plover	N/C	1 (MAY)	2 (APR)	1 (MAY)	1 (JUL)	1
Curlew	N/C	97 (NOV)	120 (DEC)	34 (OCT)	(64) (APR)	84
Bar-tailed Godwit	N/C	6 (DEC)	0	0	0	2
Black-tailed Godwit	N/C	1650 (AUG)	1120 (OCT)	2400 (DEC)	2240 (AUG)	1853
Turnstone	N/C	0	16 (NOV)	5 (OCT)	2 (OCT)	6
Knot	N/C	0	0	12 (OCT)	0	3
Ruff	N/C	1 (APR)	0	0	0	0
Sanderling	N/C	0	0	0	3 (MAY)	1
Dunlin	N/C	245 (JAN)	349 (NOV)	1000 (DEC)	380 (OCT)	494
Snipe	N/C	3 (MAR)	4 (NOV)	0	0	2
Common Sandpiper	N/C	0	1 (AUG)	0	2 (JUL)	1

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Five year summary for Killingholme Marshes - Sector J

Table4d: Five-year annual peak counts, and month in which this was recorded, of each species.

The value reported represents the highest count obtained between July and June for the year in question and the species in question
 Where a count is enclosed by parentheses this indicates that it was considered incomplete
 i.e. those parts of the site not visited typically holds at least 25% of the species in question.
 Incomplete counts are excluded from calculation where, if included, they would depress the mean.
 When all counts are considered to be incomplete the maximum replaces the mean.

Species	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	Mean Peak
Redshank	N/C	210 (APR)	86 (OCT)	(145) (FEB)	(92) (APR)	148
Kingfisher	N/C	0	0	3 (SEP)	0	1

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Five year summary for Killingholme Marshes - Sector J

Table 5: National and International importance of the site for each species.

Figures given indicate the percentage of the relevant threshold level in operation during 2020/2021 represented by the five-winter mean of peak counts for the species in question

e.g. 50% would indicate that the five-winter mean of peak counts is half the threshold level. It follows that values of 100% or higher indicate nationally or internationally important numbers of a given species occur on the site.

Where a count is enclosed by parentheses this indicates that it was considered incomplete

(i.e. those parts of the site not visited typically hold at least 25% of the species in question).

(an asterisk indicates that a 50-bird minimum (typically used for designation) has been used rather than 1% of National population)

Species	Autumn peak cf National Threshold	Winter peak cf National Threshold	Spring peak cf National Threshold	Annual peak cf National Threshold	Autumn peak cf International Threshold	Winter peak cf International Threshold
Greylag Goose (British/Irish)	3%	2%	2%	5%	N/A	N/A
Mute Swan	1%	0%	0%	1%	1%	0%
Shelduck	3%	14%	7%	17%	1%	3%
Shoveler	18%	32%	9%	37%	5%	9%
Gadwall	5%	12%	2%	13%	1%	3%
Wigeon	0%	0%	N/A	0%	0%	0%
Mallard	1%	1%	0%	1%	0%	0%
Pintail	N/A	3%	1%	3%	N/A	1%
Teal	4%	8%	1%	8%	3%	7%
Tufted Duck	0%	0%	0%	0%	0%	0%
Little Grebe	1%	N/A	1%	1%	0%	N/A
Grey Heron	N/A	0%	0%	0%	N/A	0%
Little Egret	1%	0%	N/A	1%	0%	0%
Cormorant	0%	0%	0%	0%	0%	0%

Species	Spring peak cf International Threshold	Annual peak cf International Threshold	Autumn 5yr mean of peaks	Winter 5yr mean of peaks	Spring 5yr mean of peaks	Annual 5yr mean of peaks
Greylag Goose (British/Irish)	N/A	N/A	45	31	24	70
Mute Swan	0%	1%	3	2	2	4
Shelduck	1%	3%	15	67	34	79
Shoveler	3%	11%	35	61	17	71
Gadwall	1%	3%	16	36	7	40
Wigeon	N/A	0%	8	5		11
Mallard	0%	0%	50	64	25	68
Pintail	0%	1%		6	1	6
Teal	1%	7%	173	365	35	365
Tufted Duck	0%	0%	0	1	2	2
Little Grebe	0%	0%	2		2	2
Grey Heron	0%	0%		1	0	2
Little Egret	N/A	0%	1	0		1
Cormorant	0%	0%	1	0	1	1

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Five year summary for Killingholme Marshes - Sector J

Table 5: National and International importance of the site for each species.

Figures given indicate the percentage of the relevant threshold level in operation during 2020/2021 represented by the five-winter mean of peak counts for the species in question

e.g. 50% would indicate that the five-winter mean of peak counts is half the threshold level. It follows that values of 100% or higher indicate nationally or internationally important numbers of a given species occur on the site.

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(i.e. those parts of the site not visited typically hold at least 25% of the species in question).

(an asterisk indicates that a 50-bird minimum (typically used for designation) has been used rather than 1% of National population)

Species	Autumn peak cf National Threshold	Winter peak cf National Threshold	Spring peak cf National Threshold	Annual peak cf National Threshold	Autumn peak cf International Threshold	Winter peak cf International Threshold
Moorhen	0%	0%	0%	0%	0%	0%
Coot	1%	1%	1%	1%	0%	0%
Oystercatcher	0%	0%	0%	0%	0%	0%
Avocet	15%	61%	28%	72%	1%	6%
Lapwing	0%	20%	0%	20%	0%	6%
Ringed Plover	1%	0%	6%	7%	1%	0%
Little Ringed Plover	*0%	N/A	*2%	*2%	0%	N/A
Curlew	3%	5%	2%	7%	0%	1%
Bar-tailed Godwit	N/A	0%	N/A	0%	N/A	0%
Black-tailed Godwit	321%	195%	83%	475%	114%	69%
Turnstone	1%	1%	N/A	2%	0%	0%
Knot	0%	N/A	N/A	0%	0%	N/A
Sanderling	N/A	N/A	1%	1%	N/A	N/A
Dunlin	9%	14%	1%	15%	2%	4%

Species	Spring peak cf International Threshold	Annual peak cf International Threshold	Autumn 5yr mean of peaks	Winter 5yr mean of peaks	Spring 5yr mean of peaks	Annual 5yr mean of peaks
Moorhen	0%	0%	6	2	1	7
Coot	0%	0%	19	14	15	25
Oystercatcher	0%	0%	1	5	4	6
Avocet	3%	7%	13	53	24	63
Lapwing	0%	6%	19	1248	6	1248
Ringed Plover	4%	6%	6	1	24	31
Little Ringed Plover	0%	0%	0		1	1
Curlew	0%	1%	36	62	24	84
Bar-tailed Godwit	N/A	0%		2		2
Black-tailed Godwit	29%	168%	1253	759	324	1853
Turnstone	N/A	0%	2	4		6
Knot	N/A	0%	3			3
Sanderling	0%	0%			1	1
Dunlin	0%	4%	299	491	23	494

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Five year summary for Killingholme Marshes - Sector J

Table 5: National and International importance of the site for each species.

Figures given indicate the percentage of the relevant threshold level in operation during 2020/2021 represented by the five-winter mean of peak counts for the species in question

e.g. 50% would indicate that the five-winter mean of peak counts is half the threshold level. It follows that values of 100% or higher indicate nationally or internationally important numbers of a given species occur on the site.

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(an asterisk indicates that a 50-bird minimum (typically used for designation) has been used rather than 1% of National population)

Species	Autumn peak cf National Threshold	Winter peak cf National Threshold	Spring peak cf National Threshold	Annual peak cf National Threshold	Autumn peak cf International Threshold	Winter peak cf International Threshold
Snipe	N/A	0%	0%	0%	N/A	0%
Common Sandpiper	*2%	N/A	N/A	*2%	0%	N/A
Redshank	4%	11%	8%	16%	2%	4%
Kingfisher	*2%	N/A	N/A	*2%	0%	N/A

Species	Spring peak cf International Threshold	Annual peak cf International Threshold	Autumn 5yr mean of peaks	Winter 5yr mean of peaks	Spring 5yr mean of peaks	Annual 5yr mean of peaks
Snipe	0%	0%		2	0	2
Common Sandpiper	N/A	0%	1			1
Redshank	3%	6%	41	101	76	148
Kingfisher	N/A	0%	1			1

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Five year summary for North Killingholme Haven Pits - Sector JJ

Table 1: Total Counts - All Species Combined.

Peak monthly total = maximum of the sum of the counts of all species within each month.

Seasonal peaks = sum of the maximum counts of for each species within each Season.

Year	Peak Monthly Total	Autumn Peak	Winter Peak	Spring Peak
16/17	2777 (AUG)	2874	87	N/C
17/18	4214 (OCT)	4360	313	83
18/19	3047 (AUG)	3132	751	207
19/20	8443 (OCT)	9480	368	52
20/21	5702 (SEP)	6402	2832	211
MEAN	4837	5250	870	138

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Five year summary for North Killingholme Haven Pits - Sector JJ

Table2: Five-year average monthly counts of each species.

Figure in parentheses give number of complete and incomplete counts upon which the average is based.
Incomplete counts are excluded from calculations where, if included, they would depress the mean.

Species	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Greylag Goose (British/Irish)	0(1,.)	3(4,.)	0(3,.)	0(5,.)	0(4,.)	0(4,.)	4(2,.)	2(3,.)	3(3,.)	7(3,.)	2(4,.)	0(2,.)
Mute Swan	0(1,.)	0(4,.)	0(3,.)	0(5,.)	0(4,.)	0(4,.)	0(2,.)	0(3,.)	1(3,.)	0(3,.)	0(4,.)	0(2,.)
Shelduck	5(1,.)	0(4,.)	0(3,.)	0(5,.)	0(4,.)	0(4,.)	1(2,.)	10(3,.)	8(3,.)	7(3,.)	3(4,.)	5(2,.)
Shoveler	0(1,.)	0(4,.)	0(3,.)	8(5,.)	0(4,.)	1(4,.)	0(2,.)	0(3,.)	0(3,.)	0(3,.)	0(4,.)	0(2,.)
Mallard	24(1,.)	0(4,.)	0(3,.)	4(5,.)	1(4,.)	2(4,.)	12(2,.)	10(3,.)	5(3,.)	1(3,.)	1(4,.)	6(2,.)
Teal	0(1,.)	0(4,.)	2(3,.)	7(5,.)	11(4,.)	33(4,.)	69(2,.)	11(3,.)	32(3,.)	9(3,.)	0(4,.)	0(2,.)
Grey Heron	0(1,.)	1(4,.)	0(3,.)	0(5,.)	1(4,.)	1(4,.)	1(2,.)	0(3,.)	0(3,.)	0(3,.)	0(4,.)	0(2,.)
Little Egret	0(1,.)	5(4,.)	4(3,.)	3(5,.)	1(4,.)	2(4,.)	0(2,.)	0(3,.)	1(3,.)	0(3,.)	0(4,.)	1(2,.)
Cormorant	0(1,.)	0(4,.)	0(3,.)	0(5,.)	0(4,.)	0(4,.)	0(2,.)	0(3,.)	0(3,.)	0(3,.)	0(4,.)	0(2,.)
Water Rail	0(1,.)	0(4,.)	0(3,.)	0(5,.)	0(4,.)	0(4,.)	0(2,.)	0(3,.)	0(3,.)	0(3,.)	0(4,.)	0(2,.)
Moorhen	0(1,.)	0(4,.)	0(3,.)	0(5,.)	0(4,.)	0(4,.)	0(2,.)	0(3,.)	0(3,.)	0(3,.)	0(4,.)	0(2,.)
Oystercatcher	2(1,.)	1(4,.)	0(3,.)	0(5,.)	0(4,.)	0(4,.)	0(2,.)	1(3,.)	2(3,.)	2(3,.)	1(4,.)	1(2,.)
Avocet	19(1,.)	15(4,.)	102(3,.)	95(5,.)	8(4,.)	1(4,.)	0(2,.)	0(3,.)	35(3,.)	23(3,.)	12(4,.)	29(2,.)
Lapwing	0(1,.)	10(4,.)	57(3,.)	167(5,.)	761(4,.)	74(4,.)	0(2,.)	0(3,.)	2(3,.)	0(3,.)	0(4,.)	0(2,.)
Golden Plover	0(1,.)	0(4,.)	0(3,.)	0(5,.)	0(4,.)	0(4,.)	0(2,.)	0(3,.)	0(3,.)	0(3,.)	0(4,.)	0(2,.)
Grey Plover	0(1,.)	0(4,.)	0(3,.)	0(5,.)	1(4,.)	0(4,.)	0(2,.)	0(3,.)	0(3,.)	0(3,.)	0(4,.)	0(2,.)
Ringed Plover	0(1,.)	0(4,.)	1(3,.)	0(5,.)	0(4,.)	0(4,.)	0(2,.)	0(3,.)	0(3,.)	0(3,.)	0(4,.)	0(2,.)
Curlew	0(1,.)	2(4,.)	1(3,.)	2(5,.)	2(4,.)	2(4,.)	0(2,.)	2(3,.)	1(3,.)	8(3,.)	1(4,.)	0(2,.)
Black-tailed Godwit	0(1,.)	2005(4,.)	3967(3,.)	2560(5,.)	2(4,.)	0(4,.)	0(2,.)	0(3,.)	1(3,.)	1(3,.)	24(4,.)	0(2,.)
Turnstone	0(1,.)	0(4,.)	0(3,.)	0(5,.)	0(4,.)	0(4,.)	0(2,.)	0(3,.)	0(3,.)	0(3,.)	0(4,.)	0(2,.)
Knot	0(1,.)	143(4,.)	490(3,.)	57(5,.)	0(4,.)	0(4,.)	0(2,.)	0(3,.)	0(3,.)	0(3,.)	0(4,.)	0(2,.)
Ruff	0(1,.)	0(4,.)	0(3,.)	1(5,.)	0(4,.)	0(4,.)	0(2,.)	0(3,.)	0(3,.)	0(3,.)	0(4,.)	0(2,.)
Curlew Sandpiper	0(1,.)	0(4,.)	1(3,.)	0(5,.)	0(4,.)	0(4,.)	0(2,.)	0(3,.)	0(3,.)	0(3,.)	0(4,.)	0(2,.)
Dunlin	0(1,.)	158(4,.)	527(3,.)	627(5,.)	19(4,.)	0(4,.)	0(2,.)	1(3,.)	0(3,.)	1(3,.)	0(4,.)	0(2,.)
Snipe	0(1,.)	0(4,.)	0(3,.)	5(5,.)	10(4,.)	13(4,.)	6(2,.)	21(3,.)	39(3,.)	0(3,.)	0(4,.)	0(2,.)
Common Sandpiper	0(1,.)	0(4,.)	0(3,.)	0(5,.)	0(4,.)	0(4,.)	0(2,.)	0(3,.)	0(3,.)	0(3,.)	0(4,.)	0(2,.)
Redshank	16(1,.)	219(4,.)	218(3,.)	74(5,.)	55(4,.)	68(4,.)	7(2,.)	31(3,.)	119(3,.)	63(3,.)	0(4,.)	0(2,.)
Greenshank	0(1,.)	0(4,.)	0(3,.)	0(5,.)	0(4,.)	0(4,.)	0(2,.)	0(3,.)	0(3,.)	0(3,.)	0(4,.)	0(2,.)
Kingfisher	0(1,.)	0(4,.)	0(3,.)	0(5,.)	0(4,.)	0(4,.)	0(2,.)	0(3,.)	0(3,.)	0(3,.)	0(4,.)	0(2,.)

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Five year summary for North Killingholme Haven Pits - Sector JJ

Table3: Five-year peak monthly counts of each species.

The value reported represents the highest count obtained over the five-year period during the month in question and the species in question.

Species	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Greylag Goose (British/Irish)	0	11	0	0	0	0	8	4	6	16	8	0
Mute Swan	0	0	0	0	0	0	0	0	2	1	0	0
Shelduck	5	0	0	0	0	0	1	24	11	13	5	7
Shoveler	0	0	0	34	0	5	0	0	0	1	0	0
Mallard	24	1	0	18	2	7	16	23	8	2	4	7
Teal	0	0	5	16	27	61	133	31	67	18	0	0
Grey Heron	0	1	1	2	2	1	1	0	0	0	0	0
Little Egret	0	7	7	7	2	8	0	1	3	0	0	1
Cormorant	0	0	1	0	0	0	0	1	0	0	0	0
Water Rail	0	0	1	0	0	0	0	0	0	1	0	0
Moorhen	0	0	0	0	1	0	0	0	0	0	0	0
Oystercatcher	2	1	1	0	0	0	0	1	2	3	2	1
Avocet	19	54	205	286	33	5	0	0	61	38	40	34
Lapwing	0	41	128	425	2580	265	0	0	7	0	0	0
Golden Plover	0	0	0	0	1	0	0	0	0	0	0	0
Grey Plover	0	0	0	0	2	0	0	0	0	0	0	0
Ringed Plover	0	1	2	1	0	0	0	0	0	0	0	0
Curlew	0	3	1	4	3	7	0	4	3	23	2	0
Black-tailed Godwit	0	2770	5400	4600	6	0	0	0	3	3	95	0
Turnstone	0	0	0	1	0	0	0	0	0	0	0	0
Knot	0	570	1050	285	0	0	0	0	0	0	0	0
Ruff	0	0	0	7	0	0	0	0	0	0	0	0
Curlew Sandpiper	0	0	4	0	0	0	0	0	0	0	0	0
Dunlin	0	580	1290	2950	72	0	0	3	1	2	0	0
Snipe	0	0	0	25	25	35	10	52	102	1	0	0
Common Sandpiper	0	0	0	0	0	0	0	0	0	1	0	0
Redshank	16	325	320	157	87	240	13	93	251	118	0	0
Greenshank	0	0	1	0	0	0	0	0	0	0	0	0
Kingfisher	0	0	1	1	1	0	0	0	0	0	0	0

Data provided by the British Trust for Ornithology on behalf of The Wetland Bird Survey.

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For some species (e.g. wintering geese) data collected by other surveys may be more appropriate for the purpose of site assessment.

Missing or unexpectedly low counts for gulls and terns should be treated with caution - counting these groups is optional and determination of count effort not always possible.

Five year summary for North Killingholme Haven Pits - Sector JJ

Table4a: Five-year autumn peak counts, and month in which this was recorded, of each species.

The value reported represents the highest count obtained between July and October for the year in question and the species in question

Where a count is enclosed by parentheses this indicates that it was considered incomplete i.e. those parts of the site not visited typically holds at least 25% of the species in question. Incomplete counts are excluded from calculation where, if included, they would depress the mean. When all counts are considered to be incomplete the maximum replaces the mean.

Species	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	Mean of Peaks
Greylag Goose (British/Irish)	0	11 (AUG)	0	0	0	2
Shelduck	0	0	0	0	5 (JUL)	1
Shoveler	0	34 (OCT)	0	0	8 (OCT)	8
Mallard	1 (AUG)	0	0	18 (OCT)	24 (JUL)	9
Teal	0	6 (OCT)	16 (OCT)	5 (OCT)	6 (OCT)	7
Grey Heron	0	2 (OCT)	1 (AUG)	0	1 (AUG)	1
Little Egret	0	7 (AUG)	7 (AUG)	4 (SEP)	5 (AUG)	5
Cormorant	0	0	0	0	1 (SEP)	0
Water Rail	0	1 (SEP)	0	0	0	0
Oystercatcher	0	1 (SEP)	1 (AUG)	0	2 (JUL)	1
Avocet	0	12 (SEP)	6 (AUG)	205 (SEP)	286 (OCT)	102
Lapwing	97 (OCT)	128 (SEP)	66 (OCT)	246 (OCT)	425 (OCT)	192
Ringed Plover	0	1 (OCT)	0	2 (SEP)	1 (AUG)	1
Curlew	0	3 (AUG)	3 (OCT)	4 (OCT)	2 (AUG)	2
Black-tailed Godwit	2450 (AUG)	3810 (OCT)	2770 (AUG)	5400 (SEP)	2950 (SEP)	3476
Turnstone	0	0	0	1 (OCT)	0	0
Knot	0	0	0	420 (SEP)	1050 (SEP)	294
Ruff	0	7 (OCT)	0	0	0	1
Curlew Sandpiper	0	0	0	4 (SEP)	0	1
Dunlin	1 (AUG)	180 (OCT)	45 (AUG)	2950 (OCT)	1290 (SEP)	893
Snipe	0	0	1 (OCT)	0	25 (OCT)	5
Redshank	325 (AUG)	157 (OCT)	215 (AUG)	220 (SEP)	320 (SEP)	247
Greenshank	0	0	0	0	1 (SEP)	0
Kingfisher	0	0	1 (OCT)	1 (SEP)	0	0

Data provided by the British Trust for Ornithology on behalf of The Wetland Bird Survey.

These tabulations are based exclusively on data collected as part of the monthly Core Counts.

For some species (e.g. wintering geese) data collected by other surveys may be more appropriate for the purpose of site assessment.

Missing or unexpectedly low counts for gulls and terns should be treated with caution - counting these groups is optional and determination of count effort not always possible.

Five year summary for North Killingholme Haven Pits - Sector JJ

Table 4b: Five-year winter peak counts, and month in which this was recorded, of each species.

The value reported represents the highest count obtained between November and March for the winter in question and the species in question

Where a count is enclosed by parentheses this indicates that it was considered incomplete i.e. those parts of the site not visited typically holds at least 25% of the species in question. Incomplete counts are excluded from calculation where, if included, they would depress the mean. When all counts are considered to be incomplete the maximum replaces the mean.

Species	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	Mean Peak
Greylag Goose (British/Irish)	0	8 (JAN)	2 (MAR)	6 (MAR)	0	3
Mute Swan	0	2 (MAR)	0	0	0	0
Shelduck	0	4 (MAR)	24 (FEB)	10 (MAR)	0	8
Shoveler	0	0	5 (DEC)	0	0	1
Mallard	1 (NOV)	8 (JAN)	16 (JAN)	23 (FEB)	2 (NOV)	10
Teal	0	133 (JAN)	10 (NOV)	58 (DEC)	61 (DEC)	52
Grey Heron	0	1 (NOV)	2 (NOV)	1 (DEC)	0	1
Little Egret	0	2 (NOV)	8 (DEC)	1 (MAR)	0	2
Cormorant	0	1 (FEB)	0	0	0	0
Moorhen	0	1 (NOV)	0	0	0	0
Oystercatcher	0	2 (MAR)	2 (MAR)	1 (MAR)	0	1
Avocet	0	0	45 (MAR)	61 (MAR)	0	21
Lapwing	58 (NOV)	46 (NOV)	360 (NOV)	29 (DEC)	2580 (NOV)	615
Golden Plover	0	0	0	0	1 (NOV)	0
Grey Plover	0	0	0	0	2 (NOV)	0
Curlew	0	2 (NOV)	7 (DEC)	3 (MAR)	2 (NOV)	3
Black-tailed Godwit	0	0	6 (NOV)	1 (MAR)	0	1
Dunlin	0	1 (NOV)	4 (NOV)	0	72 (NOV)	15
Snipe	0	52 (FEB)	9 (FEB)	102 (MAR)	25 (NOV)	38
Redshank	28 (NOV)	49 (NOV)	251 (MAR)	72 (MAR)	87 (NOV)	97
Kingfisher	0	1 (NOV)	0	0	0	0

Data provided by the British Trust for Ornithology on behalf of The Wetland Bird Survey.

These tabulations are based exclusively on data collected as part of the monthly Core Counts.

For some species (e.g. wintering geese) data collected by other surveys may be more appropriate for the purpose of site assessment.

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Five year summary for North Killingholme Haven Pits - Sector JJ

Table4c: Five-year spring peak counts, and month in which this was recorded, of each species.

The value reported represents the highest count obtained between April and June for the year in question and the species in question
Where a count is enclosed by parentheses this indicates that it was considered incomplete
i.e. those parts of the site not visited typically holds at least 25% of the species in question.
Incomplete counts are excluded from calculation where, if included, they would depress the mean.
When all counts are considered to be incomplete the maximum replaces the mean.

Species	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	Mean Peak
Greylag Goose (British/Irish)	N/C	8 (MAY)	16 (APR)	0	2 (APR)	7
Mute Swan	N/C	1 (APR)	0	0	0	0
Shelduck	N/C	13 (APR)	4 (MAY)	7 (JUN)	7 (APR)	8
Shoveler	N/C	1 (APR)	0	0	0	0
Mallard	N/C	0	4 (MAY)	7 (JUN)	5 (JUN)	4
Teal	N/C	18 (APR)	0	0	10 (APR)	7
Little Egret	N/C	0	0	1 (JUN)	1 (JUN)	1
Water Rail	N/C	0	1 (APR)	0	0	0
Oystercatcher	N/C	0	3 (APR)	1 (MAY)	2 (APR)	2
Avocet	N/C	12 (APR)	40 (MAY)	34 (JUN)	38 (APR)	31
Curlew	N/C	0	1 (APR)	2 (MAY)	23 (APR)	7
Black-tailed Godwit	N/C	0	95 (MAY)	0	3 (APR)	25
Dunlin	N/C	0	0	0	2 (APR)	1
Snipe	N/C	0	1 (APR)	0	0	0
Common Sandpiper	N/C	0	1 (APR)	0	0	0
Redshank	N/C	30 (APR)	41 (APR)	0	118 (APR)	47

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These tabulations are based exclusively on data collected as part of the monthly Core Counts.

For some species (e.g. wintering geese) data collected by other surveys may be more appropriate for the purpose of site assessment.

Missing or unexpectedly low counts for gulls and terns should be treated with caution - counting these groups is optional and determination of count effort not always possible.

Five year summary for North Killingholme Haven Pits - Sector JJ

Table4d: Five-year annual peak counts, and month in which this was recorded, of each species.

The value reported represents the highest count obtained between July and June for the year in question and the species in question
 Where a count is enclosed by parentheses this indicates that it was considered incomplete
 i.e. those parts of the site not visited typically holds at least 25% of the species in question.
 Incomplete counts are excluded from calculation where, if included, they would depress the mean.
 When all counts are considered to be incomplete the maximum replaces the mean.

Species	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	Mean Peak
Greylag Goose (British/Irish)	0	11 (AUG)	16 (APR)	6 (MAR)	2 (APR)	7
Mute Swan	0	2 (MAR)	0	0	0	0
Shelduck	0	13 (APR)	24 (FEB)	10 (MAR)	7 (APR)	11
Shoveler	0	34 (OCT)	5 (DEC)	0	8 (OCT)	9
Mallard	1 (AUG)	8 (JAN)	16 (JAN)	23 (FEB)	24 (JUL)	14
Teal	0	133 (JAN)	16 (OCT)	58 (DEC)	61 (DEC)	54
Grey Heron	0	2 (OCT)	2 (NOV)	1 (DEC)	1 (AUG)	1
Little Egret	0	7 (AUG)	8 (DEC)	4 (SEP)	5 (AUG)	5
Cormorant	0	1 (FEB)	0	0	1 (SEP)	0
Water Rail	0	1 (SEP)	1 (APR)	0	0	0
Moorhen	0	1 (NOV)	0	0	0	0
Oystercatcher	0	2 (MAR)	3 (APR)	1 (MAY)	2 (JUL)	2
Avocet	0	12 (SEP)	45 (MAR)	205 (SEP)	286 (OCT)	110
Lapwing	97 (OCT)	128 (SEP)	360 (NOV)	246 (OCT)	2580 (NOV)	682
Golden Plover	0	0	0	0	1 (NOV)	0
Grey Plover	0	0	0	0	2 (NOV)	0
Ringed Plover	0	1 (OCT)	0	2 (SEP)	1 (AUG)	1
Curlew	0	3 (AUG)	7 (DEC)	4 (OCT)	23 (APR)	7
Black-tailed Godwit	2450 (AUG)	3810 (OCT)	2770 (AUG)	5400 (SEP)	2950 (SEP)	3476
Turnstone	0	0	0	1 (OCT)	0	0
Knot	0	0	0	420 (SEP)	1050 (SEP)	294
Ruff	0	7 (OCT)	0	0	0	1
Curlew Sandpiper	0	0	0	4 (SEP)	0	1
Dunlin	1 (AUG)	180 (OCT)	45 (AUG)	2950 (OCT)	1290 (SEP)	893
Snipe	0	52 (FEB)	9 (FEB)	102 (MAR)	25 (OCT)	38
Common Sandpiper	0	0	1 (APR)	0	0	0
Redshank	325 (AUG)	157 (OCT)	251 (MAR)	220 (SEP)	320 (SEP)	255
Greenshank	0	0	0	0	1 (SEP)	0
Kingfisher	0	1 (NOV)	1 (OCT)	1 (SEP)	0	1

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For some species (e.g. wintering geese) data collected by other surveys may be more appropriate for the purpose of site assessment.

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Five year summary for North Killingholme Haven Pits - Sector JJ

Table 5: National and International importance of the site for each species.

Figures given indicate the percentage of the relevant threshold level in operation during 2020/2021 represented by the five-winter mean of peak counts for the species in question

e.g. 50% would indicate that the five-winter mean of peak counts is half the threshold level. It follows that values of 100% or higher indicate nationally or internationally important numbers of a given species occur on the site.

Where a count is enclosed by parentheses this indicates that it was considered incomplete

(i.e. those parts of the site not visited typically hold at least 25% of the species in question).

(an asterisk indicates that a 50-bird minimum (typically used for designation) has been used rather than 1% of National population)

Species	Autumn peak cf National Threshold	Winter peak cf National Threshold	Spring peak cf National Threshold	Annual peak cf National Threshold	Autumn peak cf International Threshold	Winter peak cf International Threshold
Greylag Goose (British/Irish)	0%	0%	1%	1%	N/A	N/A
Shelduck	0%	2%	2%	2%	0%	0%
Shoveler	4%	1%	0%	5%	1%	0%
Mallard	0%	0%	0%	0%	0%	0%
Teal	0%	1%	0%	1%	0%	1%
Grey Heron	0%	0%	N/A	0%	0%	0%
Little Egret	5%	2%	1%	5%	0%	0%
Oystercatcher	0%	0%	0%	0%	0%	0%
Avocet	117%	24%	36%	126%	11%	2%
Lapwing	3%	10%	N/A	11%	1%	3%
Ringed Plover	0%	N/A	N/A	0%	0%	N/A
Curlew	0%	0%	1%	1%	0%	0%
Black-tailed Godwit	891%	0%	6%	891%	316%	0%
Knot	11%	N/A	N/A	11%	6%	N/A

Species	Spring peak cf International Threshold	Annual peak cf International Threshold	Autumn 5yr mean of peaks	Winter 5yr mean of peaks	Spring 5yr mean of peaks	Annual 5yr mean of peaks
Greylag Goose (British/Irish)	N/A	N/A	2	3	7	7
Shelduck	0%	0%	1	8	8	11
Shoveler	0%	1%	8	1	0	9
Mallard	0%	0%	9	10	4	14
Teal	0%	1%	7	52	7	54
Grey Heron	N/A	0%	1	1		1
Little Egret	0%	0%	5	2	1	5
Oystercatcher	0%	0%	1	1	2	2
Avocet	3%	12%	102	21	31	110
Lapwing	N/A	3%	192	615		682
Ringed Plover	N/A	0%	1			1
Curlew	0%	0%	2	3	7	7
Black-tailed Godwit	2%	316%	3476	1	25	3476
Knot	N/A	6%	294			294

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For some species (e.g. wintering geese) data collected by other surveys may be more appropriate for the purpose of site assessment.

Missing or unexpectedly low counts for gulls and terns should be treated with caution - counting these groups is optional and determination of count effort not always possible.

Five year summary for North Killingholme Haven Pits - Sector JJ

Table 5: National and International importance of the site for each species.

Figures given indicate the percentage of the relevant threshold level in operation during 2020/2021 represented by the five-winter mean of peak counts for the species in question

e.g. 50% would indicate that the five-winter mean of peak counts is half the threshold level. It follows that values of 100% or higher indicate nationally or internationally important numbers of a given species occur on the site.

Where a count is enclosed by parentheses this indicates that it was considered incomplete

(i.e. those parts of the site not visited typically hold at least 25% of the species in question).

(an asterisk indicates that a 50-bird minimum (typically used for designation) has been used rather than 1% of National population)

Species	Autumn peak cf National Threshold	Winter peak cf National Threshold	Spring peak cf National Threshold	Annual peak cf National Threshold	Autumn peak cf International Threshold	Winter peak cf International Threshold
Ruff	*2%	N/A	N/A	*2%	0%	N/A
Curlew Sandpiper	*2%	N/A	N/A	*2%	0%	N/A
Dunlin	26%	0%	0%	26%	7%	0%
Snipe	0%	0%	0%	0%	0%	0%
Redshank	26%	10%	5%	27%	10%	4%

Species	Spring peak cf International Threshold	Annual peak cf International Threshold	Autumn 5yr mean of peaks	Winter 5yr mean of peaks	Spring 5yr mean of peaks	Annual 5yr mean of peaks
Ruff	N/A	0%	1			1
Curlew Sandpiper	N/A	0%	1			1
Dunlin	0%	7%	893	15	1	893
Snipe	0%	0%	5	38	0	38
Redshank	2%	11%	247	97	47	255

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These tabulations are based exclusively on data collected as part of the monthly Core Counts.

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Five year summary for Immingham Docks - Sector K

Table1: Total Counts - All Species Combined.

Peak monthly total = maximum of the sum of the counts of all species within each month.

Seasonal peaks = sum of the maximum counts of for each species within each Season.

Year	Peak Monthly Total	Autumn Peak	Winter Peak	Spring Peak
16/17	126 (NOV)	20	126	N/C
17/18	545 (JAN)	103	734	85
18/19	243 (AUG)	303	160	18
19/20	129 (FEB)	128	146	19
20/21	560 (NOV)	365	596	32
MEAN	321	184	352	39

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Missing or unexpectedly low counts for gulls and terns should be treated with caution - counting these groups is optional and determination of count effort not always possible.

The Wetland Bird Survey is a partnership jointly funded by the British Trust for Ornithology, the Royal Society for the Protection of Birds and the Joint Nature Conservation Committee, in association with the Wildfowl and Wetlands Trust, with fieldwork conducted by volunteers.

Five year summary for Immingham Docks - Sector K

Table2: Five-year average monthly counts of each species.

Figure in parentheses give number of complete and incomplete counts upon which the average is based.
Incomplete counts are excluded from calculations where, if included, they would depress the mean.

Species	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Pink-footed Goose	0(1,,)	0(4,,)	0(3,,)	0(3,,)	0(4,,)	0(3,,)	0(2,,)	0(2,1)	0(3,,)	0(3,,)	0(4,,)	0(2,,)
Shelduck	2(1,,)	5(4,,)	9(3,,)	1(3,,)	40(4,,)	26(3,,)	36(2,,)	28(2,1)	6(3,,)	2(3,,)	3(4,,)	1(2,,)
Gadwall	0(1,,)	0(4,,)	0(3,,)	0(3,,)	0(4,,)	0(3,,)	0(2,,)	0(2,1)	1(3,,)	0(3,,)	0(4,,)	0(2,,)
Mallard	0(1,,)	0(4,,)	1(3,,)	0(3,,)	0(4,,)	0(3,,)	2(2,,)	1(2,1)	1(3,,)	0(3,,)	1(4,,)	0(2,,)
Teal	0(1,,)	0(4,,)	0(3,,)	0(3,,)	0(4,,)	0(3,,)	0(2,,)	3(2,1)	0(3,,)	1(3,,)	0(4,,)	0(2,,)
Cormorant	9(1,,)	4(4,,)	1(3,,)	1(3,,)	5(4,,)	1(3,,)	1(2,,)	1(2,1)	1(3,,)	1(3,,)	1(4,,)	2(2,,)
Oystercatcher	1(1,,)	4(4,,)	0(3,,)	0(3,,)	0(4,,)	0(3,,)	0(2,,)	1(2,1)	1(3,,)	3(3,,)	1(4,,)	1(2,,)
Lapwing	0(1,,)	0(4,,)	0(3,,)	0(3,,)	0(4,,)	1(3,,)	0(2,,)	0(2,1)	0(3,,)	0(3,,)	0(4,,)	0(2,,)
Little Ringed Plover	3(1,,)	0(4,,)	0(3,,)	0(3,,)	0(4,,)	0(3,,)	0(2,,)	0(2,1)	0(3,,)	1(3,,)	0(4,,)	1(2,,)
Curlew	0(1,,)	4(4,,)	2(3,,)	5(3,,)	12(4,,)	2(3,,)	4(2,,)	3(2,1)	5(3,,)	0(3,,)	2(4,,)	1(2,,)
Bar-tailed Godwit	0(1,,)	0(4,,)	0(3,,)	2(3,,)	1(4,,)	0(3,,)	0(2,,)	0(2,1)	0(3,,)	0(3,,)	0(4,,)	0(2,,)
Black-tailed Godwit	0(1,,)	0(4,,)	0(3,,)	1(3,,)	58(4,,)	7(3,,)	0(2,,)	0(2,1)	0(3,,)	0(3,,)	0(4,,)	0(2,,)
Turnstone	0(1,,)	44(4,,)	6(3,,)	16(3,,)	1(4,,)	10(3,,)	0(2,,)	4(2,1)	6(3,,)	2(3,,)	0(4,,)	0(2,,)
Knot	0(1,,)	0(4,,)	0(3,,)	4(3,,)	0(4,,)	0(3,,)	0(2,,)	0(2,1)	0(3,,)	0(3,,)	0(4,,)	0(2,,)
Dunlin	0(1,,)	0(4,,)	0(3,,)	100(3,,)	76(4,,)	165(3,,)	263(2,,)	105(2,1)	14(3,,)	2(3,,)	0(4,,)	0(2,,)
Common Sandpiper	0(1,,)	0(4,,)	0(3,,)	0(3,,)	0(4,,)	0(3,,)	0(2,,)	0(2,1)	0(3,,)	0(3,,)	1(4,,)	0(2,,)
Redshank	3(1,,)	44(4,,)	65(3,,)	68(3,,)	43(4,,)	48(3,,)	7(2,,)	82(2,1)	41(3,,)	26(3,,)	0(4,,)	0(2,,)

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Five year summary for Immingham Docks - Sector K

Table3: Five-year peak monthly counts of each species.

The value reported represents the highest count obtained over the five-year period during the month in question and the species in question.

Species	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Pink-footed Goose	0	0	0	0	0	0	0	0	0	0	1	0
Shelduck	2	11	14	2	69	33	55	45	9	7	6	1
Gadwall	0	0	0	0	0	0	0	0	3	0	0	0
Mallard	0	0	2	0	0	0	4	4	2	0	3	0
Teal	0	0	0	0	0	0	0	9	0	4	0	0
Cormorant	9	8	1	3	10	1	2	1	3	3	1	3
Oystercatcher	1	6	0	0	0	0	0	2	2	4	2	1
Lapwing	0	0	0	0	0	2	0	0	0	0	0	0
Little Ringed Plover	3	0	0	0	0	0	0	0	0	3	0	2
Curlew	0	6	3	8	34	5	5	4	7	1	7	1
Bar-tailed Godwit	0	0	0	6	5	0	0	0	0	0	0	0
Black-tailed Godwit	0	0	0	3	183	17	0	0	1	0	0	0
Turnstone	0	170	12	32	1	27	0	11	19	7	0	0
Knot	0	0	0	12	0	0	0	0	0	0	0	0
Dunlin	0	0	1	245	244	280	480	210	43	6	0	0
Common Sandpiper	0	1	0	0	0	0	0	0	0	1	3	0
Redshank	3	84	78	85	65	71	8	115	110	70	0	0

Data provided by the British Trust for Ornithology on behalf of The Wetland Bird Survey.

These tabulations are based exclusively on data collected as part of the monthly Core Counts.

For some species (e.g. wintering geese) data collected by other surveys may be more appropriate for the purpose of site assessment.

Missing or unexpectedly low counts for gulls and terns should be treated with caution - counting these groups is optional and determination of count effort not always possible.

Five year summary for Immingham Docks - Sector K

Table4a: Five-year autumn peak counts, and month in which this was recorded, of each species.

The value reported represents the highest count obtained between July and October for the year in question and the species in question

Where a count is enclosed by parentheses this indicates that it was considered incomplete i.e. those parts of the site not visited typically holds at least 25% of the species in question. Incomplete counts are excluded from calculation where, if included, they would depress the mean. When all counts are considered to be incomplete the maximum replaces the mean.

Species	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	Mean of Peaks
Shelduck	8 (AUG)	1 (AUG)	0	14 (SEP)	12 (SEP)	7
Mallard	0	2 (SEP)	0	0	0	0
Cormorant	6 (AUG)	0	0	3 (OCT)	9 (JUL)	4
Oystercatcher	5 (AUG)	6 (AUG)	2 (AUG)	0	3 (AUG)	3
Little Ringed Plover	0	0	0	0	3 (JUL)	1
Curlew	1 (AUG)	3 (AUG)	8 (OCT)	2 (SEP)	4 (AUG)	4
Bar-tailed Godwit	0	0	0	0	6 (OCT)	1
Black-tailed Godwit	0	0	3 (OCT)	0	0	1
Turnstone	0	6 (SEP)	170 (AUG)	12 (SEP)	11 (OCT)	40
Knot	0	0	0	12 (OCT)	0	2
Dunlin	0	0	55 (OCT)	0	245 (OCT)	60
Common Sandpiper	0	1 (AUG)	0	0	0	0
Redshank	0	84 (AUG)	65 (AUG)	85 (OCT)	72 (SEP)	61

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For some species (e.g. wintering geese) data collected by other surveys may be more appropriate for the purpose of site assessment.

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Five year summary for Immingham Docks - Sector K

Table4b: Five-year winter peak counts, and month in which this was recorded, of each species.

The value reported represents the highest count obtained between November and March for the winter in question and the species in question

Where a count is enclosed by parentheses this indicates that it was considered incomplete i.e. those parts of the site not visited typically holds at least 25% of the species in question. Incomplete counts are excluded from calculation where, if included, they would depress the mean. When all counts are considered to be incomplete the maximum replaces the mean.

Species	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	Mean Peak
Shelduck	12 (NOV)	69 (NOV)	25 (NOV)	16 (DEC)	55 (NOV)	35
Gadwall	0	0	0	3 (MAR)	0	1
Mallard	0	0	4 (JAN)	2 (MAR)	0	1
Teal	0	0	(9) (FEB)	0	0	2
Cormorant	10 (NOV)	3 (NOV)	3 (MAR)	1 (DEC)	6 (NOV)	5
Oystercatcher	0	0	(2) (FEB)	2 (MAR)	0	1
Lapwing	0	2 (DEC)	0	0	0	0
Curlew	0	34 (NOV)	6 (NOV)	4 (MAR)	7 (NOV)	10
Bar-tailed Godwit	0	5 (NOV)	0	0	0	1
Black-tailed Godwit	41 (NOV)	4 (NOV)	4 (NOV)	1 (MAR)	183 (NOV)	47
Turnstone	0	27 (DEC)	(11) (FEB)	2 (DEC)	0	8
Dunlin	10 (NOV)	480 (JAN)	45 (JAN)	0	280 (DEC)	163
Redshank	53 (NOV)	110 (MAR)	51 (NOV)	115 (FEB)	65 (NOV)	79

Data provided by the British Trust for Ornithology on behalf of The Wetland Bird Survey.

These tabulations are based exclusively on data collected as part of the monthly Core Counts.

For some species (e.g. wintering geese) data collected by other surveys may be more appropriate for the purpose of site assessment.

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Five year summary for Immingham Docks - Sector K

Table4c: Five-year spring peak counts, and month in which this was recorded, of each species.

The value reported represents the highest count obtained between April and June for the year in question and the species in question
Where a count is enclosed by parentheses this indicates that it was considered incomplete
i.e. those parts of the site not visited typically holds at least 25% of the species in question.
Incomplete counts are excluded from calculation where, if included, they would depress the mean.
When all counts are considered to be incomplete the maximum replaces the mean.

Species	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	Mean Peak
Pink-footed Goose	N/C	0	0	0	1 (MAY)	0
Shelduck	N/C	7 (APR)	5 (MAY)	2 (MAY)	6 (MAY)	5
Mallard	N/C	3 (MAY)	0	2 (MAY)	0	1
Teal	N/C	0	4 (APR)	0	0	1
Cormorant	N/C	0	1 (MAY)	3 (JUN)	3 (APR)	2
Oystercatcher	N/C	4 (APR)	4 (APR)	2 (MAY)	1 (JUN)	3
Little Ringed Plover	N/C	0	0	0	3 (APR)	1
Curlew	N/C	0	0	7 (MAY)	1 (APR)	2
Turnstone	N/C	0	0	0	7 (APR)	2
Dunlin	N/C	0	0	0	6 (APR)	2
Common Sandpiper	N/C	1 (APR)	0	3 (MAY)	0	1
Redshank	N/C	70 (APR)	4 (APR)	0	4 (APR)	20

Data provided by the British Trust for Ornithology on behalf of The Wetland Bird Survey.

These tabulations are based exclusively on data collected as part of the monthly Core Counts.

For some species (e.g. wintering geese) data collected by other surveys may be more appropriate for the purpose of site assessment.

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Five year summary for Immingham Docks - Sector K

Table4d: Five-year annual peak counts, and month in which this was recorded, of each species.

The value reported represents the highest count obtained between July and June for the year in question and the species in question
Where a count is enclosed by parentheses this indicates that it was considered incomplete
i.e. those parts of the site not visited typically holds at least 25% of the species in question.
Incomplete counts are excluded from calculation where, if included, they would depress the mean.
When all counts are considered to be incomplete the maximum replaces the mean.

Species	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	Mean Peak
Pink-footed Goose	0	0	0	0	1 (MAY)	0
Shelduck	12 (NOV)	69 (NOV)	25 (NOV)	16 (DEC)	55 (NOV)	35
Gadwall	0	0	0	3 (MAR)	0	1
Mallard	0	3 (MAY)	4 (JAN)	2 (MAY)	0	2
Teal	0	0	(9) (FEB)	0	0	2
Cormorant	10 (NOV)	3 (NOV)	3 (MAR)	3 (OCT)	9 (JUL)	6
Oystercatcher	5 (AUG)	6 (AUG)	4 (APR)	2 (MAY)	3 (AUG)	4
Lapwing	0	2 (DEC)	0	0	0	0
Little Ringed Plover	0	0	0	0	3 (JUL)	1
Curlew	1 (AUG)	34 (NOV)	8 (OCT)	7 (MAY)	7 (NOV)	11
Bar-tailed Godwit	0	5 (NOV)	0	0	6 (OCT)	2
Black-tailed Godwit	41 (NOV)	4 (NOV)	4 (NOV)	1 (MAR)	183 (NOV)	47
Turnstone	0	27 (DEC)	170 (AUG)	12 (SEP)	11 (OCT)	44
Knot	0	0	0	12 (OCT)	0	2
Dunlin	10 (NOV)	480 (JAN)	55 (OCT)	0	280 (DEC)	165
Common Sandpiper	0	1 (AUG)	0	3 (MAY)	0	1
Redshank	53 (NOV)	110 (MAR)	65 (AUG)	115 (FEB)	72 (SEP)	83

Data provided by the British Trust for Ornithology on behalf of The Wetland Bird Survey.

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Five year summary for Immingham Docks - Sector K

Table 5: National and International importance of the site for each species.

Figures given indicate the percentage of the relevant threshold level in operation during 2020/2021 represented by the five-winter mean of peak counts for the species in question

e.g. 50% would indicate that the five-winter mean of peak counts is half the threshold level. It follows that values of 100% or higher indicate nationally or internationally important numbers of a given species occur on the site.

Where a count is enclosed by parentheses this indicates that it was considered incomplete

(i.e. those parts of the site not visited typically hold at least 25% of the species in question).

(an asterisk indicates that a 50-bird minimum (typically used for designation) has been used rather than 1% of National population)

Species	Autumn peak cf National Threshold	Winter peak cf National Threshold	Spring peak cf National Threshold	Annual peak cf National Threshold	Autumn peak cf International Threshold	Winter peak cf International Threshold	Spring peak cf International Threshold
Shelduck	1%	7%	1%	7%	0%	1%	0%
Gadwall	N/A	0%	N/A	0%	N/A	0%	N/A
Mallard	0%	0%	0%	0%	0%	0%	0%
Teal	N/A	0%	0%	0%	N/A	0%	0%
Cormorant	1%	1%	0%	1%	0%	0%	0%
Oystercatcher	0%	0%	0%	0%	0%	0%	0%
Little Ringed Plover	*2%	N/A	*2%	*2%	0%	N/A	0%
Curlew	0%	1%	0%	1%	0%	0%	0%
Bar-tailed Godwit	0%	0%	N/A	0%	0%	0%	N/A
Black-tailed Godwit	0%	12%	N/A	12%	0%	4%	N/A
Turnstone	10%	2%	1%	11%	3%	1%	0%
Knot	0%	N/A	N/A	0%	0%	N/A	N/A
Dunlin	2%	5%	0%	5%	0%	1%	0%

Species	Annual peak cf International Threshold	Autumn 5yr mean of peaks	Winter 5yr mean of peaks	Spring 5yr mean of peaks	Annual 5yr mean of peaks
Shelduck	1%	7	35	5	35
Gadwall	0%		1		1
Mallard	0%	0	1	1	2
Teal	0%		2	1	2
Cormorant	1%	4	5	2	6
Oystercatcher	0%	3	1	3	4
Little Ringed Plover	0%	1		1	1
Curlew	0%	4	10	2	11
Bar-tailed Godwit	0%	1	1		2
Black-tailed Godwit	4%	1	47		47
Turnstone	3%	40	8	2	44
Knot	0%	2			2
Dunlin	1%	60	163	2	165

Data provided by the British Trust for Ornithology on behalf of The Wetland Bird Survey.

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For some species (e.g. wintering geese) data collected by other surveys may be more appropriate for the purpose of site assessment.

Missing or unexpectedly low counts for gulls and terns should be treated with caution - counting these groups is optional and determination of count effort not always possible.

Five year summary for Immingham Docks - Sector K

Table5: National and International importance of the site for each species.

Figures given indicate the percentage of the relevant threshold level in operation during 2020/2021 represented by the five-winter mean of peak counts for the species in question

e.g. 50% would indicate that the five-winter mean of peak counts is half the threshold level. It follows that values of 100% or higher indicate nationally or internationally important numbers of a given species occur on the site.

Where a count is enclosed by parentheses this indicates that it was considered incomplete

(i.e. those parts of the site not visited typically hold at least 25% of the species in question).

(an asterisk indicates that a 50-bird minimum (typically used for designation) has been used rather than 1% of National population)

Species	Autumn peak cf National Threshold	Winter peak cf National Threshold	Spring peak cf National Threshold	Annual peak cf National Threshold	Autumn peak cf International Threshold	Winter peak cf International Threshold	Spring peak cf International Threshold
Common Sandpiper	*0%	N/A	*2%	*2%	0%	N/A	0%
Redshank	6%	8%	2%	9%	3%	3%	1%

Species	Annual peak cf International Threshold	Autumn 5yr mean of peaks	Winter 5yr mean of peaks	Spring 5yr mean of peaks	Annual 5yr mean of peaks
Common Sandpiper	0%	0		1	1
Redshank	3%	61	79	20	83

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These tabulations are based exclusively on data collected as part of the monthly Core Counts.

For some species (e.g. wintering geese) data collected by other surveys may be more appropriate for the purpose of site assessment.

Missing or unexpectedly low counts for gulls and terns should be treated with caution - counting these groups is optional and determination of count effort not always possible.

Humber Estuary (Low Tide)
WeBS Low Tide Count data for the winter 2011/12

Table 1: Raw monthly totals counted for the whole site

Date for all groups were requested - if data for gulls or terns were available note counting of both is optional (so statistics questionable)

Species	Nov	Dec	Jan	Feb	Winter maximum	Month of maximum
Brent Goose (Black Brant - nigricans)	1	1	.	.	1	Nov,Dec
Brent Goose (Dark-bellied - bernicla)	2908	2475	4080	1810	4080	Jan
Brent Goose (Light-bellied - hrota)	5	3	11	.	11	Jan
Canada Goose	30	1	67	132	132	Feb
Barnacle Goose	76	12	.	130	130	Feb
Greylag Goose	146	199	89	102	199	Dec
Greylag Goose (re-established)	1155	484	617	260	1155	Nov
Domestic Greylag Goose	.	4	.	3	4	Dec
Taiga/Tundra Bean Goose	3	.	.	1	3	Nov
Tundra Bean Goose	3	7	22	43	43	Feb
Pink-footed Goose	4038	865	1620	.	4038	Nov
White-fronted Goose (Greenland - flavirostris)	.	.	6	.	6	Jan
White-fronted Goose (European - albifrons)	102	199	2	1	199	Dec
Mute Swan	18	9	11	40	40	Feb
Bewick's Swan	2	.	.	.	2	Nov
Whooper Swan	16	.	.	9	16	Nov
Egyptian Goose	.	.	.	1	1	Feb
Shelduck	2631	2771	3409	2069	3409	Jan
Shoveler	133	88	40	145	145	Feb
Gadwall	33	2	15	3	33	Nov
Wigeon	2093	3802	4900	2877	4900	Jan
Mallard	1260	1102	1644	1695	1695	Feb
Pintail	41	4	11	.	41	Nov
Teal	6695	2966	4954	1039	6695	Nov
Pochard	2	.	7	10	10	Feb
Tufted Duck	2	.	5	22	22	Feb
Scaup	.	.	236	17	236	Jan
Eider	8	5	1	2	8	Nov

Data provided by the British Trust for Ornithology on behalf of The Wetland Bird Survey.
These tabulations are based exclusively on data collected as part of the Low Tide Count scheme.

Humber Estuary (Low Tide)
WeBS Low Tide Count data for the winter 2011/12

Table 1: Raw monthly totals counted for the whole site

Date for all groups were requested - if data for gulls or terns were available note counting of both is optional (so statistics questionable)

Species	Nov	Dec	Jan	Feb	Winter maximum	Month of maximum
Velvet Scoter	.	.	16	.	16	Jan
Common Scoter	43	.	.	.	43	Nov
Goldeneye	.	.	3	38	38	Feb
Goosander	.	.	3	2	3	Jan
Red-breasted Merganser	5	.	.	.	5	Nov
Red-throated Diver	.	5	2	1	5	Dec
Little Grebe	12	11	7	10	12	Nov
Red-necked Grebe	.	.	2	.	2	Jan
Great Crested Grebe	.	.	14	9	14	Jan
Grey Heron	10	7	10	8	10	Nov,Jan
Little Egret	50	33	35	19	50	Nov
Cormorant	60	124	106	172	172	Feb
Water Rail	.	1	.	2	2	Feb
Moorhen	7	13	13	7	13	Dec,Jan
Coot	9	9	9	72	72	Feb
Oystercatcher	4142	2252	4416	2053	4416	Jan
Avocet	973	159	8	15	973	Nov
Lapwing	15099	14773	14813	7928	15099	Nov
Golden Plover	32413	17543	15167	12083	32413	Nov
Grey Plover	378	1097	1322	980	1322	Jan
Ringed Plover	97	77	127	76	127	Jan
Curlew	1845	1342	1686	1760	1845	Nov
Bar-tailed Godwit	896	1814	1699	1836	1836	Feb
Black-tailed Godwit	1873	1979	859	491	1979	Dec
Turnstone	377	324	335	389	389	Feb
Knot	15239	11035	15441	7929	15441	Jan
Ruff	.	11	4	3	11	Dec
Sanderling	120	180	157	268	268	Feb

Data provided by the British Trust for Ornithology on behalf of The Wetland Bird Survey.
These tabulations are based exclusively on data collected as part of the Low Tide Count scheme.

Humber Estuary (Low Tide)
WeBS Low Tide Count data for the winter 2011/12

Table 1: Raw monthly totals counted for the whole site

Date for all groups were requested - if data for gulls or terns were available note counting of both is optional (so statistics questionable)

Species	Nov	Dec	Jan	Feb	Winter maximum	Month of maximum
Dunlin	8125	13352	12989	11791	13352	Dec
Woodcock	.	.	.	2	2	Feb
Jack Snipe	.	.	1	1	1	Jan, Feb
Snipe	37	17	28	27	37	Nov
Redshank	1454	1569	1737	1383	1737	Jan
Spotted Redshank	1	3	2	.	3	Dec
Greenshank	6	2	1	1	6	Nov
Black-headed Gull	978	1012	1456	1640	1640	Feb
Little Gull	1	.	.	.	1	Nov
Mediterranean Gull	.	.	.	1	1	Feb
Common Gull	195	886	442	1109	1109	Feb
Great Black-backed Gull	168	376	231	261	376	Dec
Herring Gull	197	770	713	1133	1133	Feb
Lesser Black-backed Gull	3	.	4	8	8	Feb
Kingfisher	1	.	.	.	1	Nov

Data provided by the British Trust for Ornithology on behalf of The Wetland Bird Survey.
These tabulations are based exclusively on data collected as part of the Low Tide Count scheme.

The Wetland Bird Survey is a partnership jointly funded by the British Trust for Ornithology, the Royal Society for the Protection of Birds and the Joint Nature Conservation Committee, in association with the Wildfowl and Wetlands Trust, with fieldwork conducted by volunteers

Humber Estuary (Low Tide)
WeBS Low Tide Count data for the winter 2011/12

Table 2: Overall counted area per month (in hectares) for all sectors counted in 2011/12

Sector code	Intertidal	Sub-tidal	Non-tidal	Total	Months counted
CH001	47	150	46	243	Nov,Dec,Jan,Feb
CH002	9	66	0	75	Nov,Jan,Feb
CH009	65	113	0	178	Nov,Dec,Jan,Feb
CH010	108	194	0	302	Nov,Dec,Jan,Feb
CH011	35	98	0	133	Nov,Dec,Jan,Feb
CH019	307	324	0	631	Nov,Dec,Jan,Feb
CH033	325	233	0	558	Dec,Jan,Feb
CH034	30	432	0	462	Dec,Jan,Feb
CH036	7	44	0	51	Nov,Dec,Jan,Feb
CH037	24	43	0	67	Nov,Dec,Jan,Feb
CH038	126	79	20	225	Nov,Dec,Jan,Feb
CH039	88	50	0	138	Nov,Dec,Jan,Feb
CH040	285	127	34	446	Nov,Dec,Jan,Feb
CH041	381	188	3	572	Nov,Dec,Jan,Feb
CH044	1204	298	0	1502	Nov,Dec,Jan,Feb
CH050	39	97	8	144	Nov,Dec,Jan,Feb
CH051	36	211	0	247	Nov,Jan,Feb
CH052	22	102	0	124	Nov,Dec,Jan,Feb
CH053	41	83	155	279	Nov,Dec,Jan,Feb
CH054	7	84	0	91	Nov,Dec,Jan,Feb
CH055	3	54	0	57	Nov,Dec,Jan,Feb
CH056	11	54	0	65	Nov,Dec,Jan,Feb
CH057	4	55	0	59	Nov,Dec,Jan,Feb
CH058	38	47	20	105	Nov
CH059	173	230	0	403	Nov,Jan,Feb
CH063	8	76	0	84	Nov,Jan,Feb
CH064	82	439	0	521	Dec,Jan,Feb
CH065	94	773	0	867	Dec,Jan,Feb
CH067	400	559	0	959	Nov,Dec,Jan,Feb

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These tabulations are based exclusively on data collected as part of the Low Tide Count scheme.

Humber Estuary (Low Tide)
WeBS Low Tide Count data for the winter 2011/12

Table 2: Overall counted area per month (in hectares) for all sectors counted in 2011/12

Sector code	Intertidal	Sub-tidal	Non-tidal	Total	Months counted
CH069	183	88	123	394	Nov,Dec,Jan,Feb
CH070	229	208	54	491	Nov,Dec,Jan,Feb
CH071	346	151	26	523	Nov,Dec,Jan,Feb
CH072	279	63	64	406	Nov,Dec,Jan,Feb
CH073	166	131	246	543	Nov,Jan,Feb
CH074	274	350	272	896	Nov,Dec,Jan,Feb
CH075	290	256	455	1001	Nov,Dec,Jan,Feb
CH076	226	153	235	614	Nov,Dec,Jan,Feb
CH077	252	30	466	748	Nov,Dec,Jan,Feb
CH078	101	23	129	253	Nov,Dec,Jan,Feb
CH079	771	100	54	925	Jan
CH081	105	128	0	233	Nov,Dec,Jan,Feb
CH082	48	0	24	72	Nov,Dec,Jan,Feb
CH083	128	156	20	304	Nov,Dec,Jan,Feb
CH084	189	173	30	392	Nov,Dec,Jan,Feb
CH085	190	62	9	261	Nov,Dec,Jan,Feb
CH086	517	116	0	633	Nov,Dec,Jan,Feb
CH087	16	205	0	221	Nov,Dec,Jan,Feb
CH088	96	185	0	281	Nov,Dec,Jan,Feb
CH089	20	80	16	116	Nov,Dec,Jan,Feb
CH092	33	62	16	111	Nov,Dec,Jan,Feb
CH093	14	48	51	113	Nov,Dec,Jan,Feb
CH094	45	107	43	195	Nov,Dec,Jan,Feb
CH095	227	0	0	227	Nov,Dec,Jan,Feb
CH096	0	2	0	2	Nov,Jan,Feb
CH097	346	0	0	346	Nov,Dec,Jan,Feb
CH098	89	0	0	89	Nov,Dec,Jan,Feb
CH099	149	266	21	436	Nov,Dec,Jan,Feb
CH100	100	207	95	402	Nov,Dec,Jan,Feb

Data provided by the British Trust for Ornithology on behalf of The Wetland Bird Survey.
These tabulations are based exclusively on data collected as part of the Low Tide Count scheme.

Humber Estuary (Low Tide)
WeBS Low Tide Count data for the winter 2011/12

Table 2: Overall counted area per month (in hectares) for all sectors counted in 2011/12

Sector code	Intertidal	Sub-tidal	Non-tidal	Total	Months counted
CH101	76	72	0	148	Nov,Dec,Jan,Feb
CH102	59	81	8	148	Nov,Dec,Jan,Feb
CH103	187	273	0	460	Nov,Dec,Jan,Feb
CH104	63	63	0	126	Nov,Dec,Jan,Feb
CH105	84	170	6	260	Nov,Dec,Jan,Feb
Total	9897	9312	2749	21958	

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Humber Estuary (Low Tide)
WeBS Low Tide Count data for the winter 2011/12

Table 3: Peak and mean densities for each species on requested count sections only

Areas in hectares, densities in birds per hectare

Sector code	Species	Preferred habitat	Area of preferred habitat	Peak count	Peak density	Mean count	Mean density
CH078	Taiga/Tundra Bean Goose	All habitats	253	1	0.00	0	0.00
	Shelduck	All habitats	253	8	0.03	2	0.01
	Oystercatcher	Intertidal	101	27	0.27	13	0.13
	Golden Plover	Intertidal & non-tidal	230	12	0.05	3	0.01
	Grey Plover	Intertidal	101	33	0.33	11	0.11
	Ringed Plover	Intertidal	101	2	0.02	1	0.00
	Curlew	Intertidal & non-tidal	230	192	0.83	54	0.23
	Bar-tailed Godwit	Intertidal	101	19	0.19	9	0.09
	Knot	Intertidal	101	38	0.38	10	0.09
	Sanderling	Intertidal	101	64	0.63	43	0.43
	Dunlin	Intertidal	101	89	0.88	37	0.37
	Black-headed Gull	All habitats	253	205	0.81	74	0.29
	Common Gull	All habitats	253	227	0.90	111	0.44
	Great Black-backed Gull	All habitats	253	166	0.66	75	0.29
Herring Gull	All habitats	253	606	2.40	194	0.77	

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Humber Estuary (Low Tide)
WeBS Low Tide Count data for the winter 2011/12

Table 4: Mean count and density for each species for the whole site

Densities in birds per hectare
Note these values are the sums of the values from Table 3 and thus take into account monthly variation in coverage

Species	Preferred habitat	Total area of preferred habitat	Mean site count	Mean site density
Brent Goose (Black Brant - nigricans)	All habitats	896.0	1	0.00
Brent Goose (Dark-bellied - bernicla)	All habitats	10144.0	2868	0.28
Brent Goose (Light-bellied - hrota)	All habitats	1290.0	5	0.00
Canada Goose	All habitats	1324.0	59	0.04
Barnacle Goose	All habitats	1495.0	70	0.05
Greylag Goose	All habitats	2174.0	143	0.07
Greylag Goose (re-established)	All habitats	4757.0	689	0.14
Domestic Greylag Goose	All habitats	553.0	2	0.00
Taiga/Tundra Bean Goose	All habitats	1267.0	1	0.00
Tundra Bean Goose	All habitats	1828.0	23	0.01
Pink-footed Goose	All habitats	5409.0	1642	0.30
White-fronted Goose (Greenland - flavirostris)	All habitats	346.0	2	0.01
White-fronted Goose (European - albifrons)	All habitats	4266.0	84	0.02
Mute Swan	Sub-tidal	1905.1	21	0.01
Bewick's Swan	All habitats	1001.0	1	0.00
Whooper Swan	All habitats	2457.0	8	0.00
Egyptian Goose	All habitats	1502.0	0	0.00
Shelduck	All habitats	19310.0	2874	0.15
Shoveler	All habitats	2252.0	104	0.05
Gadwall	All habitats	1673.0	13	0.01
Wigeon	All habitats	11781.0	3479	0.30
Mallard	All habitats	17410.0	1576	0.09
Pintail	All habitats	1647.0	14	0.01
Teal	All habitats	14788.0	3963	0.27
Pochard	Sub-tidal	85.1	6	0.07
Tufted Duck	Sub-tidal	137.1	8	0.06

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Humber Estuary (Low Tide)
WeBS Low Tide Count data for the winter 2011/12

Table 4: Mean count and density for each species for the whole site

Densities in birds per hectare
Note these values are the sums of the values from Table 3 and thus take into account monthly variation in coverage

Species	Preferred habitat	Total area of preferred habitat	Mean site count	Mean site density
Scaup	Sub-tidal	439.0	84	0.19
Eider	Sub-tidal	464.0	5	0.01
Velvet Scoter	Sub-tidal	359.0	4	0.01
Common Scoter	Sub-tidal	30.0	11	0.37
Goldeneye	Sub-tidal	1004.0	13	0.01
Goosander	Sub-tidal	857.0	2	0.00
Red-breasted Merganser	Sub-tidal	849.0	1	0.00
Red-throated Diver	Sub-tidal	409.0	2	0.00
Little Grebe	Sub-tidal	459.1	10	0.02
Red-necked Grebe	Sub-tidal	208.0	1	0.00
Great Crested Grebe	Sub-tidal	770.0	6	0.01
Grey Heron	Intertidal & non-tidal	2554.0	7	0.00
Little Egret	Intertidal & non-tidal	6381.0	39	0.01
Cormorant	All habitats	10129.0	117	0.01
Water Rail	Intertidal & non-tidal	1240.0	1	0.00
Moorhen	All habitats	954.0	10	0.01
Coot	Sub-tidal	779.1	28	0.04
Oystercatcher	Intertidal	4996.0	3239	0.65
Avocet	Intertidal	975.0	290	0.30
Lapwing	Intertidal & non-tidal	10003.0	13584	1.36
Golden Plover	Intertidal & non-tidal	9764.0	19996	2.05
Grey Plover	Intertidal	8341.0	1043	0.13
Ringed Plover	Intertidal	3581.0	105	0.03
Curlew	Intertidal & non-tidal	12260.0	1848	0.15
Bar-tailed Godwit	Intertidal	7409.0	1581	0.21
Black-tailed Godwit	Intertidal & non-tidal	4300.0	1305	0.30

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Humber Estuary (Low Tide)
WeBS Low Tide Count data for the winter 2011/12

Table 4: Mean count and density for each species for the whole site

Densities in birds per hectare

Note these values are the sums of the values from Table 3 and thus take into account monthly variation in coverage

Species	Preferred habitat	Total area of preferred habitat	Mean site count	Mean site density
Turnstone	Intertidal	3998.0	403	0.10
Knot	Intertidal	7268.0	14278	1.96
Ruff	Intertidal & non-tidal	859.0	5	0.01
Sanderling	Intertidal	3621.0	187	0.05
Dunlin	Intertidal	9463.0	12264	1.3
Woodcock	Intertidal & non-tidal	1750.0	0	0.00
Jack Snipe	Intertidal & non-tidal	1088.0	0	0.00
Snipe	Non-tidal	1873.4	29	0.02
Redshank	Intertidal & non-tidal	12252.0	1633	0.13
Spotted Redshank	Intertidal & non-tidal	545.0	1	0.00
Greenshank	Intertidal & non-tidal	2611.0	3	0.00
Black-headed Gull	All habitats	9891.0	1409	0.14
Little Gull	All habitats	1001.0	0	0.00
Mediterranean Gull	All habitats	959.0	0	0.00
Common Gull	All habitats	10661.0	745	0.07
Great Black-backed Gull	All habitats	10424.0	274	0.03
Herring Gull	All habitats	9351.0	713	0.08
Lesser Black-backed Gull	All habitats	2156.0	4	0.00
Kingfisher	All habitats	346.0	0	0.00

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Five year summary for Theddlethorpe to Mablethorpe North End

Table1: Total Counts - All Species Combined.

Peak monthly total = maximum of the sum of the counts of all species within each month.

Seasonal peaks = sum of the maximum counts of for each species within each Season.

Year	Peak Monthly Total	Autumn Peak	Winter Peak	Spring Peak
16/17	5728 (AUG)	6147	3246	411
17/18	7043 (AUG)	9524	1360	1202
18/19	3723 (AUG)	4468	2612	610
19/20	5874 (SEP)	6593	3914	222
20/21	6923 (FEB)	3553	10270	1065
MEAN	5858	6057	4280	702

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For some species (e.g. wintering geese) data collected by other surveys may be more appropriate for the purpose of site assessment.

Missing or unexpectedly low counts for gulls and terns should be treated with caution - counting these groups is optional and determination of count effort not always possible.

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Five year summary for Theddlethorpe to Mablethorpe North End

Table 2: Five-year average monthly counts of each species.

Figure in parentheses give number of complete and incomplete counts upon which the average is based.
Incomplete counts are excluded from calculations where, if included, they would depress the mean.

Species	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Brent Goose (Dark-bellied - bernicla)	0(4,.)	0(5,.)	3(4,1)	1(4,.)	1(5,.)	0(5,.)	0(3,1)	1(5,.)	0(4,.)	0(4,.)	0(4,.)	0(3,.)
Canada Goose	0(4,.)	37(5,.)	74(4,1)	37(4,.)	6(5,.)	0(5,.)	0(3,1)	0(5,.)	0(4,.)	1(4,.)	0(4,.)	0(3,.)
Barnacle Goose	0(4,.)	0(5,.)	0(4,1)	0(4,.)	0(5,.)	0(5,.)	0(3,1)	2(5,.)	0(4,.)	0(4,.)	0(4,.)	0(3,.)
Greylag Goose (British/Irish)	0(4,.)	0(5,.)	0(4,1)	0(4,.)	0(5,.)	1(5,.)	0(3,1)	0(5,.)	0(4,.)	2(4,.)	1(4,.)	0(3,.)
Pink-footed Goose	0(4,.)	0(5,.)	13(4,1)	165(4,.)	640(5,.)	29(5,.)	123(3,1)	5(5,.)	0(4,.)	0(4,.)	0(4,.)	0(3,.)
White-fronted Goose	0(4,.)	0(5,.)	0(4,1)	0(4,.)	0(5,.)	0(5,.)	0(3,1)	0(5,.)	0(4,.)	0(4,.)	0(4,.)	0(3,.)
Mute Swan	0(4,.)	0(5,.)	0(4,1)	0(4,.)	0(5,.)	0(5,.)	0(3,1)	0(5,.)	0(4,.)	0(4,.)	0(4,.)	0(3,.)
Whooper Swan	0(4,.)	0(5,.)	0(4,1)	2(4,.)	7(5,.)	1(5,.)	0(3,1)	0(5,.)	0(4,.)	0(4,.)	0(4,.)	0(3,.)
Egyptian Goose	0(4,.)	0(5,.)	0(4,1)	0(4,.)	0(5,.)	0(5,.)	0(3,1)	0(5,.)	0(4,.)	1(4,.)	0(4,.)	0(3,.)
Shelduck	2(4,.)	2(5,.)	10(4,1)	7(4,.)	1(5,.)	0(5,.)	0(3,1)	1(5,.)	3(4,.)	3(4,.)	3(4,.)	1(3,.)
Wigeon	0(4,.)	0(5,.)	5(4,1)	2(4,.)	0(5,.)	0(5,.)	0(3,1)	1(5,.)	5(4,.)	0(4,.)	0(4,.)	0(3,.)
Mallard	0(4,.)	0(5,.)	0(4,1)	2(4,.)	0(5,.)	1(5,.)	0(3,1)	0(5,.)	1(4,.)	0(4,.)	1(4,.)	0(3,.)
Teal	3(4,.)	7(5,.)	3(4,1)	1(4,.)	0(5,.)	1(5,.)	0(3,1)	0(5,.)	0(4,.)	0(4,.)	0(4,.)	1(3,.)
Velvet Scoter	0(4,.)	0(5,.)	0(4,1)	0(4,.)	0(5,.)	0(5,.)	1(3,1)	0(5,.)	0(4,.)	0(4,.)	0(4,.)	0(3,.)
Common Scoter	45(4,.)	8(5,.)	25(4,1)	69(4,.)	0(5,.)	2(5,.)	12(3,1)	0(5,.)	63(4,.)	0(4,.)	0(4,.)	0(3,.)
Long-tailed Duck	0(4,.)	0(5,.)	0(4,1)	0(4,.)	0(5,.)	0(5,.)	0(3,1)	0(5,.)	0(4,.)	0(4,.)	0(4,.)	0(3,.)
Red-breasted Merganser	0(4,.)	0(5,.)	0(4,1)	0(4,.)	0(5,.)	0(5,.)	0(3,1)	0(5,.)	0(4,.)	0(4,.)	0(4,.)	0(3,.)
Red-throated Diver	0(4,.)	0(5,.)	0(4,1)	0(4,.)	0(5,.)	1(5,.)	4(3,1)	0(5,.)	2(4,.)	1(4,.)	0(4,.)	0(3,.)
Great Crested Grebe	0(4,.)	0(5,.)	0(4,1)	0(4,.)	0(5,.)	0(5,.)	0(3,1)	0(5,.)	1(4,.)	0(4,.)	0(4,.)	0(3,.)
Grey Heron	0(4,.)	0(5,.)	0(4,1)	0(4,.)	0(5,.)	0(5,.)	0(3,1)	0(5,.)	0(4,.)	0(4,.)	0(4,.)	0(3,.)
Cormorant	7(4,.)	8(5,.)	20(4,1)	11(4,.)	10(5,.)	19(5,.)	4(3,1)	30(5,.)	41(4,.)	6(4,.)	0(4,.)	1(3,.)
Oystercatcher	16(4,.)	12(5,.)	45(4,1)	47(4,.)	11(5,.)	37(5,.)	19(3,1)	16(5,.)	16(4,.)	11(4,.)	6(4,.)	2(3,.)
Avocet	0(4,.)	0(5,.)	0(4,1)	0(4,.)	0(5,.)	0(5,.)	0(3,1)	0(5,.)	0(4,.)	0(4,.)	0(4,.)	0(3,.)
Lapwing	0(4,.)	0(5,.)	0(4,1)	0(4,.)	0(5,.)	2(5,.)	0(3,1)	0(5,.)	0(4,.)	0(4,.)	0(4,.)	0(3,.)
Golden Plover	0(4,.)	0(5,.)	0(4,1)	0(4,.)	22(5,.)	2(5,.)	0(3,1)	1(5,.)	41(4,.)	19(4,.)	0(4,.)	0(3,.)
Grey Plover	0(4,.)	0(5,.)	1(4,1)	2(4,.)	12(5,.)	2(5,.)	16(3,1)	8(5,.)	1(4,.)	0(4,.)	0(4,.)	0(3,.)
Ringed Plover	3(4,.)	96(5,.)	64(4,1)	5(4,.)	1(5,.)	2(5,.)	0(3,1)	8(5,.)	8(4,.)	17(4,.)	65(4,.)	1(3,.)
Little Ringed Plover	0(4,.)	0(5,.)	0(4,1)	0(4,.)	0(5,.)	0(5,.)	0(3,1)	0(5,.)	0(4,.)	1(4,.)	1(4,.)	0(3,.)
Whimbrel	3(4,.)	0(5,.)	0(4,1)	0(4,.)	0(5,.)	0(5,.)	0(3,1)	0(5,.)	0(4,.)	1(4,.)	0(4,.)	0(3,.)
Curlew	35(4,.)	66(5,.)	168(4,1)	166(4,.)	266(5,.)	395(5,.)	405(3,1)	318(5,.)	182(4,.)	43(4,.)	1(4,.)	1(3,.)
Bar-tailed Godwit	3(4,.)	2(5,.)	1(4,1)	3(4,.)	12(5,.)	10(5,.)	3(3,1)	4(5,.)	1(4,.)	2(4,.)	2(4,.)	0(3,.)
Black-tailed Godwit	0(4,.)	0(5,.)	0(4,1)	0(4,.)	0(5,.)	0(5,.)	0(3,1)	0(5,.)	0(4,.)	0(4,.)	0(4,.)	0(3,.)
Turnstone	1(4,.)	2(5,.)	1(4,1)	1(4,.)	0(5,.)	0(5,.)	0(3,1)	0(5,.)	0(4,.)	0(4,.)	1(4,.)	0(3,.)
Knot	12(4,.)	23(5,.)	0(4,1)	1(4,.)	82(5,.)	0(5,.)	24(3,1)	136(5,.)	2(4,.)	0(4,.)	0(4,.)	3(3,.)
Ruff	0(4,.)	1(5,.)	1(4,1)	0(4,.)	0(5,.)	0(5,.)	0(3,1)	0(5,.)	0(4,.)	0(4,.)	0(4,.)	0(3,.)
Curlew Sandpiper	0(4,.)	1(5,.)	0(4,1)	0(4,.)	0(5,.)	0(5,.)	0(3,1)	0(5,.)	0(4,.)	0(4,.)	0(4,.)	0(3,.)
Sanderling	31(4,.)	73(5,.)	41(4,1)	22(4,.)	55(5,.)	73(5,.)	33(3,1)	71(5,.)	41(4,.)	33(4,.)	28(4,.)	17(3,.)

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Missing or unexpectedly low counts for gulls and terns should be treated with caution - counting these groups is optional and determination of count effort not always possible.

Five year summary for Theddlethorpe to Mablethorpe North End

Table2: Five-year average monthly counts of each species.

Figure in parentheses give number of complete and incomplete counts upon which the average is based.
Incomplete counts are excluded from calculations where, if included, they would depress the mean.

Species	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Dunlin	42(4,.)	116(5,.)	125(4,1)	27(4,.)	185(5,.)	178(5,.)	481(3,1)	497(5,.)	64(4,.)	41(4,.)	67(4,.)	1(3,.)
Little Stint	0(4,.)	0(5,.)	0(4,1)	0(4,.)	0(5,.)	0(5,.)	0(3,1)	0(5,.)	0(4,.)	0(4,.)	0(4,.)	0(3,.)
Jack Snipe	0(4,.)	0(5,.)	0(4,1)	0(4,.)	0(5,.)	0(5,.)	0(3,1)	0(5,.)	0(4,.)	0(4,.)	0(4,.)	0(3,.)
Snipe	0(4,.)	0(5,.)	1(4,1)	1(4,.)	2(5,.)	1(5,.)	0(3,1)	0(5,.)	1(4,.)	0(4,.)	0(4,.)	0(3,.)
Redshank	4(4,.)	17(5,.)	14(4,1)	6(4,.)	25(5,.)	20(5,.)	19(3,1)	4(5,.)	3(4,.)	2(4,.)	0(4,.)	0(3,.)
Greenshank	0(4,.)	0(5,.)	0(4,1)	0(4,.)	0(5,.)	0(5,.)	0(3,1)	0(5,.)	0(4,.)	0(4,.)	0(4,.)	0(3,.)
Black-headed Gull	404(4,.)	3346(5,.)	3088(4,1)	908(4,.)	414(5,.)	167(5,.)	97(3,1)	251(5,.)	31(4,.)	7(4,.)	2(4,.)	1(3,.)
Mediterranean Gull	0(4,.)	0(5,.)	0(4,1)	0(4,.)	0(5,.)	0(5,.)	0(3,1)	0(5,.)	0(4,.)	0(4,.)	0(4,.)	0(3,.)
Common Gull	129(4,.)	466(5,.)	617(4,1)	110(4,.)	47(5,.)	301(5,.)	412(3,1)	320(5,.)	44(4,.)	53(4,.)	58(4,.)	18(3,.)
Great Black-backed Gull	19(4,.)	19(5,.)	51(4,1)	34(4,.)	31(5,.)	21(5,.)	45(3,1)	26(5,.)	39(4,.)	19(4,.)	6(4,.)	7(3,.)
Glaucous Gull	0(4,.)	0(5,.)	0(4,1)	0(4,.)	0(5,.)	0(5,.)	1(3,1)	0(5,.)	0(4,.)	0(4,.)	0(4,.)	0(3,.)
Herring Gull	28(4,.)	16(5,.)	86(4,1)	44(4,.)	104(5,.)	121(5,.)	269(3,1)	353(5,.)	168(4,.)	295(4,.)	198(4,.)	52(3,.)
Lesser Black-backed Gull	3(4,.)	2(5,.)	2(4,1)	0(4,.)	0(5,.)	0(5,.)	0(3,1)	0(5,.)	1(4,.)	0(4,.)	0(4,.)	2(3,.)
Sandwich Tern	23(4,.)	130(5,.)	38(4,1)	2(4,.)	0(5,.)	0(5,.)	0(2,1)	0(4,.)	0(4,.)	0(3,.)	0(3,.)	5(3,.)
Common Tern	4(4,.)	32(5,.)	8(4,1)	0(4,.)	0(5,.)	0(5,.)	0(2,1)	0(4,.)	0(4,.)	0(3,.)	0(3,.)	0(3,.)
Arctic Tern	0(4,.)	1(5,.)	0(4,1)	0(4,.)	0(5,.)	0(5,.)	0(2,1)	0(4,.)	0(4,.)	0(3,.)	0(3,.)	0(3,.)
Common/Arctic Tern	0(4,.)	1(5,.)	0(4,1)	0(4,.)	0(5,.)	0(5,.)	0(2,1)	0(4,.)	0(4,.)	0(3,.)	0(3,.)	0(3,.)
Black Tern	0(4,.)	0(5,.)	0(4,1)	0(4,.)	0(5,.)	0(5,.)	0(2,1)	0(4,.)	0(4,.)	0(3,.)	0(3,.)	0(3,.)

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Missing or unexpectedly low counts for gulls and terns should be treated with caution - counting these groups is optional and determination of count effort not always possible.

Five year summary for Theddlethorpe to Mablethorpe North End

Table3: Five-year peak monthly counts of each species.

The value reported represents the highest count obtained over the five-year period during the month in question and the species in question.

Species	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Brent Goose (Dark-bellied - bernicla)	0	0	11	4	4	0	0	6	0	0	0	0
Canada Goose	0	142	249	147	29	0	0	0	0	2	0	0
Barnacle Goose	0	0	0	0	0	0	0	11	0	0	0	0
Greylag Goose (British/Irish)	0	2	0	0	0	4	0	0	1	4	2	0
Pink-footed Goose	0	0	52	374	3200	87	368	23	0	0	0	0
White-fronted Goose	0	0	0	1	0	0	0	0	0	0	0	0
Mute Swan	0	0	0	0	1	0	0	0	1	0	0	0
Whooper Swan	0	0	0	6	35	5	0	0	0	0	0	0
Egyptian Goose	0	0	0	0	0	0	0	0	0	3	0	0
Shelduck	6	5	32	15	2	2	0	2	6	8	6	2
Wigeon	0	0	18	6	0	0	0	6	21	0	0	0
Mallard	0	0	0	6	0	4	0	0	4	0	2	0
Teal	10	26	12	4	0	4	0	0	0	0	0	2
Velvet Scoter	0	0	0	1	0	2	3	0	0	0	0	0
Common Scoter	115	23	42	260	0	11	37	0	240	0	0	0
Long-tailed Duck	0	0	0	0	0	0	0	0	1	0	0	0
Red-breasted Merganser	0	0	0	0	0	2	0	0	0	0	0	0
Red-throated Diver	0	2	0	0	2	7	7	0	9	2	0	0
Great Crested Grebe	0	2	0	0	0	2	0	0	5	0	0	0
Grey Heron	0	0	0	0	0	0	0	0	1	0	0	0
Cormorant	21	32	67	18	27	52	7	142	128	21	0	2
Oystercatcher	27	37	87	148	21	142	27	52	53	18	17	2
Avocet	0	0	0	0	0	0	0	0	0	0	1	0
Lapwing	0	0	0	0	1	8	0	0	0	0	0	0
Golden Plover	0	0	0	0	90	12	0	5	134	52	0	0
Grey Plover	0	1	2	3	22	4	19	24	3	0	0	0
Ringed Plover	7	225	148	8	3	12	0	33	14	42	164	2
Little Ringed Plover	0	1	0	0	0	0	0	0	1	5	2	0
Whimbrel	11	2	0	0	0	0	0	0	0	2	0	0
Curlew	88	115	204	209	404	496	448	477	429	134	3	3
Bar-tailed Godwit	7	4	3	3	38	31	5	20	3	9	7	0
Black-tailed Godwit	0	1	0	0	0	0	0	0	0	0	0	0
Turnstone	3	10	2	3	0	0	0	0	0	1	2	0
Knot	47	48	0	3	185	0	71	680	8	0	0	10
Ruff	0	3	3	0	0	0	0	0	0	0	0	0
Curlew Sandpiper	0	5	0	0	0	0	0	0	0	0	0	0
Sanderling	69	150	110	47	110	162	46	255	51	68	69	52
Dunlin	88	220	196	57	488	387	664	2050	134	137	186	2

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Missing or unexpectedly low counts for gulls and terns should be treated with caution - counting these groups is optional and determination of count effort not always possible.

Five year summary for Theddlethorpe to Mablethorpe North End

Table3: Five-year peak monthly counts of each species.

The value reported represents the highest count obtained over the five-year period during the month in question and the species in question.

Species	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Little Stint	0	0	1	0	0	0	0	0	0	0	0	0
Jack Snipe	0	0	0	0	1	0	0	1	0	1	0	0
Snipe	0	1	2	2	5	2	0	2	3	0	0	0
Redshank	14	48	36	11	58	33	48	8	5	7	1	0
Greenshank	0	2	1	0	0	0	0	0	0	0	0	0
Black-headed Gull	588	6500	4150	1460	1180	720	276	1200	89	21	8	3
Mediterranean Gull	0	1	0	0	0	0	0	1	0	0	0	0
Common Gull	378	2130	1250	247	58	650	775	920	78	206	210	47
Great Black-backed Gull	27	28	107	48	49	31	57	46	43	57	18	9
Glaucous Gull	0	0	0	0	0	0	1	0	0	1	0	0
Herring Gull	49	33	213	78	180	442	578	1100	325	696	630	126
Lesser Black-backed Gull	3	3	8	0	0	0	0	1	3	0	0	5
Sandwich Tern	28	284	89	8	0	0	0	0	0	0	0	10
Common Tern	11	88	18	0	0	0	0	0	0	0	0	0
Arctic Tern	0	6	0	0	0	0	0	0	0	0	0	0
Common/Arctic Tern	0	6	0	0	0	0	0	0	0	0	0	0
Black Tern	0	1	0	0	0	0	0	0	0	0	0	0

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Missing or unexpectedly low counts for gulls and terns should be treated with caution - counting these groups is optional and determination of count effort not always possible.

Five year summary for Theddlethorpe to Mablethorpe North End

Table 4a: Five-year autumn peak counts, and month in which this was recorded, of each species.

The value reported represents the highest count obtained between July and October for the year in question and the species in question

Where a count is enclosed by parentheses this indicates that it was considered incomplete i.e. those parts of the site not visited typically holds at least 25% of the species in question. Incomplete counts are excluded from calculation where, if included, they would depress the mean. When all counts are considered to be incomplete the maximum replaces the mean.

Species	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	Mean of Peaks
Brent Goose (Dark-bellied - bernicla)	11 (SEP)	0	0	0	4 (OCT)	3
Canada Goose	142 (AUG)	249 (SEP)	47 (SEP)	0	3 (AUG)	88
Greylag Goose (British/Irish)	2 (AUG)	0	0	0	0	0
Pink-footed Goose	0	374 (OCT)	0	286 (OCT)	0	132
White-fronted Goose	0	1 (OCT)	0	0	0	0
Whooper Swan	0	6 (OCT)	0	2 (OCT)	0	2
Shelduck	2 (SEP)	15 (OCT)	11 (OCT)	32 (SEP)	(7) (SEP)	15
Wigeon	18 (SEP)	0	0	0	6 (OCT)	5
Mallard	0	0	6 (OCT)	0	0	1
Teal	26 (AUG)	10 (JUL)	0	8 (AUG)	4 (OCT)	10
Velvet Scoter	0	0	1 (OCT)	0	0	0
Common Scoter	115 (JUL)	47 (JUL)	260 (OCT)	17 (AUG)	0	88
Red-throated Diver	0	2 (AUG)	0	0	0	0
Great Crested Grebe	0	2 (AUG)	0	0	0	0
Cormorant	5 (SEP)	67 (SEP)	21 (JUL)	9 (OCT)	32 (AUG)	27
Oystercatcher	15 (JUL)	69 (SEP)	148 (OCT)	37 (AUG)	(10) (SEP)	67
Grey Plover	0	0	3 (OCT)	2 (SEP)	1 (OCT)	1
Ringed Plover	124 (AUG)	148 (SEP)	29 (SEP)	58 (SEP)	225 (AUG)	117
Little Ringed Plover	0	0	0	1 (AUG)	0	0
Whimbrel	0	11 (JUL)	0	0	2 (AUG)	3
Curlew	138 (SEP)	204 (SEP)	177 (OCT)	209 (OCT)	115 (AUG)	169
Bar-tailed Godwit	2 (AUG)	3 (JUL)	7 (JUL)	4 (AUG)	2 (OCT)	4
Black-tailed Godwit	0	0	0	0	1 (AUG)	0
Turnstone	3 (JUL)	2 (SEP)	0	0	10 (AUG)	3
Knot	34 (AUG)	47 (JUL)	32 (AUG)	0	48 (AUG)	32
Ruff	0	3 (AUG)	0	0	0	1
Curlew Sandpiper	0	0	0	0	5 (AUG)	1
Sanderling	69 (JUL)	67 (SEP)	47 (OCT)	118 (AUG)	150 (AUG)	90
Dunlin	196 (SEP)	157 (SEP)	122 (AUG)	87 (AUG)	220 (AUG)	156
Little Stint	0	1 (SEP)	0	0	0	0
Snipe	1 (AUG)	2 (OCT)	2 (SEP)	2 (SEP)	2 (OCT)	2
Redshank	14 (JUL)	6 (AUG)	25 (AUG)	36 (SEP)	48 (AUG)	26
Greenshank	2 (AUG)	0	0	1 (SEP)	0	1

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Missing or unexpectedly low counts for gulls and terns should be treated with caution - counting these groups is optional and determination of count effort not always possible.

Five year summary for Theddlethorpe to Mablethorpe North End

Table 4a: Five-year autumn peak counts, and month in which this was recorded, of each species.

The value reported represents the highest count obtained between July and October for the year in question and the species in question

Where a count is enclosed by parentheses this indicates that it was considered incomplete i.e. those parts of the site not visited typically holds at least 25% of the species in question. Incomplete counts are excluded from calculation where, if included, they would depress the mean. When all counts are considered to be incomplete the maximum replaces the mean.

Species	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	Mean of Peaks
Black-headed Gull	2780 (AUG)	6500 (AUG)	3250 (AUG)	4150 (SEP)	2450 (AUG)	3826
Mediterranean Gull	0	0	1 (AUG)	0	0	0
Common Gull	2130 (AUG)	1250 (SEP)	142 (OCT)	875 (SEP)	(50) (SEP)	1099
Great Black-backed Gull	41 (SEP)	39 (OCT)	29 (SEP)	107 (SEP)	(20) (SEP)	54
Herring Gull	49 (JUL)	78 (OCT)	73 (SEP)	213 (SEP)	(45) (SEP)	103
Lesser Black-backed Gull	3 (AUG)	2 (JUL)	3 (JUL)	2 (AUG)	(8) (SEP)	4
Sandwich Tern	131 (AUG)	137 (AUG)	28 (JUL)	284 (AUG)	80 (AUG)	132
Common Tern	88 (AUG)	18 (SEP)	4 (JUL)	53 (AUG)	5 (AUG)	34
Arctic Tern	6 (AUG)	0	0	0	0	1
Common/Arctic Tern	0	6 (AUG)	0	0	0	1
Black Tern	0	1 (AUG)	0	0	0	0

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Five year summary for Theddlethorpe to Mablethorpe North End

Table 4b: Five-year winter peak counts, and month in which this was recorded, of each species.

The value reported represents the highest count obtained between November and March for the winter in question and the species in question

Where a count is enclosed by parentheses this indicates that it was considered incomplete i.e. those parts of the site not visited typically holds at least 25% of the species in question. Incomplete counts are excluded from calculation where, if included, they would depress the mean. When all counts are considered to be incomplete the maximum replaces the mean.

Species	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	Mean Peak
Brent Goose (Dark-bellied - bernicla)	0	0	0	4 (NOV)	6 (FEB)	2
Canada Goose	0	0	0	29 (NOV)	0	6
Barnacle Goose	0	0	0	0	11 (FEB)	2
Greylag Goose (British/Irish)	0	0	0	0	4 (DEC)	1
Pink-footed Goose	368 (JAN)	0	0	53 (DEC)	3200 (NOV)	724
Mute Swan	1 (MAR)	1 (NOV)	0	0	0	0
Whooper Swan	0	0	5 (DEC)	0	35 (NOV)	8
Shelduck	6 (MAR)	2 (NOV)	4 (MAR)	2 (DEC)	1 (NOV)	3
Wigeon	21 (MAR)	6 (FEB)	0	0	0	5
Mallard	4 (DEC)	0	0	4 (MAR)	0	2
Teal	0	0	0	4 (DEC)	0	1
Velvet Scoter	3 (JAN)	0	0	0	2 (DEC)	1
Common Scoter	37 (JAN)	11 (DEC)	0	240 (MAR)	0	58
Long-tailed Duck	1 (MAR)	0	0	0	0	0
Red-breasted Merganser	2 (DEC)	0	0	0	0	0
Red-throated Diver	9 (MAR)	(3) (JAN)	0	4 (JAN)	0	3
Great Crested Grebe	5 (MAR)	0	0	0	0	1
Grey Heron	0	0	0	0	1 (MAR)	0
Cormorant	34 (DEC)	8 (NOV)	5 (NOV)	34 (MAR)	142 (FEB)	45
Oystercatcher	53 (MAR)	5 (FEB)	142 (DEC)	21 (JAN)	17 (FEB)	48
Lapwing	8 (DEC)	0	0	0	1 (NOV)	2
Golden Plover	0	0	18 (NOV)	134 (MAR)	90 (NOV)	48
Grey Plover	22 (NOV)	(12) (JAN)	13 (JAN)	19 (JAN)	24 (FEB)	20
Ringed Plover	0	0	10 (MAR)	33 (FEB)	14 (MAR)	11
Little Ringed Plover	0	0	1 (MAR)	0	0	0
Curlew	477 (FEB)	404 (NOV)	456 (DEC)	496 (DEC)	430 (FEB)	453
Bar-tailed Godwit	38 (NOV)	0	0	31 (DEC)	20 (FEB)	18
Knot	158 (NOV)	0	185 (NOV)	67 (NOV)	680 (FEB)	218
Sanderling	53 (NOV)	(11) (JAN)	162 (DEC)	43 (NOV)	255 (FEB)	128
Dunlin	664 (JAN)	(248) (JAN)	344 (JAN)	436 (JAN)	2050 (FEB)	874
Jack Snipe	0	0	1 (NOV)	0	1 (NOV)	0
Snipe	0	2 (NOV)	5 (NOV)	2 (DEC)	0	2
Redshank	58 (NOV)	13 (NOV)	27 (DEC)	23 (NOV)	19 (DEC)	28

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Five year summary for Theddlethorpe to Mablethorpe North End

Table 4b: Five-year winter peak counts, and month in which this was recorded, of each species.

The value reported represents the highest count obtained between November and March for the winter in question and the species in question

Where a count is enclosed by parentheses this indicates that it was considered incomplete i.e. those parts of the site not visited typically holds at least 25% of the species in question. Incomplete counts are excluded from calculation where, if included, they would depress the mean. When all counts are considered to be incomplete the maximum replaces the mean.

Species	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	Mean Peak
Black-headed Gull	91 (NOV)	297 (NOV)	458 (NOV)	1180 (NOV)	1200 (FEB)	645
Mediterranean Gull	0	0	0	0	1 (FEB)	0
Common Gull	483 (FEB)	227 (DEC)	290 (DEC)	775 (JAN)	920 (FEB)	539
Great Black-backed Gull	57 (JAN)	(48) (JAN)	44 (JAN)	46 (NOV)	46 (FEB)	48
Glaucous Gull	1 (JAN)	(1) (JAN)	0	0	0	0
Herring Gull	591 (FEB)	61 (DEC)	442 (DEC)	231 (MAR)	1100 (FEB)	485
Lesser Black-backed Gull	1 (FEB)	0	0	3 (MAR)	0	1

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Five year summary for Theddlethorpe to Mablethorpe North End

Table4c: Five-year spring peak counts, and month in which this was recorded, of each species.

The value reported represents the highest count obtained between April and June for the year in question and the species in question
 Where a count is enclosed by parentheses this indicates that it was considered incomplete
 i.e. those parts of the site not visited typically holds at least 25% of the species in question.
 Incomplete counts are excluded from calculation where, if included, they would depress the mean.
 When all counts are considered to be incomplete the maximum replaces the mean.

Species	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	Mean Peak
Canada Goose	0	0	2 (APR)	0	1 (APR)	1
Greylag Goose (British/Irish)	0	0	4 (APR)	0	3 (APR)	1
Egyptian Goose	0	3 (APR)	0	0	0	1
Shelduck	4 (MAY)	4 (APR)	8 (APR)	1 (JUN)	2 (MAY)	4
Mallard	0	0	0	0	2 (MAY)	0
Teal	0	0	0	2 (JUN)	0	0
Red-throated Diver	0	2 (APR)	0	0	0	0
Cormorant	2 (JUN)	21 (APR)	0	0	1 (APR)	5
Oystercatcher	4 (APR)	16 (APR)	18 (APR)	2 (JUN)	4 (APR)	9
Avocet	0	0	0	0	1 (MAY)	0
Golden Plover	0	0	24 (APR)	0	52 (APR)	15
Ringed Plover	164 (MAY)	6 (APR)	82 (MAY)	15 (MAY)	14 (APR)	56
Little Ringed Plover	2 (MAY)	0	0	0	5 (APR)	1
Whimbrel	2 (APR)	0	0	0	0	0
Curlew	6 (APR)	134 (APR)	12 (APR)	0	18 (APR)	34
Bar-tailed Godwit	9 (APR)	0	7 (MAY)	0	0	3
Turnstone	0	1 (APR)	2 (MAY)	0	0	1
Knot	0	10 (JUN)	0	0	0	2
Sanderling	69 (MAY)	7 (APR)	45 (APR)	52 (JUN)	68 (APR)	48
Dunlin	78 (MAY)	0	186 (MAY)	2 (MAY)	25 (APR)	58
Jack Snipe	0	0	0	0	1 (APR)	0
Redshank	0	7 (APR)	0	0	2 (APR)	2
Black-headed Gull	0	21 (APR)	4 (APR)	3 (JUN)	8 (MAY)	7
Common Gull	22 (MAY)	206 (APR)	0	7 (JUN)	210 (MAY)	89
Great Black-backed Gull	9 (JUN)	57 (APR)	19 (APR)	3 (JUN)	18 (MAY)	21
Glaucous Gull	0	1 (APR)	0	0	0	0
Herring Gull	38 (APR)	696 (APR)	197 (APR)	126 (JUN)	630 (MAY)	337
Lesser Black-backed Gull	2 (JUN)	0	0	5 (JUN)	0	1
Sandwich Tern	0	10 (JUN)	0	4 (JUN)	0	3

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Five year summary for Theddlethorpe to Mablethorpe North End

Table 4d: Five-year annual peak counts, and month in which this was recorded, of each species.

The value reported represents the highest count obtained between July and June for the year in question and the species in question
 Where a count is enclosed by parentheses this indicates that it was considered incomplete
 i.e. those parts of the site not visited typically holds at least 25% of the species in question.
 Incomplete counts are excluded from calculation where, if included, they would depress the mean.
 When all counts are considered to be incomplete the maximum replaces the mean.

Species	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	Mean Peak
Brent Goose (Dark-bellied - bernicla)	11 (SEP)	0	0	4 (NOV)	6 (FEB)	4
Canada Goose	142 (AUG)	249 (SEP)	47 (SEP)	29 (NOV)	3 (AUG)	94
Barnacle Goose	0	0	0	0	11 (FEB)	2
Greylag Goose (British/Irish)	2 (AUG)	0	4 (APR)	0	4 (DEC)	2
Pink-footed Goose	368 (JAN)	374 (OCT)	0	286 (OCT)	3200 (NOV)	846
White-fronted Goose	0	1 (OCT)	0	0	0	0
Mute Swan	1 (MAR)	1 (NOV)	0	0	0	0
Whooper Swan	0	6 (OCT)	5 (DEC)	2 (OCT)	35 (NOV)	10
Egyptian Goose	0	3 (APR)	0	0	0	1
Shelduck	6 (MAR)	15 (OCT)	11 (OCT)	32 (SEP)	(7) (SEP)	16
Wigeon	21 (MAR)	6 (FEB)	0	0	6 (OCT)	7
Mallard	4 (DEC)	0	6 (OCT)	4 (MAR)	2 (MAY)	3
Teal	26 (AUG)	10 (JUL)	0	8 (AUG)	4 (OCT)	10
Velvet Scoter	3 (JAN)	0	1 (OCT)	0	2 (DEC)	1
Common Scoter	115 (JUL)	47 (JUL)	260 (OCT)	240 (MAR)	0	132
Long-tailed Duck	1 (MAR)	0	0	0	0	0
Red-breasted Merganser	2 (DEC)	0	0	0	0	0
Red-throated Diver	9 (MAR)	(3) (JAN)	0	4 (JAN)	0	3
Great Crested Grebe	5 (MAR)	2 (AUG)	0	0	0	1
Grey Heron	0	0	0	0	1 (MAR)	0
Cormorant	34 (DEC)	67 (SEP)	21 (JUL)	34 (MAR)	142 (FEB)	60
Oystercatcher	53 (MAR)	69 (SEP)	148 (OCT)	37 (AUG)	17 (FEB)	65
Avocet	0	0	0	0	1 (MAY)	0
Lapwing	8 (DEC)	0	0	0	1 (NOV)	2
Golden Plover	0	0	24 (APR)	134 (MAR)	90 (NOV)	50
Grey Plover	22 (NOV)	(12) (JAN)	13 (JAN)	19 (JAN)	24 (FEB)	20
Ringed Plover	164 (MAY)	148 (SEP)	82 (MAY)	58 (SEP)	225 (AUG)	135
Little Ringed Plover	2 (MAY)	0	1 (MAR)	1 (AUG)	5 (APR)	2
Whimbrel	2 (APR)	11 (JUL)	0	0	2 (AUG)	3
Curlew	477 (FEB)	404 (NOV)	456 (DEC)	496 (DEC)	430 (FEB)	453
Bar-tailed Godwit	38 (NOV)	3 (JUL)	7 (JUL)	31 (DEC)	20 (FEB)	20
Black-tailed Godwit	0	0	0	0	1 (AUG)	0
Turnstone	3 (JUL)	2 (SEP)	2 (MAY)	0	10 (AUG)	3
Knot	158 (NOV)	47 (JUL)	185 (NOV)	67 (NOV)	680 (FEB)	227

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Five year summary for Theddlethorpe to Mablethorpe North End

Table 4d: Five-year annual peak counts, and month in which this was recorded, of each species.

The value reported represents the highest count obtained between July and June for the year in question and the species in question
 Where a count is enclosed by parentheses this indicates that it was considered incomplete
 i.e. those parts of the site not visited typically holds at least 25% of the species in question.
 Incomplete counts are excluded from calculation where, if included, they would depress the mean.
 When all counts are considered to be incomplete the maximum replaces the mean.

Species	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	Mean Peak
Ruff	0	3 (AUG)	0	0	0	1
Curlew Sandpiper	0	0	0	0	5 (AUG)	1
Sanderling	69 (JUL)	67 (SEP)	162 (DEC)	118 (AUG)	255 (FEB)	134
Dunlin	664 (JAN)	(248) (JAN)	344 (JAN)	436 (JAN)	2050 (FEB)	874
Little Stint	0	1 (SEP)	0	0	0	0
Jack Snipe	0	0	1 (NOV)	0	1 (APR)	0
Snipe	1 (AUG)	2 (OCT)	5 (NOV)	2 (SEP)	2 (OCT)	2
Redshank	58 (NOV)	13 (NOV)	27 (DEC)	36 (SEP)	48 (AUG)	36
Greenshank	2 (AUG)	0	0	1 (SEP)	0	1
Black-headed Gull	2780 (AUG)	6500 (AUG)	3250 (AUG)	4150 (SEP)	2450 (AUG)	3826
Mediterranean Gull	0	0	1 (AUG)	0	1 (FEB)	0
Common Gull	2130 (AUG)	1250 (SEP)	290 (DEC)	875 (SEP)	920 (FEB)	1093
Great Black-backed Gull	57 (JAN)	57 (APR)	44 (JAN)	107 (SEP)	46 (FEB)	62
Glaucous Gull	1 (JAN)	1 (APR)	0	0	0	0
Herring Gull	591 (FEB)	696 (APR)	442 (DEC)	231 (MAR)	1100 (FEB)	612
Lesser Black-backed Gull	3 (AUG)	2 (JUL)	3 (JUL)	5 (JUN)	(8) (SEP)	4
Sandwich Tern	131 (AUG)	137 (AUG)	28 (JUL)	284 (AUG)	80 (AUG)	132
Common Tern	88 (AUG)	18 (SEP)	4 (JUL)	53 (AUG)	5 (AUG)	34
Arctic Tern	6 (AUG)	0	0	0	0	1
Common/Arctic Tern	0	6 (AUG)	0	0	0	1
Black Tern	0	1 (AUG)	0	0	0	0

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Five year summary for Theddlethorpe to Mablethorpe North End

Table 5: National and International importance of the site for each species.

Figures given indicate the percentage of the relevant threshold level in operation during 2020/2021 represented by the five-winter mean of peak counts for the species in question

e.g. 50% would indicate that the five-winter mean of peak counts is half the threshold level. It follows that values of 100% or higher indicate nationally or internationally important numbers of a given species occur on the site.

Where a count is enclosed by parentheses this indicates that it was considered incomplete

(i.e. those parts of the site not visited typically hold at least 25% of the species in question).

(an asterisk indicates that a 50-bird minimum (typically used for designation) has been used rather than 1% of National population)

Species	Autumn peak cf National Threshold	Winter peak cf National Threshold	Spring peak cf National Threshold	Annual peak cf National Threshold	Autumn peak cf International Threshold	Winter peak cf International Threshold
Brent Goose (Dark-bellied - bernicla)	0%	0%	N/A	0%	0%	0%
Canada Goose	*176%	*12%	*2%	*188%	N/A	N/A
Barnacle Goose	N/A	*4%	N/A	*4%	N/A	N/A
Greylag Goose (British/Irish)	0%	0%	0%	0%	N/A	N/A
Pink-footed Goose	3%	14%	N/A	17%	2%	13%
Whooper Swan	1%	5%	N/A	6%	1%	2%
Egyptian Goose	N/A	N/A	*2%	*2%	N/A	N/A
Shelduck	3%	1%	1%	3%	1%	0%
Wigeon	0%	0%	N/A	0%	0%	0%
Mallard	0%	0%	0%	0%	0%	0%
Teal	0%	0%	0%	0%	0%	0%
Velvet Scoter	*0%	*2%	N/A	*2%	0%	0%
Common Scoter	7%	4%	N/A	10%	1%	1%
Red-throated Diver	0%	1%	0%	1%	0%	0%

Species	Spring peak cf International Threshold	Annual peak cf International Threshold	Autumn 5yr mean of peaks	Winter 5yr mean of peaks	Spring 5yr mean of peaks	Annual 5yr mean of peaks
Brent Goose (Dark-bellied - bernicla)	N/A	0%	3	2		4
Canada Goose	N/A	N/A	88	6	1	94
Barnacle Goose	N/A	N/A		2		2
Greylag Goose (British/Irish)	N/A	N/A	0	1	1	2
Pink-footed Goose	N/A	16%	132	724		846
Whooper Swan	N/A	3%	2	8		10
Egyptian Goose	N/A	N/A			1	1
Shelduck	0%	1%	15	3	4	16
Wigeon	N/A	0%	5	5		7
Mallard	0%	0%	1	2	0	3
Teal	0%	0%	10	1	0	10
Velvet Scoter	N/A	0%	0	1		1
Common Scoter	N/A	2%	88	58		132
Red-throated Diver	0%	0%	0	3	0	3

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Five year summary for Theddlethorpe to Mablethorpe North End

Table 5: National and International importance of the site for each species.

Figures given indicate the percentage of the relevant threshold level in operation during 2020/2021 represented by the five-winter mean of peak counts for the species in question

e.g. 50% would indicate that the five-winter mean of peak counts is half the threshold level. It follows that values of 100% or higher indicate nationally or internationally important numbers of a given species occur on the site.

Where a count is enclosed by parentheses this indicates that it was considered incomplete

(i.e. those parts of the site not visited typically hold at least 25% of the species in question).

(an asterisk indicates that a 50-bird minimum (typically used for designation) has been used rather than 1% of National population)

Species	Autumn peak cf National Threshold	Winter peak cf National Threshold	Spring peak cf National Threshold	Annual peak cf National Threshold	Autumn peak cf International Threshold	Winter peak cf International Threshold
Great Crested Grebe	0%	1%	N/A	1%	0%	0%
Cormorant	4%	7%	1%	10%	2%	4%
Oystercatcher	2%	2%	0%	2%	1%	1%
Lapwing	N/A	0%	N/A	0%	N/A	0%
Golden Plover	N/A	1%	0%	1%	N/A	1%
Grey Plover	0%	6%	N/A	6%	0%	1%
Ringed Plover	28%	3%	13%	32%	22%	2%
Little Ringed Plover	*0%	*0%	*2%	*4%	0%	0%
Whimbrel	*6%	N/A	*0%	*6%	0%	N/A
Curlew	14%	38%	3%	38%	2%	6%
Bar-tailed Godwit	1%	4%	1%	4%	0%	1%
Turnstone	1%	N/A	0%	1%	0%	N/A
Knot	1%	8%	0%	9%	1%	4%
Ruff	*2%	N/A	N/A	*2%	0%	N/A

Species	Spring peak cf International Threshold	Annual peak cf International Threshold	Autumn 5yr mean of peaks	Winter 5yr mean of peaks	Spring 5yr mean of peaks	Annual 5yr mean of peaks
Great Crested Grebe	N/A	0%	0	1		1
Cormorant	0%	5%	27	45	5	60
Oystercatcher	0%	1%	67	48	9	65
Lapwing	N/A	0%		2		2
Golden Plover	0%	1%		48	15	50
Grey Plover	N/A	1%	1	20		20
Ringed Plover	10%	25%	117	11	56	135
Little Ringed Plover	0%	0%	0	0	1	2
Whimbrel	0%	0%	3		0	3
Curlew	0%	6%	169	453	34	453
Bar-tailed Godwit	0%	1%	4	18	3	20
Turnstone	0%	0%	3		1	3
Knot	0%	4%	32	218	2	227
Ruff	N/A	0%	1			1

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Five year summary for Theddlethorpe to Mablethorpe North End

Table 5: National and International importance of the site for each species.

Figures given indicate the percentage of the relevant threshold level in operation during 2020/2021 represented by the five-winter mean of peak counts for the species in question

e.g. 50% would indicate that the five-winter mean of peak counts is half the threshold level. It follows that values of 100% or higher indicate nationally or internationally important numbers of a given species occur on the site.

Where a count is enclosed by parentheses this indicates that it was considered incomplete

(i.e. those parts of the site not visited typically hold at least 25% of the species in question).

(an asterisk indicates that a 50-bird minimum (typically used for designation) has been used rather than 1% of National population)

Species	Autumn peak cf National Threshold	Winter peak cf National Threshold	Spring peak cf National Threshold	Annual peak cf National Threshold	Autumn peak cf International Threshold	Winter peak cf International Threshold
Curlew Sandpiper	*2%	N/A	N/A	*2%	0%	N/A
Sanderling	45%	64%	24%	67%	5%	6%
Dunlin	5%	26%	2%	26%	1%	7%
Snipe	0%	0%	N/A	0%	0%	0%
Redshank	3%	3%	0%	4%	1%	1%
Greenshank	*2%	N/A	N/A	*2%	0%	N/A
Black-headed Gull	17%	3%	0%	17%	19%	3%
Common Gull	16%	8%	1%	16%	7%	3%
Great Black-backed Gull	7%	6%	3%	8%	2%	1%
Herring Gull	1%	7%	5%	8%	1%	5%
Lesser Black-backed Gull	0%	0%	0%	0%	0%	0%
Sandwich Tern	*264%	N/A	*6%	*264%	8%	N/A
Common Tern	*68%	N/A	N/A	*68%	2%	N/A

Species	Spring peak cf International Threshold	Annual peak cf International Threshold	Autumn 5yr mean of peaks	Winter 5yr mean of peaks	Spring 5yr mean of peaks	Annual 5yr mean of peaks
Curlew Sandpiper	N/A	0%	1			1
Sanderling	2%	7%	90	128	48	134
Dunlin	0%	7%	156	874	58	874
Snipe	N/A	0%	2	2		2
Redshank	0%	2%	26	28	2	36
Greenshank	N/A	0%	1			1
Black-headed Gull	0%	19%	3826	645	7	3826
Common Gull	1%	7%	1099	539	89	1093
Great Black-backed Gull	1%	2%	54	48	21	62
Herring Gull	3%	6%	103	485	337	612
Lesser Black-backed Gull	0%	0%	4	1	1	4
Sandwich Tern	0%	8%	132		3	132
Common Tern	N/A	2%	34			34

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Missing or unexpectedly low counts for gulls and terns should be treated with caution - counting these groups is optional and determination of count effort not always possible.

Five year summary for Theddlethorpe to Mablethorpe North End

Table 5: National and International importance of the site for each species.

Figures given indicate the percentage of the relevant threshold level in operation during 2020/2021 represented by the five-winter mean of peak counts for the species in question

e.g. 50% would indicate that the five-winter mean of peak counts is half the threshold level. It follows that values of 100% or higher indicate nationally or internationally important numbers of a given species occur on the site.

Where a count is enclosed by parentheses this indicates that it was considered incomplete

(i.e. those parts of the site not visited typically hold at least 25% of the species in question).

(an asterisk indicates that a 50-bird minimum (typically used for designation) has been used rather than 1% of National population)

Species	Autumn peak cf National Threshold	Winter peak cf National Threshold	Spring peak cf National Threshold	Annual peak cf National Threshold	Autumn peak cf International Threshold	Winter peak cf International Threshold
Arctic Tern	*2%	N/A	N/A	*2%	0%	N/A
Common/Arctic Tern	*2%	N/A	N/A	*2%	N/A	N/A

Species	Spring peak cf International Threshold	Annual peak cf International Threshold	Autumn 5yr mean of peaks	Winter 5yr mean of peaks	Spring 5yr mean of peaks	Annual 5yr mean of peaks
Arctic Tern	N/A	0%	1			1
Common/Arctic Tern	N/A	N/A	1			1

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Five year summary for Viking Fields

Table 1: Total Counts - All Species Combined.

Peak monthly total = maximum of the sum of the counts of all species within each month.

Seasonal peaks = sum of the maximum counts of for each species within each Season.

Year	Peak Monthly Total	Month	Autumn Peak	Winter Peak	Spring Peak
17/18	349	(JAN)	N/C	455	98
18/19	311	(JAN)	N/C	441	38
19/20	600	(FEB)	0	740	N/C
20/21	263	(NOV)	N/C	313	89
21/22	1356	(DEC)	39	2095	112
MEAN		576	20	809	84

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Five year summary for Viking Fields

Table 2: Five-year average monthly counts of each species.

Figure in parentheses give number of complete and incomplete counts upon which the average is based.
Incomplete counts are excluded from calculations where, if included, they would depress the mean.

Species	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Canada Goose	6(1,,)	N/C	N/C	0(1,,)	115(2,,)	0(1,,)	214(4,,)	167(4,,)	38(2,,)	14(3,,)	18(2,,)	11(3,,)
Greylag Goose (British/Irish)	0(1,,)	N/C	N/C	0(1,,)	0(2,,)	0(1,,)	0(4,,)	4(4,,)	1(2,,)	0(3,,)	0(2,,)	0(3,,)
Mute Swan	0(1,,)	N/C	N/C	0(1,,)	0(2,,)	0(1,,)	0(4,,)	0(4,,)	0(2,,)	1(3,,)	0(2,,)	0(3,,)
Shelduck	0(1,,)	N/C	N/C	0(1,,)	0(2,,)	0(1,,)	0(4,,)	0(4,,)	0(2,,)	2(3,,)	0(2,,)	1(3,,)
Shoveler	0(1,,)	N/C	N/C	0(1,,)	0(2,,)	8(1,,)	3(4,,)	10(4,,)	16(2,,)	13(3,,)	0(2,,)	0(3,,)
Gadwall	0(1,,)	N/C	N/C	0(1,,)	0(2,,)	0(1,,)	0(4,,)	0(4,,)	1(2,,)	0(3,,)	0(2,,)	0(3,,)
Wigeon	0(1,,)	N/C	N/C	0(1,,)	70(2,,)	750(1,,)	149(4,,)	197(4,,)	247(2,,)	5(3,,)	0(2,,)	0(3,,)
Mallard	5(1,,)	N/C	N/C	0(1,,)	19(2,,)	0(1,,)	10(4,,)	20(4,,)	5(2,,)	4(3,,)	3(2,,)	10(3,,)
Teal	0(1,,)	N/C	N/C	0(1,,)	29(2,,)	455(1,,)	32(4,,)	68(4,,)	9(2,,)	12(3,,)	0(2,,)	0(3,,)
Tufted Duck	0(1,,)	N/C	N/C	0(1,,)	0(2,,)	0(1,,)	0(4,,)	0(4,,)	4(2,,)	0(3,,)	0(2,,)	0(3,,)
Grey Heron	0(1,,)	N/C	N/C	0(1,,)	0(2,,)	0(1,,)	0(4,,)	0(4,,)	0(2,,)	0(3,,)	0(2,,)	0(3,,)
Little Egret	3(1,,)	N/C	N/C	0(1,,)	0(2,,)	0(1,,)	0(4,,)	0(4,,)	0(2,,)	0(3,,)	0(2,,)	1(3,,)
Oystercatcher	0(1,,)	N/C	N/C	0(1,,)	0(2,,)	0(1,,)	0(4,,)	0(4,,)	2(2,,)	1(3,,)	1(2,,)	1(3,,)
Avocet	4(1,,)	N/C	N/C	0(1,,)	0(2,,)	0(1,,)	0(4,,)	0(4,,)	0(2,,)	3(3,,)	4(2,,)	4(3,,)
Lapwing	16(1,,)	N/C	N/C	0(1,,)	0(2,,)	12(1,,)	39(4,,)	120(4,,)	141(2,,)	7(3,,)	7(2,,)	6(3,,)
Little Ringed Plover	0(1,,)	N/C	N/C	0(1,,)	0(2,,)	0(1,,)	0(4,,)	0(4,,)	1(2,,)	1(3,,)	0(2,,)	2(3,,)
Whimbrel	0(1,,)	N/C	N/C	0(1,,)	0(2,,)	0(1,,)	0(4,,)	0(4,,)	0(2,,)	0(3,,)	1(2,,)	0(3,,)
Curlew	0(1,,)	N/C	N/C	0(1,,)	53(2,,)	66(1,,)	43(4,,)	19(4,,)	17(2,,)	5(3,,)	1(2,,)	0(3,,)
Bar-tailed Godwit	0(1,,)	N/C	N/C	0(1,,)	0(2,,)	1(1,,)	0(4,,)	0(4,,)	0(2,,)	0(3,,)	0(2,,)	0(3,,)
Dunlin	0(1,,)	N/C	N/C	0(1,,)	0(2,,)	2(1,,)	0(4,,)	0(4,,)	1(2,,)	0(3,,)	0(2,,)	0(3,,)
Snipe	0(1,,)	N/C	N/C	0(1,,)	0(2,,)	0(1,,)	0(4,,)	1(4,,)	4(2,,)	0(3,,)	0(2,,)	0(3,,)
Redshank	0(1,,)	N/C	N/C	0(1,,)	7(2,,)	55(1,,)	11(4,,)	4(4,,)	11(2,,)	5(3,,)	0(2,,)	0(3,,)
Black-headed Gull	5(1,,)	N/C	N/C	0(1,,)	0(2,,)	0(1,,)	1(4,,)	6(4,,)	3(2,,)	1(3,,)	0(2,,)	1(3,,)
Common Gull	0(1,,)	N/C	N/C	0(1,,)	2(2,,)	2(1,,)	6(4,,)	0(4,,)	0(2,,)	0(3,,)	0(2,,)	0(3,,)
Great Black-backed Gull	0(1,,)	N/C	N/C	0(1,,)	0(2,,)	0(1,,)	0(4,,)	0(4,,)	0(2,,)	1(3,,)	0(2,,)	0(3,,)
Herring Gull	0(1,,)	N/C	N/C	0(1,,)	0(2,,)	5(1,,)	0(4,,)	0(4,,)	0(2,,)	6(3,,)	5(2,,)	0(3,,)
Lesser Black-backed Gull	0(1,,)	N/C	N/C	0(1,,)	0(2,,)	0(1,,)	0(4,,)	0(4,,)	0(2,,)	1(3,,)	0(2,,)	0(3,,)

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Five year summary for Viking Fields

Table3: Five-year peak monthly counts of each species.

The value reported represents the highest count obtained over the five-year period during the month in question and the species in question.

Species	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Canada Goose	6	N/C	N/C	0	115	0	360	388	57	28	36	17
Greylag Goose (British/Irish)	0	N/C	N/C	0	0	0	0	8	1	0	0	0
Mute Swan	0	N/C	N/C	0	0	0	0	0	0	2	0	0
Shelduck	0	N/C	N/C	0	0	0	0	0	0	4	0	2
Shoveler	0	N/C	N/C	0	0	8	11	26	18	19	0	0
Gadwall	0	N/C	N/C	0	0	0	0	0	1	0	0	0
Wigeon	0	N/C	N/C	0	95	750	360	526	490	8	0	0
Mallard	5	N/C	N/C	0	38	0	32	53	10	8	5	16
Teal	0	N/C	N/C	0	40	455	55	225	18	31	0	1
Tufted Duck	0	N/C	N/C	0	0	0	0	0	7	0	0	1
Grey Heron	0	N/C	N/C	0	0	0	0	0	0	1	0	0
Little Egret	3	N/C	N/C	0	0	0	0	0	0	0	0	3
Oystercatcher	0	N/C	N/C	0	0	0	0	0	2	2	2	2
Avocet	4	N/C	N/C	0	0	0	0	0	0	7	8	8
Lapwing	16	N/C	N/C	0	0	12	110	200	275	12	8	14
Little Ringed Plover	0	N/C	N/C	0	0	0	0	0	1	2	0	5
Whimbrel	0	N/C	N/C	0	0	0	0	0	0	0	1	0
Curlew	0	N/C	N/C	0	96	66	64	56	28	14	1	0
Bar-tailed Godwit	0	N/C	N/C	0	0	1	0	0	0	0	0	0
Dunlin	0	N/C	N/C	0	0	2	0	0	1	0	0	0
Snipe	0	N/C	N/C	0	0	0	0	3	7	0	0	0
Redshank	0	N/C	N/C	0	13	55	42	13	20	15	0	0
Black-headed Gull	5	N/C	N/C	0	0	0	2	24	6	2	0	3
Common Gull	0	N/C	N/C	0	4	2	19	0	0	0	0	0
Great Black-backed Gull	0	N/C	N/C	0	0	0	0	0	0	2	0	0
Herring Gull	0	N/C	N/C	0	0	5	0	0	0	19	9	0
Lesser Black-backed Gull	0	N/C	N/C	0	0	0	0	0	0	2	0	1

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Five year summary for Viking Fields

Table4a: Five-year autumn peak counts, and month in which this was recorded, of each species.

The value reported represents the highest count obtained between July and October for the year in question and the species in question

Where a count is enclosed by parentheses this indicates that it was considered incomplete i.e. those parts of the site not visited typically holds at least 25% of the species in question. Incomplete counts are excluded from calculation where, if included, they would depress the mean. When all counts are considered to be incomplete the maximum replaces the mean.

Species	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	Mean of Peaks
Canada Goose	N/C	N/C	0	N/C	6 (JUL)	3
Mallard	N/C	N/C	0	N/C	5 (JUL)	3
Little Egret	N/C	N/C	0	N/C	3 (JUL)	2
Avocet	N/C	N/C	0	N/C	4 (JUL)	2
Lapwing	N/C	N/C	0	N/C	16 (JUL)	8
Black-headed Gull	N/C	N/C	0	N/C	5 (JUL)	3

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For some species (e.g. wintering geese) data collected by other surveys may be more appropriate for the purpose of site assessment.

Missing or unexpectedly low counts for gulls and terns should be treated with caution - counting these groups is optional and determination of count effort not always possible.

Five year summary for Viking Fields

Table4b: Five-year winter peak counts, and month in which this was recorded, of each species.

The value reported represents the highest count obtained between November and March for the winter in question and the species in question

Where a count is enclosed by parentheses this indicates that it was considered incomplete
i.e. those parts of the site not visited typically holds at least 25% of the species in question.
Incomplete counts are excluded from calculation where, if included, they would depress the mean.
When all counts are considered to be incomplete the maximum replaces the mean.

Species	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	Mean Peak
Canada Goose	263 (JAN)	170 (JAN)	140 (FEB)	115 (NOV)	388 (FEB)	215
Greylag Goose (British/Irish)	7 (FEB)	0	0	0	8 (FEB)	3
Shoveler	0	0	26 (FEB)	14 (MAR)	18 (MAR)	12
Gadwall	0	0	0	0	1 (MAR)	0
Wigeon	47 (FEB)	140 (FEB)	120 (JAN)	95 (NOV)	750 (DEC)	230
Mallard	0	0	38 (NOV)	0	53 (FEB)	18
Teal	0	23 (JAN)	51 (JAN)	40 (NOV)	455 (DEC)	114
Tufted Duck	0	0	0	0	7 (MAR)	1
Oystercatcher	0	0	0	2 (MAR)	2 (MAR)	1
Lapwing	96 (FEB)	62 (FEB)	200 (FEB)	6 (MAR)	275 (MAR)	128
Little Ringed Plover	0	0	0	1 (MAR)	0	0
Curlew	23 (JAN)	39 (JAN)	96 (NOV)	28 (MAR)	66 (DEC)	50
Bar-tailed Godwit	0	0	0	0	1 (DEC)	0
Dunlin	0	0	0	0	2 (DEC)	0
Snipe	0	0	3 (FEB)	0	7 (MAR)	2
Redshank	0	1 (JAN)	42 (JAN)	2 (MAR)	55 (DEC)	20
Black-headed Gull	0	2 (JAN)	24 (FEB)	6 (MAR)	0	6
Common Gull	19 (JAN)	4 (JAN)	0	4 (NOV)	2 (DEC)	6
Herring Gull	0	0	0	0	5 (DEC)	1

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For some species (e.g. wintering geese) data collected by other surveys may be more appropriate for the purpose of site assessment.

Missing or unexpectedly low counts for gulls and terns should be treated with caution - counting these groups is optional and determination of count effort not always possible.

Five year summary for Viking Fields

Table4c: Five-year spring peak counts, and month in which this was recorded, of each species.

The value reported represents the highest count obtained between April and June for the year in question and the species in question
Where a count is enclosed by parentheses this indicates that it was considered incomplete
i.e. those parts of the site not visited typically holds at least 25% of the species in question.
Incomplete counts are excluded from calculation where, if included, they would depress the mean.
When all counts are considered to be incomplete the maximum replaces the mean.

Species	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	Mean Peak
Canada Goose	13 (APR)	17 (JUN)	N/C	36 (MAY)	11 (JUN)	19
Mute Swan	2 (APR)	0	N/C	0	0	1
Shelduck	1 (APR)	0	N/C	0	4 (APR)	1
Shoveler	17 (APR)	0	N/C	2 (APR)	19 (APR)	10
Wigeon	7 (APR)	0	N/C	8 (APR)	1 (APR)	4
Mallard	4 (APR)	3 (JUN)	N/C	16 (JUN)	10 (JUN)	8
Teal	0	0	N/C	4 (APR)	31 (APR)	9
Tufted Duck	0	0	N/C	1 (JUN)	0	0
Grey Heron	0	0	N/C	0	1 (APR)	0
Little Egret	0	0	N/C	0	3 (JUN)	1
Oystercatcher	2 (APR)	0	N/C	2 (APR)	2 (JUN)	2
Avocet	0	0	N/C	8 (MAY)	7 (APR)	4
Lapwing	0	6 (MAY)	N/C	8 (APR)	14 (JUN)	7
Little Ringed Plover	0	0	N/C	2 (APR)	5 (JUN)	2
Whimbrel	0	1 (MAY)	N/C	0	0	0
Curlew	14 (APR)	1 (MAY)	N/C	0	0	4
Redshank	15 (APR)	0	N/C	0	0	4
Black-headed Gull	0	1 (JUN)	N/C	2 (APR)	3 (JUN)	2
Great Black-backed Gull	2 (APR)	0	N/C	0	0	1
Herring Gull	19 (APR)	9 (MAY)	N/C	0	0	7
Lesser Black-backed Gull	2 (APR)	0	N/C	0	1 (JUN)	1

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Five year summary for Viking Fields

Table4d: Five-year annual peak counts, and month in which this was recorded, of each species.

The value reported represents the highest count obtained between July and June for the year in question and the species in question
 Where a count is enclosed by parentheses this indicates that it was considered incomplete
 i.e. those parts of the site not visited typically holds at least 25% of the species in question.
 Incomplete counts are excluded from calculation where, if included, they would depress the mean.
 When all counts are considered to be incomplete the maximum replaces the mean.

Species	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	Mean Peak
Canada Goose	263 (JAN)	170 (JAN)	140 (FEB)	115 (NOV)	388 (FEB)	215
Greylag Goose (British/Irish)	7 (FEB)	0	0	0	8 (FEB)	3
Mute Swan	2 (APR)	0	0	0	0	0
Shelduck	1 (APR)	0	0	0	4 (APR)	1
Shoveler	17 (APR)	0	26 (FEB)	14 (MAR)	19 (APR)	15
Gadwall	0	0	0	0	1 (MAR)	0
Wigeon	47 (FEB)	140 (FEB)	120 (JAN)	95 (NOV)	750 (DEC)	230
Mallard	4 (APR)	3 (JUN)	38 (NOV)	16 (JUN)	53 (FEB)	23
Teal	0	23 (JAN)	51 (JAN)	40 (NOV)	455 (DEC)	114
Tufted Duck	0	0	0	1 (JUN)	7 (MAR)	2
Grey Heron	0	0	0	0	1 (APR)	0
Little Egret	0	0	0	0	3 (JUL)	1
Oystercatcher	2 (APR)	0	0	2 (APR)	2 (JUN)	1
Avocet	0	0	0	8 (MAY)	7 (APR)	3
Lapwing	96 (FEB)	62 (FEB)	200 (FEB)	8 (APR)	275 (MAR)	128
Little Ringed Plover	0	0	0	2 (APR)	5 (JUN)	1
Whimbrel	0	1 (MAY)	0	0	0	0
Curlew	23 (JAN)	39 (JAN)	96 (NOV)	28 (MAR)	66 (DEC)	50
Bar-tailed Godwit	0	0	0	0	1 (DEC)	0
Dunlin	0	0	0	0	2 (DEC)	0
Snipe	0	0	3 (FEB)	0	7 (MAR)	2
Redshank	15 (APR)	1 (JAN)	42 (JAN)	2 (MAR)	55 (DEC)	23
Black-headed Gull	0	2 (JAN)	24 (FEB)	6 (MAR)	5 (JUL)	7
Common Gull	19 (JAN)	4 (JAN)	0	4 (NOV)	2 (DEC)	6
Great Black-backed Gull	2 (APR)	0	0	0	0	0
Herring Gull	19 (APR)	9 (MAY)	0	0	5 (DEC)	7
Lesser Black-backed Gull	2 (APR)	0	0	0	1 (JUN)	1

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Five year summary for Viking Fields

Table 5: National and International importance of the site for each species.

Figures given indicate the percentage of the relevant threshold level in operation during 2021/2022 represented by the five-winter mean of peak counts for the species in question

e.g. 50% would indicate that the five-winter mean of peak counts is half the threshold level. It follows that values of 100% or higher indicate nationally or internationally important numbers of a given species occur on the site.

Where a count is enclosed by parentheses this indicates that it was considered incomplete

(i.e. those parts of the site not visited typically hold at least 25% of the species in question).

(an asterisk indicates that a 50-bird minimum (typically used for designation) has been used rather than 1% of National population)

Species	Autumn peak cf National Threshold	Winter peak cf National Threshold	Spring peak cf National Threshold	Annual peak cf National Threshold	Autumn peak cf International Threshold	Winter peak cf International Threshold
Canada Goose	*6%	*430%	*38%	*430%	N/A	N/A
Greylag Goose (British/Irish)	N/A	0%	N/A	0%	N/A	N/A
Mute Swan	N/A	N/A	0%	0%	N/A	N/A
Shelduck	N/A	N/A	0%	0%	N/A	N/A
Shoveler	N/A	6%	5%	8%	N/A	2%
Wigeon	N/A	5%	0%	5%	N/A	2%
Mallard	0%	0%	0%	0%	0%	0%
Teal	N/A	3%	0%	3%	N/A	2%
Tufted Duck	N/A	0%	0%	0%	N/A	0%
Little Egret	2%	N/A	1%	1%	0%	N/A
Oystercatcher	N/A	0%	0%	0%	N/A	0%
Avocet	2%	N/A	5%	3%	0%	N/A
Lapwing	0%	2%	0%	2%	0%	1%
Little Ringed Plover	N/A	*0%	*4%	*2%	N/A	0%

Species	Spring peak cf International Threshold	Annual peak cf International Threshold	Autumn 5yr mean of peaks	Winter 5yr mean of peaks	Spring 5yr mean of peaks	Annual 5yr mean of peaks
Canada Goose	N/A	N/A	3	215	19	215
Greylag Goose (British/Irish)	N/A	N/A		3		3
Mute Swan	0%	0%			1	0
Shelduck	0%	0%			1	1
Shoveler	2%	2%		12	10	15
Wigeon	0%	2%		230	4	230
Mallard	0%	0%	3	18	8	23
Teal	0%	2%		114	9	114
Tufted Duck	0%	0%		1	0	2
Little Egret	0%	0%	2		1	1
Oystercatcher	0%	0%		1	2	1
Avocet	0%	0%	2		4	3
Lapwing	0%	1%	8	128	7	128
Little Ringed Plover	0%	0%		0	2	1

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Five year summary for Viking Fields

Table5: National and International importance of the site for each species.

Figures given indicate the percentage of the relevant threshold level in operation during 2021/2022 represented by the five-winter mean of peak counts for the species in question

e.g. 50% would indicate that the five-winter mean of peak counts is half the threshold level. It follows that values of 100% or higher indicate nationally or internationally important numbers of a given species occur on the site.

Where a count is enclosed by parentheses this indicates that it was considered incomplete

(i.e. those parts of the site not visited typically hold at least 25% of the species in question).

(an asterisk indicates that a 50-bird minimum (typically used for designation) has been used rather than 1% of National population)

Species	Autumn peak cf National Threshold	Winter peak cf National Threshold	Spring peak cf National Threshold	Annual peak cf National Threshold	Autumn peak cf International Threshold	Winter peak cf International Threshold
Curlew	N/A	4%	0%	4%	N/A	1%
Snipe	N/A	0%	N/A	0%	N/A	0%
Redshank	N/A	2%	0%	2%	N/A	1%
Black-headed Gull	0%	0%	0%	0%	0%	0%
Common Gull	N/A	0%	N/A	0%	N/A	0%
Great Black-backed Gull	N/A	N/A	0%	0%	N/A	N/A
Herring Gull	N/A	0%	0%	0%	N/A	0%
Lesser Black-backed Gull	N/A	N/A	0%	0%	N/A	N/A

Species	Spring peak cf International Threshold	Annual peak cf International Threshold	Autumn 5yr mean of peaks	Winter 5yr mean of peaks	Spring 5yr mean of peaks	Annual 5yr mean of peaks
Curlew	0%	1%		50	4	50
Snipe	N/A	0%		2		2
Redshank	0%	1%		20	4	23
Black-headed Gull	0%	0%	3	6	2	7
Common Gull	N/A	0%		6		6
Great Black-backed Gull	0%	0%			1	0
Herring Gull	0%	0%		1	7	7
Lesser Black-backed Gull	0%	0%			1	1

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