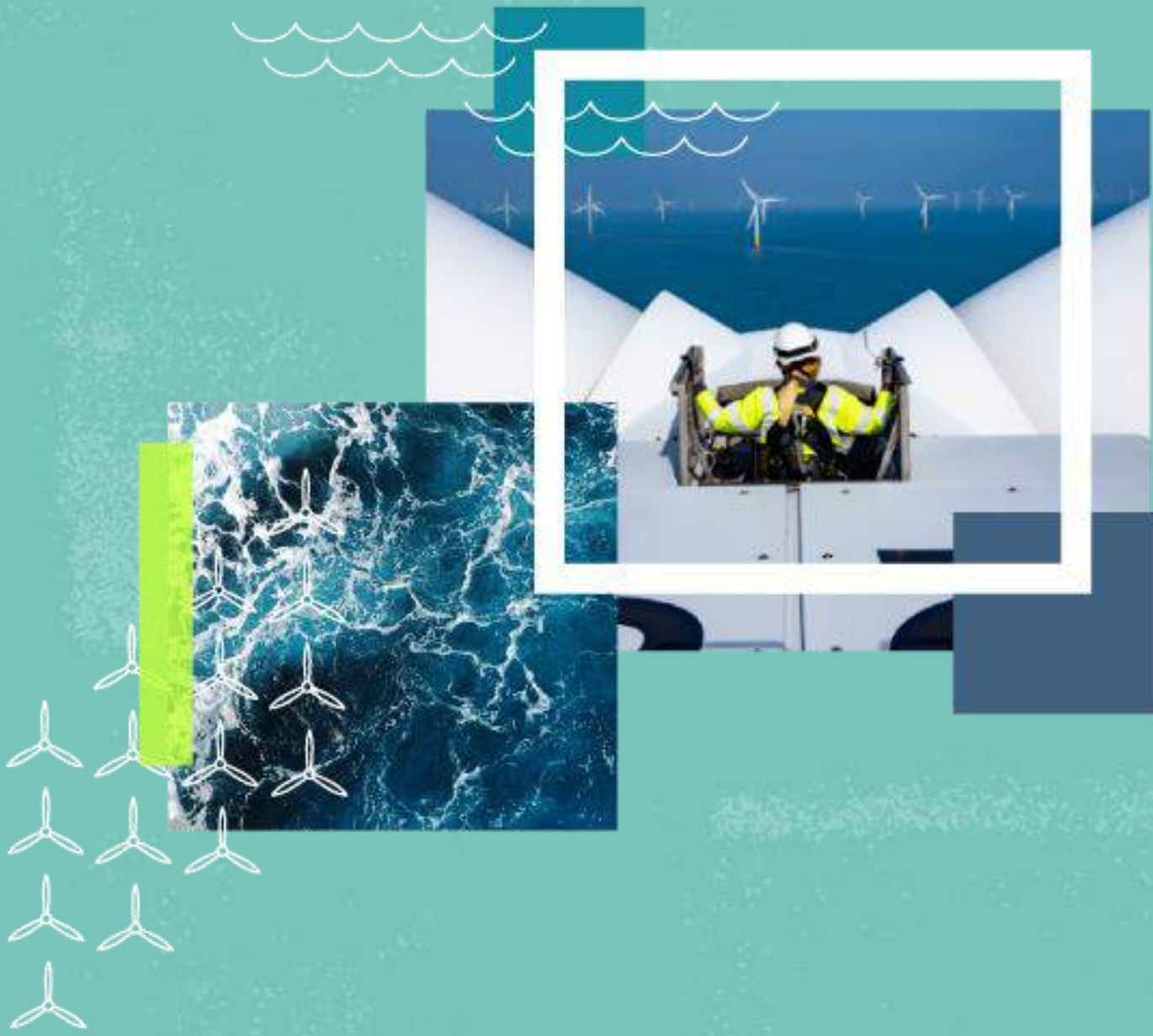

# Cambois Connection – Onshore Scheme

# Environmental Statement Volume 3

# Technical Appendix 9.7: Non-Breeding (Over-wintering) Bird Survey Report

sse Renewables

# CAMBOIS CONNECTION ONSHORE SCHEME

## Non-Breeding (Over-Wintering) Bird Survey Report

Prepared for: **SSE Renewables**

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# BASIS OF REPORT

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# DOCUMENT REFERENCES

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# 1.0 Introduction

## 1.1 Overview

Berwick Bank Wind Farm Limited (BBWFL) is a wholly owned subsidiary of SSE Renewables (SSER) (hereafter referred to as 'the Applicant'). The Applicant is proposing the development of Offshore Export Cables, Onshore Export Cables, an Onshore Converter Station and associated grid connection at Blyth in Northumberland, known as the 'Cambois Connection' ('the 'Project'). The onshore components of the Project, landward of Mean Low Water Springs (MLWS) comprise the Onshore Scheme.

The purpose of this infrastructure is to facilitate the export of green energy from the generation assets associated with the Berwick Bank Wind Farm (BBWF), located in the outer Firth of Forth. A separate application for developing a grid connection to Branxton, East Lothian, has been included as part of the Applicant's application for consent for BBWF, currently being determined separately[1]. The Project will enable the BBWF to reach full generating capacity (4.1 gigawatts (GW)) by the early 2030's.

The Project comprises two distinct proposals, or 'Schemes', which will require three separate consents. For the Onshore Scheme (all activities and infrastructure landward of MLWS) consent will be sought via an outline planning application to Northumberland County Council (NCC) as the local planning authority (LPA) under Section 57 of the Town and Country Planning Act 1990.

The offshore components of the Project seaward of Mean High Water Springs (MHWS) ('the Marine Scheme') are located within both Scottish and English waters. In Scotland, the Marine Scheme is entirely within offshore waters (i.e., between the 12 nautical miles (nm) limit and the Scottish Exclusive Economic Zone). In England, the Marine Scheme is within offshore waters and inshore waters.

SLR was commissioned by SSE Renewables in September 2022 to undertake non-breeding (over-wintering) bird surveys covering intertidal and nearshore areas at the proposed onshore landfall for the Project at Cambois Beach (hereafter referred to as the 'Cambois Beach survey area'). The commission was subsequently extended in November 2022 to cover a stretch of the Sleekburn, upstream of its confluence with the Blyth Estuary, within which an outfall may be constructed as part of the Project. This is referred to in this report as the 'Sleekburn survey area'. The Cambois Beach survey area was also extended at this time to include additional areas on Cambois Beach, from the River Wansbeck to the north, to 'The Rockers' in the south.

This report presents the results of the non-breeding (over-wintering) bird surveys carried out during the winter of the 2022-23.

## 1.2 Survey Areas

The over-wintering bird survey areas covered by this report specifically targeted intertidal and coastal habitats that could potentially be affected by the Project and which could potentially be used by over-wintering waterbirds[2].

Potential impacts on over-wintering waterbirds need to be considered beyond proposed Project infrastructure locations themselves owing to the potential for noise and visual disturbance to arise during construction. The two survey areas are shown in Figure 1.1 and include buffer zones around the project boundaries. The Cambois

[1] BBWF is subject to a separate consenting process. An application for consent under Section 36 of the Electricity Act 1989 (as amended) was submitted to MS-LOT and accepted in December 2022. The Branxton onshore infrastructure is subject to a separate planning application submitted to East Lothian Council and accepted in March 2023.

[2] The definition of waterbirds follows that used by the Wetland Bird Survey (WeBS) and includes wildfowl (ducks, geese and swans), waders, rails, divers, grebes, cormorants and herons.

Beach survey area also included the freshwater pools to the northwest of Cambois village and extended out to approximately 1km offshore, as requested by Natural England. The Sleekburn survey area included all parts of the Sleekburn and adjacent Blyth Estuary that could be adequately viewed from the north bank of the Sleekburn.

## 1.3 Purpose of this Report

This report provides details of the survey methodology (Section 2) and presents the results of the survey (Section 3). It also includes a brief discussion regarding the importance of the bird populations recorded (Section 4). The assessment of impacts resulting from the proposed development is beyond the scope of this report and will be covered separately within an Environmental Statement (ES).

## 1.4 Evidence of Technical Competence and Experience

Surveys were carried out by SLR ornithologists Harry Richardson and Helen Allinson, both of whom have several years of ornithological field survey experience.

The report has been authored by Cróna McMonagle, SLR Senior Ecologist and associate member of CIEEM (ACIEEM), with assistance from Harry Richardson. The review process was undertaken by Duncan Watson CEnv MCIEEM, who has provided technical support throughout the project and a Quality Assurance review of this report. Duncan is a Technical Director at SLR Consulting with over 25 years' professional ornithological experience.

# 2.0 Methodology

## 2.1 Desk Study

A desk study was undertaken as part of the Preliminary Ecological Appraisal (PEA) submitted with the EIA Scoping Report covering the onshore aspects of the project in November 2022[3] and is not repeated here. However, this report considers over-wintering bird species associated with nearby designated sites, therefore a brief summary of the ornithological interest features for relevant designated sites is provided (Section 3.1) based on information gathered as part of the PEA.

In addition, contextual data for nearby designated sites were obtained. Data were provided by the Wetland Bird Survey (WeBS), a Partnership jointly funded by the British Trust for Ornithology, Royal Society for the Protection of Birds and Joint Nature Conservation Committee, in association with The Wildfowl & Wetlands Trust, with fieldwork conducted by volunteers. The data were received on the 03/07/23 and included the five-year mean peak (2017-2022) for the Northumbria Coast Ramsar/ Special Protection Area (SPA) and Northumberland Shore Site of Special Scientific Interest (SSSI). These data were used to provide context to the results of the over-wintering bird surveys by providing up-to-date counts for both designated sites.

Please refer to the PEA report[3] for more detail and a summary of other existing sources of relevant information.

## 2.2 Field Survey

### 2.2.1 Intertidal Bird Survey

Intertidal surveys were undertaken at each of the two survey areas, at Cambois Beach and the Sleekburn (Figure 1.1). At both locations surveys took place from suitable vantage point locations, from which all waterbirds within each survey area (including birds on the sea at Cambois Beach) were recorded. Birds present along the survey area boundaries or just outwith of the boundary were also recorded to provide additional context, although data for areas outside the survey area boundaries are not comprehensive. Particular attention was paid to the identification of any high-tide roost sites, if present.

Surveys specifically focused on the recording of waterbird species, although other notable sightings (e.g. raptor/owl species listed on Annex 1 of the EC Birds Directive or Schedule 1 of the Wildlife & Countryside Act 1981 (as amended) or particularly large flocks of any species) were recorded incidentally. All surveys were undertaken using binoculars and a telescope, as required.

At Cambois Beach, surveys took place twice per month from October 2022 to March 2023 inclusive, with the extended survey area shown in Figure 1.1 included from November 2022 onwards. At the Sleekburn surveys took place twice per month from November 2022 to March 2023 inclusive. To account for changes in bird numbers and distribution due to the tidal state, each survey was undertaken 'through the tide', either starting at or close to low tide and ending at high tide or starting at or close to high tide and ending at low tide. Tidal phases are defined in this report as:

- High-Mid – first three hours periods following high tide;
- Mid-Low – hours periods 4-6 following high tide;
- Low-Mid – first three hours periods following low tide; and
- Mid-High – hours 4-6 following low tide.

[3] SLR (2022). Cambois-Cable Landfall Project Preliminary Ecological Appraisal October 2022.

During each survey, counts were undertaken hourly. On each count the number and location of all waterbird species within the relevant survey area were mapped. The behaviour of each bird or flock was also noted to provide an indication of how birds use the survey area. Behaviour categories recorded are listed below together with their definitions:

- Foraging – obvious feeding behaviours such as searching in flight above the water, diving for prey, searching along the shore on foot and probing the substrate for prey.
- Loafing – idle behaviour not connected with feeding or travelling in any specific direction.
- Roosting – resting on the water, groynes, shoreline, or fields.
- Flying – birds recorded in flight.
- Maintenance – preening, bathing, and drying of feathers.
- Other – behaviour that does not fit into any of the categories above.

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

The survey dates, times, tide times and weather conditions for the intertidal surveys are detailed in Table 2-1 for the Cambois Beach survey area and Table 2-2 for the Sleekburn survey area.

**Table 2-1: Survey times and weather condition at Cambois Beach**

| Survey date | Start | End | Tidal flow | Tide time | Average wind speed (Beaufort scale and direction) | Precipitation (0-4) | Cloud cover (oktas n/8) and visibility |
|---|---|---|---|---|---|---|---|
| 17/10/2022 (reduced survey area) | 08:55 | 15.00 | Ebbing | High tide 08.55 | 4 SW | 0 | 2/8 and >5km |
| 31/10/2022 (reduced survey area) | 07.30 | 13.30 | Ebbing | High tide 07.11 | 4 S | 0 | 4/8 and >5km |
| 11/11/2022 | 10.30 | 16.15 | Rising | Low tide 10.49 | 5 SW | 0 | 4/8 and >5km |
| 24/11/2022 | 09.15 | 15.15 | Rising | Low tide 09.19 | 4 SE | 1 | 7/8 and >5km |
| 08/12/2022 | 09.25 | 15.25 | Rising | Low tide 09.22 | 3 NW | 2 | 5/8 and >5km |
| 23/12/2022 | 09.00 | 15.00 | Rising | Low tide 09.01 | 4 E | 2 | 8/8 and >5km |
| 06/01/2023 | 09.00 | 15.00 | Rising | Low tide 09.04 | 4 SW | 0 | 5/8 and >5km |
| 24/01/2023 | 10.30 | 16.30 | Rising | Low tide 11.11 | 3 SW | 0 | 2/8 and >5km |
| 07/02/2023 | 10.20 | 16.20 | Rising | Low tide 10.26 | 3 W | 0 | 5/8 and 3-5km |
| 28/02/2023 | 09.20 | 15.20 | Ebbing | High tide 09.22 | 5 N | 2 | 7/8 and 3-5km |
| 07/03/2023 | 09.30 | 15.30 | Rising | Low tide 09.36 | 4 NW | 0 | 2/8 and >5km |
| 24/03/2023 | 11.00 | 17.00 | Rising | Low tide 11.03 | 5 SW | 2 | 6/8 and >5km |

**Table 2-2: Survey times and weather condition at Sleekburn**

| Survey date | Start | End | Tidal flow | Tide time | Average wind speed (Beaufort scale and direction) | Precipitation (0-4) | Cloud cover (oktas n/8) and visibility |
|---|---|---|---|---|---|---|---|
| 11/11/2022 | 10.30 | 16.30 | Rising | Low tide 10.49 | 5 SW | 0 | 3/8 and >5km |
| 25/11/2022 | 10.00 | 16.00 | Ebbing | High tide 10.00 | 3 SW | 0 | 3/8 and >5km |
| 07/12/2022 | 08.45 | 14.45 | Rising | Low tide 08.46 | 3 NW | 0 | 4/8 and >5km |
| 22/12/2022 | 08.30 | 14.30 | Rising | Low tide 08.13 | 1 W | 0 | 5/8 and >5km |
| 05/01/2023 | 08.30 | 14.30 | Rising | Low tide 08.24 | 3 S | 0 | 8/8 and >5km |
| 23/01/2023 | 10.30 | 16.30 | Rising | Low tide 10.28 | 3 S | 0 | 6/8 and >5km |
| 07/02/2023 | 10.20 | 16.20 | Rising | Low tide 10.18 | 3 SW | 0 | 6/8 and >5km |
| 27/02/2023 | 08.20 | 14.20 | Ebbing | High tide 09.22 | 4 NE | 1 | 5/8 and >5km |
| 06/03/2023 | 09.00 | 15.00 | Rising | Low tide 09.06 | 5 N | 0 | 7/8 and >5km |
| 23/03/2023 | 10.30 | 16.30 | Rising | Low tide 10.29 | 5 SW | 0 | 5/8 and >5km |

### 2.2.2 Disturbance Events

Any potential anthropogenic disturbance events that took place during each count were recorded incidentally to provide an indication of the levels of existing disturbance within the survey area (although a detailed study of existing disturbance was not carried out as the primary focus of the survey was to record bird numbers, distribution and activity).

Potential disturbance events were limited to events considered likely to cause disturbance to waterbirds (based on observations and included:

- Walkers;
- Dogs;
- Anglers;
- Bait Diggers;
- Shell-Fishers;
- Vehicles;
- Unpowered Boats;
- Powered Boats; and
- Other.

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

### 2.2.3 Limitations

The survey areas specifically targeted intertidal and coastal habitats that could potentially be affected by the Project and which could potentially be used by over-wintering waterbirds. As shown in Figure 1.1, a small area of intertidal habitat in the north-eastern part of the Blyth Estuary was excluded from the survey area despite lying close to the site boundary. This area was excluded because it couldn't be viewed from the northern bank of the estuary due to a lack of access from the north (due to ongoing construction works) and the presence of dense vegetation restricting visibility from the west. Based on current plans for the proposed development the exclusion of this small area is not likely to significantly affect the assessment of potential impacts. This will be confirmed within the ES.

No surveys were undertaken in October 2022 at the Sleekburn survey area or the northern extent of the Cambois Beach survey area as this area was not part of the original survey scope, having been added later in November 2022. Surveys were undertaken at the Sleekburn survey area and for the full extent of the Cambois Beach survey area twice per month from November to March however, and the lack of survey data for October is considered unlikely to have significantly affected the survey results as the period between November and March is considered the core survey period for over-wintering birds[4].

The majority of surveys were undertaken following the low-high tide cycle, nine out of twelve at Cambois Beach and eight out of ten at Sleekburn. This was largely unavoidable and reflects the relatively small number of dates on which survey is possible across a full tidal cycle within daylight hours, particularly during the mid-winter period when day length is shortest, which meant that in some months it was often not possible to survey on an ebbing tide within daylight hours. The bias in the data towards the low-high tide cycle is considered unlikely to have significantly affected the survey results as bird activity and assemblage across the different tidal cycles is unlikely to be substantially different.

The WeBS Count Data used in this report were collected between 2017 and 2022. The 2021/22 winter dataset was impacted by Covid-19 due to restrictions on surveying, which resulted in no country-level results being published for the 2020/21 winter period. Nevertheless, the data from this period has been adapted and provides important data for long-term monitoring.

## 2.3 Data Analysis

Bird count and distribution data were digitised in ArcGIS (version 10.8) and the attribute data captured on completion of the field surveys. These data were then used to generate peak count and frequency data (see Section 3.2). The distribution and relative abundance of the waterbird species in each survey area (excluding gulls) are presented as 'heat maps' (see Figures 1.2-1.40). Points to represent individual birds were uniformly distributed across the areas recorded in the field by the survey team as the extent of any flocks. From these point distributions heat maps were generated using kernel densities. Kernal densities calculate the magnitude-per-unit by area using a kernel function, in this instance a circular kernel or neighbourhood, 50m in diameter, to fit a smoothly tapered surface to each point. The total value of the neighbourhood is one, for each individual bird, with its highest value in the centre dropping to 0 at its edges. Overlapping neighbourhoods at each grid cell are then totalled to provide the values presented in the figures.

[4] BTO (2017) Wetland Bird Survey. Survey Methods, Analysis and Interpretation. Thetford.

The number of birds represented by the highest density value was estimated by comparing the species with highest density value for a survey area to the survey data from which it was calculated. All other species data were then reclassified to provide results on the same scale as the most abundant species.

Where individual birds were recorded by the surveyor the locations are presented as point data, with each point representing a single bird. Where small flocks were recorded over a wide area, the birds were distributed across the area as described above.

# 3.0 Results

## 3.1 Desk Study

There is one SPA, one Ramsar site and one SSSI within 2km of the survey areas that include over-wintering bird qualifying or notified features (see Table 3-1)[5].

**Table 3-1: Statutory designated sites with non-breeding bird qualifying features within 2km of the survey areas**

| Site name & Designation | Closest distance north & south from the survey areas | Reason for Designation (over-wintering/non-breeding birds only) (population taken from citation given in brackets where available) |
|---|---|---|
| Northumbria Coast Ramsar/SPA | Cambois Beach – On Southern Survey Area Boundary, 665m from Northern Survey Area Boundary<br>Sleekburn – 775m from South-eastern Survey Area Boundary, 3km from Northern Survey Area Boundary | Turnstone *Arenaria interpres* (1739)<br>Purple sandpiper *Calidris maritima* (787)<br>Population figures taken from SPA/Ramsar citations based on 5 year peak mean count 1992/3-1996/7 |
| Northumberland Shore SSSI | Cambois Beach – Within Survey Area<br>Sleekburn – Within Survey Area | Turnstone (1300)<br>Purple sandpiper (600)<br>Sanderling *Calidris alba* (240)<br>Ringed Plover *Charadrius hiaticula* (37)<br>Redshank *Tringa totanus* (1100)<br>Golden plover *Pluvialis Apricaria* (3500)<br>Though not qualifying species of the SSSI other important populations of over-wintering birds include:<br>Curlew *Numenius arquata* (400)<br>Oystercatcher *Haematopus ostralegus* (1000)<br>Dunlin *Calidris alpina* (2000)<br>Knot *Calidris canutus* (600)<br>Bar-tailed godwit *Limosa lapponica* (150)<br>Lapwing *Vanellus vanellus* (4000)<br>Eider *Somateria mollissima*<br>Population figures taken from SSSI citation based on 1983/84-1989/90 count data |

[5] Northumberland Marine SPA overlaps both survey areas but is designated for its breeding seabird assemblage and is therefore not directly relevant to this report.

## 3.2 Field Survey

A total of 44 waterbird and gull species were recorded during the surveys with 37 species observed at Cambois Beach and 31 species observed at the Sleekburn.

- A total of seven species are specially protected under Schedule 1 of the Wildlife and Countryside Act (1981) (as amended);
- A total of five species are listed on Annex 1 of the EC Birds Directive;
- Twelve species are red listed birds of conservation concern[6];
- Twenty-one species are amber listed birds of conservation concern; and
- Four species are priority species in England under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

### 3.2.1 Peak Count Data

The peak counts of each species recorded on any single count on each survey date are detailed in Table 3-2 and Table 3-3 for Cambois Beach and the Sleekburn respectively. Species are arranged taxonomically in order. Species related to the Northumbria Coast Ramsar/SPA or the Northumberland Coast SSSI are highlighted in **bold**.

[6] Stanbury *et al*., 2021 The Status of our bird populations: the 5th Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. *British Birds 114; 723-747.*

## Table 3-2: Peak counts of waterbird species recorded at Cambois Beach on each survey date

| Species | 17/10/22 | 30/10/22 | 11/11/22 | 24/11/22 | 08/12/22 | 23/12/22 | 06/01/23 | 24/1/23 | 07/02/22 | 28/02/22 | 07/03/23 | 24/03/23 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Shelduck *Tadorna tadorna* | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 |
| Wigeon *Anas Penelope* | 0 | 0 | 0 | 0 | 0 | 38 | 82 | 77 | 70 | 11 | 7 | 12 |
| Mallard *Anas platyrhynchos* | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 3 | 0 | 0 | 0 |
| Teal *Anas crecca* | 0 | 5 | 0 | 0 | 0 | 11 | 64 | 0 | 4 | 0 | 10 | 4 |
| **Eider** | **1** | **3** | **5** | **3** | **0** | **3** | **3** | **3** | **2** | **5** | **5** | **4** |
| Common scoter *Melanitta nigra* | 8 | 3 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Goldeneye *Bucephala clangula* | 0 | 1 | 3 | 0 | 2 | 0 | 6 | 0 | 0 | 0 | 0 | 0 |
| Red-breasted merganser *Mergus serrator* | 4 | 2 | 2 | 4 | 2 | 4 | 2 | 2 | 2 | 2 | 0 | 1 |
| Goosander *Mergus merganser* | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Red-throated diver *Gavia stellata* | 2 | 5 | 3 | 1 | 1 | 0 | 3 | 2 | 1 | 1 | 1 | 1 |
| Black-throated diver *Gavia arctica* | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Great northern diver *Gavia immer* | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Great-crested grebe *Podiceps cristatus* | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Cormorant *Phalacrocorax carbo* | 2 | 3 | 0 | 3 | 1 | 2 | 0 | 0 | 0 | 1 | 0 | 0 |
| Shag *Phalacrocorax aristotelis* | 0 | 0 | 5 | 1 | 2 | 4 | 7 | 11 | 15 | 1 | 1 | 1 |
| Grey heron *Ardea cinerea* | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| **Oystercatcher** | **3** | **4** | **4** | **6** | **3** | **10** | **6** | **7** | **7** | **21** | **1** | **7** |
| Grey plover *Plvialis squatarola* | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 |
| Whimbrel *Numenius phaeopus* | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 |

| Species | 17/10/22 | 30/10/22 | 11/11/22 | 24/11/22 | 08/12/22 | 23/12/22 | 06/01/23 | 24/1/23 | 07/02/22 | 28/02/22 | 07/03/23 | 24/03/23 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Curlew** | **0** | **0** | **0** | **3** | **0** | **8** | **12** | **8** | **5** | **11** | **5** | **7** |
| **Bar-tailed godwit** | **0** | **0** | **0** | **0** | **0** | **1** | **7** | **0** | **2** | **0** | **0** | **0** |
| Black-tailed godwit *Limosa limosa* | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| **Turnstone** | **0** | **6** | **2** | **3** | **4** | **4** | **2** | **0** | **0** | **0** | **0** | **2** |
| **Sanderling** | **0** | **0** | **0** | **0** | **0** | **11** | **0** | **6** | **10** | **0** | **2** | **0** |
| **Dunlin** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **9** | **0** | **0** | **0** | **0** |
| **Purple sandpiper** | **0** | **0** | **0** | **0** | **3** | **3** | **1** | **3** | **0** | **0** | **0** | **0** |
| **Redshank** | **0** | **0** | **0** | **0** | **0** | **3** | **2** | **0** | **0** | **0** | **0** | **1** |
| Grey phalarope *Phalaropus fulicarius* | 6 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 |
| Black-headed gull *Chroicocephalus ridibundus* | 4 | 1 | 20 | 7 | 64 | 15 | 19 | 16 | 80 | 0 | 2 | 0 |
| Herring gull *Larus argentatus* | 17 | 10 | 70 | 13 | 31 | 12 | 20 | 16 | 15 | 0 | 6 | 0 |
| Lesser black-backed gull *Larus fuscus* | 0 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Great black-backed gull *Larus marinus* | 1 | 5 | 10 | 0 | 1 | 3 | 8 | 3 | 4 | 0 | 0 | 0 |
| Common gull *Larus canus* | 2 | 4 | 20 | 3 | 11 | 9 | 0 | 14 | 10 | 0 | 3 | 0 |
| Little gull *Hydrocoloeus minutus* | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Guillemot *Uria aalge* | 6 | 4 | 1 | 3 | 0 | 0 | 7 | 0 | 0 | 0 | 1 | 0 |
| Razorbill *Alca torda* | 7 | 2 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Puffin *Fratercula arctica* | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## Table 3-3: Peak counts of waterbird species recorded at the Sleekburn on each survey date

| Species | 11/11/22 | 25/11/22 | 07/12/22 | 22/12/22 | 05/01/23 | 23/01/23 | 07/02/22 | 27/02/22 | 06/03/23 | 23/03/23 |
|---|---|---|---|---|---|---|---|---|---|---|
| Mute swan *Cygnus olor* | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| Brent goose *Branta bernicla* | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Shelduck | 0 | 0 | 4 | 6 | 7 | 24 | 19 | 20 | 24 | 21 |
| Wigeon | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| Gadwall *Anas strepera* | 0 | 6 | 16 | 23 | 24 | 12 | 14 | 8 | 6 | 9 |
| Mallard | 0 | 7 | 10 | 4 | 10 | 4 | 2 | 2 | 4 | 3 |
| Teal | 36 | 13 | 20 | 21 | 47 | 21 | 27 | 10 | 17 | 9 |
| **Eider** | **0** | **1** | **5** | **2** | **0** | **2** | **4** | **3** | **3** | **2** |
| Goldeneye | 0 | 0 | 0 | 0 | 1 | 4 | 1 | 0 | 0 | 0 |
| Red-breasted merganser | 11 | 13 | 1 | 7 | 1 | 5 | 3 | 0 | 0 | 3 |
| Red-throated diver | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Little grebe *Tachybaptus ruficollis* | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 |
| Cormorant | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Grey heron | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Little egret *Egretta garzetta* | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| **Oystercatcher** | **26** | **43** | **34** | **10** | **20** | **4** | **37** | **16** | **2** | **7** |
| **Ringed plover** | **0** | **0** | **0** | **0** | **0** | **5** | **0** | **0** | **0** | **0** |
| Grey plover | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 |
| **Curlew** | **21** | **38** | **43** | **4** | **22** | **11** | **15** | **25** | **8** | **10** |

| **Species** | 11/11/22 | 25/11/22 | 07/12/22 | 22/12/22 | 05/01/23 | 23/01/23 | 07/02/22 | 27/02/22 | 06/03/23 | 23/03/23 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Bar-tailed godwit** | **0** | **2** | **2** | **0** | **4** | **1** | **1** | **1** | **0** | **0** |
| Black-tailed godwit | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Turnstone** | **0** | **0** | **0** | **1** | **0** | **0** | **0** | **0** | **0** | **0** |
| Woodcock *Scolopax rusticola* | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Dunlin** | **3** | **7** | **3** | **5** | **3** | **2** | **0** | **0** | **1** | **8** |
| **Redshank** | **38** | **14** | **48** | **59** | **70** | **54** | **85** | **17** | **50** | **23** |
| Black-headed gull | Present in mixed gull flock of 200, not counted individually | 40 | 1 | 3 | 7 | 26 | 43 | 20 | 0 | 0 |
| Herring gull | Present in mixed gull flock of 250, not counted individually | 7 | 32 | 15 | 10 | 33 | 17 | 0 | 11 | 0 |
| Lesser black-backed gull | Present in mixed gull flock of 250, not counted individually | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Great black-backed gull | Present in mixed gull flock of 250, not counted individually | 1 | 9 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| Common gull | Present in mixed gull flock of 250, not counted individually | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 |
| Guillemot | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

### 3.2.2 Disturbance Events

A total of 3,007 potential disturbance events were logged at Cambois Beach over the course of the surveys while 20 disturbance events were recorded at the Sleekburn. At both locations walkers and dogs were the most frequent type of disturbance recorded.

**Table 3-4: Type of disturbance event and number of occurrences at Cambois Beach**

| Activity | Count of activity during bird surveys | | | | | |
|---|---|---|---|---|---|---|
| | October | November | December | January | February | March |
| Walkers[7] | 176 | 364 | 271 | 337 | 256 | 166 |
| Dogs | 157 | 182 | 309 | 369 | 270 | 141 |
| Anglers | 4 | 0 | 0 | 0 | 0 | 0 |
| Bait diggers | 0 | 0 | 0 | 0 | 0 | 0 |
| Shell-fishers | 0 | 0 | 0 | 0 | 0 | 0 |
| Vehicles | 0 | 0 | 0 | 0 | 0 | 0 |
| Unpowered boats | 0 | 0 | 0 | 2 | 0 | 0 |
| Powered boats | 0 | 0 | 0 | 0 | 0 | 0 |
| Aircraft | 0 | 0 | 0 | 0 | 0 | 0 |
| Other | 0 | 0 | 2 | 0 | 1 | 0 |

**Table 3-5: Type of disturbance event and number of occurrences at the Sleekburn**

| Activity | Count of activity during tidal bird surveys | | | | |
|---|---|---|---|---|---|
| | November | December | January | February | March |
| Walkers | 3 | 2 | 0 | 2 | 1 |
| Dogs | 2 | 2 | 0 | 3 | 1 |
| Anglers | 0 | 0 | 0 | 0 | 0 |
| Bait diggers | 3 | 0 | 0 | 0 | 0 |
| Shell-fishers | 0 | 0 | 0 | 0 | 0 |
| Vehicles | 1 | 0 | 0 | 0 | 0 |
| Unpowered boats | 0 | 0 | 0 | 0 | 0 |
| Powered boats | 0 | 0 | 0 | 0 | 0 |
| Aircraft | 0 | 0 | 0 | 0 | 0 |
| Other | 0 | 0 | 0 | 0 | 0 |

[7] Total includes walkers with and without dogs.

### 3.2.3 Species Accounts

Summary accounts of the behaviours, numbers and distribution for species associated with the nearby designated sites, as outlined in Section 3.1, are provided below. No records of the SSSI species golden plover, lapwing or knot were made during the surveys. Analyses of the most frequently displayed behaviour types are based on the number of flocks or individuals observed exhibiting that behaviour. Flocks and individuals of a single species may have been recorded more than once during a single survey period where they were displaying different behaviours and/or were distributed in different locations within the same survey area.

#### Turnstone

**Cambois Beach** – Small groups of turnstones were recorded during seven surveys, with 15 sightings noted. Group size was small, with a maximum count of six individuals, and 80% of sightings were noted during the low-mid tidal cycle. Birds were recorded foraging in all but one sighting, where loafing and maintenance behaviours were noted instead. Roosting was also frequently observed (60%) of small numbers of birds. Birds were recorded to the south-east of the survey area. The larger cluster of birds occurred outwith the survey area (Figure 1.37).

**Sleekburn** – Turnstone was only observed during one survey on the 22nd of December with two sightings noted on the Sleekburn and the River Blyth. Individual birds were recorded during the low-mid tidal cycle, with foraging and roosting behaviours noted in both instances.

#### Purple Sandpiper

**Cambois Beach** – Small numbers of purple sandpiper were recorded during four surveys, with a total of ten sightings noted. Between one and three individuals were recorded with all but one sighting observed during the low-mid tidal cycle. Birds were recorded foraging on all sightings and were also noted roosting during 80% of the sightings. Purple sandpiper were noted outwith of the survey area to the south-east where they were noted on 'The Rockers'; a small cluster of rocks available for roosting and feeding during low-mid tidal cycles only (Figure 1.27).

**Sleekburn** – No records were made at this location.

#### Sanderling

**Cambois Beach** – Small flocks of between two and 11 birds were recorded on four surveys with 14 sightings observed. Observations were split evenly between the low-mid tidal cycle and the mid-high cycle. 85% of records were of foraging birds, while single records of roosting and loafing behaviour were also noted. Sanderling had a widespread but scattered distribution along Cambois beach (Figure 1.33).

**Sleekburn** – No records were made at this location.

#### Redshank

**Cambois Beach** – Low numbers of between one and three individuals were noted on three survey visits with a total of five sightings all of which occurred during the low-mid tidal cycle. Foraging behaviours were observed during each sighting while roosting was noted on two occasions. Redshank were noted outwith of the survey area to the south-east on 'The Rockers' (Figure 1.31).

**Sleekburn** – Redshank were recorded on all surveys with a total of 220 sightings made. Birds were recorded foraging during 202 of these sightings and this behaviour was noted during all tidal cycles. Overall redshank were observed most frequently during the low-mid cycle (55%). Roosting was noted on each survey and occurred around high tide, most frequently during the mid-high tidal cycle. Groups of up to 70 roosting individuals were observed. Redshank were noted along the River Blyth and the highest concentration of birds were noted along the Sleekburn (Figure 1.31).

#### Ringed plover

**Cambois Beach** – No records were made at this location.

**Sleekburn** – A small group of ringed plovers was recorded during one survey on the 23rd of January, with a total of two sightings. Group size consisted of between four and five individuals with only foraging behaviours noted. Records were made during low -mid and mid-high tidal cycles. Birds were noted at the meeting point of the Sleekburn and River Blyth on mudflats (Figure 1.32).

### Curlew

**Cambois Beach** – Curlew were noted on eight surveys with 42 sightings counted. Group size was between one and 12 individuals with foraging the most frequent behaviour noted. Roosting behaviour was noted on 10% of sightings with a maximum of five individuals observed roosting on three survey visits in November and March. Curlew were present within the survey area during each tidal cycle with a roughly even split between the cycles. Curlew were most commonly recorded feeding in the fields northwest of Cambois and they were also noted on occasion in the south-east of the survey area along Cambois beach (Figure 1.8).

**Sleekburn** - Curlew were noted on all surveys with 158 sightings observed. Curlew were present in moderate numbers throughout the season with a peak of 43 individuals counted on the 7th of December. Site use favoured the low-mid tidal cycle with birds most frequently observed foraging during this period. 64% of sightings were made during the low-mid cycle, with 23% observed during the mid-high cycle. Foraging was noted on all sightings bar three, loafing and roosting behaviours were also noted but much less frequently. Small numbers of roosting curlew (4-15) were noted mostly commonly during the mid-high tidal cycle. Curlew were noted to the south of the survey area, along the Sleekburn and the River Blyth (Figure 1.8).

### Oystercatcher

**Cambois Beach** – Oystercatcher was recorded on every survey with 55 sightings noted. Group size averaged approximately 6 birds, though a peak of 21 individuals was noted on the 7th of March. Birds were recorded foraging during 69% of sightings, roosting during 40% and maintenance and loafing were noted on two occasions. Small numbers (1-6) of roosting birds were recorded during most of the survey visits. Oystercatcher were widespread across the locality and noted mainly along the coast though they were also noted on occasion feeding inland in fields (Figure 1.25).

**Sleekburn** – Small to moderate sized groups of oystercatchers were recorded on each survey with 117 sightings noted. A maximum count of 43 birds was counted on the 25th of November. 103 observations of foraging were made, 27 of roosting behaviour and 11 of loafing. 58% of observations were made during the low-mid tidal cycle while 32% of observations were made during the mid-high cycle. Up to 26 birds were observed roosting and this behaviour was more common closer to higher tide. Oystercatcher distribution was focused along the Sleekburn and River Blyth (Figure 1.25).

### Dunlin

**Cambois Beach** – Dunlin were recorded on one survey on the 24th of January with two sightings noted. Group size was between three and nine and a mix of foraging, roosting and loafing behaviours were noted. The groups were noted once at low-mid and once at mid-high tidal cycles. Figure 1.9 shows their distribution which falls outwith of the survey area to the south-east on 'The Rockers'.

**Sleekburn** - Dunlin were noted on eight surveys with 20 sightings counted. Group size was small with between one and eight birds recorded. 85% of dunlin records were made during the low-mid tidal cycle, with the remainder made during the mid-high cycle. Behaviour comprised mainly foraging, which was recorded during each sighting, roosting (31%) and loafing (10%) behaviours were also noted. Individual birds were observed roosting during mid-high cycle, while small groups (1-7) were noted roosting during the low-mid cycle. A scattered distribution was noted along the Sleekburn with a greater concentration noted on the mudflats around the River Blyth to the southeast (Figure 1.9).

### Bar-tailed godwit

**Cambois Beach** – Bar-tailed godwits were recorded on three surveys with nine sightings noted. Foraging was the only behaviour observed while 66% of records were made during the mid-high tidal cycle and 33% during the low-mid cycle. Group size was small with between one and seven birds noted. From this location birds were only noted within the fields to the northwest of Cambois (Figure 1.2).

**Sleekburn** – Bar-tailed godwits were recorded on six of the surveys with 20 sightings noted. Foraging was recorded during every sighting though some roosting (10%) behaviours were also observed. Individual birds were observed roosting on two occasions in November and February during the low-mid tidal cycle. 75% of the sightings were made during the low-mid tidal cycle, with 12.5% noted during the mid-high and 12.5% noted during the mid-low cycles. A maximum of four birds were seen at any one time. Sightings were almost exclusively recorded on the mudflats along the Sleekburn (Figure 1.2).

### Eider

**Cambois Beach** – Eider was recorded on 11 surveys with 38 sightings of small numbers of eider (1-5). Loafing was the primary behaviour recorded and was noted on all but two sightings. Foraging was recorded during 23% of sightings and roosting during 9% of sightings. All birds were noted on the sea along the coast off Cambois beach (Figure 1.10).

**Sleekburn** – Eider was noted on eight surveys with 28 sightings of small groups of one-five birds. Loafing birds were recorded during 82% of sightings, with roosting noted during 18% of sightings and foraging during 14%. Birds were distributed to the south of the survey area within the Sleekburn and more commonly in the River Blyth (Figure 1.10).

# 4.0 Discussion

## 4.1 Peak Counts in relation to Nearby Designated Site Populations

By way of providing context to the results of the survey, the peak counts of bird species representing qualifying features for the Northumbria Coast SPA/Ramsar or referred to in the citation for the Northumberland Shore SSSI are presented alongside the peak counts for the relevant designated sites (taken from the designated site citations), for each survey area (Table 4-1: Comparison of peak counts from Cambois Beach and the Sleekburn with qualifying populations from nearby designated sites). It should be noted, however, that the over-wintering population counts included in the designated site citations date from 1992/3-1996/7 and 1983/4 -1989/90 respectively for the designated sites. It is highly likely that the over-wintering populations of the qualifying or notable species has declined since these counts were undertaken, therefore those figures should be treated with caution.

More recent WeBS data (2017/18 – 2021/22) were therefore obtained to provide more up-to-date information on the relevant species populations within both designated sites. The WeBS count data (winter mean peak counts) are also presented in Table 4-1.

The figures outlined below are based on the assumption that all birds recorded within the survey area potentially form part of the relevant designated site populations. Given the close proximity of both designated sites to the survey area it is reasonable to assume that majority of the birds recorded during the survey form part of the qualifying or notified populations, even where recorded outside the relevant designated site boundary.

The potential importance of the recorded species populations in relation to the relevant designated sites has been determined using the standard '1% criterion' method[8]. Using this, the presence of >1% of the international population of a species is considered internationally important; >1% of the national population is considered nationally important; etc. Using the same principle, any species present in numbers representing >1% of the relevant designated site population is considered to represent a significant proportion of that site's population. Any percentage greater than one is highlighted in bold.

[8] Drewitt, A.L., Whitehead, S. and Cohen, S. 2023. Guidelines for the Selection of Biological SSSIs. Part 2: Detailed Guidelines for Habitats and Species Groups. Chapter 17 Birds (version 1.2). Joint Nature Conservation Committee, Peterborough.

**Table 4-1: Comparison of peak counts from Cambois Beach and the Sleekburn with qualifying populations from nearby designated sites**

| Bird Species | Northumbria Coast SPA/Ramsar Population (Citation) | Northumberland Shore SSSI Population (Citation) | Cambois Beach Peak Count and % of Designated Site Population (Citation) | Sleekburn Peak Count and % of Designated Site Population (Citation) | Northumbria Coast SPA/Ramsar Population (Winter Mean Peak 2017/18-2021/22) | Northumberland Shore SSSI Population (Winter Mean Peak 2017/18-2021/22) | Cambois Beach Peak Count and % of Designated Site Population (2017/18-2021/22) | Sleekburn Peak Count and % of Designated Site Population (2017/18-2021/22) |
|---|---|---|---|---|---|---|---|---|
| Turnstone | 1,739 | 1,300 | 6 (0.34%, 0.46%) | 1 (0.06%, 0.08%) | 782 | 783 | 6 (0.77%, 0.77%) | 1 (0.12%, 0.12%) |
| Purple sandpiper | 787 | 600 | 3 (0.4%) | - | 370 | 400 | 3 (0.8%, 0.75%) | - |
| Sanderling | - | 240 | **11 (4.6%)** | - | - | 671 | **11 (1.64%)** | - |
| Ringed plover | - | 37 | - | **5 (13.5%)** | - | 233 | - | **5 (2.15%)** |
| Redshank | - | 1,100 | 3 (0.3%) | **85 (7.7%)** | - | 1,149 | 3 (0.26%) | **85 (7.3%)** |
| Oyster-catcher | - | 1,000 | **21 (2.1%)** | **43 (4.3%)** | - | 1,399 | **21 (1.5%)** | **43 (3.07%)** |
| Curlew | - | 400 | **12 (3%)** | **43 (10.75%)** | - | 883 | **12 (1.36%)** | **43 (4.87%)** |
| Bar-tailed godwit | - | 150 | **7 (4.6%)** | **4 (2.6%)** | - | 115 | **7 (6.09%)** | **4 (3.48%)** |
| Dunlin | - | 2,000 | 9 (0.45) | 8 (0.4%) | - | 767 | **9 (1.17%)** | **8 (1.04%)** |
| Eider | - | - | 5 | 5 | - | 474 | **5 (1.05%)** | **5 (1.05%)** |

Comparison with the qualifying species for the Northumbria Coast SPA/Ramsar shows the peak counts of turnstone or purple sandpiper do not exceed 1% of the SPA/Ramsar population (based on both the citation population and most recent WeBS count data) at either location. WeBS data indicates that both turnstone and purple sandpiper populations within the SPA/Ramsar are declining.

For the notified species of Northumberland Shore SSSI at Cambois Beach sanderling exceeds 1% of the SSSI population (based on both the citation population and most recent WeBS count data). The percentage population has reduced between these two count periods from 4.6% to 1.64% as the sanderling population is showing an upward trend within the SSSI. At the Sleekburn, both ringed plover and redshank exceed 1% of the SSSI population (both citation population and most recent WeBS count data). The percentage population figures are lower for the latter count period as like sanderling, both ringed plover and redshank are showing upward trends within the SSSI.

At both locations, peak counts of oystercatcher, curlew, and bar-tailed godwit, which are also referred to in the SSSI citation but are not notified features, exceed 1% of the SSSI population (citation population and most recent WeBS Count data). The WeBS data show a decline in dunlin numbers within the SSSI since the time of the citation, such that the numbers recorded during the surveys now exceed the 1% threshold at both locations, albeit the numbers recorded are relatively small.

Data for eider was not included within the citation for the SSSI, though WeBS count data shows that the peak count of eider at both Cambois Beach and Sleekburn exceeds 1% of the SSSI population.

## 4.2 Species Distribution

Species distributions are shown for all waterbird species within Figures 1.2-1.40. A summary of the key findings for all species combined is also provided below.

At the Cambois Beach survey area, birds were most frequently observed out on sea as the majority of species recorded are sea faring species during the winter months. These species included red-throated diver, common scoter, puffin and shag, along with gull species which were observed regularly loafing out on the sea. Wader species were recorded along the beach within the intertidal area of the site, which provides foraging during winter months, as well as a small cluster of rocks known as 'The Rockers', which provides roosting and foraging during low-mid tidal cycles. Waders were also frequently recorded feeding in fields to the northwest of Cambois village. Waterbirds were very rarely recorded beyond the high tidal zone within close proximity to the site boundary.

At Sleekburn survey area, birds were most frequently recorded on the Sleekburn estuary and the River Blyth, which consist of riverine habitats with tidal mudflats along their shores. These mudflats provide good feeding for wader species during low-mid tidal phases, while the margins also provide roosting habitat for waders during the high tidal phase. To the south-east, at the mouth of the Sleekburn, sea faring species were also recorded including red breasted merganser and eider. Other duck species, particularly shelduck, teal and gadwall, were also frequently sighted along the estuary.

## 4.3 Flock Behaviour

Behaviours noted for the ten species associated with designated sites are detailed in the species accounts in Section 3.2.3 and a brief summary for each location is provided below.

The Cambois Beach survey area provides foraging for coastal wader species, especially during the low tidal cycle. Species were sparsely distributed along the coast, with no particular high concentrations of any waterbird species noted, birds were most frequently recorded along the beach, the fields west of Cambois village and on the rocks southeast of the beach. While roosting behaviour was noted, this was mostly for short periods during foraging activity and no substantial roost of any of these ten species was identified.

The Sleekburn survey area provides more substantial foraging and roosting habitat for these species with higher concentrations of some species noted, such as redshank, oystercatcher and curlew. Foraging was the primary behaviour noted, while roosting redshank and oystercatcher and to a lesser extent curlew were observed quite regularly over the survey period. Whilst foraging behaviour was widespread throughout the survey area, roosting was more concentrated to the southern embankment and mouth of the Sleekburn.

## 4.4 Disturbance Events

A detailed study of disturbance was beyond the scope of this survey, the primary focus of which was to record bird numbers, distribution and activity. However, potential disturbance events were recorded incidentally during the surveys.

Disturbance along Cambois Beach was high with over 3,000 potential disturbance events logged at this location during the course of the surveys. Cambois Beach is popular for recreational activities, primarily walkers and dogs during the winter months.

Disturbance events at the Sleekburn were much fewer with a total of 20 noted. This area is much less popular with locals for walking and provides a much less disturbed area for over-wintering birds.

# FIGURES

429000 430000 431000 432000

585000

584000

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LEGEND

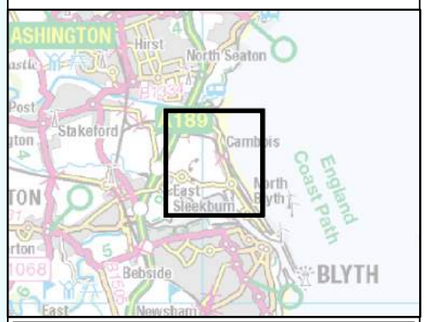
Site Boundary

Feeding Distribution Survey Area

**Overview Distribution (Records/50m$^2$; Total = -)**

Highest Density (8)

Lowest Density (<1)

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CAMBOIS CONNECTION

WINTERING BIRD SURVEY REPORT

**OVERVIEW**

**FIGURE 1.1**

Scale 1:12,500 @ A3

Date JULY 2023

0 250 500

Metres

404.000041.00001.0006.0 Winter Bird Survey Results

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430000
431000
432000
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LEGEND

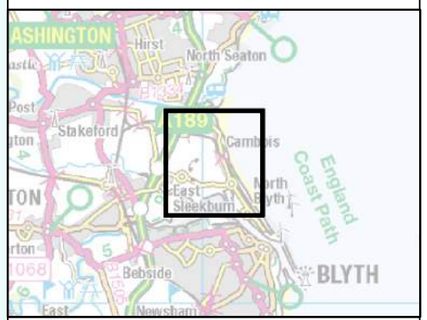
Site Boundary

Feeding Distribution Survey Area

**Eider Distribution**
**(Records/50m$^2$; Total = 171)**

Highest Density (8)

Lowest Density (<1)

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WINTERING BIRD SURVEY REPORT

**EIDER**

**FIGURE 1.10**

| Scale | Date |
|---|---|
| 1:12,500 @ A3 | JULY 2023 |

0 250 500

Metres

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Cambois

High Brockland Farm

Maw Burn

Cow Gut

East Sleekburn

Harbour View

River Blyth

Mount Pleasant Farm

The Rockers

North Blyth

0 250 500

Metres

LEGEND

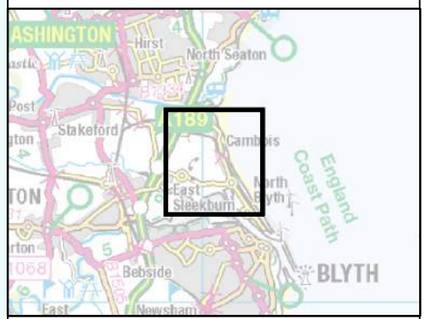
Site Boundary

Feeding Distribution Survey Area

**Gadwall Distribution (Records/50m$^2$; Total = 725)**

Highest Density (8)

Lowest Density (<1)

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WINTERING BIRD SURVEY REPORT

**GADWALL**

**FIGURE 1.11**

Scale 1:12,500 @ A3

Date JULY 2023

404.000041.00001.0006.0 Winter Bird Survey Results

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404.000041.00001.0006.0 Winter Bird Survey Results

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LEGEND

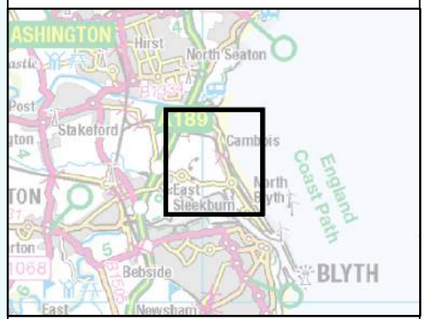
Site Boundary

Feeding Distribution Survey Area

**Goldeneye Distribution (Records/50m$^2$; Total = 53)**

Highest Density (8)

Lowest Density (<1)

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WINTERING BIRD SURVEY REPORT

**GOLDENEYE**

**FIGURE 1.12**

Scale 1:12,500 @ A3

Date JULY 2023

0 250 500

Metres

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584000

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LEGEND

Site Boundary

Feeding Distribution Survey Area

**Goosander Distribution (Records/50m$^2$; Total = 3)**

Highest Density (8)

Lowest Density (<1)

Cambois

High Brockland Farm

Maw Burn

Cow Gut

East Sleekburn

Harbour View

River Blyth

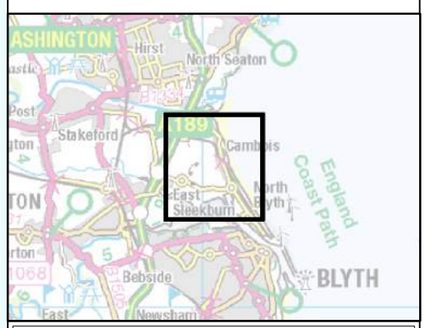
Mount Pleasant Farm

The Rockers

North Blyth

0 250 500

Metres

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WINTERING BIRD SURVEY REPORT

**GOOSANDER**

**FIGURE 1.13**

Scale 1:12,500 @ A3

Date JULY 2023

404.000041.00001.0006.0 Winter Bird Survey Results

429000 430000 431000 432000

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Cambois

High Brockland Farm

Maw Burn

Cow Gut

East Sleekburn

Harbour View

River Blyth

Mount Pleasant Farm

The Rockers

North Blyth

0 250 500

Metres

LEGEND

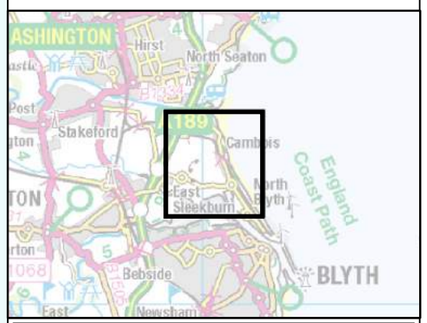
Site Boundary

Feeding Distribution Survey Area

**Great Crested Grebe Distribution (Records/50m$^2$; Total = 2)**

Highest Density (8)

Lowest Density (<1)




404.000041.00001.0006.0 Winter Bird Survey Results

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WINTERING BIRD SURVEY REPORT

**GREAT CRESTED GREBE**

**FIGURE 1.14**

Scale 1:12,500 @ A3

Date JULY 2023

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404.000041.00001.0006.0 Winter Bird Survey Results

N

LEGEND

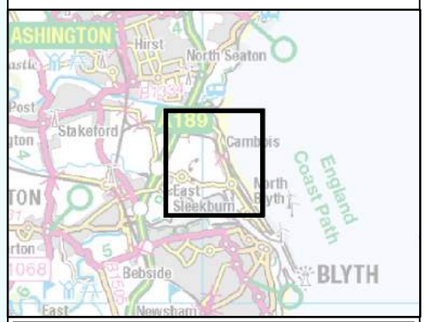
Site Boundary

Feeding Distribution Survey Area

**Great Northern Diver Distribution (Records/50m$^2$; Total = 3)**

Highest Density (8)

Lowest Density (<1)

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WINTERING BIRD SURVEY REPORT

**GREAT NORTHERN DIVER**

**FIGURE 1.15**

Scale 1:12,500 @ A3

Date JULY 2023

0 250 500

Metres

429000 430000 431000 432000

585000

584000

404.000041.00001.0006.0 Winter Bird Survey Results

N

Cambois
High Brockland Farm
Maw Burn
Cow Gut
East Sleekburn
Harbour View
River Blyth
Mount Pleasant Farm
North Blyth

0 250 500
Metres

LEGEND

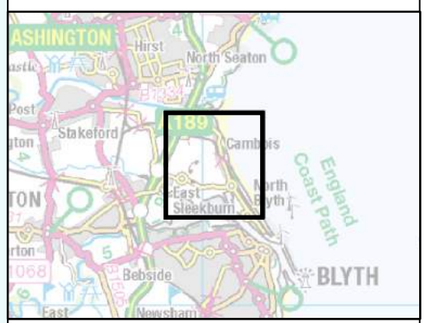
Site Boundary

Feeding Distribution Survey Area

**Grey Heron Distribution (Records/50m$^2$; Total = 16)**

Highest Density (8)

Lowest Density (<1)

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WINTERING BIRD SURVEY REPORT

**GREY HERON**

**FIGURE 1.16**

Scale 1:12,500 @ A3

Date JULY 2023

429000 430000 431000 432000

585000

584000

N

LEGEND

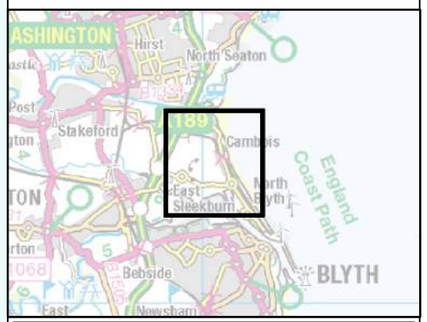
Site Boundary

Feeding Distribution Survey Area

**Grey Phalarope Distribution (Records/50m$^2$; Total = 1)**

Highest Density (8)

Lowest Density (<1)

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WINTERING BIRD SURVEY REPORT

**GREY PHALAROPE**

**FIGURE 1.17**

Scale 1:12,500 @ A3

Date JULY 2023

0 250 500

Metres

404.000041.00001.0006.0 Winter Bird Survey Results

429000 430000 431000 432000

585000

584000

404.000041.00001.0006.0 Winter Bird Survey Results

N

Cambois

High Brockland Farm

Maw Burn

Cow Gut

East Sleekburn

Harbour View

River Blyth

Mount Pleasant Farm

North Blyth

0 250 500

Metres

LEGEND

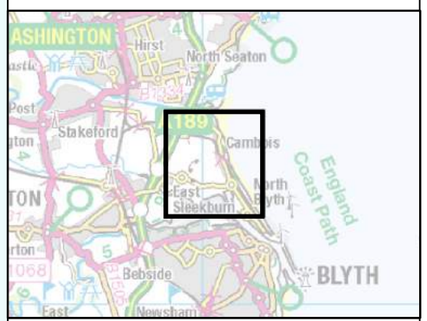
Site Boundary

Feeding Distribution Survey Area

**Grey Plover Distribution (Records/50m$^2$; Total = 33)**

Highest Density (8)

Lowest Density (<1)

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WINTERING BIRD SURVEY REPORT

**GREY PLOVER**

**FIGURE 1.18**

Scale 1:12,500 @ A3

Date JULY 2023

429000 430000 431000 432000

585000

584000

N

LEGEND

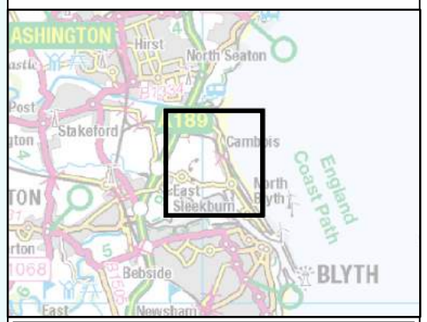
Site Boundary

Feeding Distribution Survey Area

**Guillemot Distribution (Records/50m$^2$; Total = 42)**

Highest Density (8)

Lowest Density (<1)

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CAMBOIS CONNECTION

WINTERING BIRD SURVEY REPORT

**GUILLEMOT**

**FIGURE 1.19**

Scale 1:12,500 @ A3

Date JULY 2023

0 250 500

Metres

404.000041.00001.0006.0 Winter Bird Survey Results

429000 430000 431000 432000

585000

584000

N

LEGEND

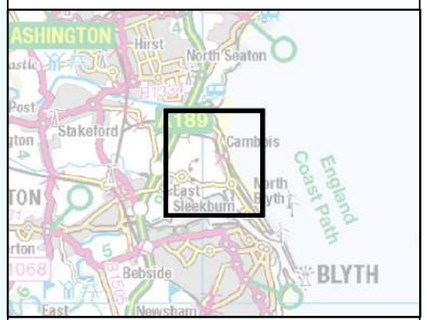
Site Boundary

Feeding Distribution Survey Area

**Bar-tailed Godwit Distribution (Records/50m$^2$; Total = 52)**

Highest Density (8)

Lowest Density (<1)

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WINTERING BIRD SURVEY REPORT

**BAR-TAILED GODWIT**

**FIGURE 1.2**

Scale 1:12,500 @ A3

Date JULY 2023

0 250 500

Metres

404.000041.00001.0006.0 Winter Bird Survey Results

429000 430000 431000 432000

585000

584000

N

Cambois

High Brocklend Farm

Maw Burn

Cow Gut

East Sleekburn

Harbour View

River Blyth

Mount Pleasant Farm

The Rockers

North Blyth

0 250 500

Metres

LEGEND

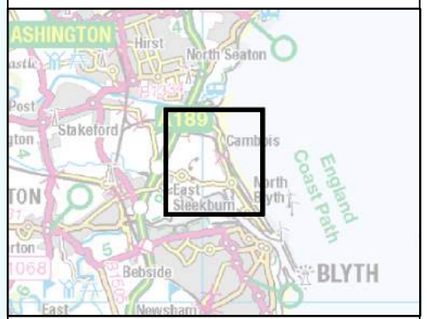
Site Boundary

Feeding Distribution Survey Area

**Little Egret Distribution (Records/50m$^2$; Total = 1)**

Highest Density (8)

Lowest Density (<1)

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CAMBOIS CONNECTION

WINTERING BIRD SURVEY REPORT

**LITTLE EGRET**

**FIGURE 1.20**

Scale 1:12,500 @ A3

Date JULY 2023

404.000041.00001.0006.0 Winter Bird Survey Results

429000 430000 431000 432000

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584000

404.000041.00001.0006.0 Winter Bird Survey Results

N

LEGEND

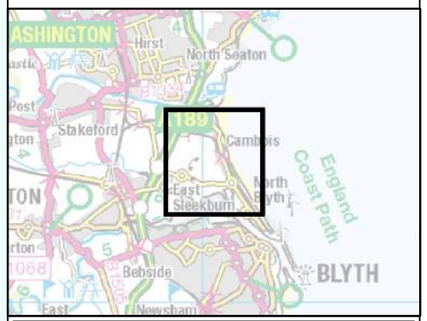
Site Boundary

Feeding Distribution Survey Area

**Little Grebe Distribution (Records/50m$^2$; Total = 9)**

Highest Density (8)

Lowest Density (<1)

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WINTERING BIRD SURVEY REPORT

**LITTLE GREBE**

**FIGURE 1.21**

Scale 1:12,500 @ A3

Date JULY 2023

0 250 500

Metres

429000 430000 431000 432000

585000

584000

N

LEGEND

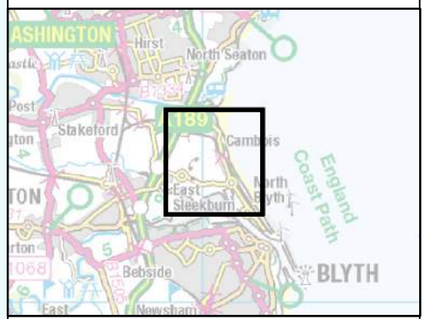
Site Boundary

Feeding Distribution Survey Area

**Little Gull Distribution (Records/50m$^2$; Total = 3)**

Highest Density (8)

Lowest Density (<1)

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WINTERING BIRD SURVEY REPORT

**LITTLE GULL**

**FIGURE 1.22**

Scale 1:12,500 @ A3

Date JULY 2023

0 250 500

Metres

404.000041.00001.0006.0 Winter Bird Survey Results

429000 430000 431000 432000

585000

584000

N

Cambois

High Brockland Farm

Maw Burn

Cow Gut

East Sleekburn

Harbour View

River Blyth

Mount Pleasant Farm

The Rockers

North Blyth

0 250 500

Metres

LEGEND

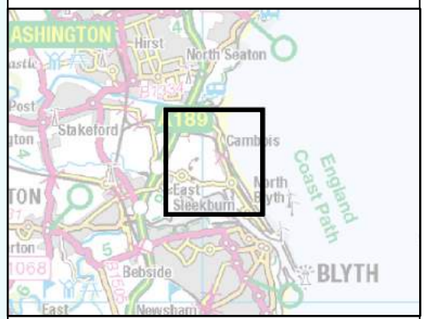
Site Boundary

Feeding Distribution Survey Area

**Mallard Distribution (Records/50m$^2$; Total = 182)**

Highest Density (8)

Lowest Density (<1)

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WINTERING BIRD SURVEY REPORT

**MALLARD**

**FIGURE 1.23**

Scale 1:12,500 @ A3

Date JULY 2023

404.000041.00001.0006.0 Winter Bird Survey Results

429000 430000 431000 432000

585000

584000

N

LEGEND

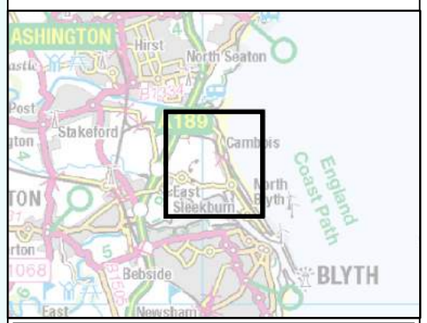
Site Boundary

Feeding Distribution Survey Area

**Mute Swan Distribution (Records/50m$^2$; Total = 6)**

Highest Density (8)

Lowest Density (<1)

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CAMBOIS CONNECTION

WINTERING BIRD SURVEY REPORT

**MUTE SWAN**

**FIGURE 1.24**

Scale 1:12,500 @ A3

Date JULY 2023

0 250 500

Metres

404.000041.00001.0006.0 Winter Bird Survey Results

429000 430000 431000 432000

585000

584000

404.000041.00001.0006.0 Winter Bird Survey Results

N

Cambois
High Brockland Farm
Maw Burn
Cow Gut
East Sleekburn
Harbour View
River Blyth
Mount Pleasant Farm
North Blyth

0 250 500
Metres

LEGEND

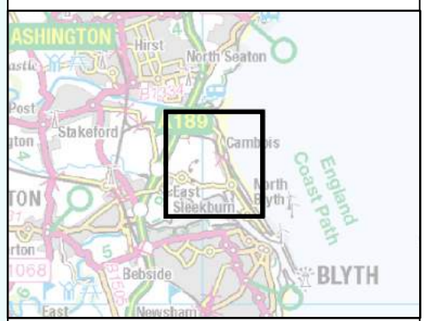
Site Boundary

Feeding Distribution Survey Area

**Oystercatcher Distribution (Records/50m$^2$; Total = 775)**

Highest Density (8)

Lowest Density (<1)

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WINTERING BIRD SURVEY REPORT

**OYSTERCATCHER**

**FIGURE 1.25**

Scale 1:12,500 @ A3

Date JULY 2023

429000 430000 431000 432000

585000

584000

404.000041.00001.0006.0 Winter Bird Survey Results

N

Cambois
High Brockland Farm
Maw Burn
Cow Gut
East Sleekburn
Harbour View
River Blyth
Mount Pleasant Farm
The Rockers
North Blyth
Turning Basin

0 250 500
Metres

LEGEND

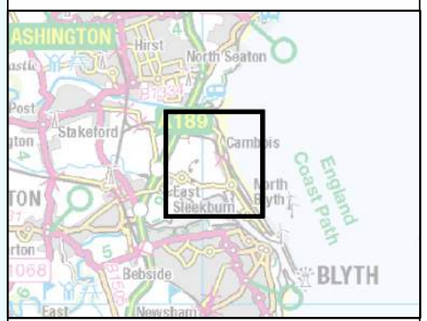
Site Boundary

Feeding Distribution Survey Area

**Puffin Distribution (Records/50m$^2$; Total = 9)**

Highest Density (8)

Lowest Density (<1)

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WINTERING BIRD SURVEY REPORT

**PUFFIN**

**FIGURE 1.26**

Scale 1:12,500 @ A3

Date JULY 2023

429000 430000 431000 432000

585000

584000

N

LEGEND

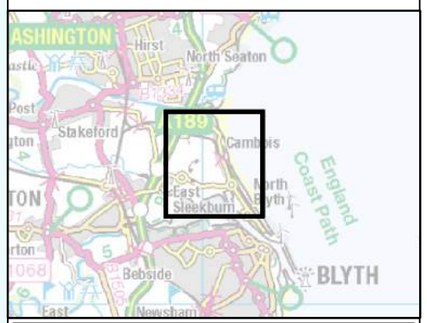
Site Boundary

Feeding Distribution Survey Area

**Purple Sandpiper Distribution (Records/50m$^2$; Total = 17)**

Highest Density (8)

Lowest Density (<1)

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CAMBOIS CONNECTION

WINTERING BIRD SURVEY REPORT

**PURPLE SANDPIPER**

**FIGURE 1.27**

Scale 1:12,500 @ A3

Date JULY 2023

0 250 500

Metres

404.000041.00001.0006.0 Winter Bird Survey Results

429000 430000 431000 432000

585000

584000

N

LEGEND

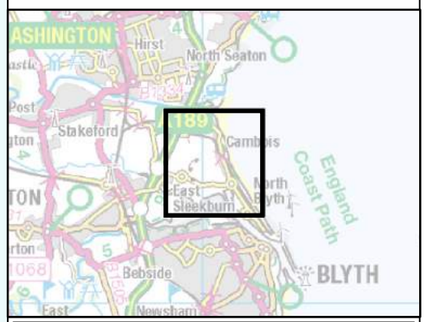
Site Boundary

Feeding Distribution Survey Area

**Razorbill Distribution (Records/50m$^2$; Total = 21)**

Highest Density (8)

Lowest Density (<1)

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WINTERING BIRD SURVEY REPORT

**RAZORBILL**

**FIGURE 1.28**

Scale 1:12,500 @ A3

Date JULY 2023

0 250 500

Metres

404.000041.00001.0006.0 Winter Bird Survey Results

429000 430000 431000 432000

585000

584000

N

LEGEND

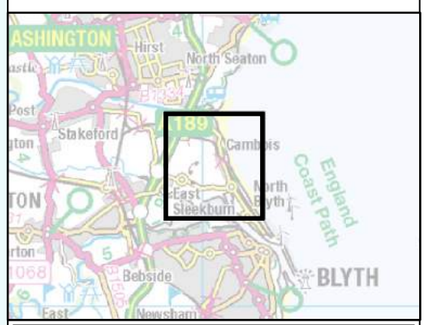
Site Boundary

Feeding Distribution Survey Area

**Red breasted Merganser Distribution (Records/50m$^2$; Total = 217)**

Highest Density (8)

Lowest Density (<1)

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CAMBOIS CONNECTION

WINTERING BIRD SURVEY REPORT

**RED BREASTED MERGANSER**

**FIGURE 1.29**

Scale 1:12,500 @ A3

Date JULY 2023

0 250 500

Metres

404.000041.00001.0006.0 Winter Bird Survey Results

429000 430000 431000 432000

585000

584000

404.000041.00001.0006.0 Winter Bird Survey Results

N

LEGEND

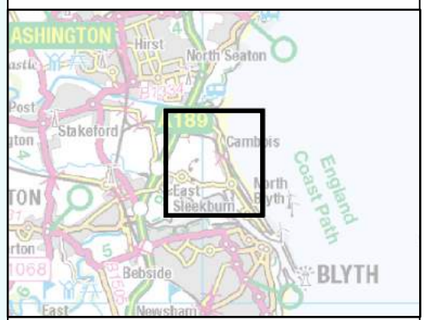
Site Boundary

Feeding Distribution Survey Area

**Black-tailed Godwit Distribution (Records/50m$^2$; Total = 10)**

Highest Density (8)

Lowest Density (<1)

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CAMBOIS CONNECTION

WINTERING BIRD SURVEY REPORT

**BLACK-TAILED GODWIT**

**FIGURE 1.3**

Scale 1:12,500 @ A3

Date JULY 2023

0 250 500

Metres

429000
430000
431000
432000
585000
584000
404.000041.00001.0006.0 Winter Bird Survey Results

N

Cambois
High Brockland Farm
Maw Burn
Cow Gut
East Sleekburn
Harbour View
River Blyth
Mount Pleasant Farm
The Rockers
North Blyth
Turning Basin

0 250 500
Metres

LEGEND

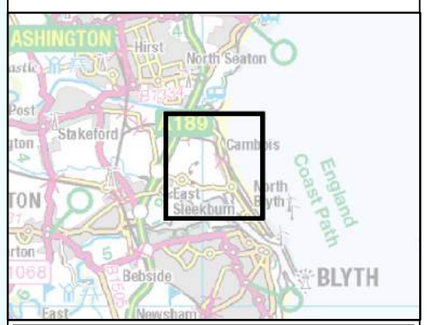
Site Boundary

Feeding Distribution Survey Area

**Red-throated Diver Distribution (Records/50m$^2$; Total = 121)**

Highest Density (8)

Lowest Density (<1)

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CAMBOIS CONNECTION

WINTERING BIRD SURVEY REPORT

**RED-THROATED DIVER**

**FIGURE 1.30**

| Scale | Date |
|---|---|
| 1:12,500 @ A3 | JULY 2023 |

429000 430000 431000 432000

585000

584000

404.000041.00001.0006.0 Winter Bird Survey Results

N

Cambois
High Brockland Farm
Maw Burn
Cow Gut
East Sleekburn
Harbour View
River Blyth
Mount Pleasant Farm
North Blyth
Turning Basin

0 250 500
Metres

LEGEND

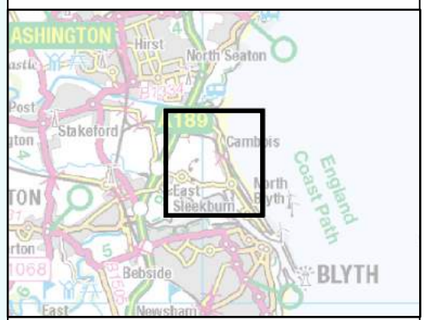
Site Boundary

Feeding Distribution Survey Area

**Redshank Distribution (Records/50m$^2$; Total = 2201)**

Highest Density (8)

Lowest Density (<1)

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WINTERING BIRD SURVEY REPORT

**REDSHANK**

**FIGURE 1.31**

Scale 1:12,500 @ A3

Date JULY 2023

429000 430000 431000 432000

585000

584000

N

LEGEND

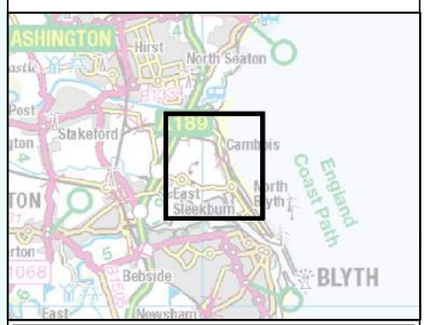
Site Boundary

Feeding Distribution Survey Area

**Ringed Plover Distribution (Records/50m$^2$; Total = 9)**

Highest Density (8)

Lowest Density (<1)

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WINTERING BIRD SURVEY REPORT

**RINGED PLOVER**

**FIGURE 1.32**

Scale 1:12,500 @ A3

Date JULY 2023

0 250 500

Metres

404.000041.00001.0006.0 Winter Bird Survey Results

429000 430000 431000 432000

585000

584000

N

Cambois

High Brockland Farm

Maw Burn

Cow Gut

East Sleekburn

Harbour View

River Blyth

Mount Pleasant Farm

The Rockers

North Blyth

Turning Basin

0 250 500

Metres

LEGEND

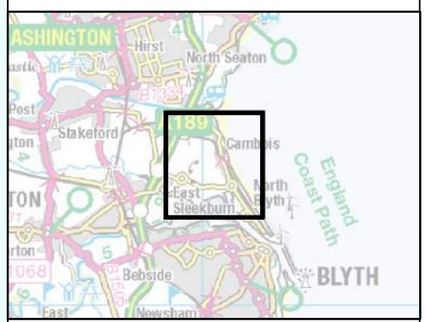
Site Boundary

Feeding Distribution Survey Area

**Sanderling Distribution (Records/50m$^2$; Total = 60)**

Highest Density (8)

Lowest Density (<1)

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WINTERING BIRD SURVEY REPORT

**SANDERLING**

**FIGURE 1.33**

Scale 1:12,500 @ A3

Date JULY 2023

404.000041.00001.0006.0 Winter Bird Survey Results

429000 430000 431000 432000

585000

584000

404.000041.00001.0006.0 Winter Bird Survey Results

N

Cambois
High Brockland Farm
Maw Burn
Cow Gut
East Sleekburn
Harbour View
River Blyth
Mount Pleasant Farm
North Blyth
Turning Basin

0 250 500
Metres

LEGEND

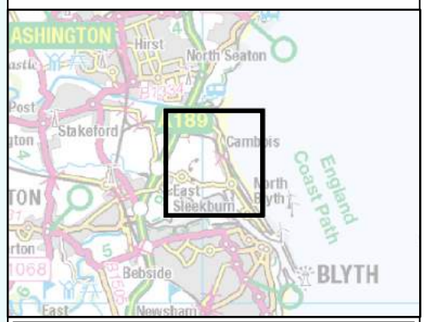
Site Boundary

Feeding Distribution Survey Area

**Shag Distribution (Records/50m$^2$; Total = 161)**

Highest Density (8)

Lowest Density (<1)

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CAMBOIS CONNECTION

WINTERING BIRD SURVEY REPORT

**SHAG**

**FIGURE 1.34**

Scale 1:12,500 @ A3

Date JULY 2023

429000 430000 431000 432000

585000

584000

N

LEGEND

Site Boundary

Feeding Distribution Survey Area

**Shelduck Distribution (Records/50m$^2$; Total = 460)**

Highest Density (8)

Lowest Density (<1)

Cambois

High Brockland Farm

Maw Burn

Cow Gut

East Sleekburn

Harbour View

River Blyth

Mount Pleasant Farm

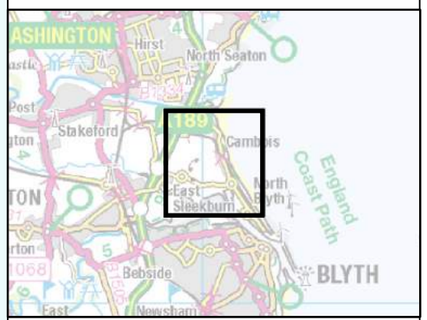
The Rockers

North Blyth

Turning Basin

0 250 500

Metres

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CAMBOIS CONNECTION

WINTERING BIRD SURVEY REPORT

**SHELDUCK**

**FIGURE 1.35**

Scale 1:12,500 @ A3

Date JULY 2023

404.000041.00001.0006.0 Winter Bird Survey Results

429000 430000 431000 432000

585000

584000

N

Cambois

High Brockland Farm

Maw Burn

Cow Gut

East Sleekburn

Harbour View

River Blyth

Mount Pleasant Farm

The Rockers

North Blyth

Education Facility

0 250 500

Metres

LEGEND

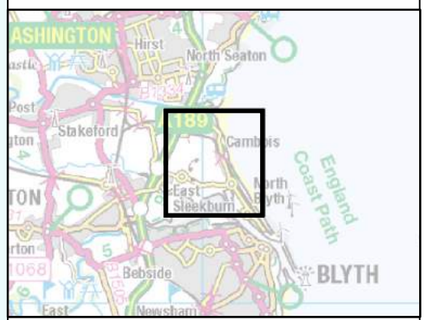
Site Boundary

Feeding Distribution Survey Area

**Teal Distribution (Records/50m$^2$; Total = 2117)**

Highest Density (8)

Lowest Density (<1)

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CAMBOIS CONNECTION

WINTERING BIRD SURVEY REPORT

**TEAL**

**FIGURE 1.36**

| Scale | Date |
|---|---|
| 1:12,500 @ A3 | JULY 2023 |

404.000041.00001.0006.0 Winter Bird Survey Results

429000 430000 431000 432000

585000

584000

Cambois
High Brockland Farm
Maw Burn
Cow Gut
East Sleekburn
Harbour View
River Blyth
Mount Pleasant Farm
North Blyth

N

LEGEND

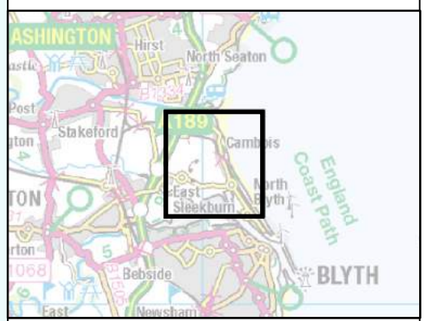
Site Boundary

Feeding Distribution Survey Area

**Turnstone Distribution (Records/50m$^2$; Total = 36)**

Highest Density (8)

Lowest Density (<1)




0 250 500

Metres

404.000041.00001.0006.0 Winter Bird Survey Results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WINTERING BIRD SURVEY REPORT

**TURNSTONE**

**FIGURE 1.37**

Scale 1:12,500 @ A3

Date JULY 2023

429000 430000 431000 432000

585000

584000

N

Cambois

High Brockland Farm

Maw Burn

Cow Gut

East Sleekburn

Harbour View

River Blyth

Mount Pleasant Farm

The Rockers

North Blyth

0 250 500

Metres

LEGEND

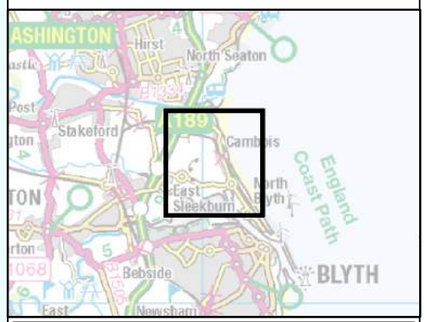
Site Boundary

Feeding Distribution Survey Area

**Whimbrel Distribution (Records/50m$^2$; Total = 16)**

Highest Density (8)

Lowest Density (<1)

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WINTERING BIRD SURVEY REPORT

**WHIMBREL**

**FIGURE 1.38**

Scale 1:12,500 @ A3

Date JULY 2023

404.000041.00001.0006.0 Winter Bird Survey Results

429000 430000 431000 432000

585000

584000

404.000041.00001.0006.0 Winter Bird Survey Results

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LEGEND

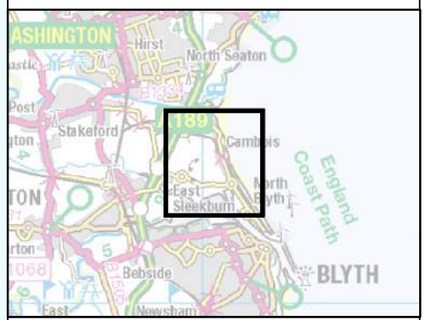
Site Boundary

Feeding Distribution Survey Area

**Wigeon Distribution (Records/50m$^2$; Total = 1536)**

Highest Density (8)

Lowest Density (<1)

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WINTERING BIRD SURVEY REPORT

**WIGEON**

**FIGURE 1.39**

Scale 1:12,500 @ A3

Date JULY 2023

0 250 500

Metres

429000 430000 431000 432000

585000

584000

N

LEGEND

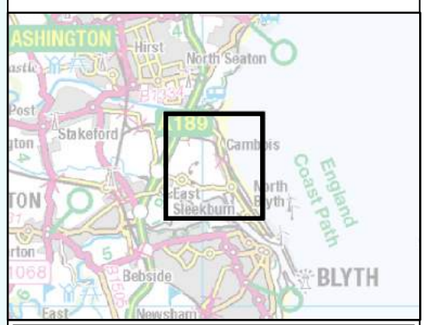
Site Boundary

Feeding Distribution Survey Area

**Black-throated Diver Distribution (Records/50m$^2$; Total = 2)**

Highest Density (8)

Lowest Density (<1)

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CAMBOIS CONNECTION

WINTERING BIRD SURVEY REPORT

**BLACK-THROATED DIVER**

**FIGURE 1.4**

Scale 1:12,500 @ A3

Date JULY 2023

0 250 500

Metres

404.000041.00001.0006.0 Winter Bird Survey Results

429000 430000 431000 432000

585000

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LEGEND

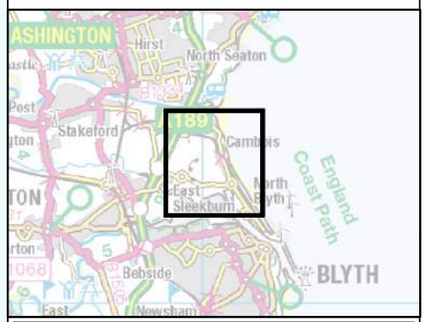
Site Boundary

Feeding Distribution Survey Area

**Woodcock Distribution (Records/50m$^2$; Total = 1)**

Highest Density (8)

Lowest Density (<1)

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WINTERING BIRD SURVEY REPORT

**WOODCOCK**

**FIGURE 1.40**

Scale 1:12,500 @ A3

Date JULY 2023

0 250 500

Metres

404.000041.00001.0006.0 Winter Bird Survey Results

429000 430000 431000 432000

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Cambois

High Brockland Farm

Maw Burn

Cow Gut

East Sleekburn

Harbour View

River Blyth

Mount Pleasant Farm

The Rockers

North Blyth

0 250 500

Metres

LEGEND

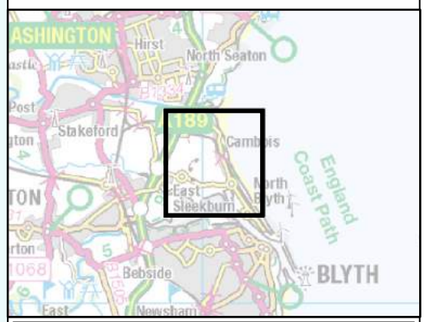
Site Boundary

Feeding Distribution Survey Area

**Brent Goose Distribution (Records/50m$^2$; Total = 1)**

Highest Density (8)

Lowest Density (<1)

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WINTERING BIRD SURVEY REPORT

**BRENT GOOSE**

**FIGURE 1.5**

Scale 1:12,500 @ A3

Date JULY 2023

404.000041.00001.0006.0 Winter Bird Survey Results

429000 430000 431000 432000

585000

584000

N

Cambois

High Brockland Farm

Maw Burn

Cow Gut

East Sleekburn

Harbour View

River Blyth

Mount Pleasant Farm

The Rockers

North Blyth

0 250 500

Metres

LEGEND

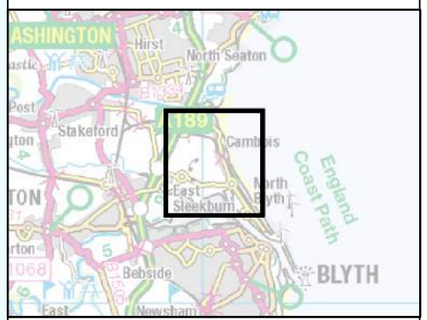
Site Boundary

Feeding Distribution Survey Area

**Common Scoter Distribution (Records/50m$^2$; Total = 38)**

Highest Density (8)

Lowest Density (<1)

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WINTERING BIRD SURVEY REPORT

**COMMON SCOTER**

**FIGURE 1.6**

Scale 1:12,500 @ A3

Date JULY 2023

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429000 430000 431000 432000

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LEGEND

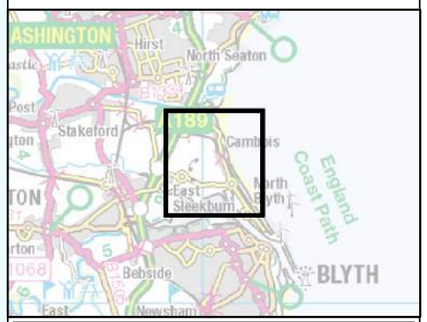
Site Boundary

Feeding Distribution Survey Area

**Cormorant Distribution (Records/50m$^2$; Total = 27)**

Highest Density (8)

Lowest Density (<1)

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WINTERING BIRD SURVEY REPORT

**CORMORANT**

**FIGURE 1.7**

Scale 1:12,500 @ A3

Date JULY 2023

0 250 500

Metres

404.000041.00001.0006.0 Winter Bird Survey Results

429000 430000 431000 432000

585000

584000

404.000041.00001.0006.0 Winter Bird Survey Results

N

LEGEND

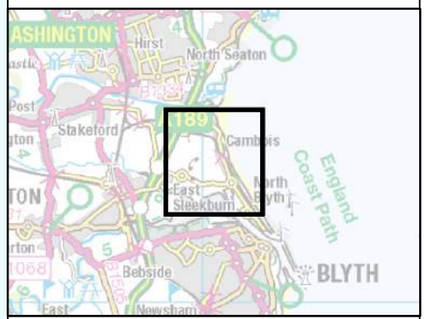
Site Boundary

Feeding Distribution Survey Area

**Curlew Distribution (Records/50m$^2$; Total = 974)**

Highest Density (8)

Lowest Density (<1)

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WINTERING BIRD SURVEY REPORT

**CURLEW**

**FIGURE 1.8**

Scale 1:12,500 @ A3

Date JULY 2023

0 250 500

Metres

429000 430000 431000 432000

585000

584000

N

LEGEND

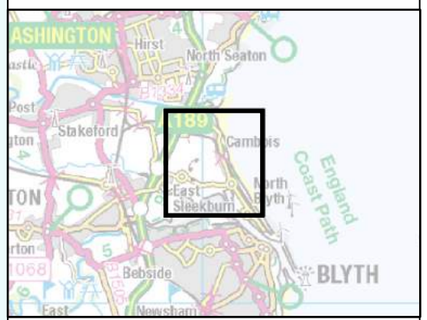
Site Boundary

Feeding Distribution Survey Area

**Dunlin Distribution**
**(Records/50m$^2$; Total = 69)**

Highest Density (8)

Lowest Density (<1)

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WINTERING BIRD SURVEY REPORT

**DUNLIN**

**FIGURE 1.9**

Scale 1:12,500 @ A3

Date JULY 2023

0 250 500

Metres

404.000041.00001.0006.0 Winter Bird Survey Results

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