

The Great Grid Upgrade

Sea Link

Sea Link

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Contents

1.	Wintering Bird Survey Report 2022-2023	1
1.1	Introduction	1
1.2	Bird Legislation, Policy and Guidance	3
1.3	Methodology	8
1.4	Results	18
1.5	Field Survey	22
1.6	Evaluation	35

References 52

Annex 2.B.1 Desk Study Summaries 54

Annex 2.B.2 Detailed Survey Data 56

1.	Wintering Bird Survey Report 2022-2023	1
1.1	Introduction	1
1.2	Bird Legislation, Policy and Guidance	3
1.3	Methodology	8
1.4	Results	18
1.5	Field Survey	21
1.6	Evaluation	35

References 52

Annex 2.B.1 Desk Study Summaries 53

Annex 2.B.2 Detailed Survey Data 55

Table of Tables

Table 1.1	Birds of Conservation Concern (BoCC) red and amber list criteria.	5
Table 1.2	Dates and weather conditions for each survey visit.	11
Table 1.3	Biodiversity importance of ornithological features	15
Table 1.4	Conservation status of recorded notable species and summary of observations	36
Table 1.5	Survey peak counts for species recorded in large numbers compared to designated site data/national thresholds	43

Table 1.6 SPA/Ramsar qualifying or noteworthy species survey peak counts as a proportion of available designated site data.	44
Table A.1 Summary of local WeBS sector counts for selected target species recorded or most relevant to the Survey Area	54
Table A.2 Detailed survey data	56
Table 1.1 Birds of Conservation Concern (BoCC) red and amber list criteria.	5
Table 1.2 Dates and weather conditions for each survey visit.	11
Table 1.3 Biodiversity importance of ornithological features	15
Table 1.4 Conservation status of recorded notable species and summary of observations	36
Table 1.5 Survey peak counts for species recorded in large numbers compared to designated site data/national thresholds	43
Table 1.6 SPA/Ramsar qualifying or noteworthy species survey peak counts as a proportion of available designated site data.	44
Table A.1 Summary of local WeBS sector counts for selected target species recorded or most relevant to the Survey Area	53
Table A.2 Detailed survey data	55
Plates of Plates	
Plate 1.1 Summary of notable species peak count (from all survey types)	23
Plate 1.2 Overall peak and mean count for WeBS target and key species (tide results combined)	24
Plate 1.3 Intertidal (high and low) peak counts for waterbird and key species	25
Plate 1.4 Intertidal (high and low) mean counts for waterbird and key species	26
Plate 1.5 Monthly total recorded waterbird and key species (most numerous species)	27
Plate 1.6 Monthly total recorded waterbird and key species	28
Plate 1.7 Monthly recorded total combined waterbird and target species	29
Plate 1.8 Inland peak counts for notable species	32
Plate 1.9 Inland mean counts for notable species	34

Plate 1.1 Summary of notable species peak count (from all survey types)	23
Plate 1.2 Overall peak and mean count for WeBS target and key species (tide results combined)	24
Plate 1.3 Intertidal (high and low) peak counts for waterbird and key species	25
Plate 1.4 Intertidal (high and low) mean counts for waterbird and key species	26
Plate 1.5 Monthly total recorded waterbird and key species (most numerous species)	27
Plate 1.6 Monthly total recorded waterbird and key species	28
Plate 1.7 Monthly recorded total combined waterbird and target species	29
Plate 1.8 Inland peak counts for notable species	32
Plate 1.9 Inland mean counts for notable species	34

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1. Wintering Bird Survey Report 2022-2023

1.1 Introduction

Background

- 1.1.1 The Sea Link Project (hereafter referred to as the 'Proposed Project') is a proposal by National Grid Electricity Transmission plc (hereafter referred to as National Grid) to reinforce the transmission network in the southeast and East Anglia. The Proposed Project is required to accommodate additional power flows generated from renewable and low carbon generation, as well as accommodating additional new interconnection with mainland Europe. This would be achieved by reinforcing the network with a High Voltage Direct Current (HVDC) Link between the proposed Friston substation in the Sizewell area of Suffolk and the existing Richborough to Canterbury 400 kV overhead line close to Richborough in Kent.
- 1.1.2 The purpose of this document is to:
- Detail the results of the wintering bird surveys of the Kent Onshore Scheme Order Limits conducted in the winter season of 2023 to 2024.
 - Detail the results of the wintering bird surveys conducted in 2022, 2023 and 2024.
 - Inform the need for any further surveys required and identify potential ecological constraints associated with wintering birds for incorporation into the **Application Document 6.2.2.2 Part 3 Kent Chapter 2 Ecology and Biodiversity** for the Kent Onshore Scheme and the associated **Application Document 6.6 Habitats Regulations Assessment Report**.
- 1.1.3 Details of avoidance, mitigation, compensation and enhancement measures relating to wintering birds are not included in this report and are instead reported within **Application Document 6.2.2.2 Part 3 Kent Chapter 2 Ecology and Biodiversity**.
- 1.1.4 This appendix should be read in conjunction with the following figures:
- **Application Document 6.4.3.2.B Kent Wintering Birds 2022-2023**.

The Purpose of the Wintering Bird Survey Report

- 1.1.5 This report details the results of the wintering bird surveys of the site conducted between October 2022 and March 2023.
- 1.1.6 This report includes the following information:
- relevant legislation and policy;
 - methodologies for desk and field-based assessments undertaken during 2022/2023;
 - limitations to the surveys undertaken;
 - survey results; and

- the approach for determining the nature conservation importance of wintering bird populations recorded during the surveys.

- 1.1.7 The baseline findings of this report will be used to assess the need for any further surveys and provide information on any potential ecological constraints for incorporation into the Environmental Impact Assessment (EIA) for the Kent Onshore Scheme and any associated Habitats Regulations Assessment (HRA).
- 1.1.8 Details of avoidance, mitigation, compensation and enhancement measures relating to birds are not included in this report and will instead be included within the EIA.

Assessment Objectives

- 1.1.9 The objective of the wintering bird survey, and this report was to:
- record the species, distributions and numbers of wintering birds within and adjacent to the Kent Onshore Scheme Order Limits, with emphasis on any protected and notable species (as defined in this section under “Legislation, policy and guidance”);
 - report the results of the winter bird survey; and
 - assess the ecological importance of the Survey Area for wintering birds.

Scope

- 1.1.10 The survey areas are shown in **Application Document 6.4.3.2.A.1 Kent Phase 1 Survey Results**. This report aims to confirm the presence of wintering bird territories within the Kent Onshore Scheme Order Limits through transect surveys conducted along the routes indicated in **Application Document 6.4.3.2.B.1 Kent Wintering Bird Transect Routes (2022-2023)**. The findings of wintering bird survey work within the Kent Onshore Scheme Order Limits have informed ecological best practice and mitigation as required, in order to ensure that development of the Proposed Project does not adversely affect wintering birds.
- 1.1.11 The Kent Onshore Scheme Order Limits comprises four core locations. These areas are also divided into individual ‘parcels’, which have been referenced within this report and are as follows:
- Pegwell Bay landfall (east of Thanet Coastal path) – field parcel 379;
 - Eastern landfall route – between the Proposed Minster Converter Station and Minster Substation to the west and landfall area to the east – field parcels 238, 328, 336, 346 and 360. Note that an area of underground trenchless installation is between Pegwell Bay and the eastern most site compound;
 - Proposed Minster Converter Station and Substation (adjacent fields east of the railway to the west) – field parcels 244 and 238; and
 - Overhead Line (OHL) route corridor (southwest of converter station fields to north) – field parcels 232, 233 and 236.
- 1.1.12 As a result, the WeBS surveys targeted Pegwell Bay while inland sampling transects were devised (based on land access available at the time) to cover and sample all major habitat types that are potentially to be subject to above-ground works and, as a minimum, to scan all large field expanses from a distance for bird aggregations.

- 1.1.13 The following key geographical areas are referenced to assist in discussing and interpreting survey results for the Survey Area, including bird distribution later in this report.
- 1.1.14 Pegwell Bay landfall (area to the east of Thanet Coastal path) which includes;
- River Stour and River Stour ‘mouth’ – located at the southern extent of Pegwell Bay.
 - Thanet Coastal Path Public Right of Way (PRoW), which broadly follows the foreshore.
 - The ‘Coastal Lagoon’ – located within the centre of the option area and adjacent to the Thanet Coastal Path with Sandwich Road running parallel.
- 1.1.15 Eastern landfall route which includes.
- Ebbsfleet Lane – parallel to the A256 and allows access/views of the arable fields to the north of Stonelees Golf Centre.
- 1.1.16 Proposed Minster Converter Station and Substation area which includes:
- The A256/Richborough Way, which separates the converter station from the remainder of the inland route to the east.
 - Brook Lane, a road access and PRoW through the northern half of this area.
 - Weatherlees Hill Water Treatment Works (the ‘Sewage Works’), located to the immediate south of the converter station.
 - Fishing lakes, located in the northern portion of this area.
- 1.1.17 Overhead line corridor, which includes:
- River Stour canal. A tributary of the Stour, running broadly west to east through the centre of this area and with a PRoW parallel to its northern bank.
 - Railway line (Minster to Sandwich), which separates this overhead line area from the proposed Minster Converter Station.
 - Marsh Farm Road, which is the only immediate vehicle access to this area, and which has a water treatment facility at its southern termination.

1.2 Bird Legislation, Policy and Guidance

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

Legislation

Conservation of Habitats and Species Regulations 2017 (as amended)/Directive on the Conservation of Wild Birds 2009

- 1.2.2 A number of bird species recorded in the UK (including those that are resident, overwintering and migratory) are protected at a European level under the European Commission (EC) Directive on the Conservation of Wild Birds 2009 (2009/147/EC). The Directive applies to 193 bird species or sub-species, which are:

- in danger of extinction;
- rare, or have restricted local distribution;
- vulnerable to specific changes in their habitat; or
- in need of particular attention for reasons of the specific nature of their habitat.

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

Wildlife and Countryside Act 1981 (as amended)

- 1.2.7 All active bird nests, eggs and young are protected from intentional and reckless destruction by the Wildlife and Countryside Act 1981 (as amended).
- 1.2.8 The Act prohibits the intentional killing, injuring or taking of wild birds and, during the breeding season, the taking, damaging or destroying of eggs or nests (whether the nest is in use or being built). In addition to this general protection, certain rare, endangered, declining or vulnerable species are afforded special protection under Schedule 1 of the Act.
- 1.2.9 Bird species listed on Schedule 1 are additionally protected against disturbance while nesting. This means it is also an offence to disturb any Schedule 1 listed nesting birds or their young during the breeding season whilst they are occupying a nest site. This includes causing the parent birds or fledglings apparent stress, and/or which may lead to the parents abandoning their nests or young.

Natural Environment and Rural Communities Act 2006 (as amended)

- 1.2.10 In addition to the above legislation, 49 bird species are listed as being Species of Principal Importance for conservation in England under Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006. These species are a material consideration during the planning process.

- 1.2.11 The list of 49 'priority species' comprises those identified as requiring action under the UK Biodiversity Action Plan (UKBAP), which continue to be species of conservation priority under the UK Post-2010 Biodiversity Framework (which succeeded the UKBAP in July 2012).

Regional/Local Planning and Guidance

Birds of Conservation Concern (BoCC)

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

Table 1.1 Birds of Conservation Concern (BoCC) red and amber list criteria.

Criteria	BoCC Status Code	Description
Red list	HD	Historical decline in breeding population.
	BDp ¹ / BDp ²	Severe breeding population decline over 25 years/longer term.
	BDr ¹ / BDr ²	Severe breeding range decline over 25 years / longer term.
	WDp ¹ / WDp ²	Severe non-breeding population decline over 25 years/longer term.
	WDr ¹	Severe non-breeding range decline over 25 years.
	IUCN	Globally threatened – CR (critically endangered) EN (endangered) VU (vulnerable).
Amber list	BDMp ¹ / BDMp ²	Moderate breeding population decline over 25 years/longer term.
	WDMp ¹ / WDMp ²	Moderate non-breeding population decline over 25 years/longer term.
	BDMr ¹ / BDMr ²	Moderate breeding range decline over 25 years/longer term.
	WDMr ¹	Moderate non-breeding range decline over 25 years.

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

1.2.16 Although it does not offer any legal protection, BoCC 5 ([Stanbury, et al., 2021](#)) provides guidance on the conservation status of UK bird species. Thus, it can be used to assess the ecological importance of bird populations and the habitats that they rely on, particularly at a local level.

1.2.17 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 to be affected by development.

Kent Local Wildlife Site Selection Criteria

1.2.18 In Kent an individual Local Wildlife Site (LWS) can be selected for birds if it meets the criteria within Kent LWS Selection Criteria ([Kent Wildlife Trust, 2022](#)). These guidelines state that the criterion for selection of Local Wildlife Sites applies to birds as follows:

“Birds

133) A set of criteria has been established by Kent Ornithological Society, as the relevant expert organisation, for the selection of Wildlife Sites on the basis of their bird fauna (which is here taken to mean the naturally occurring populations of wild birds on a site). The criteria are based on established criteria for the selection of Sites of Special Scientific Interest, and on the Kent Red Data Book.

134) The criteria are intended to be applied to areas of habitat which are more-or-less discrete and homogenous. For example, a large block of woodland should not be treated as part of the same site as a large block of farmland. However, an intimately mixed area of small fields, hedges and small woods may be treated as a unit, as may the mix of scrub, swamp, marsh and open water vegetation associated with flood plains or around abandoned quarries.

135) The criteria have been designed to recognise

a) The rarity of certain breeding and wintering bird species;

- b) Birds which may be considered vulnerable because their populations are in decline;*
- c) Birds which are vulnerable because of their colonial nesting habitats;*
- d) Birds which may be considered vulnerable because their non-breeding populations are concentrated in a small number of sites; and*
- e) Sites of importance for the presence of a diversity of species.*

A site should be selected as a Local Wildlife Site if it can be considered as a single, identifiable unit (as explained above) in terms of its bird fauna and where:

- It is occupied regularly by at least 2.5% of the county population of any one or more bird species, based on the most recent and authoritative data;*

OR

- It is occupied regularly as a breeding site by species with a Kent population of 50 or fewer territories;*

OR

- It holds ten or more Kent Red Data Book 2 (KRDB2) species in the breeding season;*

OR

- It holds three or more Kent Red Data Book 3 (KRDB3) species at the appropriate time of year (normally this should not include a combination of breeding and wintering species);*

OR

- It holds one of the five largest colonies of colonial seabirds (with the exception of herring gull and black-headed gull), grey heron, little egret or sand martin;*

OR

- It is occupied regularly by 5% or more of the county population of any one or more species in non-breeding seasons, based on the most recent and authoritative data;*

OR

- It has been recorded as being regularly used in recent years by at least 50 breeding bird species;*

OR

- It has been recorded as being regularly used in recent years by at least 60 wintering bird species;*

OR

It has been recorded as being regularly used in recent years by at least 100 passage bird species."

1.3 Methodology

Zone of Influence

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

Survey and Study Areas

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

Desk Study

- 1.3.6 Results of dedicated biological records data and information from local stakeholders were reviewed as part of this exercise and summarised in the PEIR. They will also be incorporated into an assessment within an ES.
- 1.3.7 A MAGIC.gov.uk search was also conducted for any statutory areas designated for birds within 10km of the site ([Department for Environment, Food and Rural Affairs, 2024](#)) (~~Department for Environment, Food and Rural Affairs, 2024~~). This was used to review designated site citations for any bird species of particular relevance to the site (i.e., where functional linkage to designated sites of international importance could occur).
- 1.3.8 Recent Kent bird reports from the Kent Ornithological Society (KOS) were used to obtain local status and distribution data for wintering birds ([Kent Ornithological Society, 2023](#)) (~~Kent Ornithological Society, 2023~~). A survey report by the Sandwich Bird Observatory Trust ([Sandwich Bay Bird Observatory Trust, 2020](#)) (~~Sandwich Bay Bird Observatory Trust, 2020~~) of the Thanet Coast and Sandwich Bay SPA was also reviewed.
- 1.3.9 The Wetland Bird Survey is a joint scheme run by the British Trust for Ornithology (BTO), the Wildfowl & Wetlands Trust (WWT), Royal Society for the Protection of Birds (RSPB) and Joint Nature Conservation Committee (JNCC) to monitor non-breeding waterbirds nationally. A review of WeBS online data revealed that the Scheme overlapped with and was in proximity to a number of WeBS count sectors with recent data. Online summary data from the five most recent years in which wintering bird counts were completed for the sectors was reviewed.

- 1.3.10 Other documents were reviewed to inform evaluation and assessment, as follows:
- The Kent Breeding Bird Atlas 2008-13 (Clements, 2015);
 - Statutory and non-statutory designated site citations within 1km of the Kent Onshore Scheme Order Limits; and,
 - LWS criteria (Kent Wildlife Trust, 2022).

Field Survey Method

- 1.3.11 This section details the following field survey methods undertaken:

- Intertidal (Wetland Bird Survey (WeBS)): comprised of high and low tide counts.
- Inland Winter Field Survey.

Intertidal WeBS: high and low tide counts.

- 1.3.12 A high tide survey was carried out to record all waterbird species (as defined by Wetlands International), along with important incidentally occurring species such as raptors. The survey was based on the WeBS count methods detailed in Bird Monitoring Methods: A manual of techniques for key UK species ([Gilbert, Gibbons, & Evans, 1998](#))(~~Gilbert, Gibbons, & Evans, 1998~~) with survey area modified for the Kent Onshore Scheme. Counts were conducted during the day within two hours (three at most) either side of high tide.
- 1.3.13 A low tide count was also conducted across the same survey area as the high tide core counts. The survey count was undertaken within two hours of low tide, avoiding times earlier than one hour after sunrise or one hour before sunset to avoid dusk and dawn flighting. Surveys were based on the low tide count methods detailed in Bird Census Techniques ([Bibby, Burgess, Hill, & Mustoe, 2000](#))(~~Bibby, Burgess, Hill, & Mustoe, 2000~~) and ([Gilbert, Gibbons, & Evans, 1998](#))(~~Gilbert, Gibbons, & Evans, 1998~~).
- 1.3.14 While passerines and other species were not the focus of the surveys, notable species were recorded when using intertidal, shoreline or directly adjacent areas.
- 1.3.15 During the survey, all species either seen or heard were recorded and any signs of breeding activity were noted. Birds were recorded using the standardised BTO two-letter species codes and standardised behaviour codes ([Bibby, Burgess, Hill, & Mustoe, 2000](#))(~~Bibby, Burgess, Hill, & Mustoe, 2000~~).
- 1.3.16 Both surveys were conducted monthly (i.e. a total of six visits per survey type, across the period October 2023 to early March 2024) and recorded birds within the landfall corridor and along the shoreline zone up to 500 m from the Kent Onshore Scheme Order Limits that had been provided at the time of survey commencement (October 2023).

Inland Winter Field Survey

- 1.3.17 The field survey methodology used was based on the survey methodologies detailed in ([Gilbert, Gibbons, & Evans, 1998](#))(~~Gilbert, Gibbons, & Evans, 1998~~) and guidance from the Bird Survey & Assessment Steering Group, ([Bird Survey & Assessment Steering Group, 2023](#))(~~Bird Survey & Assessment Steering Group, 2023~~). Winter field counts were targeted where possible during the high tide period at Pegwell Bay, when the potential for the presence of birds displaced by the rising and high tide is the greatest.

- 1.3.18 During each survey visit, a suitably experienced ornithologist walked a pre-determined transect route through the Survey Area. All bird species seen or heard during the survey were recorded and signs of activity and behaviour were noted. The species present and their behaviours were recorded on field maps using standard BTO species codes and behaviour notation.
- 1.3.19 However, survey effort was primarily focussed on in-scope species and other declining species that have ~~either~~ been listed as notable species in accordance with the criteria provide in Section 1.2 (i.e. listed as Species of Principal Importance (SPI), red and amber status species (Stanbury, et al., 2021). Visual counts of all bird species encountered were made, with birds that could not be located visually identified through calls or songs.
- 1.3.20 All bird species seen during the survey were recorded. However, most survey effort was focused on notable species in accordance with the criteria provide in Section 1.2 (i.e. listed as Species of Principal Importance (SPI), red and amber status species (Stanbury, et al., 2021)~~(Stanbury, et al., 2021).~~
- 1.3.21 During the survey all species either seen or heard were recorded and any signs of breeding activity were noted. Birds were recorded using the standardised British Trust for Ornithology (BTO) two-letter species codes and standardised behaviour codes (Bibby, Burgess, Hill, & Mustoe, 2000)~~(Bibby, Burgess, Hill, & Mustoe, 2000).~~
- 1.3.22 Based upon its size, the habitat types present, expected impacts of the Kent Onshore Scheme and the lack of granted access to areas of the Survey Area, the Survey Area was split into transect routes using public rights of way and directly accessing areas where access was granted an impact from the proposed development was anticipated. While the majority of open fields could be scanned from distance, detailed coverage of all boundaries and woodland parcels was not possible and therefore the survey reflects a sample of the total Kent Onshore Scheme Order Limits. The transect routes are shown in **Application Document 6.4.3.2.B.1 Kent Wintering Bird Transect Routes (2022-2023)**.
- 1.3.23 Six monthly survey visits were conducted between October 2022 and March 2023 inclusive.
- 1.3.24 Survey routes were alternated on each visit, to ensure that all parts were covered at various times of day across the duration of the survey, during a range of daylight hours between sunrise and sunset.

Flight activity (vantage point) surveys

- 1.3.25 Vantage point surveys recorded flight lines of species potentially sensitive to collision with infrastructure in order to gain a qualitative assessment of collision risk with the OHL.
- 1.3.26 The survey methodology followed that outlined within (Scottish Natural Heritage, 2017)~~(Scottish Natural Heritage, 2017)~~ and focused solely on the western OHL within the Kent Onshore Scheme Order Limits. The surveys commenced in February 2023 and are ongoing at the time of writing (completed in January 2024).
- 1.3.27 While these surveys do not form part of the scope of this report, any key observations relevant to the 2022/23 winter season (especially when not captured by the other survey types) are included as supplementary data and incorporated into the assessment.

Survey personnel, dates and weather

- 1.3.28 The winter bird survey visits were led by three suitable experience surveyors.
- 1.3.29 Surveyor one has over 30 years of ornithological experience, which includes breeding and winter bird surveys. Surveyor two has over 15 years of ornithological survey and bird identification experience. Surveyor three has over 10 years of ornithological experience, with over four years' experience of ornithological surveys relating to development projects.
- 1.3.30 Bird survey visits were conducted in the months of October 2022 to March 2023.
- 1.3.31 Survey visits were not conducted during periods of prolonged heavy rain, strong wind (above Beaufort 4) or fog (which may limit or alter bird behaviour or where or surveying may be impractical) wherever possible. Survey visits were undertaken in suitable weather conditions (see Table 1.2 below).

Table 1.2 Dates and weather conditions for each survey visit.

Date	Survey type	Tide time	Tide height (m)	Sunrise/sunset	Start time	End time	Weather conditions
21/10/22	Intertidal High	9:26am	4.20	7:29am	9am	11am	Start: 16°C, 6/8 cloud, wind BF 2 south, dry End: 18°C, 7/8 cloud, wind BF 3 south, dry
	Intertidal Low	4:05pm	1.26	5:49pm	1pm	2:45pm	Start: 19°C, 1/8 cloud, wind BF 4 south, dry Start: 19°C, 6/8 cloud, wind BF 4 south, dry
28/10/22	Inland	1:50pm (High)	5.33	7:40am	9am	2:50pm	Start: 17°C, 8/8 cloud, wind BF 3 south, dry End: 19°C, 5/8 cloud, wind BF 3 south, dry
15/11/22	Intertidal Low	9:40am	1.94	8:15am	9:40am	12:05pm	Start: 11°C, 8/8 cloud, wind BF 3 south, dry End: 12°C, 5/8 cloud, wind BF 3 south, dry
	Intertidal High	3:25pm	5.04	4:05pm	1:30pm	2:55pm	Start: 12°C, 8/8 cloud, wind BF 5,

Date	Survey type	Tide time	Tide height (m)	Sunrise/sunset	Start time	End time	Weather conditions
							medium to heavy rain for first hour End: 12°C, 8/8 cloud, wind BF 5, dry
23/11/22	Inland	10:28am (High)	5.16	7:24am	9:30am	2:00pm	Start: 10°C, 8/8 cloud, wind BF 5 south, dry End: 12°C, 0/8 cloud, wind BF 4 south, dry
13/12/22	Intertidal Low	8:35am	1.10	7:50am	8:35am	11am	Start: 1°C, 7/8 cloud, wind BF 3 southeast, dry End: 2°C, 8/8 cloud, wind BF 2 southeast, dry
	Intertidal High	2:09pm	4.50	3:45pm	12:45pm	3:05pm	Start: 2°C, 8/8 cloud, wind BF 2 southeast, dry End: 1°C, 8/8 cloud, wind BF 2 southeast, dry
22/12/22	Inland	9:57am (High)	6.02	7:58am	9:15am	2:00pm	Start: 6°C, 1/8 cloud, wind BF 0, dry End: 11°C, 8/8 cloud, wind BF 1 southwest, dry
19/01/23	Intertidal High	7:50am	4.48	7:50am	9am	11:15am	Start: -1°C, 2/8 cloud, wind BF 0, dry End: 4°C, 0/8 cloud, wind BF 0, dry Note coastal lagoon frozen
	Intertidal Low	3:51pm	0.86	4:21pm	1:15pm	3:15pm	Start: -1°C, 2/8 cloud, wind BF 0, dry End: 4°C, 0/8 cloud, wind BF 0, dry

Date	Survey type	Tide time	Tide height (m)	Sunrise/sunset	Start time	End time	Weather conditions
							Note coastal lagoon still partially frozen
02/02/23	Intertidal High	9:18am	4.21	7:32am	8:20am	11:25am	Start: 6°C, 1/8 cloud, wind BF 3, dry End: 9°C, 0/8 cloud, wind BF 3, dry
	Intertidal Low	4:13pm	1.16	4:43pm	1:25pm	3:40pm	Start: 5°C, 3/8 cloud, wind BF 3, dry End: 10°C, 6/8 cloud, wind BF 3, dry
03/02/23	Inland	10:28am	4.33	7:29am	11:45am	1:20pm	Start: 10°C, 6/8 cloud, wind BF 3, dry End: 12°C, 5/8 cloud, wind BF 3, dry
16/02/23	Inland	7:31am (High)	4.07	7:09am	8:50am	1:20pm	Start: 9°C, 7/8 cloud, wind BF 3 south west, dry End: 11°C, 8/8 cloud, wind BF 4 southwest, dry
03/03/23	Intertidal High	8:56am	3.98	6:35am	8:40am	10:30am	Start: 5°C, 8/8 cloud, wind BF 3, dry End: 6°C, 7/8 cloud, wind BF 3-4 southwest, patchy light rain
	Intertidal Low	3:50pm	1.70	5:34pm	2pm	3:20pm	Start: 7°C, 6/8 cloud, wind BF 3, dry End: 7°C, 7/8 cloud, wind BF 3 southwest, dry
10/03/23	Inland	12:53pm (High)	5.93	6:22am	10:40am	3pm	Start: 7°C, 6/8 cloud, wind BF 3, dry

Date	Survey type	Tide time	Tide height (m)	Sunrise/sunset	Start time	End time	Weather conditions
							End: 7°C, 7/8 cloud, wind BF 3 southwest, dry

Assessment and Evaluation

Assessment criteria

- 1.3.32 The assessment of the ornithological importance of the survey area during the wintering season was made by evaluating any species afforded special statutory protection or those included on one, or more, of the lists of species of conservation interest, as detailed in Section 1.2. These 'notable' species include:
- species listed on Annex 1 of the EU Birds Directive or a qualifying feature of potentially functionally linked internationally designated sites;
 - species listed on Schedule 1 of the WCA, 1981 (as amended);
 - priority bird species in the UK;
 - species listed as priority species or additional species of interest within Kent; and
 - species included in the Birds of Conservation Concern (BoCC) Red and Amber Lists (Stanbury, et al., 2021).
- 1.3.33 Additionally, assemblages have been assessed against the criteria for Local Wildlife Site designation within the Kent Local Wildlife Site Selection Criteria ([Kent Wildlife Trust, 2022](#))(~~Kent Wildlife Trust, 2022~~).
- 1.3.34 A comparison between population sizes present within the Survey Area with the national and county breeding population estimates for certain species was also taken into account. National estimates for breeding birds are published in a paper: 'Population estimates of birds in Great Britain and the United Kingdom' ([Woodward, et al., 2020](#))(~~Woodward, et al., 2020~~) and wintering waterbird population estimates ([Austin, et al., 2023](#))(~~Austin, et al., 2023~~) were taken from national WeBS reports. The BTO Bird Atlas 2007-2011 ([Balmer, et al., 2013](#))(~~Balmer, et al., 2013~~) was also reviewed for species information on a national level and to inform the above assessment criteria.
- 1.3.35 Information on the population status of wintering bird species at a county level was sourced from the latest available issues of the Kent Bird Reports ([Kent Ornithological Society, 2024](#))(~~Kent Ornithological Society, 2024~~).
- 1.3.36 Information on populations of nationally rare species was sourced from the most recently published paper by the Rare Breeding Birds Panel (RBBP) ([Holling & Rare Breeding Bird Panel, 2019](#))(~~Holling & Rare Breeding Bird Panel, 2019~~).

Importance of bird populations (valuation)

- ~~4.4.11~~1.3.37 To inform assessment of the importance of the bird populations, their biodiversity values have been defined with reference to the geographical level based on the values presented in the Chartered Institute of Ecology and Environmental Management

(CIEEM) 'Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland' ([CIEEM, 2018](#)) as well as professional judgment.

1.1.21.3.38 These assessment criteria (set out in the table below) have been used in conjunction with an assessment of species status, abundance and diversity, to assess the biodiversity importance of the bird populations recorded during the surveys.

Table 1.3 Biodiversity importance of ornithological features

Biodiversity Importance	Description and examples of criteria
International or European	<p>Resident or regularly occurring populations of species which may be considered of importance at an international or European level¹ where:</p> <ul style="list-style-type: none"> the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; the population forms a critical part² of a wider population at this scale; or the species is at a critical phase³ of its life cycle at this scale.
UK or National	<p>Areas of habitats with priority species identified in the UK Post-2010 Biodiversity Framework i.e. UK Biodiversity Action Plan (BAP), including those published in accordance with Section 41 of the NERC Act (2006) and those considered to be of principal importance for the conservation of biodiversity.</p> <p>Resident or regularly occurring populations of species which may be considered of importance at a UK or a national level⁴ where:</p> <ul style="list-style-type: none"> the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; the population forms a critical part of a wider population at this scale; or the species is at a critical phase of its life cycle at this scale.
Regional	<p>Populations of species of importance at a regional level (i.e. southeast England).</p> <p>Resident or regularly occurring populations of species which may be considered of importance at a regional level⁵ where:</p> <ul style="list-style-type: none"> the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; the population forms a critical part of a wider population at this scale; or the species is at a critical phase of its life cycle at this scale.

Biodiversity Importance	Description and examples of criteria
County	<p>Populations of species of value at a County (i.e. Kent) level or District (e.g. Thanet).</p> <p>Resident or regularly occurring populations of species which may be considered of importance at a County (or District)⁶ level where:</p> <ul style="list-style-type: none"> the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; the population forms a critical part of a wider population at this scale; or, the species is at a critical phase of its life cycle at this scale
Local	<p>Species populations of importance in a local (i.e. within ~ 2 km of the site) context.</p> <p>Populations or communities of species considered to appreciably enrich the habitat resource within the local context (such as veteran trees), including features of value for migration, dispersal or genetic exchange.</p>
Negligible (Site)	<p>Habitats and associated species that is of value in the context of the site only.</p> <p>Populations of common and widespread species</p>
<p>1 Such species include those listed within the Directive 2009/147/EC on the Conservation of Wild Birds (i.e. EC Birds Directive) (codified version of Council Directive 79/409/EEC as amended) or animal or plant species listed within Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna (i.e. Habitats Directive).</p> <p>2 Such populations include sub-populations that are essential to maintenance of metapopulation dynamics, e.g. critical emigration and, or immigration links between otherwise discrete populations.</p> <p>3 Seasonal activity or behaviour upon which survival or reproduction depends.</p> <p>4 Species which may be considered at the UK or national level mean: birds, other animals and plants which receive legal protection on the basis of their conservation interest (those listed within the Wildlife and Countryside Act 1981 (as amended) Schedule 1, 5 and 8); species listed for their principal importance for biodiversity (in accordance with the Natural Environment and Communities Act 2006 Section 41 England), priority species listed within the UK Post 2010 Biodiversity Framework (i.e. UK Biodiversity Action Plan (UKBAP)), or species listed within the Red Data Book.</p> <p>5 Such species include those listed in the appropriate Natural Character Area description.</p> <p>6 Such species include those at county level (i.e. Kent) including unitary authority area i.e. District level (i.e. South-east England); as listed on the LBAPs; and listed as a county designated site.</p> <p>*As well as assigning importance there is also a need to identify all legally protected species that could be affected by the proposed scheme in order that measures can be taken to ensure that adherence to the relevant legislation is observed. This may include the adoption of mitigation and appropriate licensing which are acceptable to Natural England.</p>	

[4.3.37](#)[1.3.39](#) Only ecological features within the site and/or ZOI valued at a local level or above have been taken forward for future assessment within the Ecological Impact

Assessment (EcIA). Those valued at below this level of importance, for example at the ZOI level, have been scoped out of the assessment process.

[1.3.381.3.40](#) A summary of the potential impacts of the Kent Onshore Scheme upon important bird species, has not been included as this is discussed in detail within the Environmental Statement.

Limitations

[1.3.391.3.41](#) An ecological survey represents a 'snapshot' in time of the ecological condition of a site. The extent and quality of habitats present, and their suitability for protected and priority species, can change substantially throughout both the course of a year and between years. However, any seasonal limitations to the appraisal are clearly identified in this report, and the lifespan of this appraisal section of this report at least partially addresses the potential for changes between years. Therefore, this standard limitation is addressed as far as is reasonably possible.

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

[1.3.411.3.43](#) Recorded bird numbers on a single survey visit are the sum of bird registrations including estimations of flocks. As such counts do not always represent exact 'to the nearest bird' figures due to the inherent issues with estimating large bird numbers, but instead provide a representation of the magnitude of bird numbers present which can be used to review overall trends through peaks and means.

[1.3.421.3.44](#) Any potential effects of 'double counting' within the sum of bird registrations have been addressed as far as reasonably possible both by surveyor professional judgement in the field and when analysing count data.

Intertidal

[1.3.431.3.45](#) The large distances between the available vantage points along the Pegwell Bay coast path right of way and the tideline at the Pegwell Bay during low tide made observation and recording difficult, even when using telescopes. To compensate low tide counts were extended to three hours prior or after low tide to enable accurate recording of species and numbers present. All surveys encompassed a period adjacent to low tide itself (i.e. within half an hour) to record any key movements or additions to the species encountered prior or after. As such this limitation was dealt with as reasonably as possible.

[1.3.441.3.46](#) As bird movements occurred during the course of a tidal count, surveyor judgement was used to minimise the effects of double counting as far as possible through review of the likely maximum count present.

[1.3.451.3.47](#) The size of the intertidal survey area meant that only one count was conducted during each tide (i.e. the size of the survey area prevented detailed review of movements of birds within a single tide window).

Inland

[1.3.46](#)[1.3.48](#) Access to the entire Order Limits was not available at the time of survey, and additionally the design was not finalised. As a result of both factors, the inland walkover used a series of 'sampling' transects to cover major habitat types and extents that could be affected by the Kent Onshore Scheme, as well as using viewpoints to scan fields for any bird aggregations, in particular any species associated with designated sites. In general, the majority of open field areas were scanned from distance but not all boundary features could be directly accessed.

[1.3.47](#)[1.3.49](#) Inland surveys during January and February were further limited by lack of access to land parcels and so surveys were only able to be conducted from the available public right of ways, further limiting the sample survey coverage.

[1.3.48](#)[1.3.50](#) On occasion, traffic noise from adjacent major roads (i.e. the A526) made it difficult to hear calling birds in habitats directly adjacent to this road. However, any resulting impacts on bird detectability were relatively minor and are therefore not regarded as a significant limitation to the survey.

[1.3.49](#)[1.3.51](#) The limited access and corresponding limitations to survey coverage has been taken into account within assessment. While it is likely to have less of an effect on detection of large bird aggregations and larger species, it is likely that cryptic and small passerine species were under recorded, this again is taken into account as a 'sampling' approach within the assessment. In addition, a second season of non-breeding bird surveys is being undertaken during 2023-24.

[1.3.50](#)[1.3.52](#) To control for time of day effects, the survey route was reversed or altered on each visit.

[1.3.51](#)[1.3.53](#) Access limitations are taken into account within this report with overall no other significant limitations to the survey results.

Lifespan of the Appraisal

[1.3.52](#)[1.3.54](#) It should be noted that ecosystems are dynamic and constantly changing, and therefore species may move or new species may be recorded in subsequent years. For this reason and in accordance with current guidance, the field survey data detailed in this report are valid for two years ([CIEEM, 2019](#))~~(CIEEM, 2019)~~. After this date, update surveys may be required and advice should be sought from an appropriately qualified ecologist to determine survey scope and methods.

1.4 Results

Desk Study

Designated sites

- 1.4.1 A number of international designations of wintering and passage ornithological interest are present within 10 km of the Kent Onshore Scheme Order Limits, as follows:
- Thanet Coast and Sandwich Bay SPA and Thanet Coast and Sandwich Bay Ramsar (both designations overlap the Kent Onshore Scheme Order Limits).
 - Stodmarsh SPA and Stodmarsh Ramsar (approximately 8 km west).

- 1.4.2 The relevant wintering and passage ornithological qualifying features and interest for these internationally designated sites is summarised below.

Thanet Coast and Sandwich Bay SPA

- 1.4.3 The SPA qualifies under Article 4.1 of the Directive (2009/147/EC) as it is used regularly by the following species listed in Annex I:

- *‘Over winter the area regularly supports: golden plover (*Pluvialis apricaria*) 0.2% of the GB population (5 year peak mean 1991/92-1995/96.....411 individuals).’*

- 1.4.4 The SPA qualifies under Article 4.2 of the Directive (2009/147/EC) as it is used regularly by the following species listed in Annex II:

- *‘Over winter the area regularly supports: ruddy turnstone (*Arenaria interpres*) 1.4% of the population (5 year peak mean 1991/92-1995/96.....940 individuals).’*

Thanet Coast and Sandwich Bay Ramsar

- 1.4.5 The Ramsar site qualifies under Ramsar criterion 6 – (species/populations occurring at levels of international importance) because it regularly supports:

- *‘Species with peak counts in winter Ruddy turnstone, 1007 individuals, representing an average of 1% of the population (5 year peak mean 1998/9-2002/3)’*

- 1.4.6 A number of other species are classed as ‘noteworthy fauna’ but are not qualifying species. Relevant bird species occurring at levels of national importance:

- *“Species with peak counts in spring/autumn:*
- *Ringed plover (*Charadrius hiaticula*), Europe/Northwest Africa 649 individuals, representing an average of 2% of the GB population (5 year peak mean 1998/9-2002/3).*
- *Common greenshank (*Tringa nebularia*), 35 individuals, representing an average of 5.8% of the GB population (5 year peak mean 1998/9-2002/3).*
- *Species with peak counts in winter: Red-throated diver (*Gavia stellata*), NW Europe 57 individuals, representing an average of 1.1% of the GB population (5 year peak mean 1998/9-2002/3).*
- *Great crested grebe (*Podiceps cristatus cristatus*), NW Europe. 218 individuals, representing an average of 1.3% of the GB population (5 year peak mean 1998/9-2002/3).*
- *Sanderling (*Calidris alba*), Eastern Atlantic.598 individuals, representing an average of 2.9% of the GB population.”*

Stodmarsh SPA

- 1.4.7 The site qualifies under Article 4.1 of the Directive (2009/147/EC) as it is used regularly by the following species listed in Annex I overwinter:

- *“Bittern (*Botaurus stellaris*) (Europe - breeding) 4% of the GB population 5 year peak count, 1987/8-1991/2.*

- *Hen harrier (Circus cyaneus) 1.2% of the GB population 5 year peak count, 1987/8-1991/2.*"

1.4.8 The site qualifies under Article 4.2 of the Directive (2009/147/EC) as it is used regularly by the following species listed in Annex II:

- *"Over winter the area regularly supports: Shoveler (Anas clypeata) [Spatula clypeata] (North-western/Central Europe) 1.9% of the population in Great Britain 5 year peak mean 1991/92-1995/96.*
- *Gadwall (Anas strepera) (North-western Europe) 1.8% of the population in Great Britain 5 year peak mean 1991/92-1995/96.*
- *An internationally important assemblage of water birds with shoveler (Spatula clypeata), mallard (Anas platyrhynchos), wigeon (Mareca penelope), pochard (Aythya farina), tufted duck (Aythya fuligula), bittern (Botaurus stellaris), hen harrier (Circus cyaneus), snipe (Gallinago gallinago), water rail (Rallus aquaticus) and lapwing (Vanellus vanellus) referenced within the citation assemblage."*

Stodmarsh Ramsar

1.4.9 The site qualifies under Ramsar criterion 2 – (wetland should be considered internationally important if it supports vulnerable, endangered, or critically endangered species or threatened ecological communities) because it regularly supports the following wintering/passage qualifying species/populations:

1.4.10 Species with peak counts in spring/autumn:

- Gadwall (*Anas strepera*), 267 individuals, representing an average of 1.5% of the GB population (5 year peak mean 1998/9-2002/3).

1.4.11 Species with peak counts in winter:

- Great bittern (*Botaurus stellaris*), 2 individuals, representing an average of 2% of the GB population (5 year peak mean 1998/9).
- Northern shoveler (*Anas clypeata*), 274 individuals, representing an average of 1.8% of the GB population (5 year peak mean 1998/9-2002/3).
- Hen harrier (*Circus cyaneus*), Europe 9 individuals, representing an average of 1.2% of the GB population (5 winter period peak count 1987/8-1991/2).

Other statutory and non-designated sites

1.4.12 A review of other statutory and non-statutory designated sites within 2 km found that Sandwich Bay and Hacklinge Marshes SSSI is located within the Site and Survey Area (overlapping with the Thanet Coast and Sandwich Bay SPA and Ramsar).

1.4.13 The Sandwich Bay and Hacklinge Marshes SSSI citation describes the SSSI ornithological interest as follows:

"The ornithological interest of Sandwich Bay and Hacklinge Marshes is centred on the large numbers of waders and wildfowl which use the area in winter and during the Spring and Autumn migrations. Dunlin (Calidris alpina) is usually the most common wader present, found particularly on the mudflats where the rich invertebrate fauna also attracts a wide range of other common species such as oystercatcher (Haematopus ostralegus), curlew (Numenius arquata), and redshank (Tringa totanus). Grey plover

(Plurialis squatarola) and sanderling (Calidris alba) both overwinter in nationally important numbers, whilst ringed plover (Charadrius hiaticula) also occurs in nationally important numbers during migration. Wildfowl that occur on the site include mallard (Anas platyrhynchos), shelduck (Tadorna tadorna) and occasionally brent goose (Branta bernicla). Many of the birds use more than one habitat, some for example feed on the mudflats at low tide and then move up to roost on the saltmarsh or grazing marsh. Breeding birds include ringed plover, oystercatcher and little tern (Sterna albifrons), a species specially protected by law and listed on Schedule 1 of the Wildlife and Countryside Act 1981. Inland areas are also of interest supporting two nationally rare species of breeding birds”.

- 1.4.14 A review of other statutory and non-statutory designated sites within 2 km found that other designated sites were designated primarily for their habitats without detailed ornithological criteria.
- 1.4.15 As a result, where species assemblages may be relevant to connected designated site habitats, these are reviewed, but focus is made upon the internationally designated sites listed above.

WeBS data summaries

- 1.4.16 The most recent five year WeBS core count summary data was reviewed to provide both additional desk study data relevant to the Survey Area but also to provide an updated baseline for internationally designated sites, given the age of the counts stated within the citations.
- 1.4.17 A number of WeBS count sectors relevant to the Kent Onshore Scheme Order Limits were reviewed as follows:
 - Pegwell Bay (location code: 22412), which includes the intertidal Survey Area;
 - Ash Levels (location code 22341) is a count sector which encompasses the Survey Area south of the River Stour (including areas within the Kent Onshore Scheme Order Limits) but is overall a much larger site (encompassing over four square kilometres) and so results have been assessed within this context;
 - Worth Marshes/Lyddon Valley (Location Code: 22075) which encompasses the southern areas of the Thanet Coast SPA and Ramsar. Note however no recent (5 year) count data was available for this site;
 - Thanet Coast which encompasses the northern areas of the Thanet Coast SPA and Ramsar; and
 - Stodmarsh (location code 22072), which encompasses the Stodmarsh SPA and Ramsar.
- 1.4.18 Key species counts potentially relevant to the Survey Area recorded within the last five years are provided in more detail within **Annex 2.B.1**.
- 1.4.19 In summary a large assemblage of notable bird species records were recorded from all sites with some large counts of many species associated with the designated sites.
- 1.4.20 Recent WeBS counts were returned from the Thanet Coast SPA and Ramsar (which includes the Pegwell, Thanet Coast and Worth Marshes sectors) and the Stodmarsh SPA and Ramsar, to allow comparison between field results and the latest recorded counts from these designated sites.

1.5 Field Survey

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

Combined Results

- 1.5.2 A total of 100 species were recorded within the entire Survey Area (combined intertidal and inland areas) during the 2022/2023 wintering bird survey.
- 1.5.3 All species were recorded utilising the Survey Area during the course of the surveys (i.e. no species was recorded solely as a 'flyover' (i.e. on migratory flights or overpassing the Survey Area and making no use of it)).
- 1.5.4 Note that results for the intertidal and field counts (and associated peaks) are presented separately, due the separation of these species in both time and space. For some species, the same birds will be using both areas and therefore a combination of both survey counts would represent an overestimate. For some sedentary species or those with limited ranges, it is possible that the numbers recorded during each survey type could be combined for a total peak count. On a precautionary principle counts for each survey type are kept separate but this variation in site use and distribution is addressed within evaluation.
- 1.5.5 Distribution maps are provided within **Application Document 6.4.3.2.B.3 Kent Winter Bird Survey Results October 2022**, **Application Document 6.4.3.2.B.4 Kent Winter Bird Survey Results November 2022**, **Application Document 6.4.3.2.B.5 Kent Winter Bird Survey Results December 2022**, and **Application Document 6.4.3.2.B.6 Kent Winter Bird Survey Results January 2023**, and detailed survey data provided within **Annex 2.B.2**.
- 1.5.6 The overall peak therefore reflects the highest count on any one individual survey but does also include incidental observations from other survey types (i.e. vantage point).
- 1.5.7 A summary of the species recorded, along with their respective peak and mean counts from the survey visits (for the intertidal and inland counts), is provided in **Annex 2.B.2 Detailed Survey Data**.
- 1.5.8 Note that only notable passerines using the foreshore or directly adjacent habitats were recorded during high and low tide counts in order to focus survey effort and so some non-notable species appear under-represented on the tidal counts. Conversely the large numbers of waterbirds reflects the large aggregations present within the WeBS survey area.
- 1.5.9 Species are shown in alphabetic order (rather than taxonomic) to assist consistency when manipulating results within a database and to assist 'lay' readers.

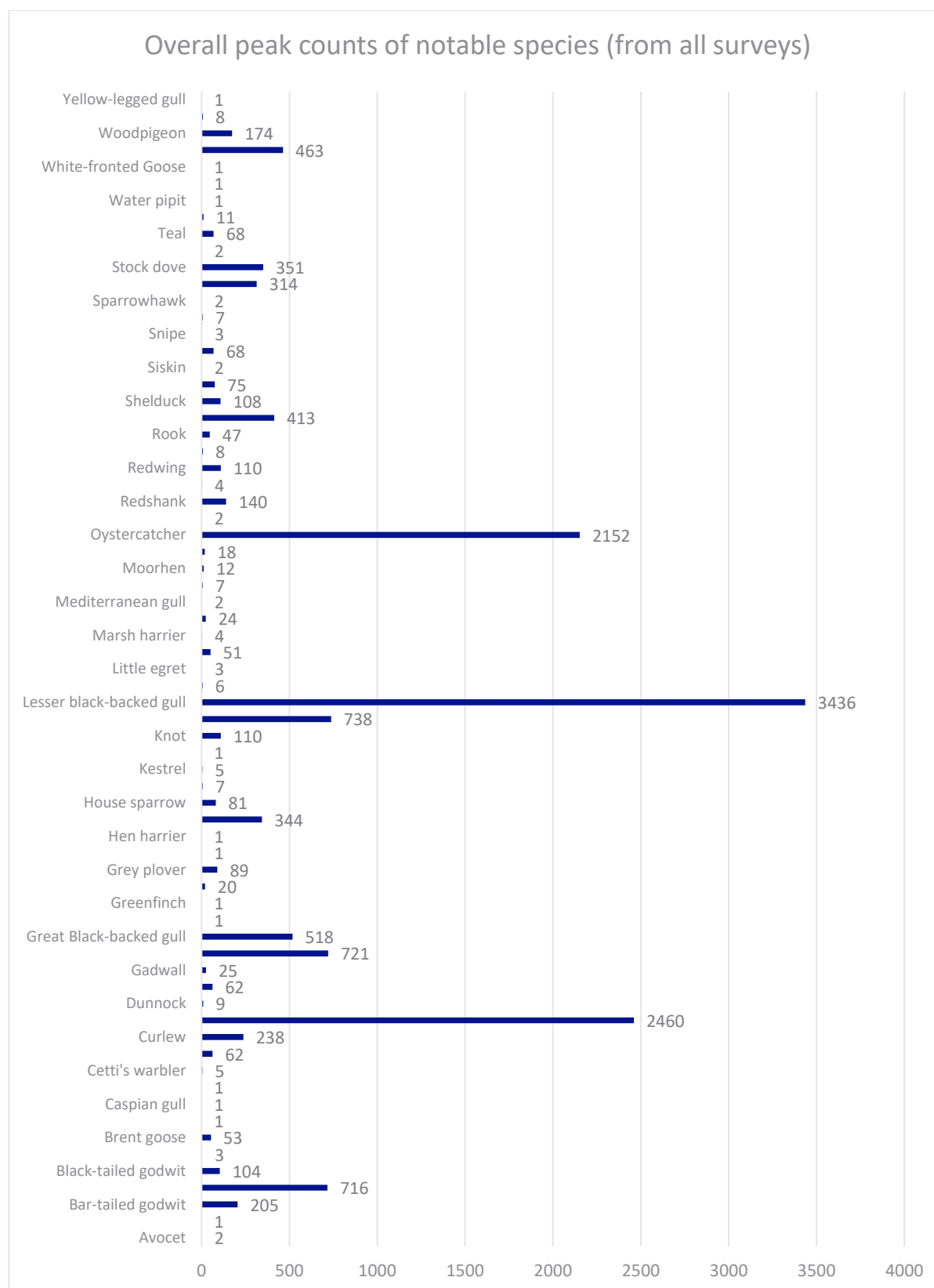


Plate 1.1 Summary of notable species peak count (from all survey types)

Intertidal: High and Low Tide Counts.

Assemblage summary

- 1.5.10 A total of 61 species were recorded within the intertidal areas during the 2022/2023 wintering bird survey.
- 1.5.11 Note the recorded species assemblage includes passerines and species using scrub and treeline habitat adjacent to the shoreline, although recording of non WeBS-target species was limited to notable species only.
- 1.5.12 The presentation of results below has been focussed upon waterbirds and other key groups (i.e. raptors) as the target group for the WeBS surveys.

Peak count and mean count summary

- 1.5.13 The overall peak and mean count (combining high and low tide results) for all target and key species are provided below, by species to show the most commonly recorded species and to show peak and means for comparison within the Evaluation section, for relative importance (particularly in relation to designated sites)

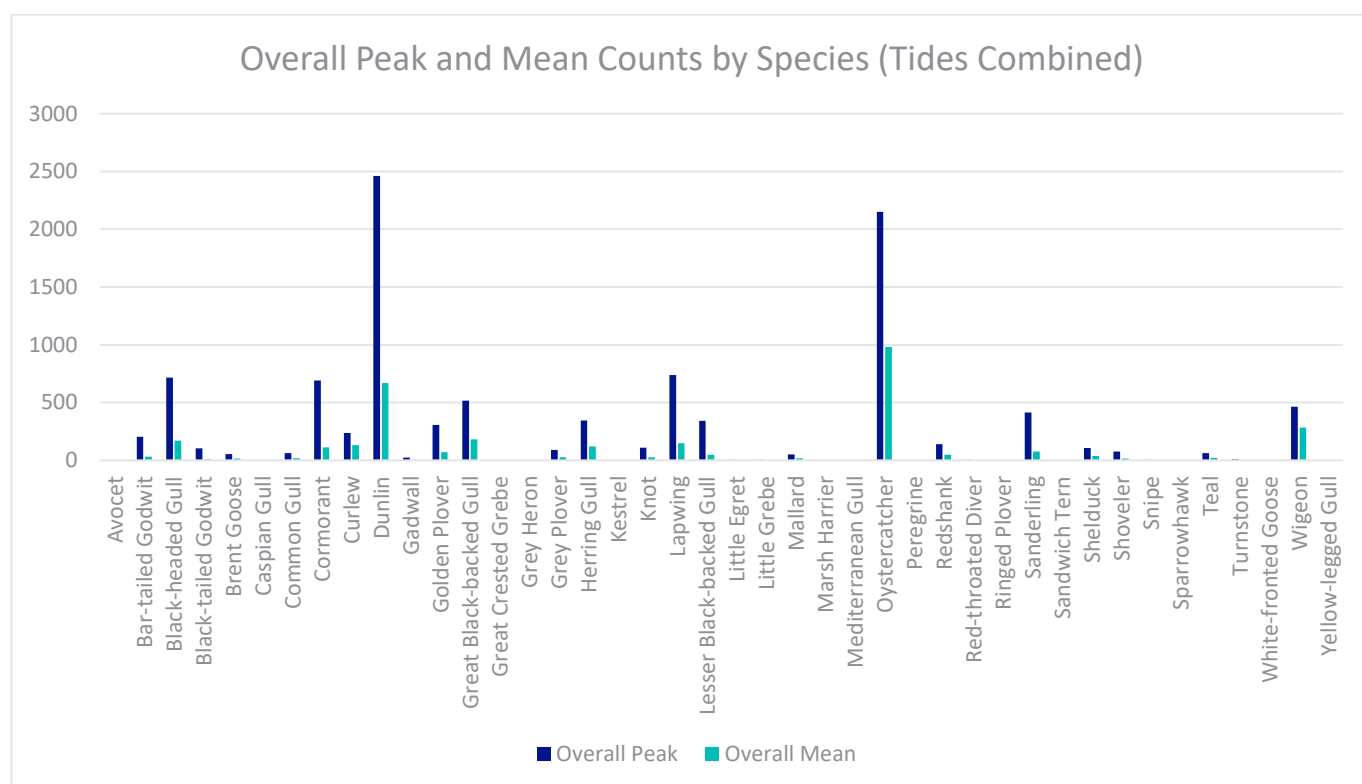


Plate 1.2 Overall peak and mean count for WeBS target and key species (tide results combined)

High and low tide summary

- 1.5.14 The overall peak and mean count for all target species in relation to tidal survey (i.e. high tide or low tide count) is shown to illustrate trends in variation in the use of the Survey Area between tides. Where significant differences are shown between mean and peak by a key species, these are addressed within evaluation if relevant.

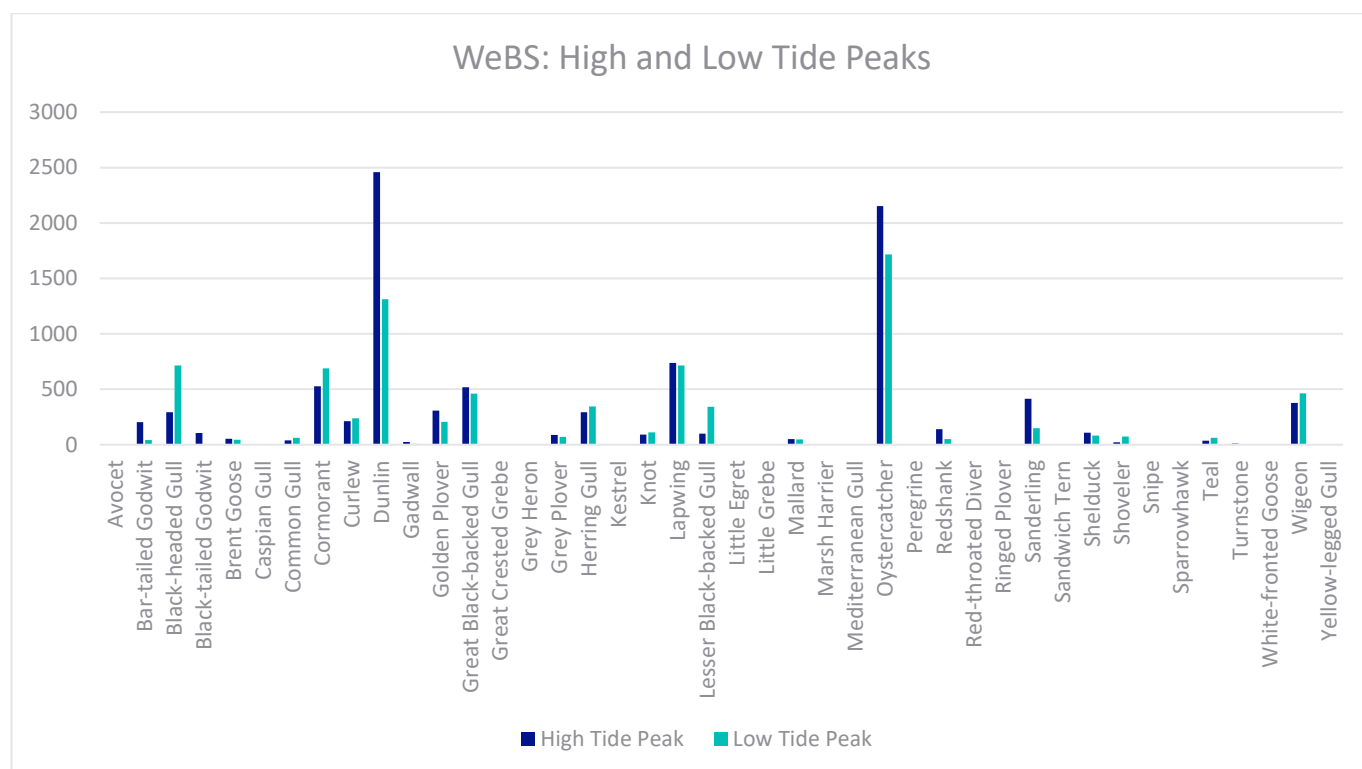


Plate 1.3 Intertidal (high and low) peak counts for waterbird and key species

- 1.5.15 Oystercatcher (*Haematopus ostralegus*) and dunlin (*Calidris alpina*) were the species recorded with the highest peak counts both at high and low tide.
- 1.5.16 Larger high tide peaks for some species (i.e. dunlin, bar-tailed godwit (*Limosa lapponica*), sanderling (*Calidris alba*), golden plover (*Pluvialis apricaria*)) represent the large roosts recorded in November through January.
- 1.5.17 Larger low tide peaks for black-headed gull (*Chroicocephalus ridibundus*), redshank (*Tringa totanus*), teal (*Anas crecca*) and wigeon (*Mareca penelope*) may correlate with increased use of the mudflats for foraging and low tide or in the case of cormorant (*Phalacrocorax carbo*) and lesser black-backed gull (*Larus fuscus*) use of the river mouth.
- 1.5.18 Other species where high and low tide peaks are similar may represent birds remaining within the Survey Area across tides, potentially moving with tidal patterns to roost and forage within adjacent areas.

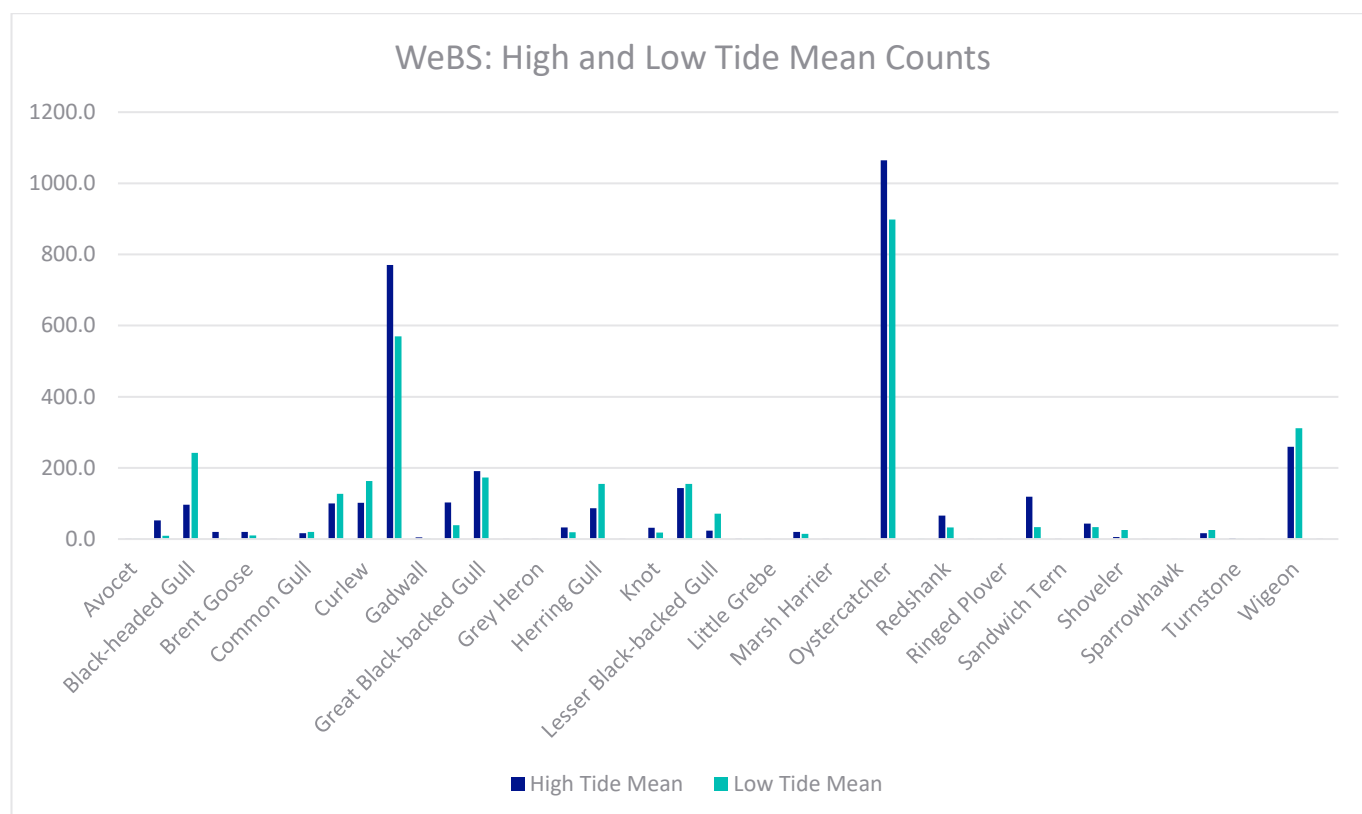


Plate 1.4 Intertidal (high and low) mean counts for waterbird and key species

- 1.5.19 The above mean counts shown that oystercatcher is the most generally abundant species (even though dunlin has higher recorded peaks) with the largest mean counts.
- 1.5.20 Mean counts between high and low tide appear to reflect trends in peak counts with some subtle variations – i.e. curlew (*Numenius arquata*) and cormorant means appear similar despite higher cormorant peak counts and wigeon appears to have a relatively higher mean.
- 1.5.21 Notably some species have much lower relative mean counts in comparison to peaks, such as sanderling and lapwing (*Vanellus vanellus*), indicating the fluctuating presence of these species.

Temporal (monthly) summary

- 1.5.22 The results for the target species have been presented by month to show key seasonal periods for the assemblage as a whole and any potentially relevant distribution in trends of species throughout the season.
- 1.5.23 The total number of waterbirds using the Survey Area each month is also shown, to show overall the trends in Survey Area use by numbers of birds across the season.

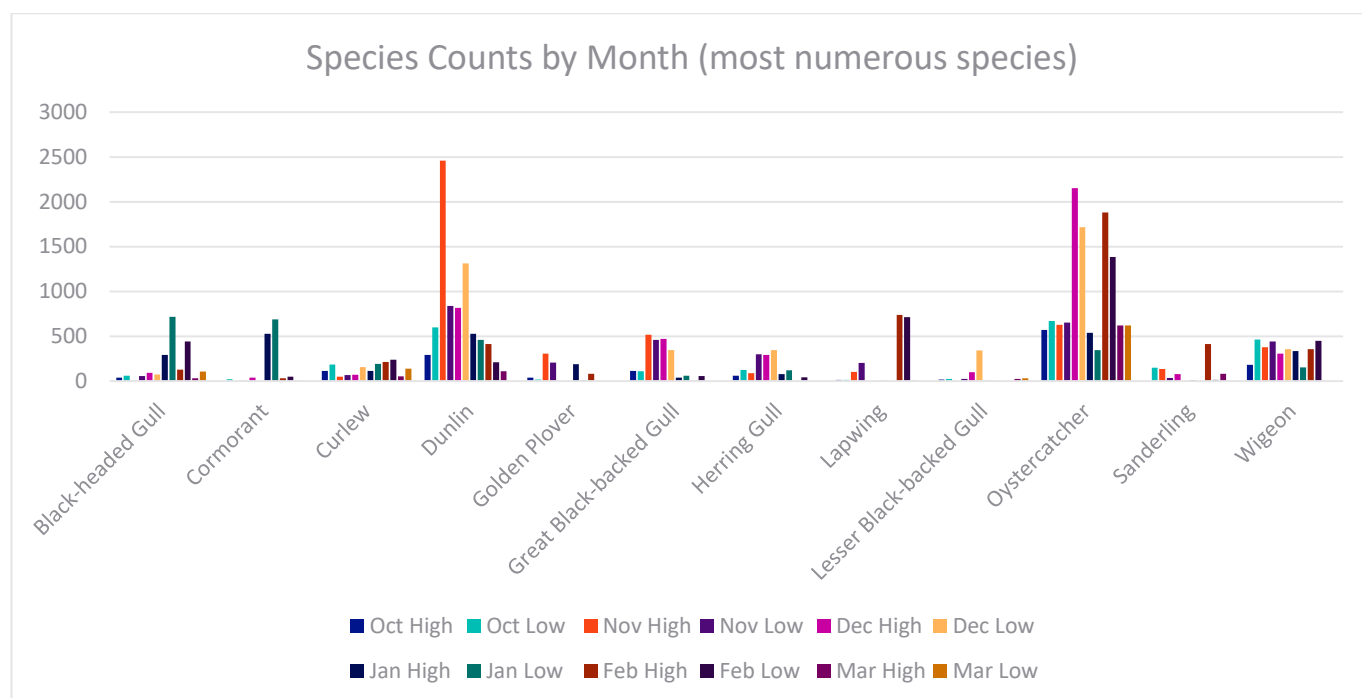


Plate 1.5 Monthly total recorded waterbird and key species (most numerous species)

- 1.5.24 Variation in monthly peaks between dunlin and oystercatcher can be seen as the most numerous species with variation in peaks for species such as black-headed gull, lapwing, lesser black-backed gull and cormorant.
- 1.5.25 Curlew and wigeon display relatively consistent counts throughout the year.

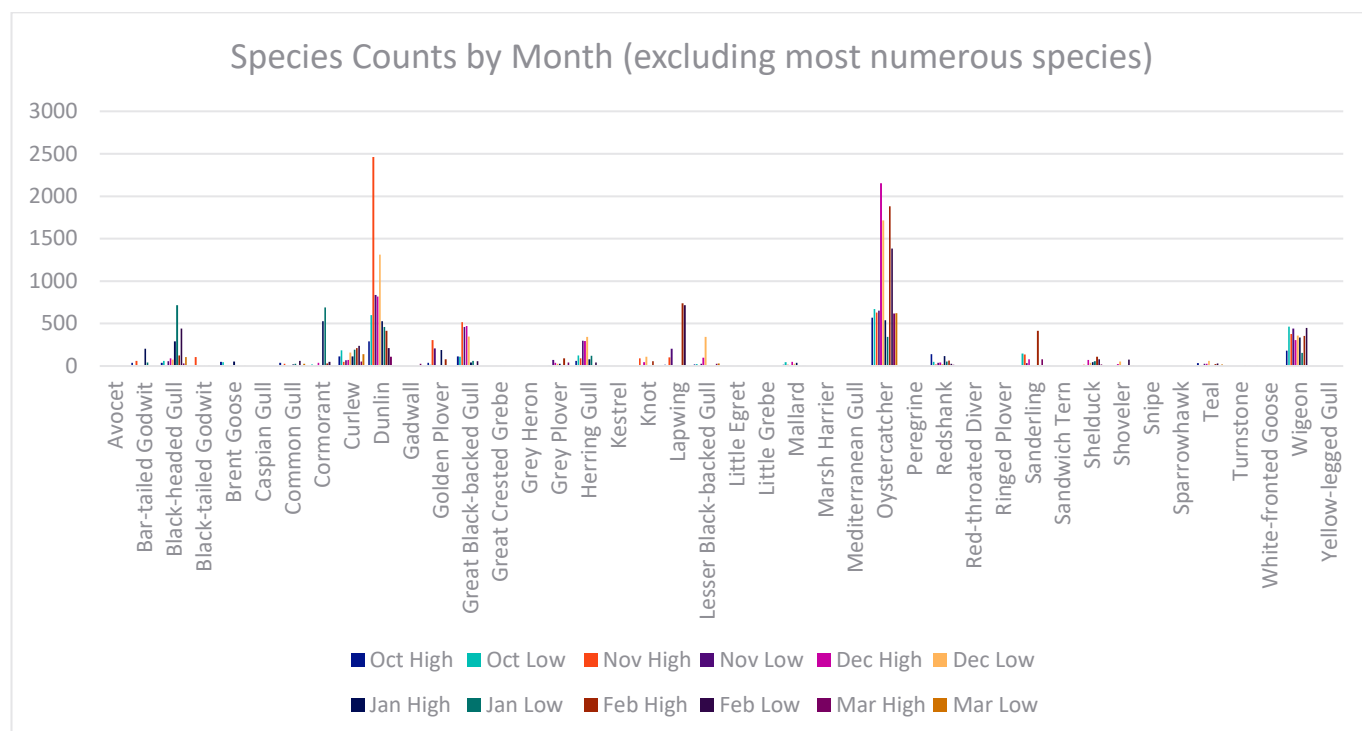


Plate 1.6 Monthly total recorded waterbird and key species

- 1.5.26 Major variations in monthly use by bar-tailed godwit, black-tailed godwit (*Limosa limosa*) are among the most obvious with some species such as redshank, shelduck (*Tadorna tadorna*) and teal following a general trend of highest numbers in the mid-winter (November – January) months but still with outlier larger counts.
- 1.5.27 The inconsistent presence of species such as brent goose (*Branta bernicla*), knot (*Calidris canutus*), gadwall (*Mareca strepera*) and others can be seen with these species absent across some months.
- 1.5.28 The total number of all WeBS target and key species is shown below to show an indication of overall use of the Survey Area by month.

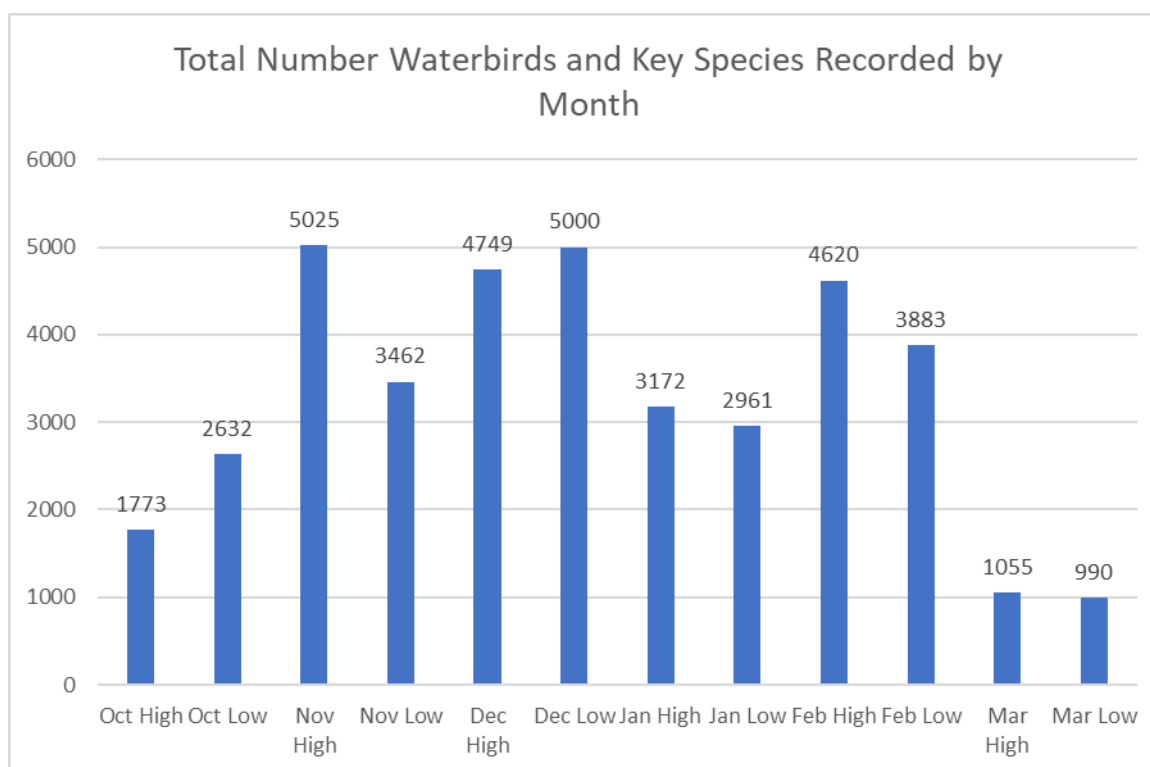


Plate 1.7 Monthly recorded total combined waterbird and target species

- 1.5.29 The general trend for higher recorded total birds during the middle of the winter season can be seen with some lower counts in January against trend, and particularly large numbers recorded during the November high tide. Overall, however the lower counts in October and March support the trend.
- 1.5.30 Use by numbers of birds between high and low tide is generally similar, showing the use of the area during both tides by similar (and potentially the same for some species) aggregations of birds.

Distribution

- 1.5.31 While broadly all areas of the foreshore and intertidal area was observed to be used by major aggregations of waterbirds, a number of key observations on distribution and habitat use were made as follows:
- The lagoon adjacent to the coastal footpath was used at high tide as a roost location by some but not all wader species. Lapwing and black-tailed godwit were recorded regularly but most other species appeared to aggregate along the River Stour Mouth or on the saltmarsh fringe. This lagoon was also utilised by foraging ducks (shoveler (*Spatula clypeata*), wigeon, teal and mallard (*Anas platyrhynchos*)) but not by large numbers of gulls.
 - The River Stour and its river mouth were one of the areas with the highest concentrations of birds. High tide roosts of a number of species (cormorant, oystercatcher, dunlin and gulls) were recorded frequently. During low tide the riverbanks were utilised by aggregations of most recorded species, with the river mouth and the shore tide line being key areas.

- The tide line was a key foraging area during low tide though predominately used by larger species such as gulls, oystercatcher, curlew and wigeon.
- The exposed mudflats away from the River Stour were used by dispersed small group of birds and occasional large flocks, but not in the concentrations observed along the River Stour.
- The open water areas of Pegwell Bay were occasionally utilised by small groups of red-throated diver (*Gavia stellata*), great crested grebe (*Podiceps cristatus*) and gulls but wigeon and brent geese tended to stay close to the shoreline.
- The saltmarsh fringes were used as roost locations by curlew, dunlin and other species at high tide, especially during mid-winter months. During low tide however this area was used by dispersed small groups of birds only.
- Existing disturbance by boats, dog walkers, windsurfers or other sources occurred sporadically. These did cause flighting though the size of Pegwell Bay allowed flocks to often relocate elsewhere in the bay.

Existing disturbance

- 1.5.32 Observations of key existing disturbance sources to birds were recorded within the Survey Area when present. Such disturbance sources included:
- windsurfers present near the shoreline at low tide;
 - walkers occasionally present on shore, noted on at least one occasion with dogs off lead; and
 - boats entering the River Stour mouth.
- 1.5.33 On most occasions, bird elicited flight response. The most notable flight responses were recorded when disturbance occurred near the roost and foraging aggregations of the River Stour, resulting in the flight of hundreds of water birds. It was, however, noted that the size and extent of Pegwell Bay allowed birds to resettle elsewhere within the bay.
- 1.5.34 Frequent walkovers along the PRow on the foreshore which runs particularly close to the lagoon and saltmarsh areas. Birds appeared generally tolerant (tending to be distributed along the lagoon edge or saltmarsh away from the right of way), though dogs off lead and entering the saltmarsh were observed on at least one occasion.

Inland Winter Field Survey

- 1.5.35 A total of 80 species were recorded within the inland areas during the 2022/2023 wintering bird survey.

Peak count and mean count summary

- 1.5.36 The overall peak and mean count for all recorded notable species are provided below, to show the most commonly recorded species and to show peak and means for comparison within the Evaluation, for relative importance.
- 1.5.37 Note that charts of both peak and mean are shown overleaf due to their size (number of species detailed).

Inland peak counts for notable species

- 1.5.38 Large flocks of lapwing and golden plover recorded in December are clearly represented in the peak counts. Large peak counts of black-headed gull, starling (*Sturnus vulgaris*), stock dove (*Columba oenas*) are also notable, with counts in the region of 100-200 also recorded for herring gull (*Larus argentatus*), redwing (*Turdus iliacus*) and woodpigeon (*Columba palumbus*).
- 1.5.39 Some species counts are notable in relation to their expected numbers of distribution within the inland survey areas. A large peak of skylark (*Alauda arvensis*) represents some large foraging aggregations recorded during December. A large peak of teal is a result of large groups recorded on pools near the Stour canal in March. A large peak of house sparrow (*Passer domesticus*) is attributable to large flocks recorded near to residential housing but utilising cereal crop margins in the northeast of the survey area during both October and November.

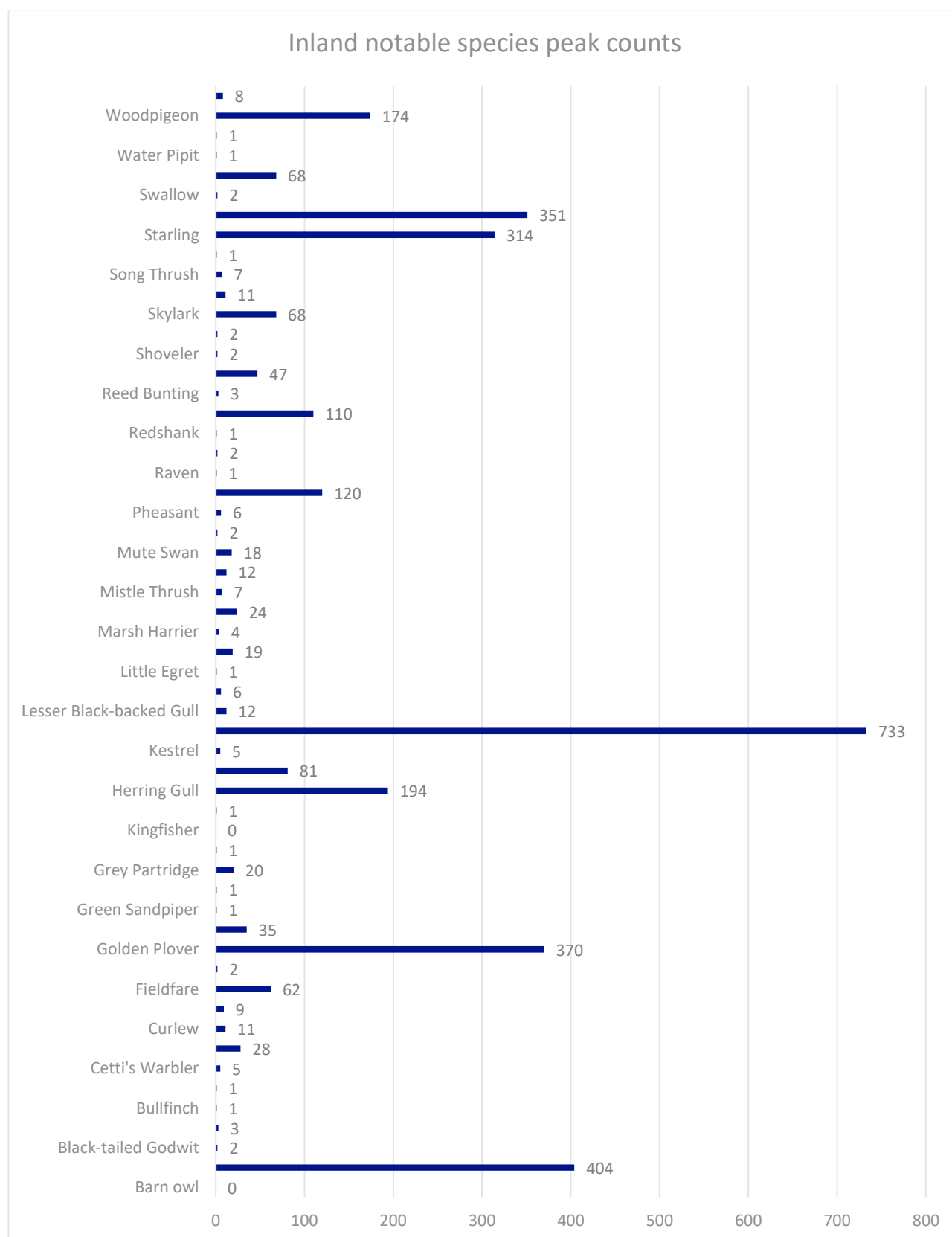


Plate 1.8 Inland peak counts for notable species

Inland mean counts for notable species

- 1.5.40 Black-headed gull and stock dove are the most abundant recorded species overall as reflected by these species having the largest mean counts. Woodpigeon and starling are also well represented.
- 1.5.41 The mean counts still show large counts of lapwing and golden plover; however, these are much reduced in proportion to other species than in the peak chart. This reflects the recording of these species during one survey (golden plover) and twice in the case of lapwing, rather than consistently during the surveys.
- 1.5.42 Note that mean counts of kingfisher (*Alcedo atthis*) and barn owl (*Tyto alba*) are 0, as these species were only recorded incidentally during vantage point surveys, both utilising the Stour canal and adjacent habitats.

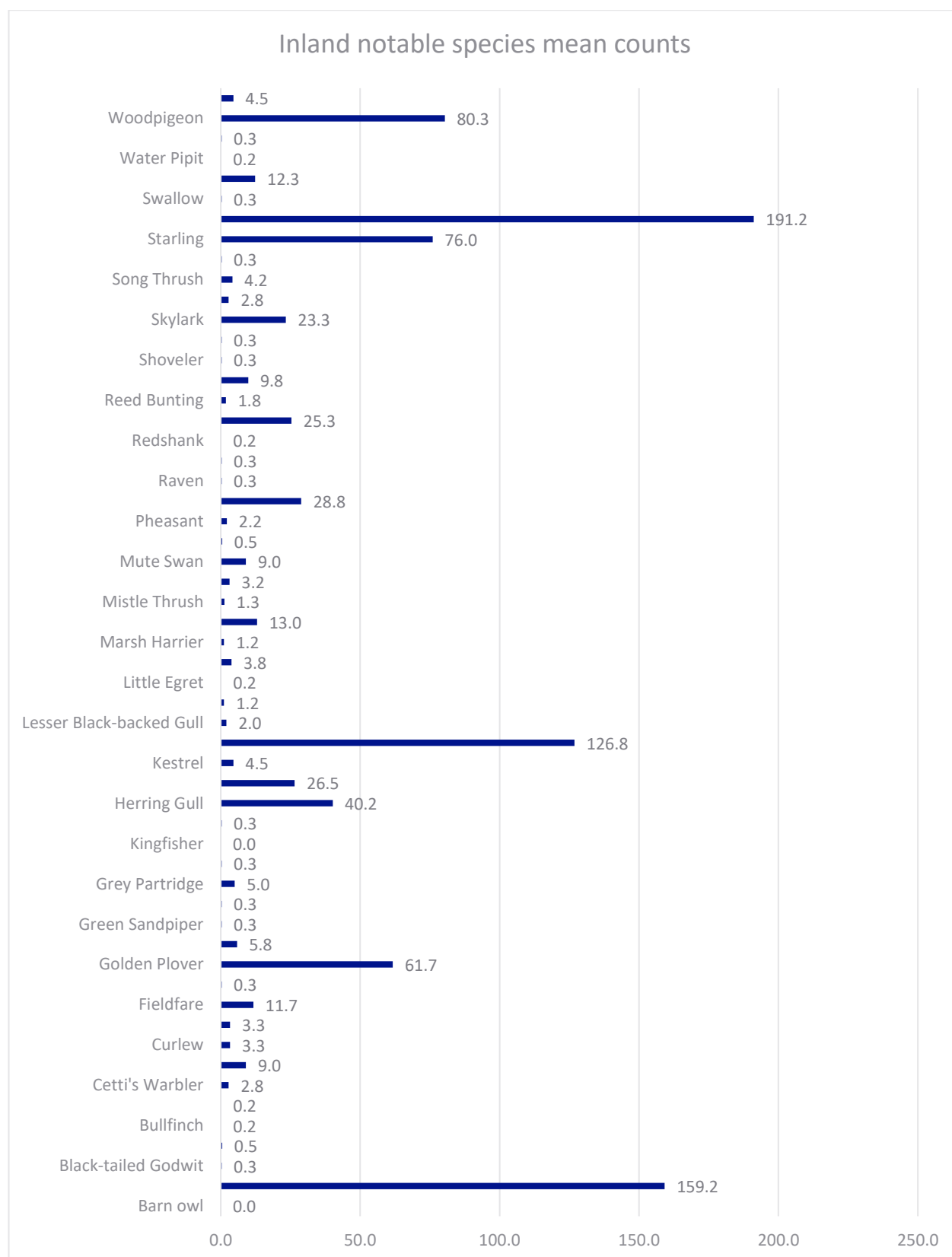


Plate 1.9 Inland mean counts for notable species

Temporal (monthly) summary

- 1.5.43 The variation between species peaks, means and diversity within inland survey area did not vary as much as the tidal areas, though notably peak waterbird counts tended to

occur during the mid-winter period as did aggregations of some passerine species (e.g. skylark and house sparrow). Key trends or observations are addressed within evaluation.

Distribution

1.5.44 The recording of birds within the inland areas generally followed the expected associations of species with their respective habitats.

1.5.45 Some key observations are as follows:

- Aggregations of waders (curlew, lapwing and golden plover) were recorded in flooded fields (to the north of the Weatherlees wastewater treatment works and south of Brook Lane) during the mid-winter months (primarily December).
- Arable fields generally were found to consist of winter wheat or equivalent cereals and generally of limited value for birds. A field in the north-east of the survey area appeared to be planted with a fallow/legume crop and supporting flocks of skylark, meadow pipit (*Anthus pratensis*) and other notable species until the field was ploughed.
- The River Stour canal and surrounds was noted for being frequented by harrier (marsh (*Circus aeruginosus*) but also hen harrier (*Circus cyaneus*)), barn owl and with peregrine (*Falco peregrinus*) and raven (*Corvus corax*) from the nearby Richborough power station also being observed.
- Kingfisher was recorded along the canal with occasional 'rarer' waterbirds such as black-tailed godwit and little egret (*Egretta garzetta*) also observed here in small numbers. This area was however generally lacking in major aggregations of waterbirds (and lapwing/golden plover) despite the presence of expansive arable and grazing marsh fields and flooded pools.

1.5.46 Distribution observations are addressed further within the Evaluation.

1.6 Evaluation

Conservation Status

1.6.1 A total of 100 bird species were recorded within the Survey Area, of these, 69 are notable species, as summarised described within Table 1.4.

1.6.2 The overall combined wintering assemblage for the Survey Area (both intertidal and inland) included:

- Nine species that are included on Annex 1 of the EU Birds Directive (red throated diver, bar-tailed godwit, dunlin, golden plover, kingfisher, Mediterranean gull (*Ichthyaetus melanocephalus*), hen harrier, marsh harrier, peregrine);
- 17 species that are listed as NERC Act Section 41 Species of Principal Importance;
- 21 species that are included on the BoCC Red list; and
- 34 species that are included on the BoCC Amber list.

1.6.3 Table 1.4 gives a very brief commentary on the numbers and distribution of each of these species. Where a species occurs in significant numbers, it is addressed in further detail in the subsequent sections of this evaluation section.

- 1.6.4 Note where a species falls under multiple conservation status criteria, it is addressed in the first tier only.
- 1.6.5 Figures illustrating the distributions of these species within the Survey Area during the wintering bird survey are provided in **Application Documents 6.4.3.2.B.3 to 6.4.3.2.B.6.**

Table 1.4 Conservation status of recorded notable species and summary of observations

Species	Intertidal	Inland
SPA and Ramsar Qualifying Species		
Gadwall	Peak count of 25 on March high tide but generally absent or present as singles or two.	Two recorded on pools near the Stour canal in March only.
Golden plover	Recorded either in small groups or flocks of 200-350 regularly during both high and low tide	Flock of approx. 370 birds recorded foraging and moving between fields north of Stour canal (between south east of Parcel 223 and south west of Parcel 244).
Great crested grebe	Singles recorded on occasion in open water of Pegwell Bay	Not recorded.
Hen harrier	Not recorded	Recorded as individual birds on two occasions overflying habitats along the River Stour canal.
Red throated diver	Peak count of four individuals using the open water of Pegwell Bay but in October only	Not recorded.
Ringed plover (<i>Charadrius hiaticula</i>)	Single birds only, recorded October to March	Not recorded.
Sanderling	Regularly occurring as small groups of flocks several hundred birds with a peak count of 413 noted during Feb high tide	Not recorded.
Shoveler	Recorded almost exclusively from coastal lagoon with peak count of over fifty in December.	Small groups occasionally present on pools adjacent to the River Stour canal.
Turnstone (<i>Arenaria interpres</i>)	Singles or small groups recorded only, max count of 11 during Feb high tide	Not recorded.
Wildlife & Countryside Act 1981 (as amended) Schedule 1		

Species	Intertidal	Inland
Avocet (<i>Recurvirostra avosetta</i>)	Recorded as individuals or small groups, primarily in association with the lagoon	Not recorded.
Barn owl	Not recorded	Recorded as an incidental species during vantage point surveys in February and March along the Stour canal.
Cetti's warbler (<i>Cettia cetti</i>)	Occasional recording of individuals from reedbeds and the adjacent Pegwell Bay Country Park	Recorded frequently from ditches throughout Survey Area.
Fieldfare (<i>Turdus pilaris</i>)	Not recorded	Small flocks recorded during most months with largest numbers (c.60) during December and January.
Kingfisher	Not recorded	Not recorded on inland surveys but single bird recorded along the Stour canal during February vantage point surveys.
Green sandpiper (<i>Tringa ochropus</i>)	Not recorded	Individual recorded in flooded field adjacent to River Stour canal in February and March.
Marsh harrier	Recorded as a single in February	Recorded frequently as singles and a peak count of four birds confirmed during vantage point surveys in area adjacent to the River Stour Canal.
Mediterranean gull	Two fly overs recorded during October low tide	Not recorded.
Peregrine	Single bird occasional recorded hunting over river mouth	Occasionally recorded overflying areas surrounding River Stour canal.
Redwing	Recorded in shrubs adjacent to coastal path as two birds in October	Frequent small flocks recorded in boundary hedgerows and trees.
EC Birds Directive 2009 Annex 1		
Bar-tailed godwit	Frequent mid-size (20-110) foraging on mudflats at low tide and in proximity to River Stour	Not recorded
Dunlin	Large flocks recorded on mudflats (flocks between 100-700) and in proximity to River Stour.	Not recorded
Little egret	Individuals and small groups frequently recorded on coastal lagoon and salt marsh	Primarily recorded as individuals in association with River Stour canal.

Species	Intertidal	Inland
Red throated diver	Peak count of four individuals using the open water of Pegwell Bay but in October only	Not recorded
Sandwich tern (<i>Thalasseus sandvicensis</i>)	Two recorded during October high tide only	Not recorded
White fronted goose (<i>Anser albifrons</i>)	Single bird recorded on October high tide only	Not recorded
NERC Act 2006 Section 41		
Bullfinch (<i>Pyrrhula pyrrhula</i>)	Occasional individuals recorded from the adjacent Pegwell Bay Country Park	Single recorded in December only.
Brent goose	Consistently recorded as small groups on most surveys but generally less than 20. Present on mudflat, along river mouth and on tideline.	Not recorded
Black-tailed godwit	Small group present on coastal lagoon most of winter season.	Pair present on River Stour canal south bank on March visit.
Curlew	Recorded in large numbers on each survey (100-180). Foraging on tideline and on mudflats with occasional large roosts on saltmarsh near to shore in centre of Survey Area and along River Stour.	Recorded on flooded fields to the north of the Weatherleess wastewater treatment (south west areas of Parcel 244) during November and December with gulls and lapwing.
Dunnock (<i>Prunella modularis</i>)	Occasionally recorded from scrub, trees and gardens beyond the intertidal zones.	Distributed throughout Survey Area from gardens, scrub and boundaries, though sporadically recorded.
Grey partridge (<i>Perdix perdix</i>)	Not recorded	Group of 20 recorded occasion in Parcel 328 (east of A526)- in November and small group in centre north fields (Parcel 244 west of A526) during December.
Herring gull	Foraging and roosts over several hundred birds consistently recorded along River Stour and tideline with smaller numbers foraging upon exposed mudflats.	Frequent flyovers but only occasional settled flocks foraging on arable fields.
House sparrow	Associated with adjacent residential housing and recorded on occasion	Groups recorded relatively consistently near dwellings and farm buildings, occasionally making use of nearby farmland hedgerows A large

Species	Intertidal	Inland
	within scrub adjacent to the public right of way	flock of approximately 60 birds noted in the in Parcel 238. (north-east field) hedgerows in November.
Knot	Recorded during three high tide surveys as flocks between 44 and 92 birds and once as a foraging flock at low tide of c.110 birds	Not recorded
Lapwing	Large numbers (700) occasionally recorded on the edge of the lagoon, especially at high tide.	Large counts in December (approx. 733) utilising fields to the north of the Weatherlees wastewater treatment.
Lesser black-backed gull	Regularly recorded gull on both high and low tide but in notably smaller numbers than great black-baked and herring gulls. Notable large count of over 300 birds during December low tide.	Twelve birds recorded in March but generally not recorded using fields.
Linnet (<i>Linaria cannabina</i>)	Not recorded	Six recorded in February, otherwise occasional recording of singles.
Reed bunting (<i>Emberiza schoeniclus</i>)	Recorded in reed bed expanses adjacent to Pegwell Bay consistently as individuals or small groups.	Recorded as scattered individuals mainly in reed ditches and beds near to River Stour canal but recorded sporadically.
Skylark	Singles and small groups recorded in saltmarsh fringe during occasional surveys.	Recorded throughout survey area in arable fields and grassland adjacent to East Stour canal.
Song thrush (<i>Turdus philomelos</i>)	Occasional birds recorded from tree line in northern half of Survey Area	Consistently recorded from scrub and boundary habitats.
Starling	Small groups from adjacent residential areas frequently recorded overflying or briefly foraging on saltmarsh fringe.	Counts in the region of 300 to 100 birds in October and November are followed by recorded of small foraging parties later in the year, generally ten or less.
BoCC Red		
Mistle thrush (<i>Turdus viscivorus</i>)	Recorded during October only, peak count of four.	Recorded in December and February only, peak count of seven.
Greenfinch (<i>Chloris chloris</i>)	Not recorded	Singles recorded in February and March.

Species	Intertidal	Inland
Grey wagtail (<i>Motacilla cinerea</i>)	Not recorded	Singles recorded in November and December, in proximity to East Stour canal.
BoCC Amber		
Black-headed gull	Recorded on every survey and present throughout, often resting on exposed mudflat or foraging at tide line during low tide	Recorded as individuals and small groups occasionally using arable fields or in large aggregations with other gull species and waders, primarily during mid-winter.
Caspian gull (<i>Larus cachinnans</i>)	Single bird recorded during December counts	Not recorded.
Common gull (<i>Larus canus</i>)	Small groups present as part of most gull aggregations but in smaller numbers than most other species	Small groups recorded on occasion within larger groups of black-headed and herring gulls on arable fields.
Great black-backed gull (<i>Larus marinus</i>)	Large roost (500) in association with cormorants noted at both high and low tide (though larger number at high) at mouth of River Stour	Not recorded.
Grey plover (<i>Pluvialis squatarola</i>)	Recorded in either small groups on most surveys with a peak count of 89 recorded in February	Not recorded.
Kestrel (<i>Falco tinnunculus</i>)	Single recorded during October and December.	Individuals distributed throughout the Survey Area, recorded during most surveys.
Mallard	Recorded in generally small numbers on intertidal counts (both on foreshore and making use of the lagoon).	Occasional birds recorded during the inland counts in association with the River Stour canal and adjacent pools.
Meadow pipit	Individuals and small groups recorded on most surveys within salt marsh	Scattered distribution through Survey Area but with notable flocks and concentrations recorded near the River Stour canal and within north eastern arable field legume crop (Parcel 328).
Moorhen (<i>Gallinula chloropus</i>)	Not recorded	Generally limited to River Stour canal and drainage ditches, peak count of 12.
Mute swan (<i>Cygnus olor</i>)	Not recorded	A group of four to five birds often recorded in arable fields north of the River Stour canal (Parcel 232).

Species	Intertidal	Inland
Oystercatcher	The most numerous recorded wader both by peak and mean with a peak count of over 2000 in December. Foraging in large numbers along tide line on all surveys and recorded in large roosts along the River Stour	Not recorded.
Redshank	Frequently recorded at both high and low tide as one of the most consistently recorded wader species.	Single recorded along River Stour canal in December.
Rook (<i>Corvus frugilegus</i>)	Not recorded	Generally recorded in small numbers (2-6) but with an increase to 47 noted in March as well as recording of active rookery on Ebbsfleet Lane (Parcel 285).
Shelduck	Large groups (often 20-80) birds recorded foraging on mudflats or tide line at low tide. Aggregations within River Stour also often present at low tide.	Not recorded but noted overflying the Stour canal during vantage point surveys.
Siskin (<i>Spinus spinus</i>)	Not recorded	Two recorded during October only.
Snipe (<i>Gallinago gallinago</i>)	Small numbers recorded in saltmarsh edge of coastal lagoon in mid-winter months.	Small numbers recorded on pools along River Stour canal.
Sparrowhawk (<i>Accipiter nisus</i>)	Singles or two birds recorded on occasional surveys	Recorded twice as singles.
Stock dove	Not recorded	Large groups (sometimes several hundred) foraging within arable fields or within tree lines between arable fields.
Swallow (<i>Hirundo rustica</i>)	Not recorded	Two recorded during October.
Teal	Generally recorded on coastal lagoon or less frequently on the river mouth with a peak count of 62 in December	Occasional small groups recorded using pools adjacent to the River Stour canal with a large group of 68 recorded in February.
Wigeon	Mid-size aggregations recorded on most surveys with large numbers (400) recorded during 19/01/23.	Not recorded.

Species	Intertidal	Inland
	Wigeon tended to aggregate within the River Stour or on the tide line, though groups did use the coastal lagoon, especially at high tide.	
Water pipit (<i>Anthus spinoletta</i>)	Not recorded	Recorded as individual flying over but likely using local habitats.
Woodpigeon	Generally limited to small flocks within tree lines adjacent to northern area of the Pegwell Bay survey area	Present throughout, recorded in occasional large flocks in similar distribution and numbers to stock dove.
Wren (<i>Troglodytes troglodytes</i>)	Occasional birds recorded from adjacent scrub and treelines	Present throughout, associated with scrub and boundaries.
Yellow-legged gull (<i>Larus michahellis</i>)	Single bird recorded during December counts	Not recorded.

Species abundance/designated sites context

Overall comparison between survey peak counts and designated site data

- 1.6.6 The peak counts for species where large numbers have been recorded in comparison to designated site data have been reviewed in further detail within [Table 1.5](#)~~Table 1.5~~[Table 1.5](#).
- 1.6.7 The overall survey peak counts are shown as a proportion of the designated site's 5-year mean peak. Note that in this instance, only the Pegwell Bay WeBS sector has been included (although the Thanet Coast WeBS count is part of the same SPA) due to the difference in habitat types and species assemblage apparent within the WeBS data.
- 1.6.8 Peak counts are also assessed as a proportion of the 1% threshold criteria ([Austin, et al., 2023](#))~~(Austin, et al., 2023)~~ for wintering waterbirds, (as a wetland in Britain is considered of national importance if it regularly supports 1% of the total numbers in Britain).

Table 1.5 Survey peak counts for species recorded in large numbers compared to designated site data/national thresholds

Species	Recorded Peak Count (WeBS unless otherwise stated)	Thanet Coast SPA / Ramsar citation 5 year mean peak	Latest WeBS Lowtide Pegwell Bay 17/18-22 five year mean peak	Stodmarsh SPA / Ramsar citation 5 year mean peak	Great Britain 1% Threshold	Proportion recent Pegwell Bay WeBS five year peak mean?	Over or approaches 1% of GB Threshold?
Bar-tailed godwit	205	N/A	163	N/A	505	>100%	<0.5%
Black tailed godwit	104	N/A	28	N/A	390	>100%	<0.5%
Cormorant	690	N/A	902	N/A	620	>75%	1.1%
Curlew	238	N/A	511	N/A	1,200	>25%	<0.5%
Dunlin	2460	N/A	725	N/A	3,400	>100%	0.71%
Gadwall	25	N/A	23	148	310	>100%	<0.5%
Golden plover	307 WeBS 370 Inland	411 SPA	433	N/A	4,000	>75%	<0.5%
Grey plover	89	N/A	222	N/A	335	>25%	<0.5%
Hen harrier	1 Inland	N/A	0	9	N/A	N/A	<0.5%
Knot	110	N/A	119	N/A	2,650	>75%	<0.5%
Lapwing	738 WeBS 733 Inland	N/A	2,119	1,128	6,200	>25%	<0.5%
Mallard	51	N/A	94	897	6,700	>50%	<0.5%
Marsh Harrier	1 WeBS 4 Inland	N/A	0	N/A	N/A	N/A	<0.5%
Oystercatcher	2152	N/A	1134	N/A	2,900	>100%	>0.76%
Redshank	140	N/A	162	N/A	940	>75%	<0.5%
Red-throated diver	4	57 Ramsar	3	N/A	210	>100%	<0.5%

Species	Recorded Peak Count (WeBS unless otherwise stated)	Thanet Coast SPA / Ramsar citation 5 year mean peak	Latest WeBS Lowtide Pegwell Bay 17/18-22 five year mean peak	Stodmarsh SPA / Ramsar citation 5 year mean peak	Great Britain 1% Threshold	Proportion recent Pegwell Bay WeBS five year peak mean?	Over or approaches 1% of GB Threshold?
Ringed plover	1	649 Ramsar	31	N/A	420	<5%	<0.5%
Ruddy turnstone	11	940 SPA 1007 Ramsar	5	N/A	400	>100%	<0.5%
Sanderling	413	N/A	137	N/A	200	>100%	2.07%
Shelduck	108	N/A	153	N/A	470	>50%	<0.5%
Shoveler	75	N/A	71	191	310	>100%	>0.5%
Snipe	11	N/A	53	329	10,000	<25%	>0.5%
Water rail (<i>Rallus aquaticus</i>)	1	N/A	2	0	39	>50%	>0.5%
Wigeon	463	N/A	638	N/A	4,500	>50%	>0.5%

1.6.9 Of those bird species listed as qualifying (or noteworthy) species of the Thanet Coast and Stodmarsh SPAs and Ramsar, the recorded counts are shown as a proportion of the designated site 5-year mean peak below.

Table 1.6 SPA/Ramsar qualifying or noteworthy species survey peak counts as a proportion of available designated site data.

Species	Relevant Designated Site	Recorded Peak Count (WeBS unless otherwise stated)	Latest WeBS Lowtide Pegwell Bay 17/18-22 five year mean peak	Latest WeBS Lowtide Thanet Coast 17/18-22 five year mean peak	Latest WeBS core count Stodmarsh five year mean peak	Proportion to WeBS Pegwell Bay five year Mean Peak	Proportion to Thanet Coast five year Mean Peak	Proportion to Stodmarsh five year SPA Mean Peak
Gadwall	Stodmarsh	25	23	0	148	N/A	N/A	16.9%
Golden plover	Thanet Coast	307 370 Inland	433	6	N/A	>75%	>75%	N/A

Species	Relevant Designated Site	Record ed Peak Count (WeBS unless otherwise stated)	Latest WeBS Lowtide Pegwell Bay 17/18-22 five year mean peak	Latest WeBS Lowtide Thanet Coast 17/18-22 five year mean peak	Latest WeBS core count Stodmarsh five year mean peak	Proporti on to WeBS Pegwell Bay five year Mean Peak	Proporti on to Thanet Coast five year Mean Peak	Proporti on to Stodmarsh five year SPA Mean Peak
Hen harrier	Thanet Coast	1 Inland	0	0	9	N/A	N/A	11.1%
Lapwing	Stodmarsh	738 733 Inland	2,119	9	1,128	N/A	N/A	65.4%
Mallard	Stodmarsh	51	94	52	897	N/A	N/A	5.69%
Red-throated diver	Thanet Coast	4	3	20	N/A	>100%	20%	N/A
Ringed plover	Thanet Coast	1	31	117	N/A	3.2%	0.85%	N/A
Ruddy turnstone	Thanet Coast	11	5	170	N/A	>100%	6.47%	N/A
Sanderling	Thanet Coast	413	137	234	N/A	>100%	>100%	N/A
Shoveler	Stodmarsh	75	71	0	312	N/A	N/A	39.27%
Snipe	Stodmarsh	11	53	11	329	N/A	N/A	33.33
Water rail	Stodmarsh	1	2	0	3	N/A	N/A	33.33%
Wigeon	Stodmarsh	463	638	18	389	N/A	N/A	>100%

- 1.6.10 Caution is required with interpretation of large proportion counts, especially in relation to the Stodmarsh SPA/Ramsar which is located at significant distance. It is assessed that species occurring within the Survey Area are likely attributable to populations occurring with the local area, based on available guidance on species dispersal distance ([Natural England, 2019](#))~~(Natural England, 2019)~~ and WeBS data for Pegwell Bay and Ash Levels (see **Annex 2.B.1**).
- 1.6.11 For instance, some of the high proportions in relation to the Stodmarsh five-year mean peak are likely due to the survey peaks incorporating bird populations separate to those utilising Stodmarsh or sedentary/local to the Pegwell Bay area.
- 1.6.12 Turnstone is noted to use other areas of the Thanet Coast and not Pegwell Bay (in large numbers), as reflected in the WeBS data.

- 1.6.13 Further discussion is provided below in respect of the intertidal and inland areas given the separation of the two areas from each other in terms of location, geography and designated site context.

Intertidal

- 1.6.14 The majority of waterbird species recorded had recorded peaks comparable (i.e. 50% of or even exceeding) the latest five mean peaks for the relevant WeBS sector (Pegwell Bay) of the Thanet Coast SPA/Ramsar. This is not unexpected given the intertidal Survey Area comprises the majority of the Pegwell Bay WeBS sector.
- 1.6.15 As a result most species recorded in larger numbers contribute to the overall wintering waterbird assemblage of the Thanet Coast SPA.
- 1.6.16 As expected due to its designated status as an SPA and Ramsar, counts of wintering birds within the intertidal count area either exceeded or approached 1% of the national wintering population estimates ([Woodward, et al., 2020](#))(~~Woodward, et al., 2020~~) for a number of species as follows
- Dunlin, cormorant, oystercatcher and sanderling were recorded in large numbers and peak counts approaching or exceeding the 1% Great Britain national thresholds.
 - Golden plover and sanderling were recorded in large numbers (peak of 307 and 370) within the Survey Area, comprising a large proportion of the most recent SPA/Ramsar WeBS 5 year mean peak of 433 and 137 respectively.
- 1.6.17 Ringed plover, turnstone and red-throated diver were recorded in much smaller numbers than the original SPA/Ramsar counts but comparable to the latest Pegwell Bay WeBS data. In the case of ringed plover and turnstone this likely reflects that these species occur elsewhere within the SPA. Red-throated diver counts appear reflective of the fluctuating counts which include some historic high counts but have been low (below ten) in recent years.
- 1.6.18 The data does however reflect (in conjunction with review of the Survey Area, habitats and review of local data sources (Birds of Kent Report 2020 ([Kent Ornithological Society, 2020](#))(~~Kent Ornithological Society, 2020~~)) that the following species from the designated sites are using the Survey Area in significant numbers:
- Golden plover and sanderling – recorded on occasion but peaks represent a large proportion of the latest WeBS data and Thanet Coast SPA/Ramsar citation counts.
 - Red-throated diver (small counts but comparable with latest WeBS data and over 5% of original citation counts).
- 1.6.19 Additionally lapwing counts comprise a large proportion of recent Stodmarsh SPA counts, but the species is not a direct qualifying species and instead forms part of the qualifying assemblage. These species is also widely distributed in Kent, so it is assessed as unlikely that these birds form part of the distant Stodmarsh population, based on available guidance on species dispersal distance ([Natural England, 2019](#))(~~Natural England, 2019~~).
- 1.6.20 The high proportions of the Thanet Coast SPA/Ramsar reflect that the Survey Area covers a large expanse of tidal mudflat and a large expanse of overall Pegwell Bay WeBS sector. The Thanet Coast SPA also has some context in that Pegwell Bay provides the largest area of extensive mudflat within the SPA/Ramsar with the remainder of the designated site comprising a majority of sandy or shingle beach

despite its size. This is also reflected in the high proportions of mudflat-associated species but a relative absence of rocky shore species (i.e. turnstone).

- 1.6.21 The remaining waterbird and notable assemblage was also noted to comprise large peak counts of many species, again consistent with the Survey Area being within the Thanet Coast SPA/Ramsar and confirming the value of Pegwell Bay for these species.

Inland

- 1.6.22 The numbers of golden plover recorded inland during December 2022 represented a large proportion of both the latest Thanet Coast SPA and Ramsar citation data and the latest WeBS counts, representing an occasional but large usage of the inland Survey Area by golden plover.

- 1.6.23 The recorded use of hen harrier (peak count) of one, was also a large proportion of the Stodmarsh SPA and Ramsar citation, although birds were recorded hunting over large areas and based on dispersal distance guidance for this species, unlikely to originate from Stodmarsh ([Natural England, 2019](#))(~~Natural England, 2019~~).

- 1.6.24 Some large counts of lapwing were recorded as well as groups of teal and snipe. Shoveler, gadwall and mallard were recorded in small numbers.

- 1.6.25 However, for the inland areas, no counts of any wintering bird species recorded approached 1% of the national wintering population estimates, though noting the importance of golden plover in respect of the Thanet Coast SPA/Ramsar.

- 1.6.26 At a county level, counts for the remaining species recorded inland were again compared with those detailed within the Birds of Kent Report 2020 ([Kent Ornithological Society, 2020](#))(~~Kent Ornithological Society, 2020~~) as for the tidal counts. Most species were recorded in 'low' numbers in comparison with county records aside from the species discussed below:

- Marsh harrier – the peak count of four is reflective overall of the importance of Kent for this species (containing 10% of the national breeding population as described within the Birds of Kent Report 2020 (Kent Ornithological Society, 2020)). Winter peak counts within the east of the county include counts of 19 and 30 in other regions, making the recorded count of four appear potentially reflective of this species' distribution and abundance in suitable habitats throughout the country.
- Hen harrier – the peak count of one is comparable to winter county peak counts of four within the Birds of Kent Report 2020 from a species known to roam widely in the winter.
- Lapwing – winter peak counts of 2,000 – 8,000 are reported within the Birds of Kent Report 2020 for various sites, including Pegwell, indicating this species is widely distributed within Kent.
- Skylark – the peak count recorded is comparable to winter movements noted within the Kent Bird report of over 100 birds from multiple sites.

Species Diversity

Intertidal

- 1.6.27 The diverse assemblage of species recorded during the WeBS counts reflects the designated status of Pegwell Bay and was primarily comprised of a range of wildfowl, waders and gulls, including the recording of occasional vagrant species.

Inland

- 1.6.28 The inland areas recorded a reasonably diverse range of species but appeared to be lacking several notable farmland-associated species (e.g., yellowhammer) that would have been expected to be detected through even a sampling approach. Limitations in coverage mean that several cryptic species may not have been recorded, and it is noted that several species from the adjacent Ramsar/SPA do form part of the inland assemblage as well.
- 1.6.29 None of the criteria for inclusion of the inland site as an LWS are likely to be met, with the possible exception of the raptor interest (supplemented by kingfisher, barn owl and small numbers of notable waterbirds and passerines) along with River Stour canal.

Habitat/Distribution

Intertidal

- 1.6.30 Overall, the River Stour, lagoon and tide line were the most heavily used areas, though birds used most areas for roosting and foraging, dependent on the tide cycle. The River Stour mouth, in particular, was noted as a roost location for large aggregations of species, including oystercatchers, cormorants, and gulls and used by large numbers of most waterbirds during low tide.
- 1.6.31 The saltmarsh fringe varied in use with tide, generally being most important during mid-winter high tide. At this time, some of the highest numbers of dunlin, oystercatcher, and curlew were recorded in these areas.
- 1.6.32 The expanse of exposed mud-flat at low tide was used by varying numbers of waterbirds, but the largest flocks generally appeared to use locations near the River Stour or tide line near the water's edge.

Inland

- 1.6.33 Overall, the inland areas held a reasonable assemblage of notable species, with the River Stour canal, flooded fields and ditch networks being the most valuable habitats for birds, and hedgerows and arable fields varying according to their quality or crop rotations.
- 1.6.34 Two notable areas were recorded as being used by significant numbers or by species of high conservation importance as follows:
- Fields northeast of the River Stour (Parcel 232) and either side of the adjacent railway (southeast corner of Parcel 232 and southwest area of Parcel 244) used periodically by aggregations of waders including golden plover and lapwing appearing to be from the Thanet Coast SPA/Ramsar based on the counts of golden plover recorded.
 - The River Stour canal – while limited in value for waterbirds (supporting occasional aggregations of ducks), does appear important for hen harrier, marsh harrier and an assemblage of occasionally occurring rarer species (i.e. cattle egret (*Bubulcus ibis*) and water pipit).

- 1.6.35 The remaining areas appear to support a good assemblage of species but mainly consist of an arable field network (with a good network of drainage ditches and occasional woodland copses and hedgerows).

Temporal (Monthly Variations)

Intertidal

- 1.6.36 The change in total target bird numbers by month has been previously shown within the results section. Generally, it correlates to expected seasonal, migration, and weather patterns for waterbirds—i.e., the largest aggregations occur during the colder, mid-winter months of December to February.
- 1.6.37 Some relevant observations for key species are provided in brief below:
- Golden plover – recorded in all months aside from December and March. Largest counts in November;
 - Red-throated diver – only recorded in October;
 - Dunlin, oystercatcher, cormorant – recorded most months, although numbers vary;
 - Turnstone recorded in December, February and March but in very small numbers; and
 - Many birds recorded on only a single or a couple of occasions, including avocet, white-fronted goose, peregrine, marsh harrier, Mediterranean gull, Caspian gull and yellow-legged gull.

Inland

- 1.6.38 Notably, inland aggregations of golden plover were only recorded during December. They followed a similar pattern of the only other wader species using agricultural fields inland (curlew and lapwing) being recorded in November and December only and appeared correlated with localised standing water within Parcel 244.
- 1.6.39 The peak counts of some farmland-associated species, such as the recorded aggregations of skylark, occurred during the mid-winter season.
- 1.6.40 Monthly variation in waterbirds using the River Stour canal did not follow clear trends, for example the largest counts of teal occurred in March while snipe was in December and with many species being recorded in this area on only a single month (e.g. shoveler and gadwall).
- 1.6.41 The change in the distribution of some passerines associated with field types, crop preference and ploughing is a noted seasonal variation but is dictated by land use – i.e. the reported change in birds recorded in the northeast arable field (Parcel 336) in accordance with arable management (i.e. the groups of meadow pipit, skylark and other passerines recorded here).
- 1.6.42 Recordings of passerine birds were generally more consistent inland than within tidal areas and appeared to follow the general migratory and seasonal trends expected for these species.

Functionally Linked Land – Designated Site Context

- 1.6.43 Areas that are functionally linked to European designated sites are considered within ecological impact assessments when they may be affected by plans and/or projects. For the purposes of this assessment, land is assessed as being potentially 'linked' to a European site if it serves an important ecological function in maintaining or restoring the population of qualifying species at favourable conservation status ([Natural England, 2016](#))(~~Natural England, 2016~~).
- 1.6.44 The intertidal portions of the Survey Area form part of the Thanet Coast and Sandwich Bay SPA/Ramsar and continue to support the species for which the site is designated.
- 1.6.45 Since several fields within the centre of the inland Survey Area have been found to support foraging golden plover as a large proportion of the original SPA and Ramsar citation, it is likely that this area constitutes functionally linked land associated principally with the Thanet Coast and Sandwich Bay SPA where golden plover is a named qualifying feature.
- 1.6.46 The recording of a single hen harrier may be attributable to birds dispersing from the Stodmarsh SPA or a bird dispersing from other areas of the county known to support this species.
- 1.6.47 The presence of hen harriers, ducks and waders inland (primarily associated with River Stour) are assessed as likely to be associated with local wintering populations associated with Pegwell Bay rather than with Stodmarsh SPA. This is based upon likely dispersal distance guidance for these species ([Natural England, 2019](#))(~~Natural England, 2019~~), field observations, WeBS data and the distance of the Stodmarsh SPA/Ramsar compared to other available habitats in the local landscape/district able to support large numbers of these species.

Overall Importance of Wintering Bird Populations

Intertidal

- 1.6.48 As expected, the shoreline and intertidal areas supported a diverse overall wintering waterbird assemblage with large counts recorded for a number of species, reflective of its designation as a SPA/Ramsar.
- 1.6.49 Populations and their associated relative importance vary in accordance with the individual species, but as the majority of species recorded occur in numbers of at least county importance and several species approach or exceed national 1% thresholds on the overall assemblage assessment, the assemblage as a whole is assessed to be of international importance.
- 1.6.50 Of particular importance are golden plover and sanderling (recorded in peak counts comparable to SPA citation counts), with cormorant dunlin and oystercatcher approaching or exceeding national 1% thresholds. Red-throated diver was also recorded as a peak count as a significant proportion of the Ramsar citation counts.

Inland

- 1.6.51 The peak counts of a small number of species are assessed as particularly notable as follows:
- Golden plover, assessed as potentially of international importance, based upon linkage to the Stodmarsh SPA/Ramsar, though noting use of the Survey Area was recorded on only a single occasion.

- Hen harrier, provisionally assessed as county importance as the peak count of one is significant in the context of county records but likely to be a widely roaming bird only occasionally using the Survey Area.
- Marsh harrier, provisionally assessed as county importance due to the peak count being comparable to county peak counts as well as regular recording during surveys.
- Lapwing, teal, grey partridge and skylark as local (district) importance due to large peak counts being comparable to peak county counts within the Kent Bird Report but known to be well distributed throughout the county.
- The peak count of snipe may reflect larger numbers potentially present for this cryptic and under-recorded species and so is also potentially of local (district) importance.

1.6.52 The remaining species assemblage recorded within the inland area, based on numbers and conservation status, is broadly reflective of the habitats present and has been assessed as being of local importance, but noting that the River Stour canal and surrounds (especially flooded fields and marshy areas south of the canal) support the greatest diversity of habitats and species within this area.

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Annex 2.B.1 Desk Study Summaries

Table A.1 Summary of local WeBS sector counts for selected target species recorded or most relevant to the Survey Area

Species	Latest WeBS Corecount and Lowtide Thanet Coast 17/18-22 five year mean peak	Latest WeBS Lowtide Pegwell Bay 17/18-22 five year mean peak	Latest WeBS Corecount Ash Level 17/18-22 five year peak mean	Latest WeBS Lowtide Stodmarsh five year mean peak	Latest Worth Marshes/Lyddon Valley 17/18-22 five year mean peak
Bar-tailed godwit	-	163	-	-	No count data available
Black tailed godwit	13	28	-	1	
Bittern	-	-	-	3	
Brent goose	809	338	-	-	
Common greenshank	-	19	-	-	
Cormorant	189	902	2	1725	
Curlew	38	511	8	0	
Gadwall	-	23	13	97	
Golden plover	6	433	1	1	
Great crested grebe	31	6	-	65	
Grey plover	33	222	-	-	
Hen harrier	-	-	-	-	
Knot	-	119	-	-	
Lapwing	9	2,119	186	340	
Little tern	-	1	-	-	
Mallard	52	94	128	213	
Marsh Harrier	-	-	-	-	
Oystercatcher	192	1134	-	-	
Pochard	-	4	-	92	
Redshank	69	162	2	1	
Red-throated diver	20	3	-	-	
Ringed plover	117	31	-	-	
Ruddy turnstone	170	5	-	-	
Sanderling	234	137	-	-	
Shelduck	7	153	18	2	

Species	Latest WeBS Corecount and Lowtide Thanet Coast 17/18-22 five year mean peak	Latest WeBS Lowtide Pegwell Bay 17/18-22 five year mean peak	Lastest WeBS Corecount Ash Level 17/18-22 five year peak mean	Latest WeBS Lowtide Stodmarsh five year mean peak	Latest Worth Marshes/Lyddon Valley 17/18-22 five year mean peak
Shoveler	-	71	12	312	
Snipe	11	53	354	33	
Teal	213	-	54	1813	
Tufted duck	-	27	-	77	
Turnstone	-	-	-	-	
Water rail	-	2	3	3	
Wigeon	18	638	360	389	

Annex 2.B.2 Detailed Survey Data

Table A.2 Detailed survey data

Species	High Tide							Low Tide							Inland							Vantage Point Incidentals			
	Oct	Nov	Dec	Jan	Feb	Mar	Overall Peak	Mean	Oct	Nov	Dec	Jan	Feb	Mar	Overall Peak	Mean	Oct	Nov	Dec	Jan	Feb			Mar	Overall Peak
AV. Avocet (<i>Recurvirostra avosetta</i>)			2				2	0.33			1				1	0.17							0	0.00	
BA. Bar-tailed godwit (<i>Limosa lapponica</i>)	39	60	12	205			205	52.67	11	1		43			43	9.17							0	0.00	
B. Blackbird (<i>Turdus merula</i>)							0	0.00								0.00	18	23	31	15	9	6	31	17.00	
BH. Black-headed Gull (<i>Chroicocephalus ridibundus</i>)	37		91	292	126	32	292	96.33	61	58	74	716	441	105	716	242.50	58	404	28	14	306	145	404	159.17	
BW Black-tailed Godwit (<i>Limosa limosa</i>)		104	5	5	8		104	20.33	5	1					5	1.00						2	2	0.33	
BO. Barn owl (<i>Tyto alba</i>)							0	0.00								0.00				6	9	3	0	0.00	1
BT. Blue Tit (<i>Cyanistes caeruleus</i>)																	7	5	9				9	6.50	
BL Brambling (<i>Fringilla montifringilla</i>)							0	0.00								0.00				3			3	0.50	
BG Brent goose (<i>Branta bernicla</i>)	50	11		53	6		53	20.00	46	8		2		7	46	10.50							0	0.00	
BF. Bullfinch (<i>Pyrrhula pyrrhula</i>)	1						1	0.17								0.00			1				1	0.17	
BZ. Buzzard (<i>Buteo buteo</i>)							0	0.00								0.00	4	3	6	2	2	3	6	3.33	
C. Carrion Crow (<i>Corvus corone</i>)				2			2	0.33				2			2	0.33	30	5	18	3	91	34	91	30.17	
YC Caspian Gull (<i>Larus cachinnans</i>)			1				1	0.17							0	0.00							0	0.00	
EC Cattle Egret (<i>Bubulcus ibis</i>)							0	0.00								0.00			1				1	0.17	
CW. Cetti's Warbler (<i>Cettia cetti</i>)	2						2	0.33				1			1	0.17	5	1	3	5	2	1	5	2.83	
CH. Chaffinch (<i>Fringilla coelebs</i>)							0	0.00								0.00	67	42	11	9	16	14	67	26.50	
CC. Chiffchaff (<i>Phylloscopus collybita</i>)							0	0.00								0.00	1	1		3	2		3	1.17	
CD. Collared Dove (<i>Streptopelia decaocto</i>)							0	0.00								0.00		1	1		1	3	3	1.00	
CM. Common Gull (<i>Larus canus</i>)	39	27	7	19		8	39	16.67	5	1		26	62	26	62	20.00		11			28	15	28	9.00	
CO. Coot (<i>Fulica atra</i>)							0	0.00								0.00	4		23		1	1	23	4.83	
CA. Cormorant (<i>Phalacrocorax carbo</i>)			37	528	31	3	528	99.83	20	2		690	50		690	127.00	1	1	16	1	9	8	16	6.00	

Species	High Tide								Low Tide								Inland								Vantage Point Incidentals	
	Oct	Nov	Dec	Jan	Feb	Mar	Overall Peak	Mean	Oct	Nov	Dec	Jan	Feb	Mar	Overall Peak	Mean	Oct	Nov	Dec	Jan	Feb	Mar	Overall Peak	Mean		
CU. Curlew (<i>Numenius arquata</i>)	112	50	72	114	212	52	212	102.00	185	68	158	192	238	140	238	163.50		11	9				11	3.33		
DN. Dunlin (<i>Calidris alpina</i>)	291	2460	818	529	415	110	2460	770.50	600	837	1312	461	210		1312	570.00							0	0.00		
D. Dunnock (<i>Prunella modularis</i>)				1			1	0.17								0.00		2	5	3	9	1	9	3.33		
FP Feral Pigeon							0	0.00								0.00	30						30	5.00		
FF. Fieldfare (<i>Turdus pilaris</i>)							0	0.00								0.00		4	62	4			62	11.67		
GA. Gadwall (<i>Anas strepera</i>)	2					25	25	4.50						8	8	1.33						2	2	0.33		
GC. Goldcrest (<i>Regulus regulus</i>)							0	0.00								0.00	2	1	5	1		1	5	1.67		
GP. Golden Plover (<i>Pluvialis apricaria</i>)	38	307		190	80		307	102.50	17	207		11			207	39.17			721				721	120.17		
GO. Goldfinch (<i>Carduelis carduelis</i>)							0	0.00							0	0.00	4	5	5	14	1	1	14	5.00		
GB. Great Black-backed Gull (<i>Larus marinus</i>)	115	518	470	40	4		518	191.17	111	461	346	61	58		461	172.83						35	35	5.83		
GG. Great Crested Grebe (<i>Podiceps cristatus</i>)			1	1	1		1	0.50							0	0.00							0	0.00		
GS Great Spotted Woodpecker (<i>Dendrocopos major</i>)							0	0.00								0.00			2		1		2	0.50		
GT. Great Tit (<i>Parus major</i>)							0	0.00								0.00	2	3	9	2	2		9	3.00		
GG. Great Crested Grebe (<i>Podiceps cristatus</i>)							0	0.00								0.00						1	1	0.17		
G. Green Woodpecker (<i>Picus viridis</i>)							0	0.00								0.00		1					1	0.17		
GR. Greenfinch (<i>Chloris chloris</i>)							0	0.00								0.00				1		1	1	0.33		
H. Grey Heron (<i>Ardea cinerea</i>)	1						1	0.17	1	2		1			2	0.67	4	4	2	1	4	3	4	3.00		
P. Grey Partridge (<i>Perdix perdix</i>)							0	0.00								0.00		20	10				20	5.00		
GV. Grey Plover (<i>Pluvialis squatarola</i>)			39	27	89	43	89	33.00	13	70	28	3		2	70	19.33							0	0.00		
GL Grey Wagtail (<i>Motacilla cinerea</i>)							0	0.00								0.00		1	1				1	0.33		
HH Hen Harrier (<i>Circus cyaneus</i>)							0	0.00								0.00	1			1			1	0.33		
HG. Herring Gull (<i>Larus argentatus</i>)	59	90	293	78			293	86.67	123	298	344	121	43		344	154.83		20		23	4	194	194	40.17		
HS. House Sparrow (<i>Passer domesticus</i>)							0	0.00	2			5			5	1.17	81	60	8	5	5		81	26.50		
JD. Jackdaw (<i>Corvus monedula</i>)							0	0.00								0.00	2	7					7	1.50		
J. Jay (<i>Garrulus glandarius</i>)							0	0.00								0.00	1		2		1		2	0.67		

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K. Kestrel (<i>Falco tinnunculus</i>)	1		1				1	0.33	1				1		1	0.33	5	5	5	5	5	2	5	4.50	
KF. Kingfisher (<i>Alcedo atthis</i>)							0	0.00							0	0.00							0	0.00	1
KN Knot (<i>Calidris canutus</i>)		92	44		55		92	31.83			110				110	18.33							0	0.00	
L. Lapwing (<i>Vanellus vanellus</i>)	15	102		1	738	5	738	143.50	13	203	1		733		733	126.8		28	1194				1194	203.67	
LB. Lesser Black-backed Gull (<i>Larus fuscus</i>)	18		99	1		25	99	23.83	24	25	343	4		32	343	71.33						12	12	2.00	
LI. Linnet (<i>Linaria cannabina</i>)							0	0.00								0.00			1		6		6	1.17	
ET Little Egret (<i>Egretta garzetta</i>)	3	1	2	2			3	1.33	3	2		1			3	1.00				1			1	0.17	
LG Little Grebe (<i>Tachybaptus ruficollis</i>)		3					3	0.50							0	0.00			1				1	0.17	
LT. Long-tailed Tit (<i>Aegithalos caudatus</i>)							0	0.00				2			2	0.33	13	14	9	6	4	1	14	7.83	
MG. Magpie (<i>Pica pica</i>)							0	0.00								0.00	21	3	16	8	12	13	21	12.17	
MA. Mallard (<i>Anas platyrhynchos</i>)	16	14	51	36		2	51	19.83	47	9	27	1	2		47	14.33		1	3			19	19	3.83	
MR. Marsh Harrier (<i>Circus aeruginosus</i>)					1		1	0.17							0	0.00			1		4	2	4	1.17	4
MP. Meadow Pipit (<i>Anthus pratensis</i>)	9			8			9	2.83	10		12	4	4		5	5.17	19	24	23	1	6	5	24	13.00	
MU. Mediterranean Gull (<i>Larus melanocephalus</i>)							0	0.00	2	1					0	0.00							0	0.00	
M. Mistle Thrush (<i>Turdus viscivorus</i>)	4						4	0.67	1						1	0.17			7	1			7	1.33	
MH. Moorhen (<i>Gallinula chloropus</i>)							0	0.00							0	0.00	1	4	12			2	12	3.17	
MS. Mute Swan (<i>Cygnus olor</i>)							0	0.00							2	0.33	9	18	14	7	6		18	9.00	
OC. Oystercatcher (<i>Haematopus ostralegus</i>)	569	628	2152	540	1880	620	2152	1064.83	672	651	1716	345	1383	621	1716	898.00							0	0.00	
PE. Peregrine Falcon							0	0.00			1		1		1	0.33			2		1		2	0.50	
PH. Pheasant (<i>Phasianus colchicus</i>)							0	0.00								0.00	1	2	6	2	2		6	2.17	
PW. Pied Wagtail (<i>Motacilla alba</i>)							0	0.00								0.00	15	1	4	28	120	5	120	28.83	
RN. Raven (<i>Corvus corax</i>)	1						1	0.17								0.00			1	1			1	0.33	
RL Red-legged Partridge (<i>Alectoris rufa</i>)							0	0.00								0.00	2						2	0.33	
RK. Redshank (<i>Tringa totanus</i>)	140	20	43	116	65	14	140	66.33	50	37	24	52	28	5	52	32.67			1				1	0.17	

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RH Red-throated Diver (<i>Gavia stellata</i>)	2						2	0.33	4						4	0.67							0	0.00
RE. Redwing (<i>Turdus iliacus</i>)	2						2	0.33								0.00	6	110	18	7	6	5	110	25.33
RB. Reed Bunting (<i>Emberiza schoeniclus</i>)	4			8	1		8	2.17	1		4	5		1	2	1.83			3	3	2	3	3	1.83
RP Ringed Plover (<i>Charadrius hiaticula</i>)	1		1				1	0.33		1					1	0.17							0	0.00
RI. Ring-necked Parakeet (<i>Psittacula krameri</i>)							0	0.00								0.00	6	3	5	2	7	3	7	4.33
R. Robin (<i>Erithacus rubecula</i>)							0	0.00								0.00	21	9	8	8	9	7	21	10.33
RC Rock Pipit (<i>Anthus petrosus</i>)		1	1		3		3	0.83	1	1		1	3		3	2.00							0	0.00
RO. Rook (<i>Corvus frugilegus</i>)							0	0.00								0.00			2	6	4	47	47	9.83
SS Sanderling (<i>Calidris alba</i>)		135	79	9	413	80	413	119.33	149	35	1		12	3	149	33.33							0	0.00
TE Sandwich Tern (<i>Thalasseus sandvicensis</i>)	2						2	0.33							0	0.00							0	0.00
SU. Shelduck (<i>Tadorna tadorna</i>)	2	17	71	47	108	18	108	43.83	2	12	36	57	81	13	81	33.50							0	0.00
SV. Shoveler (<i>Spatula clypeata</i>)			22	4		6	22	5.33		3	54	9	75	10	75	25.17			2				2	0.33
SK Siskin (<i>Carduelis spinus</i>)							0	0.00								0.00	2						2	0.33
S. Skylark (<i>Alauda arvensis</i>)	4						4	0.67	1						1	0.17	27	19	68	16	4	6	68	23.33
SN. Snipe (<i>Gallinago gallinago</i>)	3		1				3	0.67			3		2		3	0.83		6	11				11	2.83
ST. Song Thrush (<i>Turdus philomelos</i>)	1			1			1	0.33								0.00	4	1	7	6	4	3	7	4.17
SH Sparrowhawk (<i>Accipiter nisus</i>)				1			1	0.17	2						2	0.33	1	1					1	0.33
SG. Starling (<i>Sturnus vulgaris</i>)	7			9			9	2.67		12	50				25	10.33	314	118	7		10	7	314	76.00
SD. Stock Dove (<i>Columba oenas</i>)							0	0.00								0.00	351	210	189	47	224	126	351	191.17
SC Stonechat (<i>Saxicola torquatus</i>)		2		2			2	0.67					1		1	0.17	1		1	4			4	1.00
SL. Swallow (<i>Hirundo rustica</i>)	2						2	0.33								0.00	2						2	0.33
T. Teal (<i>Anas crecca</i>)	35	9	27		22	7	35	16.67	2	27	62	12	31	18	62	25.33	1	5				68	68	12.33
TT. Turnstone (<i>Arenaria interpres</i>)					11	5	11	2.67			1				1	0.17		1					0	0.00
WI Water Pipit (<i>Anthus spinoletta</i>)							0	0.00								0.00			1				1	0.17
WA Water Rail (<i>Rallus aquaticus</i>)							0	0.00								0.00				1			1	0.33

Species	High Tide							Low Tide							Inland							Vantage Point Incidentals		
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WG White-fronted Goose (<i>Anser albifrons</i>)	1						1	0.17							0	0.00							0	0.00
WN Wigeon (<i>Mareca penelope</i>)	182	377	307	334	355		377	259.17	463	443	358	153	450		463	311.17							0	0.00
WP. Woodpigeon (<i>Columba palumbus</i>)	10			18			18	4.67							0	0.00	174	10	110	22	117	49	174	80.33
WR. Wren (<i>Troglodytes troglodytes</i>)				1			1	0.17							1	0.17	8	3	7	3	4	2	8	4.50
Yellow-legged gull				1			1	0.17				1			0	0.00							0	0.00

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