

Outer Dowsing Offshore Wind

Environmental Statement

Chapter 22 Onshore Ornithology

Volume 3 Appendices

Appendix 22.3 Winter Bird Survey 2022-2023 Part 1 of 4

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Volume 3, Appendix 22.3: Winter Bird Survey 2022/23

Outer Dowsing Offshore Environmental Statement

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Basis of Report

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Annexes

Annex A.1 Survey details

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Acronyms and Terminology

Acronyms

ACIEEM	Associate member of the Chartered Institute of Ecology and Environmental Management
BoCC	Birds of Conservation Concern
CIEEM	Chartered Institute of Ecology and Environmental Management
DCO	Development Consent Order
EC	European Council
ECC	Export Cable Corridor
EIA	Environmental Impact Assessment
ES	Environmental Statement
GB	Great Britain
MCIEEM	Full Member of the Chartered Institute of Ecology and Environmental Management
NERC	Natural Environment and Rural Communities
NGSS	National Grid Substation
NSIP	Nationally Significant Infrastructure Project
ODOW	Outer Dowsing Offshore Wind (The Project)
OnSS	Onshore substation
OP	Observation Point
PEIR	Preliminary Environmental Information Report
SPA	Special Protection Area

Terminology

Term	Definition
400kV cables	High-voltage cables linking the OnSS to the NGSS.
400kV cable corridor	The 400kV cable corridor is the area within which the 400kV cables connecting the onshore substation to the NGSS will be situated.
The Applicant	GT R4 Ltd. The Applicant making the application for a DCO. The Applicant is GT R4 Limited (a joint venture between Corio Generation, Tota Energies and Gulf Energy Development (GULF)), trading as Outer Dowsing Offshore Wind. The Project is being developed by Corio Generation (a wholly owned Green Investment Group portfolio company), TotalEnergies and GULF.
Connection Area	An indicative search area for the NGSS.
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for a Nationally Significant Infrastructure Project (NSIP)



Term	Definition
Effect	Term used to express the consequence of an impact. The significance of an effect is determined by correlating the magnitude of the impact with the sensitivity of the receptor, in accordance with defined significance criteria.
Environmental Impact Assessment (EIA)	A statutory process by which certain planned projects must be assessed before a formal decision to proceed can be made. It involves the collection and consideration of environmental information, which fulfils the assessment requirements of the EIA Regulations, including the publication of an Environmental Statement (ES).
EIA Regulation	Infrastructure Planning (Environmental Impact Assessment) Regulations 2017
Environmental Statement (ES)	The suite of documents that detail the processes and results of the EIA.
Export cables	High voltage cables which transmit power from the Offshore Substations (OSS) to the Onshore Substation (OnSS) via an Offshore Reactive Compensation Platform (ORCP) if required, which may include one or more auxiliary cables (normally fibre optic cables).
Impact	An impact to the receiving environment is defined as any change to its baseline condition, either adverse or beneficial.
Intertidal	The area between Mean High Water Springs (MHWS) and Mean Low Water Springs (MLWS).
Landfall	The location at the land-sea interface where the offshore export cables and fibre optic cables will come ashore.
Mitigation	Mitigation measures are commitments made by the Project to reduce and/or eliminate the potential for significant effects to arise as a result of the Project. Mitigation measures can be embedded (part of the project design) or secondarily added to reduce impacts in the case of potentially significant effects.
National Grid Onshore Substation (NGSS)	The National Grid substation and associated enabling works to be developed by the National Grid Electricity Transmission (NGET) into which the Project's 400kV Cables would connect.
Onshore Export Cable Corridor (ECC)	The Onshore Export Cable Corridor (Onshore ECC) is the area within which, the export cables running from the landfall to the onshore substation will be situated.
Onshore substation (OnSS)	The Project's onshore HVAC substation, containing electrical equipment, control buildings, lightning protection masts, communications masts, access, fencing and other associated equipment, structures or buildings; to enable connection to the National Grid.
Onshore Infrastructure	The combined name for all onshore infrastructure associated with the Project from landfall to grid connection.
Outer Dowsing Offshore Wind (ODOW)	The Project.
Order Limits	The area subject to the application for development consent, the limits shown on the works plans within which the Project may be carried out.
Preliminary Environmental Information Report	The PEIR was written in the style of a draft Environmental Statement (ES) and provided information to support and inform the statutory consultation process during the pre-application phase.



Term	Definition
The Project	Outer Dowsing Offshore Wind, an offshore wind generating station together with associated onshore and offshore infrastructure.
Receptor	A distinct part of the environment on which effects could occur and can be the subject of specific assessments. Examples of receptors include species (or groups) of animals or plants, people (often categorised further such as 'residential' or those using areas for amenity or recreation), watercourses etc.

Reference Documentation

Document Number	Title
6.1.13	Project Description
6.1.22	Onshore Ornithology



22.0 Winter Bird Survey 2022 / 2023 (Season 1)

22.1 Introduction

1. Outer Dowsing Offshore Windfarm (ODOW) is a Nationally Significant Infrastructure Project (NSIP). An Environmental Impact Assessment (EIA) has been undertaken, the findings of which are presented within an Environmental Statement (ES), which accompanies the Development Consent Order (DCO) application under the Planning Act, 2008.
2. SLR Consulting (SLR) was commissioned by GoBe Consultants Ltd, whom has been instructed by GT R4 Limited (trading as Outer Dowsing Offshore Wind) (the Applicant), to undertake onshore ornithology work necessary to inform the EIA. The results of the onshore ornithology work are presented in Volume 1, Chapter 22: Onshore Ornithology (document reference 6.1.22).
3. This report presents the methodology and results of winter bird surveys carried out in the winter bird season 2022/23 to inform the EIA and supports Chapter 22 (document reference 6.1.22).

22.2 The Project

4. The Project will include both offshore and onshore infrastructure including an offshore generating station (windfarm) located approximately 54km from the Lincolnshire coastline, export cables to landfall, onshore cables, an onshore substation, connection to the electricity transmission network, and ancillary and associated development (see Volume 1, Chapter 3: Project Description 6.1.3 (document reference 6.1.3) for full details).
5. The ES references the Project's 'Order Limits' which comprises the extent of the land for which the DCO application has been made. Onshore it reflects the landfall, the Onshore Export Cable Corridor (a typically 80m wide corridor around a centre line totalling approximately 70km in length) the Onshore substation (OnSS), a 400kV cable corridor connecting the OnSS to the Connection Area (an indicative search zone for the National Grid substation (NGSS) into which the project will ultimately connect.



6. Due to the linear footprint of the Project, the Survey Area for some receptors is relatively large-scale, therefore, to assist with the interpretation and explanation of associated data, the Order Limits have been split into segments. The extent of these segments has been aligned with key geographical features such as roads or rivers which cross the Order Limits.
7. The segments for the Order Limits are shown in Table 22.1 below.

Table 22.1: Onshore Segment Names

Segment Name
ECC 1: Landfall to A52 – Hogsthorpe
ECC 2: A52 – Hogsthorpe to Marsh Lane
ECC 3: Marsh Lane to A158 - Skegness Road
ECC 4: A158 – Skegness Road to Low Road
ECC 5: Low Road to Steeping River
ECC 6: Steeping River to Fodder Dike Bank/Fen Bank
ECC 7: Fodder Dike Bank/Fen Bank to Broadgate
ECC 8: Broadgate to Ings Drove
ECC 9: Ings Drove to Church End Lane
ECC 10: Church End Lane to The Haven
ECC 11: The Haven to Marsh Road
ECC 12: Marsh Road to Fosdyke Bridge
ECC 13: Fosdyke to Surfleet Marsh OnSS/Marsh Drove
ECC 14: Surfleet Marsh OnSS/Marsh Drove to the Connection Area

22.3 Evidence of Technical Competence and Experience

8. Surveys were carried out by Edmund Austin, a Senior Field Ecologist at SLR with over ten years' experience in undertaking bird surveys and by Carl Platt, a Senior Ecologist at SLR, Associate member of the Chartered Institute of Ecology and Environmental Management (ACIEEM) with over ten years' experience in undertaking bird surveys.
9. This report has been authored by Pawel Gullett, an Associate Consultant at SLR with a specialism in ornithology and over ten years of environmental consulting experience. The report has been reviewed by James Wilson MA MCIEEM, a Technical Director at SLR, with 15 years' experience as a professional Ecologist.



22.4 Methodology

22.4.1 Survey Area

10. Potential impacts on wintering waterbirds need to be considered beyond the Order Limits owing to the potential for noise and visual disturbance to arise during construction. Cutts *et al.* (2013)¹ state that for most wader species, behavioural responses to visual and noise disturbance are unlikely beyond a distance of 400m. Therefore, the winter bird Survey Area covered the onshore Order Limits and extended to a 400m buffer.
11. The Survey Area was originally based on the Project boundary presented in the project Preliminary Environmental Information Report (PEIR), which for the onshore ECC was approximately 300m in width as opposed to approximately 80m for the Order Limits. The onshore PEIR Boundary also included route segments which have since been removed, including those associated with the Lincolnshire Node connection option and the onshore ECC route to the south of the A52, which means data have been collected which, whilst pertinent at earlier stages of the Project, are now contextual rather than needed for the assessment of effects of the Project on birds. Consequently, the results presented in this report are collated in relation to the Order Limits. The Survey Areas relative to the Order Limits plus 400m buffer is shown on Figure 22.3.1 in Annex A.2 Figures.
12. Two distinct areas are referred to in this report:
 - Survey Area – this comprised of a 400m buffer around the PEIR boundary and was what the surveys were based on; and
 - Core Survey Area – this comprises of a 400m buffer around the Order Limits and has been used as the basis for the analysis presented herein.
13. Some sections, which are small in the context of the PEIR boundary, were not included in the Survey Area, albeit incidental records were obtained from beyond the 400m survey buffer.
14. The Survey Area was split into the segments, as indicated in Table 21.1 and illustrated in Figure 22.3.1 in Annex A.2 Figures.

¹ Cutts, N., Hemingway, K. & Spencer, J. (2013). Waterbird Disturbance Mitigation Toolkit Informing Estuarine Planning & Construction Projects. University of Hull.



22.4.2 Target Species

15. Surveys specifically targeted wintering waterbirds, however other notable species, e.g., Annex I and Schedule 1 raptors, or particularly large concentrations of passerine species listed on Section 41 of the NERC Act or BoCC Red and Amber List, were also recorded.

22.4.3 Field Surveys

22.4.3.1 Coastal Observation Point (OP) Bird Surveys

16. Coastal Observation Point (OP) Surveys were undertaken at the landfall beach, inter-tidal and near-shore area. During each survey the landfall area was scanned at hourly intervals from a number of sheltered locations overlooking the shoreline, from which all waterbirds on the beach, inter-tidal and near-shore areas (including birds on the sea) were recorded. Particular attention was paid to the identification of any high-tide roost sites. Adjacent terrestrial habitats such as dunes, reedbeds, etc. were also covered but during separate surveys covering the cable corridors and coastal fields as detailed below for 'Onshore ECC Walkover Surveys'.
17. Surveys focused on the recording of waterbirds, although other notable sightings were recorded. All surveys were undertaken using binoculars and telescope, as required.
18. Surveys took place twice per month from September 2022 to March 2023 inclusive (i.e., 14 surveys in total). In order to account for changes in bird numbers and distribution due to the tidal state, each survey was undertaken 'through the tide', either starting at low tide and ending at high tide or starting at high tide and ending at low tide.
19. Tidal phases are defined as:
- High-Mid: first three hourly periods following high tide;
 - Mid-Low: hourly periods 4-6 following high tide;
 - Low-Mid: first three hourly periods following low tide; and
 - Mid-High: hours 4-6 following low tide.
20. During each survey, counts were undertaken hourly. On each count the number and location of all wildfowl and waders was recorded. The behaviour of each bird or flock was noted to provide an indication of how birds use the Survey Area. There were four primary



flock behaviours observed in all species. These behaviours are listed below together with their definitions:

- Travelling (flying, swimming, walking): movement in a specific direction;
- Foraging: obvious feeding behaviours such as searching in flight above the water, diving for prey, searching along the shore on foot and probing the substrate for prey;
- Loafing: idle behaviour not connected with feeding or travelling in any specific direction;
- Roosting: resting;
- Maintenance: preening, bathing and drying of feathers; and
- Other: behaviour that does not fit into any of the categories above.

21. Where flocks in which individuals were observed displaying more than one behaviour (e.g., loafing, then briefly preening, then loafing), this was recorded as behaviour + behaviour (e.g., loafing + maintenance).

22. The survey dates, times, tide times and weather conditions for the coastal OP surveys are detailed in Annex A.1 Survey details.

22.4.3.2 Onshore ECC Walkover Surveys

23. Fields within 400m of the onshore ECC were surveyed twice a month from September 2022 to March 2023 during daylight hours (14 visits in total). The onshore ECC segments 5, 6, 7, 8 and 9 (from Low Road to Church End Lane) were added to the Survey Area in November 2022, therefore only ten visits (from November 2022 to March 2023) were carried out for this segment of the onshore ECC. These surveys did not include the beach and intertidal area as a more detailed survey of those areas was conducted by the Coastal OP Surveys.

24. The method involved driving and walking between suitable observation points along the onshore ECC, taking care to minimise disturbance to birds as far as possible. During each survey, the number and location of all waterbird and secondary target species recorded within the survey area was mapped. The behaviour of each bird or flock (e.g., foraging, loafing, roosting) was also noted, where possible, to provide an indication of how birds use the Survey Area.



25. On some occasions two surveyors were surveying on the same date but in different segments which sometimes resulted in a subsequent visit starting before an earlier visit was completed. The survey dates, times, and weather conditions of the onshore ECC walkover surveys are detailed in Annex A.1 Survey details.

22.4.4 Disturbance Events

26. Any potential anthropogenic disturbance events that took place during each count were recorded in order to provide an indication of the levels of existing disturbance within the Survey Area (although a detailed study of existing disturbance was not carried out as the primary focus of the survey was to record bird numbers, distribution and activity). Potential disturbance events were limited to events considered likely to cause disturbance to waterbirds and included:

- Walkers;
- Dog walkers;
- Anglers;
- Bait diggers; and
- Other.

27. The 'other' category included any potential anthropogenic disturbance events that could not be attributed to one of the other categories. Examples include runners, or people on stand-up paddleboards or kayaks, etc. The nature of each 'other' disturbance event was recorded on each occasion.

22.4.5 Survey Limitations

28. The surveys were undertaken on an ebbing tide more frequently than on a rising tide, meaning that there is disproportionately more data for high to mid and mid to low than low to mid and mid to high tides. That was largely unavoidable, owing to the difficulty of scheduling surveys that could be completed during daylight hours, particularly during the months of November to February when daylight hours are short. This is not considered to represent a significant limitation as bird distribution is unlikely to be substantially different between rising and ebbing tides at this Project location.

29. Revisions to the Project were made in November 2022 with the addition of the Weston Marsh onshore ECC North of the A52 running parallel to the west of the Weston Marsh



onshore ECC South of the A52 (now deselected). A total of ten survey visits were made during November 2022 – March 2023, as opposed to the 14 visits to the rest of the ECC route during September 2022 – March 2023.

30. There were a few areas where access was not possible on a majority of the surveys.

This included;

- Woodlands Farm (TF 33367 34922), access granted only once during March; and
- Middlemarsh Farm (TF 52852 63298), small hide at eastern side for public access, majority of wetland/lagoons not accessible on any occasion.

31. However, on the whole, access for the wintering bird surveys was sufficient, as the areas where the landowners did not give permission could be viewed using public rights of way or the roadsides, raised banks, etc.

32. Marginal sections of the Core Survey Area were not covered during the ECC walkover surveys. These omissions resulted from the addition of the 400 kV cable corridor and minor refinements later in the design stage, however, these sections are small in the context of the Order Limits, and not likely to provide further insight as to the species' presence and distribution within the Core Survey Area.

22.4.6 Data Analysis

33. On completion of the field surveys bird count data were digitised in ArcGIS (version 10.5.1) and the attribute data captured.

34. For coastal OP surveys, data are represented by species and the total count that was found per visit, with symbol size is reflective of the count per species and point locations representing a single visit and species sighting (Figures 22.3.2 – 22.3.16, Annex A.2).

35. For onshore ECC walkover surveys, data are represented per land parcel defined by OS MasterMap (Figures 22.3.17 – 22.3.75). Species sightings are linked to a land parcel boundary and the maximum count per species is taken and represented on the map at the centre point of that parcel. The number of times a species was recorded per visit is also represented as frequency of the total number of visits.



22.5 Results

22.5.1 Coastal OP Bird Surveys

36. A total of 26 waterbird species were recorded during the surveys, of which the most frequently recorded were gulls: common gull, black-headed gull and herring gull (all were recorded on more than ten visits with 64, 32 and 20 of hourly flock counts respectively). Common gull was also the most abundant species (with a peak count of 59), followed by common scoter (with a peak count of 40 individuals). The most common wader species were sanderling (recorded on nine visits with a peak count of 13 individuals) and curlew (recorded on five visits with a peak count of 18 individuals).
37. The peak counts of each waterbird species recorded on each survey visit throughout the survey period are detailed in Table 22.2. The table also shows the proportional frequency of observation for each species, i.e., the proportion of survey time in which each species was recorded (n=85 hours), in order to show how regularly each species uses the Survey Area.
38. The relative abundance and distribution of individual waterbird species that were observed on at least five occasions within the Survey Area are shown in Figures 22.3.2 – 22.3.16 in Annex A.2 Figures. These drawings illustrate how the various species tend to use the relevant parts of the Survey Area across the winter season.
- Figure 22.3.2 Common scoter
 - Figure 22.3.3 Oystercatcher
 - Figure 22.3.4 Curlew
 - Figure 22.3.5 Sanderling
 - Figure 22.3.6 Common gull
 - Figure 22.3.7 Black-headed gull
 - Figure 22.3.8 Herring gull
 - Figure 22.3.9 Lesser black-backed gull
 - Figure 22.3.10 Great black-backed gull
 - Figure 22.3.11 Red-throated diver
 - Figure 22.3.12 Cormorant
 - Figure 22.3.13 Goose species
 - Figure 22.3.14 Duck species
 - Figure 22.3.15 Other wader species
 - Figure 22.3.16 Other species



Table 22.2: Peak count of waterbird species recorded during Coastal OP Surveys between September 2022 and March 2023
(the maximum counts for each species are in bold)

Species	Number of survey visits in which species recorded	Percentage of survey visits in which species recorded (%)	Number of hourly flock counts	Percentage of survey hours in which species recorded (%)	13/09/2022	29/09/2022	14/10/2022	24/10/2022	14/11/2022	29/11/2022	05/12/2022	20/12/2022	10/01/2023	24/01/2023	01/02/2023	13/02/2023	28/02/2023	27/03/2023
Pink-footed goose	1	7.14	2	2.35				2										
Greylag goose	1	7.14	3	3.53		32												
Canada goose	1	7.14	1	1.18								11						
Dark-bellied brent goose	2	14.29	2	2.35				7			4							
Shelduck	1	7.14	1	1.18					1									
Mallard	1	7.14	2	2.35		3												
Pintail	1	7.14	1	1.18					2									
Eider	1	7.14	1	1.18					1									
Common scoter	6	42.86	7	8.24			33			10		10	40	14				15
Red-throated diver	5	35.71	6	7.06						1				1	1	1	1	
Great northern diver	3	21.43	3	3.53						1		1	1					
Fulmar	1	7.14	1	1.18								1						
Gannet	1	7.14	1	1.18			2											
Cormorant	9	64.29	11	12.94				3	2	2		2	2		2	1	2	3
Oystercatcher	5	35.71	8	9.41	2	2		2					2		1			
Golden plover	1	7.14	3	3.53	23													
Grey plover	2	14.29	2	2.35						1		1						
Curlew	5	35.71	12	14.12			2								16	18	5	6
Sanderling	9	64.29	14	16.47		3				6	13	7	9	2		4	4	3
Dunlin	32	21.4314.29	23	3.532.35					6	7	12							
Redshank	1	7.14	1	1.18										2				



Species	Number of survey visits in which species recorded	Percentage of survey visits in which species recorded (%)	Number of hourly flock counts	Percentage of survey hours in which species recorded (%)	13/09/2022	29/09/2022	14/10/2022	24/10/2022	14/11/2022	29/11/2022	05/12/2022	20/12/2022	10/01/2023	24/01/2023	01/02/2023	13/02/2023	28/02/2023	27/03/2023
Black-headed gull	13	92.86	32	37.65	4	8		6	13	7	7	9	6	9	16	4	6	9
Common gull	13	92.86	46	54.12	15	11	34		11	11	6	21	21	11	16	59	12	11
Great black-backed gull	4	28.57	5	5.88							3	2	4					1
Herring gull	11	78.57	20	23.53	3	3	9			2	2		4	3	16	5	3	1
Lesser black-backed gull	7	50.00	7	8.24		2	2		2	2	1			2	1			



22.5.2 Onshore ECC Walkover Surveys

39. A total of 59 wintering waterbirds and other notable species were observed during the surveys along the onshore ECC. Observations of notable non-waterbird species, e.g., species listed on Annex I of the EC Birds Directive, Schedule 1 of the Wildlife & Countryside Act 1981 (as amended), Section 41 of the NERC Act 2006 or Red/Amber Birds of Conservation Concern² (BoCC), included;

- Grey partridge (NERC S41 and Red);
- Sparrowhawk (Amber),
- Marsh harrier (Annex I, Schedule 1 and Amber);
- Hen harrier (Annex I, Schedule 1, NERC S41 and Amber);
- Red kite (Annex I and Schedule 1);
- Stock dove (Amber);
- Barn owl (Schedule 1);
- Kingfisher (Annex I, Schedule 1 and Amber)
- Kestrel (Amber);
- Peregrine (Annex 1 and Schedule 1);
- Skylark (NERC S41 and Red);
- Cetti's warbler (Schedule 1);
- Tree sparrow (NERC S41 and Red);
- Linnet (Red);
- Yellowhammer (NERC S41, Red); and
- Reed bunting (NERC S41, Amber).

40. Summary data for each waterbird and notable species are detailed in the following tables.

41. Table 22.3 shows the total number of records and peak flock counts³ for each visit.

² Stanbury A, Eaton MA, Aebischer NJ, Balmer D, Brown A, Douse A, Lindley P, McCulloch N and Win I (2021). The Status of our Bird Populations: the Fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and Second IUCN Red List Assessment of Extinction Risk for Great Britain. *British Birds* 114, 723–747.

³ Peak flock count' refers to the highest count of a single flock across a survey period (e.g. a single visit). It is considered inappropriate to sum the counts within the survey area on each visit, as the large survey area and survey methodology do not allow for simultaneous/instantaneous counts of the whole area and birds are likely to



42. Table 22.4 shows the total number of individuals and average flock counts for each segment of the ECC.
43. Table 22.5 provides the summary accounts of the conservation status, behaviours, and numbers and distribution of each recorded waterbird and other notable species (excluding species of low conservation concern). Analyses of most frequently displayed behaviour types are based on the number of flocks or individuals observed exhibiting that behaviour.
44. Distribution of the wintering waterbirds and other notable species along the onshore ECC showing the peak counts and frequency of occurrence within each land parcel is presented on Figures 22.3.17 – 22.3.75 in Annex A.2 Figures.

move between areas/fields, particularly as a single visit took multiple days to complete, and therefore there would be a risk of counting the same birds multiple times. It is acknowledged that it is therefore not an estimate of the peak number of birds within the survey area at any one time and therefore the frequency of observations and the peak counts from individual fields/land parcels are also presented in the relevant figures.



Table 22.3 Peak flock counts for each visit (1-14) recorded during onshore ECC walkovers between September 2022 and March 2023

(total number of records per visit shown in superscript)

Species	Total number of records	Number of visits in which species recorded	Peak flock count on each visit <small>Number of records per visit</small>													
			1	2	3	4	5	6	7	8	9	10	11	12	13	14
Dark-bellied Brent goose	13	8			81 ²		148 ¹	250 ²	487 ¹			48 ¹	1100 ²	67 ²	370 ²	
Greylag goose	26	12			80 ¹	32 ¹	89 ²	25 ¹	37 ²	74 ⁶	72 ²	23 ¹	63 ¹	2 ¹	61 ³	9 ⁵
Pink-footed goose	27	12			5 ¹	12 ¹	107 ³	217 ³	43 ⁶	67 ⁶	12 ²	12 ¹	7 ¹	3 ¹	138 ¹	2 ¹
Egyptian goose	3	3									2 ¹	2 ¹		2 ¹		
Canada goose	24	11			10 ¹		139 ³	70 ²	30 ¹	37 ³	10 ¹	19 ¹	39 ²	25 ⁴	14 ⁵	3 ¹
Mute swan	47	9					3 ³	4 ²	2 ²		3 ⁵	4 ⁴	4 ⁶	4 ⁷	4 ¹²	4 ⁶
Whooper swan	25	9					12 ¹		15 ⁵	8 ⁴	5 ¹	8 ⁴	11 ³	4 ³	10 ²	6 ²
Shelduck	8	5									4 ¹		6 ¹	5 ¹	15 ²	2 ³
Shoveler	4	2										2 ³				21 ¹
Gadwall	13	6		5 ¹				1 ¹				43 ²		50 ²	21 ⁴	87 ³
Wigeon	23	11			350 ¹	11 ¹	32 ²	207 ³		83 ¹	85 ⁴	450 ²	300 ²	350 ⁴	460 ²	1 ¹
Mallard	213	12			18 ¹	21 ¹	15 ¹³	41 ¹¹	100 ¹⁵	80 ²²	75 ¹⁵	87 ¹⁸	26 ¹⁵	25 ²⁹	70 ³⁷	24 ³⁶
Teal	49	11				12 ¹	27 ¹	108 ²	14 ⁴	10 ²	31 ⁶	30 ⁵	18 ⁷	62 ⁶	14 ⁷	130 ⁸
Scaup	1	1							138 ¹							
Pochard	1	1														9 ¹
Tufted duck	1	1						21 ¹								
Goosander	4	3										2 ¹	3 ¹		2 ²	
Grey partridge	1	1									1 ¹					
Moorhen	68	10					1 ²	4 ³	6 ⁶	7 ⁹	4 ¹⁰	6 ⁸	4 ⁵	8 ⁵	20 ⁹	4 ¹¹
Coot	1	1														2 ¹
Little grebe	10	8						1 ¹	3 ¹	2 ²	2 ¹	2 ¹	2 ¹		2 ¹	3 ²
Grey heron	40	11				1 ¹	1 ²	1 ³	3 ⁵	1 ¹	1 ⁴	2 ⁶	1 ⁴	1 ⁶	1 ⁵	1 ³
Little egret	107	13	5 ¹		2 ¹	1 ¹	1 ¹	4 ⁴	2 ⁸	2 ¹¹	5 ¹¹	2 ¹²	4 ¹²	2 ¹⁶	3 ¹¹	4 ¹⁸



Species	Total number of records	Number of visits in which species recorded	Peak flock count on each visit <small>Number of records per visit</small>													
			1	2	3	4	5	6	7	8	9	10	11	12	13	14
Cormorant	27	10				2 ²	11 ¹	1 ¹	4 ⁴	3 ⁴	2 ¹	4 ⁵		6 ³	1 ²	3 ⁴
Sparrowhawk	12	6							1 ²	1 ²		1 ²	1 ²		1 ²	1 ²
Marsh harrier	9	6	1 ¹					2 ³		1 ¹			1 ¹	1 ¹		2 ²
Hen harrier	1	1											2 ¹			
Red kite	6	5								3 ²		1 ¹	1 ¹		1 ¹	2 ¹
Oystercatcher	22	9			6 ¹			23 ²	3 ¹		4 ¹	1 ¹	3 ³	12 ³	5 ⁶	3 ⁴
Avocet	1	1														5 ¹
Lapwing	230	10					324 ⁹	232 ¹¹	35 ⁴²	138 ³⁶	230 ²¹	180 ²⁷	400 ³⁵	258 ²⁰	250 ¹³	210 ¹⁶
Golden plover	79	12		23 ¹		31 ¹	16 ¹	250 ¹¹	37 ¹⁸	87 ¹⁷	60 ³	70 ⁹	90 ²	128 ⁴	145 ⁴	56 ⁸
Ringed plover	6	4							4 ¹	4 ¹		4 ²				2 ²
Grey plover	3	3							7 ¹			2 ¹				7 ¹
Curlew	255	12			3 ²	6 ⁴	17 ⁹	35 ¹²	20 ²¹	56 ³⁷	28 ²⁹	27 ²⁹	44 ²⁸	35 ²⁸	54 ²⁵	23 ³¹
Black-tailed godwit	2	2							16 ¹			11 ¹				
Turnstone	1	1					2 ¹									
Dunlin	5	4							46 ¹					6 ¹	31 ¹	18 ²
Woodcock	3	2							1 ²	1 ¹						
Jack snipe	1	1							1 ¹							
Snipe	81	8							4 ²⁹	1 ¹⁴	3 ⁸	5 ⁸	3 ¹⁰	3 ⁷	1 ⁴	1 ¹
Green sandpiper	13	8							3 ⁵	1 ²	1 ¹	1 ¹	1 ¹	1 ¹	1 ¹	1 ¹
Redshank	48	11				3 ²	21 ¹	24 ²	11 ⁵	16 ²	2 ³	17 ⁸	35 ⁹	23 ⁸	9 ³	19 ⁵
Black-headed gull	63	12	13 ¹			15 ²	137 ²¹	66 ¹²	41 ²	100 ²	43 ⁴	100 ³	80 ²	28 ¹	11 ²	8 ⁷
Common gull	66	14	50	200	65 ²	67 ⁶	68 ⁵	197 ¹⁴	41 ²	116 ³	116 ²	131 ⁴	220 ¹	200 ⁷	120 ⁵	200 ²
Great black-backed gull	1	1					6 ¹									
Herring gull	16	12	6 ¹			21 ²	1 ¹	3 ¹	7 ¹	11 ¹	6 ¹	6 ¹	18 ¹	3 ¹	12 ⁴	6 ¹
Lesser black-backed gull	4	4					3 ¹			3 ¹		4 ¹				2 ¹
Stock dove	14	3												48 ⁵	25 ⁷	27 ²



Species	Total number of records	Number of visits in which species recorded	Peak flock count on each visit <small>Number of records per visit</small>													
			1	2	3	4	5	6	7	8	9	10	11	12	13	14
Barn owl	5	4							1 ²				1 ¹		1 ¹	1 ¹
Kingfisher	9	6							1 ²	1 ²	1 ¹			1 ¹	1 ²	1 ¹
Kestrel	107	8							4 ¹¹	1 ¹⁸	1 ¹⁴	1 ⁸	1 ⁵	2 ¹³	1 ¹⁴	2 ¹⁴
Peregrine	3	3						1 ¹					1 ¹	1 ¹		
Skylark	104	7					14 ¹		85 ³	32 ²			38 ¹⁹	30 ³⁶	8 ⁶	7 ³⁷
Cetti's warbler	2	2				6 ¹										2 ¹
Tree sparrow	7	3					16 ¹							6 ³	15 ³	
Linnet	11	5					19 ¹						25 ¹	25 ¹	50 ⁴	48 ⁴
Yellowhammer	34	4											17 ⁴	65 ¹²	10 ¹⁴	6 ⁴
Reed bunting	4	3												25 ²	6 ¹	4 ¹

Table 22.4 Peak flock counts for each segment of the ECC (1-14) recorded during onshore ECC walkovers between September 2022 and March 2023

Species	Number of ECC segments in which species recorded	Peak flock count for each onshore ECC route segments													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Dark-bellied Brent goose	2										1100	250			
Greylag goose	9	89	37		29	74	10	4	2			39			23
Pink-footed goose	9	12		21	217	138	12	17	3	43		67			
Egyptian goose	3			2	2	2									
Canada goose	7	139			6	17		30				28		4	11
Mute swan	8	3	4			4	4	2	2	2				4	



Species	Number of ECC segments in which species recorded	Peak flock count for each onshore ECC route segments													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Whooper swan	10	6	7		2	10		10	2	6	4	15			11
Shelduck	4	15				2		2					2		
Shoveler	1	21													
Gadwall	3	87				2	2								
Wigeon	5	460			130	117		12				350			
Mallard	13	43	6	7	21	87	44	100	10	35	9	2	2		26
Teal	8	130			31	34	14	2	12	15					12
Scaup	1						138								
Pochard	1											9			
Tufted duck	1										21				
Goosander	3					3	2								2
Grey partridge	1							1							
Moorhen	7	3				8	6	20	4	4			3		
Coot	1														2
Little grebe	5	3				2	2			1	3				
Grey heron	7	1				1	2	3	1	1	1				
Little egret	11	2			1	4	3	5	4	2	4	1		2	5
Cormorant	6		1			4				3		11	3		2
Sparrowhawk	4					1	1	1		1					
Marsh harrier	5	2		1	1							2	1		
Hen harrier	1								2						
Red kite	3								3	1		2			
Oystercatcher	8	5				2			1	14	6	23	3		2
Avocet	1	5													
Lapwing	12	258		130	220	324	148	121	250	284	48	210	400		56
Golden plover	10	110	11	64	60	47	250	56	145	87			90		
Ringed plover	2							2				4			



Species	Number of ECC segments in which species recorded	Peak flock count for each onshore ECC route segments													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Grey plover	1											7			
Curlew	14	44	6	17	9	54	8	28	56	9	29	9	44	6	17
Black-tailed godwit	1											16			
Turnstone	1												2		
Dunlin	2	31										46			
Woodcock	2						1		1						
Jack snipe	1								1						
Snipe	7	3			3	2	3	5	4	2					
Green sandpiper	3						1	1	3						
Redshank	10	9				35		2	8	5	21	23	24	11	10
Black-headed gull	12	112	18	13	43			50	51	87	137	100	63	80	74
Common gull	13	200	68	200	116	220		197	6	27	67	135	120	200	65
Great black-backed gull	1													6	
Herring gull	10	12	12	6	6	1		3				21	3	18	7
Lesser black-backed gull	3			2								4		3	
Stock dove	5					34	48	30	27	37					
Barn owl	3	1				1				1					
Kingfisher	3					1	1			1					
Kestrel	5					1	4	1	2	2					
Peregrine	3					1		1		1					
Skylark	5					38	85	34	6	7					
Cetti's warbler	1	6													
Tree sparrow	4					6	15	16		1					
Linnet	4					50		35	14	48					
Yellowhammer	5					65	10	17	12	3					
Reed bunting	3					2		6	25						



Table 22.5 Summary account for waterbirds and other notable species of conservation concern recorded during the Coastal OP and onshore ECC walkover surveys (September 2022 – March 2023)

Species accounts			
Species	Conservation status	Qualifying species (non-breeding) within nearby statutory designated site	Summary
Dark-bellied brent goose	S41 and Amber	The Wash SPA ⁴ (non-breeding) The Wash Ramsar (non-breeding) Gibraltar Point Ramsar (non-breeding)	Coastal OP: Dark-bellied brent geese were observed on two visits with a peak count of seven individuals in October. All records were of flying brent geese. ECC Walkovers: Dark-bellied brent goose was recorded regularly in varying numbers between October and March, with two peaks in abundance noted in late November/early December and February. Overall, 13 observations were recorded across eight visits predominantly in the Haven area (ECC 10 and 11) with a peak flock count of 1,100 individuals in February. The most common behaviour observed was foraging.
Greylag goose	Amber	None	Coastal OP: A total of 32 greylag geese were observed on a single visit in September. ECC Walkovers: Greylag goose was recorded in similar numbers regularly between October and March. Overall, 22 observations were recorded across nine ECC segments and during a total of 12 visits with a peak flock count of 89 individuals in December. The most common behaviour observed was loafing.
Pink-footed goose	Amber	The Wash SPA (non-breeding) The Wash Ramsar (non-breeding) North Norfolk SPA (non-breeding)	Coastal OP: Two pink-footed geese were observed in flight on a single visit in October. ECC Walkovers: Pink-footed geese was recorded regularly in varying numbers between October and March, with two peaks in abundance noted in November and March. Overall, 27 observations were recorded across nine ECC segments and during a total of 12 visits with a peak flock count of 217 individuals recorded on the

⁴ Special Protection Areas (SPA) are protected areas for birds in the UK, classified under the Conservation of Habitats and Species Regulations 2017 (as amended) in England and Wales (including the adjacent territorial sea) (JNCC).



Species accounts			
		North Norfolk Ramsar (non-breeding)	fields west of Skegness (ECC 4) in November. The most common behaviour observed was foraging.
Mute swan	Amber	None	Coastal OP: No observations. ECC Walkovers: Mute swan was recorded regularly in small numbers between November and March. Overall, 47 observations were recorded across eight ECC segments and during a total of nine visits with a peak flock count of four individuals on most visits. Behaviour was mostly not noted for this species.
Whooper swan	Annex I Schedule 1 Amber	None	Coastal OP: No observations. ECC Walkovers: Whooper swan was only recorded regularly since December. Overall, 25 observations were recorded across ten ECC segments and during a total of nine visits with a peak flock count of 15 individuals in December. The most common behaviour observed was foraging.
Shelduck	Amber	The Wash SPA (non-breeding)	Coastal OP: A single loafing shelduck was observed in November. ECC Walkovers: Shelduck was recorded in small numbers between January and March. Overall, eight observations were recorded across four ECC segments and during a total of five visits with a peak flock count of 15 individuals in March. The most common behaviour observed was loafing.
Shoveler	Amber	None	Coastal OP: No observations. ECC Walkovers: Shoveler was only recorded in January and March. Overall, four observations were recorded on two visits in ECC 1 with a peak count of 21 individuals in March. The birds were observed swimming, loafing and foraging.
Gadwall	Amber	The Wash SPA (non-breeding)	Coastal OP: No observations. ECC Walkovers: Gadwall was recorded irregularly but most frequently towards the end of winter season. Overall, 13 observations were recorded across three ECC segments and during a total of six visits with a peak flock count of 87 individuals during the last visit in March. The most common behaviour observed was swimming.
Wigeon	Amber	The Wash SPA (non-breeding)	Coastal OP: No observations. ECC Walkovers: Wigeon was recorded regularly between October and March, with significant numbers noted in early October, late November and from late January onwards. Overall, 23 observations were recorded across five ECC segments and during a total of 11 visits with a peak flock count of 460 individuals in March. Apart



Species accounts			
			from ECC 1 the segments where large flocks of wigeon were recorded were ECC 4, 5 and 11. The most common behaviour observed was foraging.
Mallard	Amber	None	<p>Coastal OP: A total of three mallard were observed on a single date (29/09/22) foraging and loafing.</p> <p>ECC Walkover: Mallard was recorded in varying numbers regularly between October and March, with numbers of records steadily rising from November onwards. The peak abundance for this species was observed in November and March. Overall, 213 observations were recorded across 13 ECC segments and during a total of 12 visits with a peak flock count of 100 individuals in December. The most common behaviour observed was swimming and loafing.</p>
Pintail	Schedule 1 Amber	The Wash SPA (non-breeding)	<p>Coastal OP: A total of two pintail were recorded loafing on one occasion (14/11/22).</p> <p>ECC Walkover: No observations.</p>
Teal	Amber	None	<p>Coastal OP: No observations.</p> <p>ECC Walkover: Teal was recorded in steady numbers regularly between October and March, with numbers of records steadily rising from November onwards. Two peaks abundance for this species was observed in December and January. 49 observations were recorded across eight ECC segments and during a total of 11 visits with a peak flock count of 130 individuals. The most common behaviour observed was foraging.</p>
Scaup	Schedule 1 NERC S41 Red	None	<p>Coastal OP: No observations.</p> <p>ECC Walkover: A total of 138 scaup were recorded on Steeping River (ECC 6) on one occasion (16/12/22).</p>
Pochard	Red	None	<p>Coastal OP: No observations.</p> <p>ECC Walkover: A total of nine pochard were recorded swimming in the Haven (ECC 11) on one occasion (29/03/23).</p>
Eider	Amber	The Wash Ramsar (non-breeding)	<p>Coastal OP: A single eider was observed loafing in November.</p> <p>ECC Walkover: No observations.</p>
Common scoter	Schedule 1 NERC S41 Red	The Wash SPA (non-breeding)	<p>Coastal OP: Common scoter were observed infrequently between October and March during a total of six visits with a peak count of 40 individuals in January. They were observed to be swimming and foraging.</p> <p>ECC Walkover: No observations.</p>



Species accounts			
Red-throated diver	Annex I Schedule 1	None	Coastal OP: Red-throated divers were observed infrequently between November and March with single individuals recorded on five visits. Red-throated divers were observed to be swimming (66.6%) and loafing (33.3%). ECC Walkover: No observations.
Great northern diver	Annex I Schedule 1 Amber	None	Coastal OP: Great northern divers were recorded on three different visits between November and January (all were single individuals). Two great northern divers were observed loafing and one swimming. ECC Walkover: No observations.
Little egret	Annex I	None	Coastal OP: No observations. ECC Walkover: Little egret was recorded in small numbers regularly between September and March. Overall, 107 observations were recorded across 11 ECC segments and during a total of 13 visits with a maximum flock count of five individuals. The most common behaviour observed was foraging.
Moorhen	Amber	None	Coastal OP: No observations. ECC Walkover: Moorhen was recorded in small numbers regularly between November and March. Overall, 68 observations were recorded across seven ECC segments and during a total of ten visits with a peak count of 20 individuals in March. The most common behaviour observed was foraging.
Oystercatcher	Amber	The Wash SPA (non-breeding)	Coastal OP: Oystercatchers were observed infrequently on five visits between September and February with a peak count of two individuals. The oystercatchers were observed to be mostly foraging. ECC Walkover: Oystercatcher was recorded in small numbers - infrequently at the beginning of the winter season, but regularly between January and March. 22 observations were recorded across eight ECC segments and during a total of nine visits with a peak flock count of 23 individuals in late November. The most common behaviour observed was foraging.
Avocet	Annex I Schedule 1 Amber	Humber Estuary SPA (breeding)	Coastal OP: No observations. ECC Walkover: Five loafing individuals were observed on 20/03/23 in ECC 1.
Lapwing	NERC S41 Red	The Wash Ramsar (non-breeding)	Coastal OP: No observations.



Species accounts			
			ECC Walkover: Lapwing was recorded in steady numbers across the whole ECC regularly between November and March. Overall, 230 observations were recorded across 12 ECC segments and during a total of ten visits with a peak flock count of 400 individuals recorded in ECC 12 in February. The only two segments where lapwing were not recorded were ECC 2 and 13. The most common behaviour observed was loafing.
Golden plover	Annex I	The Wash Ramsar (non-breeding)	<p>Coastal OP: Golden plovers were observed during a single visit in September with a peak count of 23 individuals.</p> <p>ECC Walkover: Golden plover was recorded regularly during the whole winter season, with a noticeable peak in abundance (and the number of records) observed in December. Golden plover were mostly concentrated between ECC 4 and 9. Overall, 79 observations were recorded across ten ECC segments and during a total of 12 visits with a peak flock count of 250 individuals recorded in ECC 6 in December. The most common behaviour observed was loafing.</p>
Ringed plover	Red	The Wash Ramsar (non-breeding)	<p>Coastal OP: No observations.</p> <p>ECC Walkover: Ringed plover was recorded in small numbers infrequently between January and March. Overall, six observations were recorded in ECC 7 and 11 on four visits with a peak count of four individuals (on three visits). Birds were observed foraging on each occasion.</p>
Grey plover	Amber	The Wash SPA (non-breeding)	<p>Coastal OP: Grey plover were observed on two visits (in November and December) with a single foraging bird being recorded each time.</p> <p>ECC Walkover: Grey plover was recorded sporadically in December, January and March. Three observations were recorded at the Haven (ECC 11) with a peak count of seven individuals. Birds were foraging on two occasions and loafing on one.</p>
Curlew	NERC41 Red	The Wash SPA (non-breeding)	<p>Coastal OP: Curlew were observed on five visits, mainly in February and March with a peak count of 18 individuals (13/02/23). The curlews were observed to be foraging (52.4%) and flying (47.6%).</p> <p>ECC Walkover: Curlew was recorded regularly, with the numbers of records steadily rising from October and peaking in December. Overall, 267 observations were</p>



Species accounts			
			recorded across all 14 ECC segments (with the most records occurring in ECC 5) and during a total of 12 visits with a peak flock count of 56 individuals recorded in ECC 8 in December. The most common behaviour observed was foraging.
Black-tailed godwit	Schedule 1 NERC41 Red	The Wash SPA (non-breeding)	Coastal OP: No observations. ECC Walkover: Two observations were recorded in December and January at the Haven (ECC 11) with a peak count of 16 individuals. The birds were observed foraging.
Turnstone	Amber	The Wash SPA (non-breeding)	Coastal OP: No observations. ECC Walkover: Two foraging individuals were recorded on 11/11/22 in ECC 12.
Sanderling	Amber	The Wash SPA (non-breeding)	Coastal OP: Sanderling were observed regularly between September and March across nine visits with a peak count of 13 individuals (05/12/22). The sanderling were observed to be mostly foraging. ECC Walkover: No observations.
Dunlin	Annex I Red	The Wash SPA (non-breeding)	Coastal OP: Dunlin were observed only <u>twice</u> in November and December with a peak count of 12 individuals (05/12/22). The dunlin were all observed to be foraging. ECC Walkover: Dunlin was sporadically recorded in December, February and March. Overall, five observations were recorded during a total of four visits mostly in ECC 1 with a peak flock count of 46 individuals in December. The dunlin were observed to be mostly foraging.
Woodcock	Red	None	Coastal OP: No observations. ECC Walkover: Three individuals were recorded on separate dates in December in ECC 6 and 8, all in flight.
Jack snipe	None	None	Coastal OP: No observations. ECC Walkover: A single individual was recorded on 15/12/22 in ECC 8.
Snipe	Amber	None	Coastal OP: No observations. ECC Walkover: Snipe was recorded in small numbers regularly between December and March. Overall, 81 observations were recorded of mostly single individuals across seven ECC segments and during a total of eight visits with a peak flock count of five individuals in January. The snipe were mostly recorded in flight.



Species accounts			
Green sandpiper	Schedule 1 Amber	None	<p>Coastal OP: No observations.</p> <p>ECC Walkover: Single individuals of green sandpiper were recorded regularly between December and March. Overall, 13 observations were recorded almost exclusively in ECC 8 during a total of seven visits with a peak count of three individuals in December. No behaviour was noted for this species.</p>
Redshank	Amber	The Wash SPA (non-breeding)	<p>Coastal OP: A total of two redshanks were observed on one occasion (24/01/23), both foraging.</p> <p>ECC Walkover: Redshank was recorded in varying numbers regularly between late October and March. Overall, 48 observations were recorded across ten ECC segments and during a total of 11 visits with a peak flock count of 35 individuals in February. The most common behaviour observed was foraging.</p>
Black-headed gull	Amber	The Wash Ramsar (non-breeding)	<p>Coastal OP: Black-headed gulls were regularly observed during a total of 13 visits with a peak count of 16 individuals in February. The black-headed gulls were observed exclusively to be loafing.</p> <p>ECC Walkover: Black-headed gull was recorded regularly between September and March with numbers fluctuating between the months, however with a noticeable peak in November. Overall, 63 observations were recorded across 12 ECC segments and during a total of 12 visits with a peak flock count of 137 individuals in early November. The most common behaviour observed was loafing (53%) followed by foraging (40%).</p>
Common gull	Amber	None	<p>Coastal OP: Common gulls were regularly observed during a total of 13 visits with a peak count of 59 individuals in February. The common gulls were observed to be mostly loafing.</p> <p>ECC Walkover: Common gull was recorded during each visit with numbers fluctuating between the months. Overall, 66 observations were recorded across 12 ECC segments with a peak flock count of 220 individuals in February. The most common behaviour observed was loafing (67%) followed by foraging (30%).</p>
Great black-backed gull	Amber	None	<p>Coastal OP: Great black-backed gulls were observed on four visits between December and March with a peak count of four individuals. The great black-backed gulls were observed to be mostly loafing with four individuals in flight.</p> <p>ECC Walkover: Six individuals were recorded loafing on 11/11/22 in ECC 13.</p>



Species accounts			
Herring gull	NERC S41 Red	None	<p>Coastal OP: Herring gulls were regularly observed during a total of 11 visits with a peak count of 16 individuals in February. The herring gulls were observed to be mostly loafing.</p> <p>ECC Walkover: The records of herring gull were scarce but regular between September and March. Overall, 16 observations were recorded across ten ECC segments and during a total of 12 visits with a peak flock count of 21 individuals in late October. The most common behaviour observed was loafing.</p>
Lesser black-backed gull	Amber	None	<p>Coastal OP: Lesser black-backed gulls were observed on seven visits with a peak count of two individuals. The lesser black-backed gulls were observed to be mostly loafing.</p> <p>ECC Walkover: Four observations were made between November and March across three ECC segments with a peak count of four individuals in January. The lesser black-backed gulls were observed loafing and in flight.</p>
Non-waterbird records of Annex I, Schedule 1, NERC S41, BOCC Red/Amber species			
Grey partridge	NERC S41 Red	None	<p>Coastal OP: No observations.</p> <p>ECC Walkover: A single observation of one individual 04/01/23 in ECC 7 (specific behaviour not noted⁵).</p>
Sparrowhawk	Amber	None	<p>Coastal OP: No observations.</p> <p>ECC Walkover: 12 observations were recorded between December and March of single individuals across four ECC segments and during a total of six visits (specific behaviour not noted).</p>
Marsh harrier	Annex I Schedule 1 Amber	Humber Estuary SPA (breeding)	<p>Coastal OP: No observations.</p> <p>ECC Walkover: Nine observations were recorded between September and March across five ECC segments and during a total of six visits with a peak count of two individuals (on two occasions). The birds were mostly observed in flight.</p>
Hen harrier	Annex I Schedule 1	Humber Estuary SPA (non-breeding)	<p>Coastal OP: No observations.</p>

⁵ Specific behaviour was noted for non-waterbird species incidentally or where behaviour was notable, as the survey was focussed on recording target waterbird species.



Species accounts			
	NERC S41 Red		ECC Walkover: One observation was made of two individuals in early February in ECC 8.
Red kite	Annex I Schedule 1	None	Coastal OP: No observations. ECC Walkover: Six observations were recorded between late December and March across three ECC segments and during a total of five visits with a peak count of three individuals in December. The red kites were observed in flight.
Stock dove	Amber	None	Coastal OP: No observations. ECC Walkover: 14 observations were recorded during the last three visits across five ECC segments with a peak flock count of 48 individuals (specific behaviour not noted).
Barn owl	Schedule 1	None	Coastal OP: No observations. ECC Walkover: Five observations of single individuals were recorded between December and March across three ECC segments and during a total of four visits. The barn owls were mostly observed in flight.
Kingfisher	Annex I Schedule 1	None	Coastal OP: No observations. ECC Walkover: Nine observations of single individuals were recorded between December and March across three ECC segments and during a total of six visits (specific behaviour not noted).
Kestrel	Amber	None	Coastal OP: No observations. ECC Walkover: Kestrel was regularly recorded between December and March. Overall, 107 observations were recorded across five ECC segments and during a total of eight visits with a peak count of four individuals (specific behaviour not noted).
Peregrine	Annex I Schedule 1	None	Coastal OP: No observations. ECC Walkover: Three observations were recorded in November and February of single individuals in three ECC segments and during a total of three visits (specific behaviour not noted).
Skylark	NERC S41 Red	None	Coastal OP: No observations. ECC Walkover: Skylark was infrequently recorded between November and March, with peak numbers noted in December but more regular observations in February and March. Overall, 104 observations were recorded across five ECC segments and during a total of seven visits with a peak flock count of 85 individuals in early December (specific behaviour not noted).



Species accounts			
Cetti's warbler	Schedule 1	None	Coastal OP: No observations. ECC Walkover: Two observations in ECC 1 were recorded of two and six individuals (in late October and late March).
Tree sparrow	NERC S41 Red	None	Coastal OP: No observations. ECC Walkover: Seven observations were recorded in November and late February/early March across four ECC segments and during a total of three visits with a peak flock count of 16 individuals (specific behaviour not noted).
Linnet	Red	None	Coastal OP: No observations. ECC Walkover: 11 observations were recorded in November, February and March across four ECC segments and during a total of five visits with a peak flock count of 50 individuals in March (specific behaviour not noted).
Yellowhammer	NERC41 Red	None	Coastal OP: No observations. ECC Walkover: 34 observations were recorded in February and March across five ECC segments and during a total of four visits with a peak flock count of 65 individuals (specific behaviour not noted).
Reed bunting	NERC41 Amber	None	Coastal OP: No observations. ECC Walkover: Four observations were recorded in February and March across three ECC segments with a peak count of 25 individuals (specific behaviour not noted).



22.5.3 Flock Behaviour

45. The flock behaviour was recoded on 850 occasions: ~~195~~194 during the coastal OP surveys and 655 during the onshore ECC walkover surveys. Proportionally, birds spent more time loafing when recorded during coastal OP surveys (55%) than walkover surveys (32%). The time spent on foraging was reversed between the two survey types: birds spent twice as much time foraging as recorded during walkovers (42%) than during coastal OP surveys (21%). Behaviours associated with movements were equal between the survey types. The proportion of various flock behaviours recorded during the survey types is presented on Plate 22.1.

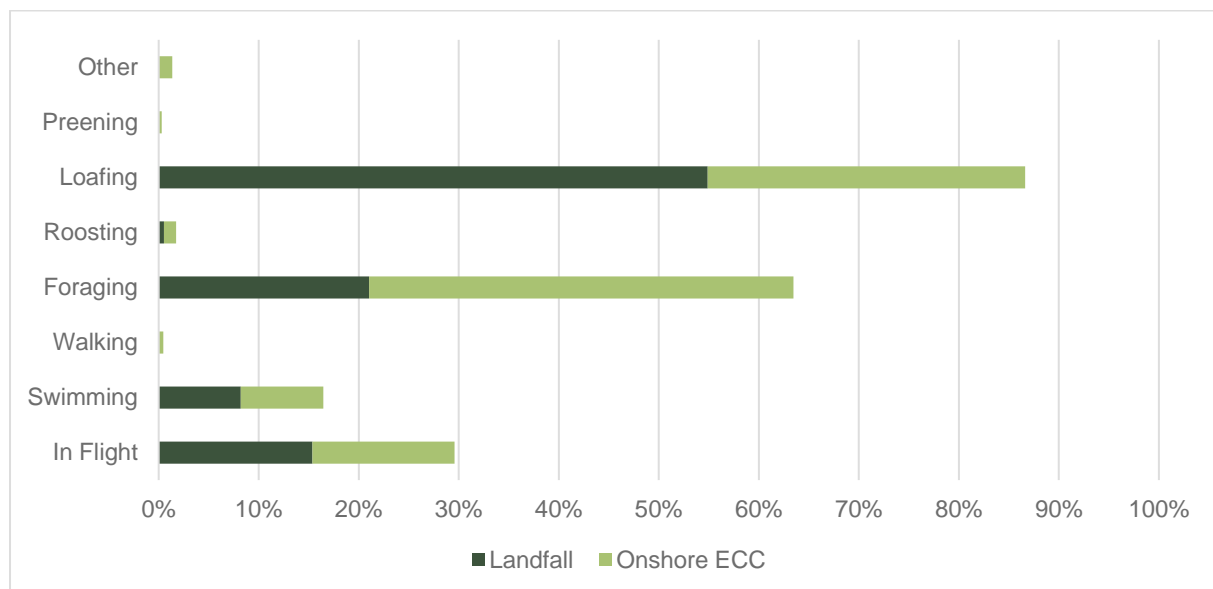


Plate 22.1: Flock behaviour recorded during coastal OP and onshore ECC walkovers (all surveys)

46. The behaviours displayed by each individual species are described in the species accounts section in Table 22.5 Summary account for waterbirds and other notable species of conservation concern recorded during the Coastal OP and onshore ECC walkover surveys (September 2022 – March 2023) above.

22.5.4 Disturbance Events and Responses

47. Potential disturbance stimuli were recorded on a total of 853 occasions over all coastal OP and onshore ECC walkover surveys (Table 22.6 Disturbance stimuli recorded during the Coastal OP and onshore ECC walkover surveys (September 2022 – March 2023)). Walkers (with and without dogs) were the most frequently recorded disturbance stimulus.



Table 22.6 Disturbance stimuli recorded during the Coastal OP and onshore ECC walkover surveys (September 2022 – March 2023)

Disturbance type	Landfall	Onshore ECC	Total
Aircraft	0	22	22
Anglers	5	12	17
Bait diggers	2	0	2
Dog walkers	162	112	274
Horses	6	0	6
Vehicles	0	84	84
Walkers	285	163	448
Total	460	393	



Annex A.1 Survey details

Outer Dowsing Offshore Wind Environmental Statement Winter Bird Survey 2022/23

GoBe Consultants Ltd.

SLR Project No.: 410.V05356.00013

13 March 2025



Table A.1: Summary of weather conditions during the coastal OP surveys (September 2022 – March 2023)

Survey date	Start	End	Tidal flow	Tide time	Average wind speed (Beaufort scale and direction)	Precipitation	Cloud cover (oktas n/8) and visibility
13/09/2022	08:46	15:30	Ebbing	High tide - 08:46	3 W	Nil	2-3/8 1-3 km
29/09/2022	08:52	15:40	Ebbing	High tide - 08:52	2-3 N-NE	Nil	2-6/8 >5km
14/10/2022	09:27	15:58	Ebbing	High tide - 09:27	3 SW	1 - Nil	6-8/8 >5km
24/10/2022	12:51	18:32	Rising	Low tide - 12:51	3-4 SW-SSW	Nil	5-8/8 >5km
14/11/2022	09:14	15:25	Ebbing	High tide - 09:14	2-3 E S-SE	Nil	1-7/8 >5km
29/11/2022	09:56	16:00	Ebbing	High tide - 09:56	1-2 W-SW	1 - Nil	8/8 <500m - <1km
05/12/2022	10:20	16:25	Ebbing	High tide - 10:20	3 NE	Nil	6-8/8 >5km
20/12/2022	09:30	15:35	Rising	Low tide - 09:30	3-4 SW-SSW	Nil	0-2/8 >5km
10/01/2023	07:56	13:40	Ebbing	High tide - 07:56	3-4 S	Nil	7-8/8 >5km
24/01/2023	07:52	13:45	Ebbing	High tide - 07:52	1-2 SW-SSW	Nil	6-8/8 1-3km – 3-5km
01/02/2023	09:02	15:00	Rising	Low tide - 09:02	4-5 W-WSW	Nil	2-8/8 >5km
13/02/2023	10:36	16:15	Ebbing	High tide - 10:36	2-3 S-SSE	Nil	3-6/8 3-5km - >5km
28/02/2023	11:54	18:00	Rising	Low tide - 11:54	2-3 N-NNE	Nil	7-8/8 >5km
27/03/2023	10:20	16:15	Ebbing	High tide - 10:20	2-3 N-NE NW	Nil	0-1/8 >5km



Survey date	Start	End	Tidal flow	Tide time	Average wind speed (Beaufort scale and direction)	Precipitation	Cloud cover (oktas n/8) and visibility

Table A.2: Summary of weather conditions during the onshore ECC walkover surveys (September 2022 – March 2023)

Survey date	Start	End	Visit number*	Average wind speed (Beaufort scale and direction)	Precipitation	Cloud cover (oktas n/8) and visibility
12/09/2022	09:00	15:30	1	3 SW	Nil	4-8/8 >5km
13/09/2022	08:46	15:47	1	3 W-N	Nil	2-3/8 1-3km
14/09/2022	08:30	15:15	1	2-3 NW-W-SW	Nil	2-3/8 >5km
15/09/2022	08:45	15:15	1	2-3 NW-NNW	Nil	7-8/8 >5km
16/09/2022	09:00	15:45	1	3-4 NW	Nil	0-7/8 >5km
26/09/2022	11:07	18:12	2	2-4 NW-WNW	Nil	7/8 >5km
27/09/2022	09:04	16:38	2	2-3 W-NW	Nil	3-8/8 >5km
30/09/2022	16:15	19:00	2	4 S	Nil	6-8/8 >5km
10/10/2022	11:32	17:37	3	3-4 NW-N	Nil	2-4/8 >5km
11/10/2022	08:57	16:27	3	3 E-S	Nil	0-4/8 >5km
13/10/2022	15:00	18:45	3	2 E-ESE	Nil	2-5/8 >5km
25/10/2022	09:12	17:30	4	2-3 SW-SSW	Nil	0-3/8 >5km
26/10/2022	09:17	16:38	4	4 SW-SSW	Nil	5-6/8 >5km
27/10/2022	09:23	17:00	4	2-4 S-SE-SW	Nil	7-8/8 >5km
31/10/2022	10:27	16:32	4	3-4 S-SE	Nil	0-6/8 >5km
01/11/2022	08:53	14:47	4	3-4 SW-SSW	Nil	3-8/8 >5km



Survey date	Start	End	Visit number*	Average wind speed (Beaufort scale and direction)	Precipitation	Cloud cover (oktas n/8) and visibility
07/11/2022	11:12	16:18	5	3-4 S	Nil	7-8/8 >5km
08/11/2022	09:23	15:49	5	3-4 S-SSW	Nil	3-8/8 >5km
09/11/2022	09:31	16:03	5	2-3 SW-WSW	Nil	0-8/8 >5km
11/11/2022	08:55	14:32	5	3-4 SW-SSW	Nil	7-8/8 >5km
15/11/2022	08:57	16:02	6	4-5 SE-SSE	Nil	6-8/8 >5km
17/11/2022	09:16	15:52	6	1-3 E-NE-NW-NNW	Nil	8/8 >5km
18/11/2022	09:32	15:45	6	3 SW-WSW-W	Nil	6-8/8 >5km
23/11/2022	09:15	15:30	5A	2-5 S	Drizzle-Light Rain	1-8/8 500m->3km
24/11/2022	11:00	14:00	5A	3-4 S-SSE	Nil	6-7/8 >3km
25/11/2022	09:10	11:10	5A	3 SE	Nil	0-1/8 >2km
29/11/2022	08:35	15:20	6A	1-2 W-NW	Drizzle-Nil	8/8 >2km
30/11/2022	08:15	11:36	6A	1 – SE-N-NE	Nil	7-8/8 >2km
30/11/2022	09:00	15:55	6	1-2 NE-E-ESE	Nil	7-8/8 >5km
01/12/2022	08:45	15:43	7 + 6A	2-3 NW-WNW	Nil	5-8/8 >5km
06/12/2022	09:02	16:01	7	3 NW-WNW	Nil	3-8/8 >5km
07/12/2022	09:12	15:53	7	2 NW	Nil	7-8/8 >5km
13/12/2022	08:45	15:50	7	0-2 N-NNW	Nil	1-6/8 <1km->5km
14/12/2022	10:08	15:34	8	0-2 N-WNW-NNW	Nil	0-3/8 >5km
14/12/2022	10:00	16:00	7A	0-1 N-WNW-NNW	Nil	2-8/8 1-3km->5km
15/12/2022	08:15	15:17	8	3 W-NW-WNW	Nil	0-2/8 >5km
15/12/2022	10:00	16:00	7A	2 NNE	Nil	4-6/8 1-3km->5km



Survey date	Start	End	Visit number*	Average wind speed (Beaufort scale and direction)	Precipitation	Cloud cover (oktas n/8) and visibility
16/12/2022	08:00	14:00	7A	2 NE	Nil	2-3/8 >5km
19/12/2022	10:26	15:45	8	4 S	Nil	8/8 >5km
21/12/2022	09:00	15:00	8A	2 SSW	Light Showers	2-5/8 3-5km->5km
22/12/2022	08:00	14:00	8A	2-3 S	Light Showers	2-6/8 3-5km->5km
23/12/2022	08:00	14:00	8A	2-3 SSE-SE	Light-Heavy Showers	8/8 1-3km-3-5km
03/01/2023	10:05	15:50	9	3-4 S	Nil	8/8 >5km
04/01/2023	08:54	15:18	9	4-5 SW	Nil	1-3/8 >5km
04/01/2023	09:00	15:00	9A	3-4 SW	Nil	4-7/8 >5km
05/01/2023	09:15	15:32	9	3 SW-S	Nil	2-8/8 >5km
05/01/2023	08:00	14:00	9A	1-3 SW	Nil-Drizzle	7-8/8 >5km
06/01/2023	08:00	14:00	9A	3-4 SW	Light-Heavy Showers	8/8 1-3km – 3-5km
09/01/2023	10:17	16:02	10	3 SW-WSW-W	Nil	0-3/8 >5km
16/01/2023	10:05	16:02	10	3-4 NW-NNW	Nil-Drizzle	2-7/8 >5km
17/01/2023	09:10	15:30	10	1-2 W-WNW	Nil	0/8 >5km
18/01/2023	09:00	15:45	10	2-3 W	Nil	2-6/8 >5km
18/01/2023	08:00	14:00	10A	2 NW	Light-Heavy Showers	4-5/8 >5km
19/01/2023	08:00	14:00	10A	2 NW	Nil	4-7/8 >5km
25/01/2023	08:54	15:56	10	2-3 SW	Nil	7-8/8 1-3km
01/02/2023	08:00	14:00	11A	4 SW-W	Nil	2-8/8 >5km
02/02/2023	08:00	14:00	11A	5 SW-W	Nil-Light Showers	0-6/8 >5km
02/02/2023	09:32	16:00	11	3-4 SW-W	Nil	5-8/8 >5km



Survey date	Start	End	Visit number*	Average wind speed (Beaufort scale and direction)	Precipitation	Cloud cover (oktas n/8) and visibility
03/02/2023	08:00	14:00	11A	1-3 W-SW	Nil	4-8/8 >5km
03/02/2023	09:03	16:18	11	4 W	Nil	4-8/8 >5km
06/02/2023	10:11	16:23	11	2-3 SSW-S	Nil	0-1/8 >5km
08/02/2023	08:32	15:30	11	2-3 S-SSE	Nil	0/8 >5km
13/02/2023	07:45	13:45	12A	1-2 S	Nil	2-8/8 >5km
14/02/2023	08:30	12:30	12A	0-2 S	Nil	3-8/8 <1km->5km
14/02/2023	09:16	16:30	12	2 SSW	Nil	8/8 <1km
15/02/2023	08:30	14:30	12A	2-3 SW	Nil	2-8/8 1-3km->5km
15/02/2023	09:32	16:00	12	2-3 SW	Nil	0-3/8 >5km
16/02/2023	08:50	16:00	12	3 S-SW-SSW	Light Showers-Nil	7-8/8 1-3km->5km
21/02/2023	08:47	16:23	12	3-4 SW-SSW	Nil	7-8/8 >5km
01/03/2023	08:50	16:00	13	2-3 N-NNE	Nil	7-8/8 >5km
02/03/2023	08:48	16:11	13	3 NE-NNE	Nil	8/8 >5km
02/03/2023	08:30	14:30	13A	2 NE-NNE-N	Nil	8/8 >5km
03/03/2023	08:00	14:00	13A	2-3 N-NNE	Nil	7-8/8 >5km
04/03/2023	08:00	14:00	13A	2-3 N-NNE	Nil-Light Showers	7-8/8 >5km
14/03/2023	10:11	16:23	13	3-4 W-WNW	Nil	3-6/8 >5km
14/03/2023	08:00	14:00	14A	2-4 W-WSW	Nil	4/8 >5km
15/03/2023	08:00	14:00	14A	2-3 SW	Nil	3-4/8 >5km
16/03/2023	08:00	14:00	14A	3-4 SE-S-SW	Nil-Drizzle	6-8/8 >5km
16/03/2023	10:30	16:45	13	3-4 S-SSW	Nil	7-8/8 >5km



Survey date	Start	End	Visit number*	Average wind speed (Beaufort scale and direction)	Precipitation	Cloud cover (oktas n/8) and visibility
20/03/2023	10:23	17:00	14	3 SW-W	Nil	8/8 3-5km->5km
21/03/2023	09:15	16:00	14	3-5 SW	Nil	7-8/8 >5km
22/03/2023	08:45	15:48	14	3-5 W-WSW-SW	Nil	1-3/8 >5km
28/03/2023	10:00	15:45	14	3-4 S	Light Showers-Nil	7-8/8 >5km
29/03/2023	10:15	17:05	14	3 S	Nil-Light Showers	2-8/8 >5km-1-3km

*Visits marked with a letter relate to surveys of the onshore ECC segments that were added to the Survey Area in November 2022 (ten surveys in total)



Annex A.2 Figures

Outer Dowsing Offshore Wind Environmental Statement Winter Bird Survey 2022/23

GoBe Consultants Ltd.

SLR Project No.: 410.V05356.00013

13 March 2025



- 22.3.1 Winter Bird Survey Areas
- 22.3.2 Landfall Survey Results - Common Scoter
- 22.3.3 Landfall Survey Results - Oystercatcher
- 22.3.4 Landfall Survey Results - Curlew
- 22.3.5 Landfall Survey Results - Sanderling
- 22.3.6 Landfall Survey Results - Common gull
- 22.3.7 Landfall Survey Results - Black-headed gull
- 22.3.8 Landfall Survey Results - Herring Gull
- 22.3.9 Landfall Survey Results - Lesser black-backed Gull
- 22.3.10 Landfall Survey Results - Great black-backed gull
- 22.3.11 Landfall Survey Results - Red-throated Diver
- 22.3.12 Landfall Survey Results - Cormorant
- 22.3.13 Landfall Survey Results - Goose Species
- 22.3.14 Landfall Survey Results - Duck Species
- 22.3.15 Landfall Survey Results - Other wader species
- 22.3.16 Landfall Survey Results - Other species
- 22.3.17 ECC Winter Bird Survey Results - Dark-bellied Brent goose
- 22.3.18 ECC Winter Bird Survey Results - Greylag goose
- 22.3.19 ECC Winter Bird Survey Results - Pink-footed goose
- 22.3.20 ECC Winter Bird Survey Results - Egyptian goose
- 22.3.21 ECC Winter Bird Survey Results - Canada goose
- 22.3.22 ECC Winter Bird Survey Results - Mute swan
- 22.3.23 ECC Winter Bird Survey Results - Whooper swan
- 22.3.24 ECC Winter Bird Survey Results - Shelduck
- 22.3.25 ECC Winter Bird Survey Results - Shoveler
- 22.3.26 ECC Winter Bird Survey Results - Gadwall
- 22.3.27 ECC Winter Bird Survey Results - Wigeon



- 22.3.28 ECC Winter Bird Survey Results - Mallard
- 22.3.29 ECC Winter Bird Survey Results - Teal
- 22.3.30 ECC Winter Bird Survey Results - Scaup
- 22.3.31 ECC Winter Bird Survey Results - Pochard
- 22.3.32 ECC Winter Bird Survey Results - Tufted duck
- 22.3.33 ECC Winter Bird Survey Results - Goosander
- 22.3.34 ECC Winter Bird Survey Results - Grey partridge
- 22.3.35 ECC Winter Bird Survey Results - Moorhen
- 22.3.36 ECC Winter Bird Survey Results - Coot
- 22.3.37 ECC Winter Bird Survey Results - Little grebe
- 22.3.38 ECC Winter Bird Survey Results - Grey heron
- 22.3.39 ECC Winter Bird Survey Results - Little egret
- 22.3.40 ECC Winter Bird Survey Results - Cormorant
- 22.3.41 ECC Winter Bird Survey Results - Sparrowhawk
- 22.3.42 ECC Winter Bird Survey Results - Marsh harrier
- 22.3.43 ECC Winter Bird Survey Results - Hen harrier
- 22.3.44 ECC Winter Bird Survey Results - Red kite
- 22.3.45 ECC Winter Bird Survey Results - Oystercatcher
- 22.3.46 ECC Winter Bird Survey Results - Avocet
- 22.3.47 ECC Winter Bird Survey Results - Lapwing
- 22.3.48 ECC Winter Bird Survey Results - Golden plover
- 22.3.49 ECC Winter Bird Survey Results - Ringed plover
- 22.3.50 ECC Winter Bird Survey Results - Grey plover
- 22.3.51 ECC Winter Bird Survey Results - Curlew
- 22.3.52 ECC Winter Bird Survey Results - Black-tailed godwit
- 22.3.53 ECC Winter Bird Survey Results - Turnstone
- 22.3.54 ECC Winter Bird Survey Results - Dunlin



- 22.3.55 ECC Winter Bird Survey Results - Woodcock
- 22.3.56 ECC Winter Bird Survey Results - Jack snipe
- 22.3.57 ECC Winter Bird Survey Results - Snipe
- 22.3.58 ECC Winter Bird Survey Results - Green sandpiper
- 22.3.59 ECC Winter Bird Survey Results - Redshank
- 22.3.60 ECC Winter Bird Survey Results - Black-headed gull
- 22.3.61 ECC Winter Bird Survey Results - Common gull
- 22.3.62 ECC Winter Bird Survey Results - Great black-backed gull
- 22.3.63 ECC Winter Bird Survey Results - Herring gull
- 22.3.64 ECC Winter Bird Survey Results - Lesser black-backed gull
- 22.3.65 ECC Winter Bird Survey Results - Stock dove
- 22.3.66 ECC Winter Bird Survey Results - Barn owl
- 22.3.67 ECC Winter Bird Survey Results - Kingfisher
- 22.3.68 ECC Winter Bird Survey Results - Kestrel
- 22.3.69 ECC Winter Bird Survey Results - Peregrine
- 22.3.70 ECC Winter Bird Survey Results - Skylark
- 22.3.71 ECC Winter Bird Survey Results - Cetti's warbler
- 22.3.72 ECC Winter Bird Survey Results - Tree sparrow
- 22.3.73 ECC Winter Bird Survey Results - Linnet
- 22.3.74 ECC Winter Bird Survey Results - Yellowhammer
- 22.3.75 ECC Winter Bird Survey Results - Reed bunting





Making Sustainability Happen