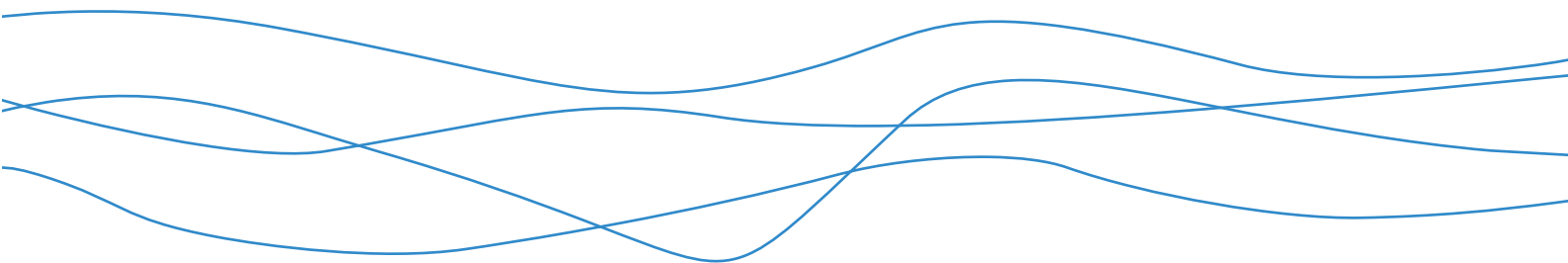




# **Bowdun Offshore Wind Farm, Offshore EIA Report**

Volume 3, Technical Appendix 11.2: Nearshore,  
Intertidal and Offshore Ornithology Baseline  
Report

TWP-BOW-RPS-OFE-RPT-00084 | April 2026



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## Glossary

Defined term	Definition
<b>Annex I</b>	Habitats of community interest whose conservation requires the designation of Special Areas of Conservation (SACs), as identified in Annex I of the Habitats Directive (Council Directive 92/43/EEC).
<b>Applicant (the)</b>	Bowdun Offshore Wind Farm Limited (BOWFL).
<b>Array Area</b>	The Array Area is the area in which the Offshore Generation Assets will be located.
<b>Bowdun Offshore Wind Farm Limited (BOWFL)</b>	A Special-Purpose Vehicle (SPV) (legal entity) for the purpose of developing the Project. BOWFL are the Applicant for the Offshore Application.
<b>Digital Aerial Surveys (DAS)</b>	A method for undertaking baseline ornithological and marine mammal data collection surveys. Usually undertaken over a period of 24 months.
<b>Environmental Impact Assessment (EIA)</b>	Process for the assessment of likely significant environmental effects of a project on the physical, biological and human environment during construction, Operation and Maintenance (O&M) and decommissioning.
<b>European Sites</b>	This term recognises SACs, candidate SACs (cSACs), Sites of Community Importance (SCIs), Special Protection Areas (SPAs), possible SACs (pSACs), potential SPAs (pSPAs) and Ramsar sites (where also designated as another European Site), which protect species and habitats shared across Europe and were originally designated under European legislation.
<b>Export Cable Corridor</b>	The area seaward of MHWS which connects the Array Area with the Landfall within which the Offshore Export Cables will be installed.
<b>Habitats Regulations Appraisal (HRA)</b>	An assessment carried out under the Habitats Regulations to determine if a plan or project could adversely affect the integrity of a European Site.
<b>Impact</b>	A change caused by an action that occurs during a project's lifetime.
<b>Inter-Array Cables (IAC)</b>	Cables which link the Wind Turbines to each other and with the Offshore Substation Platforms (OSPs).
<b>Interconnector Cables</b>	Cables which will connect individual OSPs to each other to provide redundancy against cable failure elsewhere.
<b>Landfall</b>	The area in which the Offshore Export Cables make landfall and is also the transitional area between the Offshore Transmission Assets and the Onshore Transmission Assets. Located in the Intertidal Area at Benholm.
<b>Mean High Water Springs (MHWS)</b>	The average tidal height throughout the year of two successive high waters during those periods of 24 hours when the range of the tide is at its greatest.
<b>Mean Low Water Springs (MLWS)</b>	The average tidal height throughout the year of two successive low waters during those periods of 24 hours when the range of the tide is at its greatest.

Defined term	Definition
<b>Offshore Environmental Impact Assessment (EIA) Report (hereafter, 'Offshore EIA Report')</b>	Document prepared to report the findings of the EIA for the Proposed Development and produced in accordance with the EIA Regulations. The Offshore EIA Report is submitted to support the Offshore Application for the Proposed Development, and to comply with EIA Regulations.
<b>Offshore Export Cables</b>	Subsea cables used to transmit electricity generated offshore by the Wind Turbines from the OSPs to shore. The Transition Joint Bay (TJB) is the location where the Offshore Export Cables terminate, and the onshore cabling begins.
<b>Operation and Maintenance (O&amp;M)</b>	The phase of the Proposed Development following completion of construction. This phase of development includes routine inspections, repairs and replacement of infrastructure and equipment (including Interconnector Cables and IACs), Scour Protection replenishment or replacement, major component replacement, painting and/or other coating works, removal of marine growth, and replacement of access ladders.
<b>Project (the)</b>	An overarching term for the Bowdun Offshore Wind Farm (Bowdun OWF) comprising the offshore and onshore infrastructure required to generate and transmit electricity from the Array Area to the onshore Grid Connection Point (GCP). The Project includes the Offshore Generation Assets, the Offshore Transmission Assets and the Onshore Transmission Assets.
<b>Proposed Development</b>	Term used to define the Offshore Infrastructure associated with the Project seaward of MHWS for which consent is being sought. Further details of the parameters are included in Volume 1, Chapter 3: Project Description.
<b>Qualifying Features</b>	The features for which a European Site has been officially designated to protect.
<b>Ramsar Site</b>	Wetlands of international importance, designated under the Ramsar Convention on Wetlands of International Importance 1971.
<b>Site Boundary</b>	The boundary within which all elements of the Proposed Development will be located. The Site Boundary comprises of the Array Area and Export Cable Corridor which ends at MHWS.
<b>Special Areas of Conservation (SACs)</b>	SACs are areas designated for the conservation of certain plant and animal species listed in the Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora.
<b>Special Protection Areas (SPAs)</b>	SPAs are sites that are designated to protect rare or vulnerable birds (as listed on Annex I of the Directive 2009/147/EC on the conservation of wild birds), as well as regularly occurring migratory species.
<b>Study Area</b>	For each environmental topic, the baseline environment will be characterised, and the potential environmental impacts will be described within a topic-specific study area. Specific study areas are defined for each topic and are based on the maximum spatial extent across which potential impacts of the Project may be experienced by the relevant receptors (i.e. Zone of Influence).
<b>Thistle Wind Partners (TWP)</b>	Company established for the development of the Project.
<b>Wind Turbines</b>	Structures comprising of a tubular tower, rotor blades, and a nacelle which houses the Wind Turbine generator.

## Acronyms

Acronym	Definition
<b>BTO</b>	British Trust for Ornithology
<b>DAS</b>	Digital Aerial Surveys
<b>EIA</b>	Environmental Impact Assessment
<b>HRA</b>	Habitats Regulations Appraisal
<b>JNCC</b>	Joint Nature Conservation Committee
<b>MHWS</b>	Mean High Water Spring
<b>MLWS</b>	Mean Low Water Spring
<b>OWF</b>	Offshore Wind Farm
<b>POA</b>	Plan Option Area
<b>RSPB</b>	Royal Society for the Protection of Birds
<b>SPA</b>	Special Protection Area
<b>TWP</b>	Thistle Wind Partners Limited
<b>UK</b>	United Kingdom
<b>WeBS</b>	Wetland Bird Survey

## Table of Units

Units	Definition
<b>km</b>	Kilometre
<b>Km<sup>2</sup></b>	Kilometre squared
<b>m</b>	Metre
<b>GW</b>	GigaWatt
<b>kts</b>	knots
<b>%</b>	Percent

# 1 Introduction

## 1.1 Project Background

1.1.1 This Offshore Ornithology Technical Report presents the ornithology baseline for the intertidal, nearshore and offshore environment for the offshore elements of the Bowdun Offshore Wind Farm (OWF) (hereafter referred to as the Proposed Development). The Proposed Development covers the Option Lease Area (OLA) comprises of the Array Area, which is located in the E3 Plan Option Area (POA) detailed in the Scottish Sectoral Marine Plan (Scottish Government, 2020), and the Export Cable Corridor, which together form the Site Boundary detailed in Figure 2.1. The Array Area is located 38 km from the Aberdeenshire coast at its closest point, covering an area of 187 km<sup>2</sup>. The Proposed Development will comprise of Wind Turbines (fixed foundations), Inter-Array Cables, Offshore Substation Platforms, Interconnector Cables, Offshore Export Cables and any necessary scour/cable protection. The Export Cable Corridor will include a maximum of three High Voltage Alternating Current Offshore Export Cables, each with a length of up to 70 km and will make Landfall at Benholm, Aberdeenshire.

1.1.2 Tetra Tech RPS Energy was instructed by Thistle Wind Partners Limited (TWP) to identify the intertidal, nearshore and offshore ornithological baseline for the Export Cable Corridor elements of the Proposed Development.

## 1.2 Purpose and Scope of the Report

1.2.1 The purpose and scope of this report is to:

- consider the results of intertidal surveys and nearshore Digital Aerial Surveys (DAS) undertaken to inform the assessment of the construction of the Offshore Export Cables of the Proposed Development at Landfall and along the Export Cable Corridor; and
- characterise the predicted seabird interests likely to be present along the Export Cable Corridor, using data from the Extended DAS during the summer months in addition to published datasets on seabird distributions and densities.

1.2.2 The main objectives of these surveys and desk studies are to:

- identify any areas which support significant numbers (i.e. >1%) of qualifying features of the various coastal/marine Special Protection Areas (SPAs) and Ramsar sites;
- identify any areas which are of importance (e.g. used for foraging activities) for large assemblages of wetland birds and seabirds;
- identify seasonal periods of sensitivity for wetland birds and seabirds (e.g. staging posts for migratory birds or traditional feeding and roosting areas); and
- provide a baseline characterisation.

1.2.3 The purpose of the resulting baseline characterisation is to help inform the Environmental Impact Assessment (EIA) for the Proposed Development as well as the Habitats Regulations Appraisal (HRA) required in relation to internationally important designated sites. This report describes:

- the Offshore Ornithology Study Area (Section 2);
- the survey and desk study methods used to collect intertidal and nearshore bird data (Section 3), including the key seabird species present within the Offshore Ornithology Study Area (Section 3.1), the Wetland Bird Survey data (Section 3.2) and the results from the site-specific surveys (Section 3.3);
- a baseline characterisation of the Export Cable Corridor Study Area (Section 4), including a comparison to data from the Wetland Bird Survey (Section 4.4); and
- overall summary and conclusions (Section 5).

## 2 Offshore Ornithology Study Area

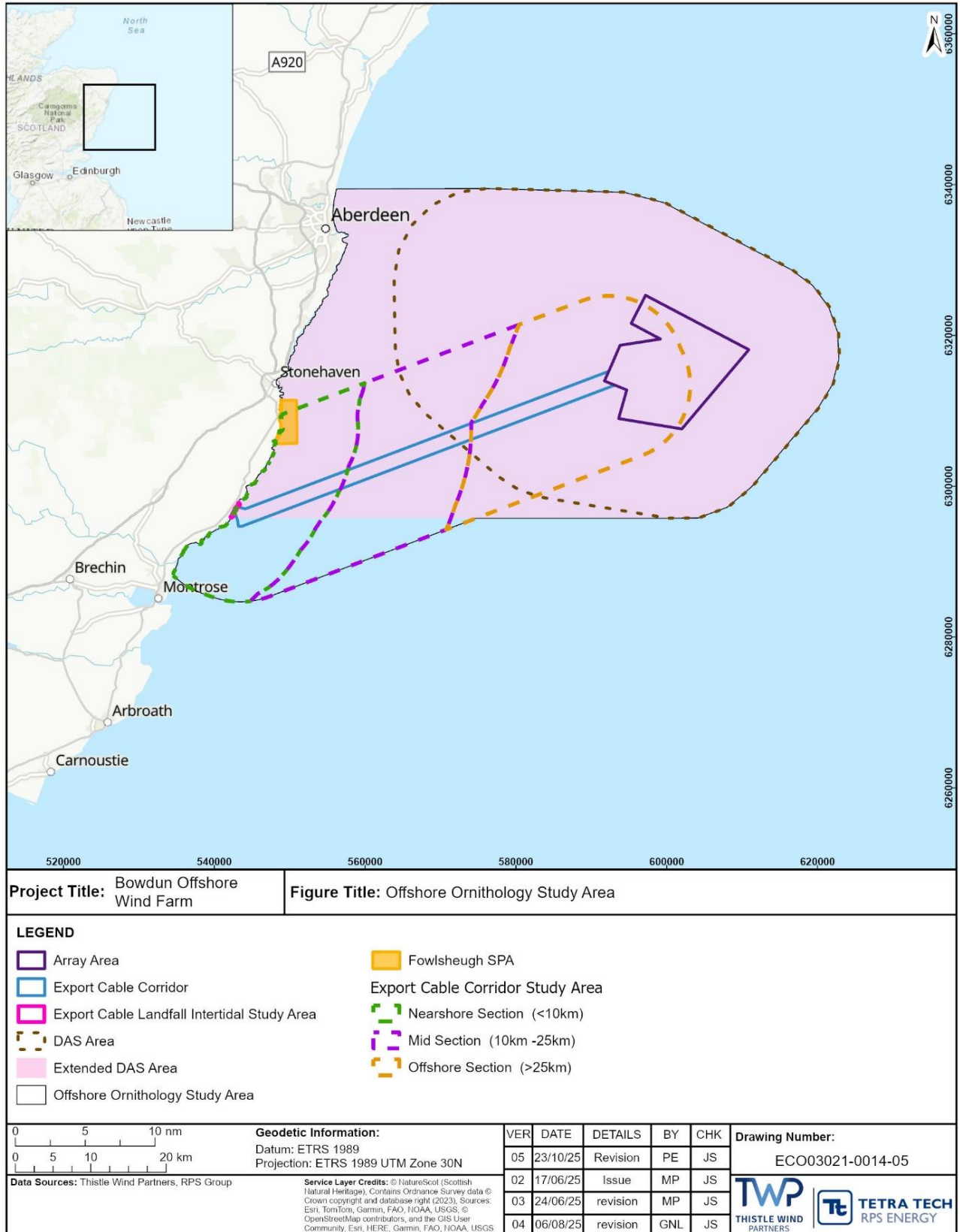
2.1.1 The Offshore Ornithology Study Area is comprised of three component areas (Figure 2.1):

- Offshore Ornithology Array Area Study Area: consisting of the E3 Plan Option Area (POA) plus a 12 km buffer (the DAS Area) from September to March (inclusive, non-breeding season), extending to the Aberdeenshire coast (Extended DAS Area) from April to August (inclusive, breeding season);
- Offshore Ornithology Export Cable Corridor Study Area: consisting of the Export Cable Corridor route plus a 10 km buffer up to MHWS covered by the Extended DAS; and
- Export Cable Landfall Intertidal Study Area: consisting of the Cable Landfall Area plus a 250 m buffer, covered by intertidal surveys.

2.1.2 The Array Area Study Area is encompassed within the DAS coverage (see Paragraph 3.3.5 for more details). Guidance from the Joint Nature Conservation Committee ((JNCC), 2022) requires impacts of displacement and barrier effects from OWF developments be assessed to a minimum of a 2 km buffer from the development footprint, while NatureScot (2023) recommend a buffer of 4 km or 6 km for aerial surveys. DAS was flown to a larger 12 km buffer around the E3 POA during winter (September to March inclusive) and extended up to the coast during summer (April to August inclusive) to provide wider context to the Array Area, the E3 POA and the surrounding environment, including Fowlsheugh SPA (see, Volume 3, Technical Appendix 11.1: Offshore Ornithology Baseline Characterisation, for more information). This has added additional insights and robustness to the baseline characterisation and assessment.

2.1.3 The Export Cable Corridor Study Area refers to the Export Cable Corridor plus a 10 km buffer. The buffer was selected as a precautionary measure with regards to the potential presence of red-throated diver, which may be displaced up to 10 km, as recommended by NatureScot (2023). The Export Cable Corridor Study Area was then split into three sections to better understand the distribution of wetland birds and seabirds throughout the area (Figure 2.1) as follows:

- the nearshore section: portion of the Export Cable Corridor Study Area within 10 km of the coast. This section overlaps with the Export Cable Landfall Intertidal Study Area;
- the mid-section: portion of the Export Cable Corridor Study Area between 10 km and 25 km from the coast; and
- the offshore section: portion of the Export Cable Corridor Study Area beyond 25 km of the coast. This section overlaps with the western section of the Array Area (Figure 2.1).



**Figure 2.1: Offshore Ornithology Study Area**

### 3 Methodology

#### 3.1 Key Species and SPAs

- 3.1.1 In formulating the approach to the baseline characterisation and the identification of key wetland bird and seabird species, consideration was given to the habitats along the Export Cable Corridor, the key species likely to be present, and the associated conservation importance of the species. This latter consideration included judgement on potential connectivity to designated sites (e.g. SPAs and Ramsar Sites) and potential impact pathways, informed by professional judgement and the nature of the proposed Export Cable Corridor works.
- 3.1.2 As a result, the intertidal surveys were designed to assess the use of the intertidal and nearshore coastal habitats associated with the Landfall and nearshore area of the Export Cable Corridor. Surveys across this area recorded all species, with particular attention to relevant qualifying features of coastal SPAs and Ramsar Sites.
- 3.1.3 Fowlsheugh SPA is the only designated site considered within this report, details of which are provided in
- 3.1.4 Table 3.1. This is the only SPA that falls within the Export Cable Corridor Study Area, or in close proximity to it.

**Table 3.1: International Designated Site Within the Export Cable Corridor Study Area**

Designated site	Shortest Distance to the Export Cable Corridor	Site description	Qualifying features	Designation
<b>Fowlsheugh SPA</b>	5.69 km	Marine areas, Sea inlets (99.2%) Shingle, Sea cliffs, Islets (0.3%) Humid grassland, Mesophile grassland (0.5%)	Razorbill <i>Alca torda</i> (breeding) Northern fulmar (hereafter known as 'fulmar') <i>Fulmarus glacialis</i> (breeding) Herring gull <i>Larus argentatus</i> (breeding) Black-legged kittiwake (hereafter known as 'kittiwake') <i>Rissa tridactyla</i> (breeding) Common guillemot (hereafter known as 'guillemot') <i>Uria aalge</i> (breeding) Seabird assemblage	EU Birds Directive (2009/147/EC) <b>Article 4.2:</b> regularly supports 1.2% of the world population of kittiwake and 1.7% of the Western European population of guillemot during the breeding season. <b>Article 4.2:</b> regularly supports an internationally important assemblage of birds during the breeding season (145,000 birds) including guillemot, razorbill, fulmar, herring gull and kittiwake.

## 3.2 Desktop Study

### Wetland Bird Survey (WeBS) Data

- 3.2.1 WeBS count data were obtained from the British Trust for Ornithology (BTO) website (Woodward *et al.*, 2024) for the most recent, at the time of writing this report, high tide datasets of non-breeding waterbirds in Haughs Bay, which is the area where the Export Cable Corridor makes Landfall. The most recent data available are from WeBS surveys conducted between 2022 and 2023, which overlaps with the beginning of the DAS and intertidal survey period. The annual average counts over five years was also available, from WeBS surveys conducted between 2018/2019 to 2022/2023.
- 3.2.2 Low tide counts were not available at the time of writing this report.
- 3.2.3 WeBS is a partnership jointly funded by the BTO, Royal Society for the Protection of Birds (RSPB) and JNCC, with fieldwork conducted by volunteers and previous support from Wildfowl & Wetlands Trust (WWT). Counts are specifically aimed at recording the number of waterbirds which use a variety of wetland and coastal habitats. Core (high tide) counts are undertaken annually and conducted around high water on all estuaries and key wetland sites in the United Kingdom (UK), generally on a set day each month on a set survey area. At this time, waterbirds tend to gather at high tide roosts and counts undertaken around high water provide an estimate of the total population of birds using an area of coast.
- 3.2.4 Although extremely valuable in providing historical and contextual wetland bird data for sites of interest, WeBS data are sometimes limited by the fact that the surveys cover comparatively large areas and are therefore not necessarily representative of small-scale patterns of bird abundance and distribution. Furthermore, it is extremely unlikely that the defined WeBS count sectors will match the areas being covered in targeted, project-specific surveys. For instance, the WeBS data covers the entirety of Haughs Bay, so the data may be an overestimation of the birds present in the Landfall area. Consequently, the WeBS data were used to supplement the more site-specific data gathered during the intertidal surveys and nearshore DAS bird surveys, and to compare the representativeness of project-specific survey results, as presented in Section 4.4. Furthermore, counts of gulls and terns are optional for the WeBS, therefore their numbers may be underrepresented in comparison to the findings of the intertidal surveys and nearshore DAS.

## 3.3 Site-Specific Surveys

### Intertidal Surveys

- 3.3.1 Intertidal surveys (Figure 3.1) were conducted at Haughs Bay throughout the non-breeding season from September 2023 to March 2024 (inclusive), further details of which are in the Bowdun Onshore Ornithology Report (794-PLN-ESH-NP12705).

3.3.2 The surveys were based on a modified version of the non-estuarine coastal waterfowl survey methods (described in Gilbert *et al.*, 1998), with twice-monthly diurnal surveys to count and map waders and other waterbirds present within the proposed Landfall area of search and a surrounding 250 m buffer. In general, one monthly survey was centred on high tide and the other on low tide.

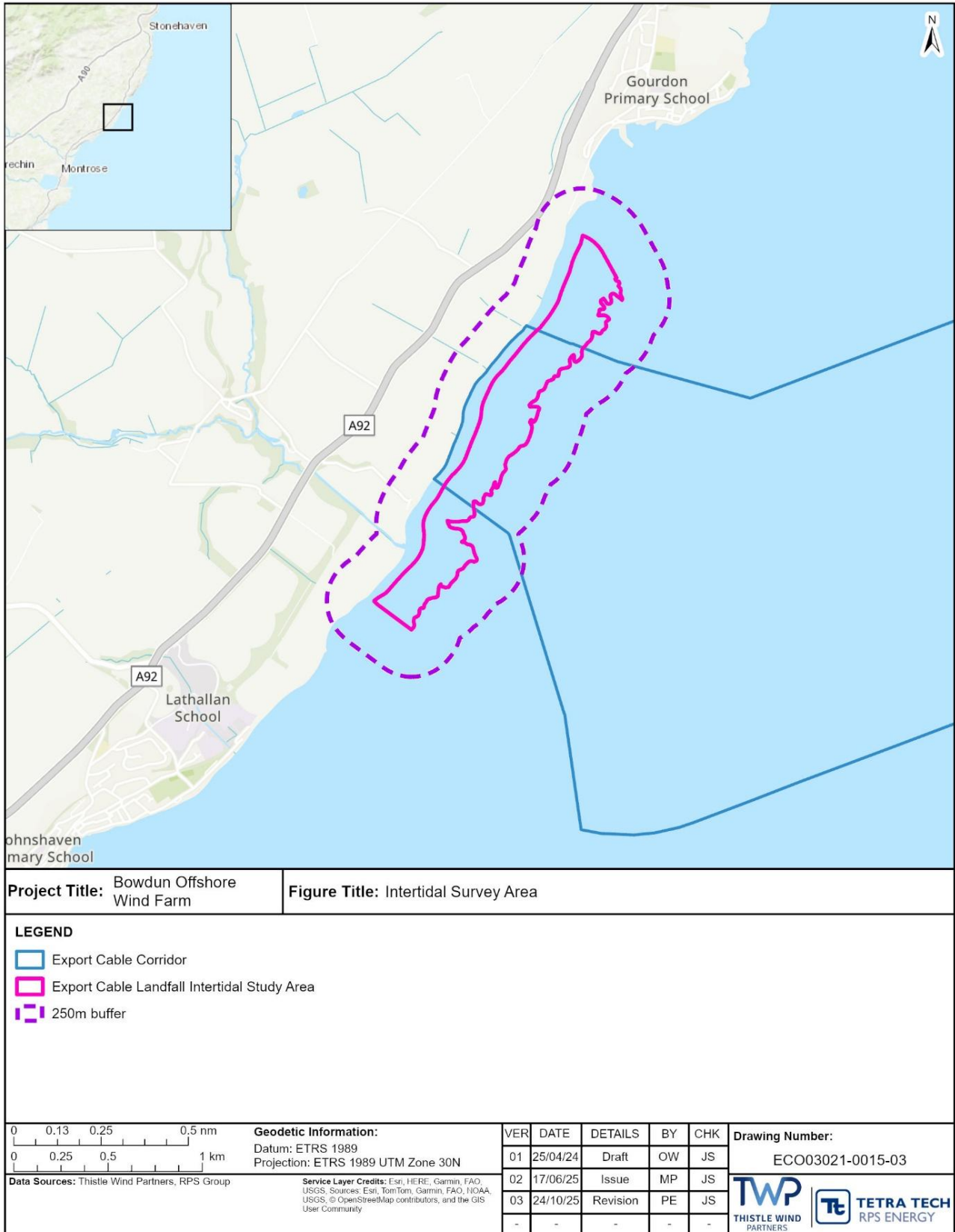


Figure 3.1: Bowdun Intertidal Survey Area

3.3.3 Surveys involved walking through the survey area (approximately 2 km long) as shown in Figure 3.1, counting birds in the littoral zone and nearshore area, before walking back through the survey area and counting birds on the landward section. Surveys focussed on recording waders and aggregations of other species, such as wildfowl and gulls.

3.3.4 Full details of the survey effort and tide coverage is included in Table 3.2, and Table A1.2.

**Table 3.2: Intertidal Bird Survey Effort and Tide Coverage**

Month	Date	Tide	Survey Start Time (hr: min)	Survey End Time (hr: min)
<b>September</b>	26/09/2023	Low tide	17:00:00	19:00:00
	28/09/2023	High tide	13:00:00	16:30:00
<b>October</b>	12/10/2023	High tide	12:30:00	15:30:00
	24/10/2023	Low tide	15:00:00	17:30:00
<b>November</b>	07/11/2023	Low tide	14:00:00	16:30:00
	28/11/2023	High tide	13:00:00	15:00:00
<b>December</b>	13/12/2023	High tide	13:00:00	15:00:00
	19/12/2023	Low tide	11:30:00	13:30:00
<b>January</b>	24/01/2024	High tide	12:00:00	14:30:00
	30/01/2024	Low tide	09:30:00	12:30:00
<b>February</b>	08/02/2024	High tide	11:00:00	14:00:00
	27/02/2024	Low tide	08:00:00	11:00:00
<b>March</b>	08/03/2024	High tide	11:30:00	14:00:00
	26/03/2024	Low tide	08:00:00	11:00:00

### Digital Aerial Survey (DAS) Data

3.3.5 DAS were commissioned to collect seabird data across the extent of the Array Area Study Area, consisting of the E3 POA plus a 12 km buffer for the non-breeding season from September to March (inclusive, DAS Area), which was extended to the Aberdeenshire coast for the breeding season from April to August (inclusive, Extended DAS) to provide data on seabird distribution and abundance in relation to the Fowlsheugh SPA (which is designated for its breeding season seabird importance). Twenty-four monthly surveys were undertaken by APEM Limited from March 2022 to February 2024 inclusive. For this report, only the summer months data (April to August 2022 and April to August 2023 inclusive) were therefore used.

3.3.6 Date, start time and end time for each Extended DAS are provided in Table 3.3 with the corresponding weather conditions reported in Table A1.3. For logistical reasons, including poor weather conditions, two surveys were not flown within the target month and were instead flown in the following month (May 2022 was flown in June and April 2023 was flown in May, as shown in Table 3.3). To avoid confusion and to attribute counts to defined seasonal periods, these surveys are considered in this report as having occurred during their target month. Further detail on the DAS methodology is provided in Section 3.3 of Volume 3, Technical Appendix 11.1: Offshore Ornithology Baseline Characterisation.

3.3.7 The Export Cable Corridor Study Area refers to the area of the Extended DAS that superimposes with the Export Cable Corridor plus a 10 km buffer. The buffer was selected as a precautionary measure with regards to the potential presence of sensitive species, as recommended by NatureScot (2023). The Export Cable Corridor Study Area was then split into three sections to better understand the distribution of wetland birds and seabirds throughout the area (Figure 2.1) as follows:

- the nearshore section: portion of the Export Cable Corridor Study Area within 10 km of the coast;
- the mid-section: portion of the Export Cable Corridor Study Area between 10 km and 25 km from the coast; and
- the offshore section: portion of the Export Cable Corridor Study Area beyond 25 km of the coast.

**Table 3.3: Date (Target Date and Actual Date), Start and End Times (Coordinated Universal Time (UTC)) of DAS Flights from April 2022 to August 2023**

Target date	Actual date	Flight number <sup>1</sup>	Start time	End time (HH:MM)
<b>April 2022</b>	28/04/2022	1	8:34	09:59
	28/04/2022	2	12:44	15:47
	29/04/2022	3	9:00	10:51
<b>May 2022</b>	02/06/2022	1	7:59	16:21
<b>June 2022</b>	25/06/2022	1	10:54	18:50
<b>July 2022</b>	07/07/2022	1	10:39	18:22
<b>August 2022</b>	01/08/2022	1	10:26	17:57
<b>April 2023</b>	18/05/2023	1	14:42	15:58
	19/05/2023	2	8:39	9:56
	19/05/2023	3	10:56	15:36
<b>May 2023</b>	27/05/2023	1	8:05	10:07
	27/05/2023	2	9:38	10:48
	27/05/2023	3	12:58	14:24
	27/05/2023	4	13:00	14:14
<b>June 2023</b>	12/06/2023	1	9:40	16:40
<b>July 2023</b>	23/06/2023	1	8:56	11:31

Target date	Actual date	Flight number <sup>1</sup>	Start time	End time (HH:MM)
	23/07/2023	2	13:19	16:56
<b>August 2023</b>	10/08/2023	1	8:31	11:38
	10/08/2023	2	13:56	16:53

<sup>1</sup>Flight number differentiates multiple flights per monthly survey.

3.3.8 The estimated relative bird population for each Export Cable Corridor Study Area section was then calculated using the following formula:

$$\text{Absolute population estimate} = (\text{raw birds observed}) / (\text{coverage of DAS}) * (\text{total area of boundary})$$

3.3.9 A summary of the coverage for each section in each month is presented in Table 3.4.

3.3.10 Note that coverage differed between different sections of the cable corridor, because there is no DAS coverage in the southernmost section of the Export Cable Corridor Study Area.

3.3.11 The percentage of total individuals present in a specific section was calculated using:

$$\text{Proportion of total individuals in section} = (\text{Export Cable Corridor Study Area total}) / (\text{sum of section-specific and species-specific monthly estimate}).$$

**Table 3.4: Monthly Coverage of Export Cable Corridor Study Area Sections**

Month	Area (km <sup>2</sup> )	Coverage
<b>Nearshore section</b>		
April 2022	30.78	10.21%
May 2022	30.79	10.22%
June 2022	30.72	10.19%
July 2022	30.95	10.27%
August 2022	31.09	10.32%
April 2023	31.06	10.30%
May 2023	30.73	10.20%
June 2023	30.98	10.28%
July 2023	30.95	10.27%
August 2023	30.65	10.17%
<b>Mid-section</b>		
April 2022	63.03	13.53%
May 2022	63.12	13.55%
June 2022	63.58	13.65%
July 2022	63.27	13.59%
August 2022	63.30	13.59%
April 2023	63.94	13.73%
May 2023	63.16	13.56%

Month	Area (km <sup>2</sup> )	Coverage
<b>June 2023</b>	63.26	13.58%
<b>July 2023</b>	63.22	13.58%
<b>August 2023</b>	63.16	13.56%
<b>Offshore section</b>		
<b>April 2022</b>	104.76	17.93%
<b>May 2022</b>	103.37	17.69%
<b>June 2022</b>	105.52	18.06%
<b>July 2022</b>	103.38	17.69%
<b>August 2022</b>	104.46	17.88%
<b>April 2023</b>	103.67	17.74%
<b>May 2023</b>	103.69	17.75%
<b>June 2023</b>	104.04	17.81%
<b>July 2023</b>	102.80	17.59%
<b>August 2023</b>	103.96	17.79%

## 4 Baseline Characterisation

4.1.1 This section presents the intertidal surveys and nearshore DAS wetland and seabird results. Data tables and summarised accounts of each species for each survey are given under the survey specific headings. The data tables show the counts for each species in each month in each survey sector as well as the peak count over the course of the entire survey period.

### 4.2 Intertidal and Nearshore Wetland and Seabird Data

#### Non-Breeding Season Intertidal Surveys

4.2.1 A total of 37 species and nine unidentified species were recorded within the intertidal survey area during the intertidal survey programme from September 2023 to March 2024. The following survey results for each species and survey should be read in conjunction with Table 4.1 and Table 4.2. Bird behaviours recorded ranged from flying whilst carrying food, flying continuously, flying non-continuously, foraging, roosting on land, roosting in the water, and a sighting. Species exhibiting these behaviours were classed into either ‘flying’ or ‘sitting’ in Table 4.1 and Table 4.2.

4.2.2 During the high tide oystercatcher *Haematopus ostralegus*, lapwing *Vanellus vanellus*, curlew *Numenius arquata* and redshank *Tringa totanus* were consistently recorded throughout the five-month survey. These species were recorded every month ranging from 36 to 296 individuals for oystercatcher, seven to 135 lapwing, 11 to 107 curlew, and 17 to 33 redshank (Table 4.1).

4.2.3 Ruddy turnstone *Arenaria interpres* (hereafter known as ‘turnstone’), common eider *Somateria molissima* (hereafter known as ‘eider’), herring gull, black-headed gull *Chroicocephalus ridibundus* and mallard *Anas platyrhynchos* were also recorded in high numbers, though not every month (Table 4.1).

4.2.4 There were 437 birds that could not be determined down to species level, belonging primarily to gulls in sub-adult plumage (in two categories, gulls and large gulls) (Table 4.1).

4.2.5 During the low tide, the most consistently recorded birds were black-headed gull, curlew, herring gull, oystercatcher and redshank. These species were recorded monthly ranging from one to 175 individuals for black-headed gull, six to 108 curlew, 19 to 285 herring gull, 40 to 79 oystercatcher and two to 28 redshank (Table 4.2).

4.2.6 Lapwing, wigeon *Mareca penelope*, eider and common gull *Larus canus* were also recorded in high numbers, but not as frequently as the previously mentioned species (Table 4.2).

4.2.7 There were 553 birds that could not be identified to species level during the low tide, also primarily being categorised as unidentified gulls (in these same two categories of gulls and large gulls) (Table 4.2). Gull species can be difficult to identify to species level from a far distance (i.e. at the edges of these sites) due to similarities in appearance from afar. Moreover, these similarities in appearance are even more prevalent for juvenile gulls.

**Table 4.1: Summary of High Tide Intertidal Survey Results from September 2023 to March 2024**

Species	September		October		November		December		January		February		March		Peak
	F <sup>1</sup>	S <sup>2</sup>	F	S	F	S	F	S	F	S	F	S	F	S	
Canada goose	7	-	-	-	-	-	-	-	-	-	-	-	-	-	7 (F)
Barnacle goose	12	-	-	-	-	-	-	-	-	-	-	-	-	-	12 (F)
Pink-footed goose	-	-	-	-	-	-	-	-	1	-	85	-	-	-	85 (F)
Wigeon	-	-	-	-	-	3	-	-	-	53	-	57	26	29	57 (S)
Mallard	-	6	12	7	-	10	-	-	-	41	2	18	2	7	41 (S)
Tufted duck	-	-	-	-	-	-	5	34	-	-	-	-	-	-	34 (S)
Common eider	3	5	8	1	-	15	-	-	-	63	-	15	-	1	63 (S)
Oystercatcher	8	288	12	44	-	185	-	193	20	54	-	97	-	36	288 (S)
Lapwing	-	7	-	101	-	135	-	23	-	70	-	120	-	25	135 (S)
Ringed plover	22	-	-	-	-	-	-	-	-	-	-	-	-	4	22 (F)
Curlew	3	95	8	96	-	32	-	11	-	14	-	107	-	50	107 (S)
Turnstone	20	32	4	34	51	-	-	-	17	30	-	46	17	42	51 (F)
Dunlin	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1 (F)
Purple sandpiper	-	-	-	-	-	-	-	-	-	4	-	3	-	1	4 (S)
Snipe	-	-	-	-	-	2	35	2	-	4	-	-	-	-	35 (F)
Redshank	12	5	3	18	2	31	2	29	7	17	1	23	-	24	31 (S)
Common gull	-	-	17	-	-	-	-	-	-	-	-	-	-	-	17 (F)
Black-headed gull	156	-	44	-	-	-	-	-	-	-	8	-	1	-	156 (F)
Great black-backed gull	-	60	-	-	-	4	-	7	-	-	3	1	-	2	60 (S)
Herring gull	-	-	-	1	25	74	-	-	-	20	-	209	10	-	209 (S)

Species	September		October		November		December		January		February		March		Peak
	F <sup>1</sup>	S <sup>2</sup>	F	S	F	S	F	S	F	S	F	S	F	S	
Lesser black-backed gull	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1 (S)
Common guillemot	2	-	-	-	-	-	-	-	-	-	-	-	-	-	2 (F)
Red-throated diver	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1 (S)
Black-throated diver	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1 (F)
Cormorant	-	-	2	-	1	-	1	-	-	-	-	-	1	-	2 (F)
Shag	1	-	1	-	-	-	-	-	-	-	-	-	1	-	1 (F)
Grey heron	-	4	1	-	-	9	-	3	-	1	-	4	-	-	9 (S)
Stonechat	-	-	-	-	-	-	-	-	1	-	-	-	-	1	1 (F)
Linnet	-	20	-	-	-	-	-	-	-	-	-	-	-	-	20 (S)
Goose species	-	-	50	-	-	-	-	-	-	-	-	-	-	-	50 (F)
Duck species	-	-	-	-	-	-	-	-	28	-	-	-	-	-	28 (F)
Diver species	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1 (S)
Gull species	-	62	-	140	-	38	-	-	-	-	-	-	-	-	140 (S)
Large gull species	-	-	-	-	-	-	-	109	-	-	-	6	-	-	109 (S)
Common/ Arctic tern	-	-	2	-	-	-	-	-	-	-	-	-	-	-	2 (F)
Tern species	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1 (F)

<sup>1</sup>F= Flying; <sup>2</sup>S=Sitting

**Table 4.2: Summary of Low Tide Intertidal Survey Results from September 2023 to March 2024**

Species	September		October		November		December		January		February		March		Peak
	F <sup>1</sup>	S <sup>2</sup>	F	S	F	S	F	S	F	S	F	S	F	S	
<b>Shelduck</b>	-	-	-	-	5	-	-	-	-	-	-	-	-	-	<b>5 (F)</b>
<b>Wigeon</b>	-	-	-	22	-	13	-	49	10	33	-	15	-	10	<b>49 (S)</b>
<b>Mallard</b>	-	-	-	-	-	8	-	9	-	3	-	4	-	-	<b>9 (S)</b>
<b>Common eider</b>	-	7	-	1	-	-	-	37	1	50	1	40	-	38	<b>50 (S)</b>
<b>Oystercatcher</b>	-	40	-	75	-	79	1	44	-	50	1	52	-	43	<b>79 (S)</b>
<b>Lapwing</b>	62	210	-	-	80	-	-	104	-	120	-	-	-	-	<b>210 (S)</b>
<b>Golden plover</b>	-	-	-	2	-	2	-	-	-	-	-	-	-	-	<b>2 (S)</b>
<b>Curlew</b>	15	93	6	13	39	49	2	4	-	38	2	30	1	25	<b>49 (S)</b>
<b>Ruddy turnstone</b>	-	-	-	8	12	24	1	1	2	-	4	8	-	4	<b>24 (S)</b>
<b>Snipe</b>	-	-	-	-	12	-	-	2	-	1	-	-	-	-	<b>12 (F)</b>
<b>Redshank</b>	2	18	4	21	-	28	-	5	-	2	-	9	-	17	<b>28 (S)</b>
<b>Common gull</b>	-	175	-	-	-	-	-	-	-	-	-	-	-	-	<b>175 (S)</b>
<b>Black-headed gull</b>	-	175	-	20	-	31	1	-	-	2	-	25	-	6	<b>175 (S)</b>
<b>Great black-backed gull</b>	-	-	-	4	-	3	-	4	-	1	-	-	-	-	<b>4 (S)</b>
<b>Herring gull</b>	-	50	-	76	-	151	-	100	-	285	-	83	-	19	<b>285 (S)</b>
<b>Lesser black-backed gull</b>	-	-	-	-	-	-	-	-	-	6	-	-	-	1	<b>6 (S)</b>
<b>Arctic tern</b>	25	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>25 (F)</b>
<b>Cormorant</b>	-	-	-	-	1	-	2	-	-	-	1	-	2	-	<b>2 (F)</b>
<b>Shag</b>	4	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>4 (F)</b>
<b>Grey heron</b>	-	1	-	2	-	4	-	1	-	1	-	1	-	-	<b>4 (S)</b>

Species	September		October		November		December		January		February		March		Peak
	F <sup>1</sup>	S <sup>2</sup>	F	S	F	S	F	S	F	S	F	S	F	S	
Common buzzard	-	-	-	-	-	-	-	-	-	-	2	-	-	-	2 (F)
Short-eared owl	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1 (S)
Skylark	-	-	-	-	-	-	-	-	-	-	-	4	-	-	4 (S)
Song thrush	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1 (S)
Stonechat	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1 (S)
Yellowhammer	-	-	-	-	-	-	-	-	-	-	-	6	-	-	6 (S)
Duck species	12	-	-	-	-	-	-	-	-	-	-	-	-	-	12 (F)
Cormorant/ shag	-	-	-	8	-	-	-	-	-	-	-	-	-	-	8 (S)
Diver species	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1 (S)
Wader species	-	-	-	1	-	-	-	-	-	-	-	-	1	-	1 (S)
Gull species	-	-	200	-	14	107	-	-	-	-	-	-	-	-	200 (F)
Large gull species	-	-	-	-	-	-	-	-	-	200	-	-	-	8	200 (S)
Tern species	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1 (S)

<sup>1</sup>F= Flying; <sup>2</sup>S=Sitting

### 4.3 Extended Digital Aerial Survey (DAS) Data

- 4.3.1 A total of 27 different species and 19 unidentified species were recorded within the Export Cable Corridor Study Area during the Extended DAS survey programme from April 2022 to August 2023 (September to March excluded). Out of those, 25 species and 14 unidentified species were recorded within the nearshore section (< 10 km from the coast) of the Export Cable Corridor Study Area, 17 species and ten unidentified species were recorded within the mid-section (between 10 km and 25 km from the coast) and 15 species, and 15 unidentified species were recorded within the offshore section (>25 km from the coast). The following survey results for each species and survey section should be read in conjunction with Table 4.3 and Table 4.4, as well as Table A2.1, Table A2.2 and Table A2.3 for the raw counts. Behaviours recorded ranged from flying, sitting, perched and diving. Species exhibiting these behaviours were classed into either ‘flying’ or ‘sitting’. Finally, 528 deceased birds were also recorded during the Extended DAS (Table 4.5) and were excluded from the main tables.
- 4.3.2 Numerous species were recorded in all three sections of the Export Cable Corridor Study Area, such as Arctic tern *Sterna paradisaea*, common gull, fulmar, northern gannet *Morus bassanus* (hereafter known as ‘gannet’), great black-backed gull *Larus marinus*, great skua *Stercorarius skua*, guillemot, herring gull, kittiwake, lesser black-backed gull *Larus fuscus*, Manx shearwater *Puffinus puffinus*, Atlantic puffin *Fratercula arctica* (hereafter known as ‘puffin’) and razorbill (Table 4.3 and Table 4.4). The highest proportion of recorded individuals for most of the above-mentioned species was in the nearshore section of the Export Cable Corridor Study Area. Conversely, Arctic tern were recorded in equal proportions in all three sections (32.80% of the total recorded individuals within the Export Cable Corridor Study Area were in the nearshore section, 31.91% in the mid-section and 35.28% in the offshore section) and great skua were recorded most in the mid-section (48.93% of total individuals) (Table 4.3).
- 4.3.3 Within the nearshore section of the Export Cable Corridor Study Area, the birds most frequently recorded in high numbers during the breeding season were guillemot (peak of 8,084 individuals), razorbill (peak of 1,222 individuals), kittiwake (peak of 1,627 individuals) and herring gull (peak of 1,760 individuals) (Table A2.1, Table 4.3). Fulmar were also recorded every month, though in much smaller numbers (Table 4.3). All of the aforementioned species are designated features of Fowlsheugh SPA during the breeding season, which is within the Export Cable Corridor Study Area (Table 3.1).
- 4.3.4 Within the mid-section of the Export Cable Corridor Study Area, guillemot (peak of 3,827 individuals), kittiwake (peak of 3,491 individuals), herring gull (peak of 422 individuals) and razorbill (peak of 2,038 individuals) were the most frequently recorded in the highest numbers (Table A2.2). Fulmar, gannet and puffin were also recorded every month, but in much lower numbers (Table A2.2).

4.3.5 Within the offshore section of the Export Cable Corridor Study Area, the birds most frequently recorded in high numbers were guillemot (peak of 6,188 individuals), kittiwake (peak of 1,677 individuals), razorbill (peak of 1,726 individuals) and gannet (peak of 250 individuals) (Table A2.3). Fulmar and puffin were also recorded every month, but in much lower numbers (Table A2.3).

**Table 4.3: Summary of the Total Design-Based Estimates of the Extended DAS Results Along the Export Cable Corridor Study Area From April 2022 to August 2023**

Species	Section of the Export Cable Corridor Study Area	Design-based peak year 1	Design-based peak year 2	Percentage of Birds in each section of the Export Cable Corridor Study Area
<b>Mallard</b>	Nearshore	0	59	100.00%
<b>Eider</b>	Nearshore	147	295	99.38%
	Offshore	0	6	0.62%
<b>Rock dove</b>	Nearshore	0	19	100.00%
<b>Oystercatcher</b>	Nearshore	78	0	100.00%
<b>Curlew</b>	Nearshore	10	0	100.00%
<b>Kittiwake</b>	Nearshore	15,960	10,841	49.71%
	Mid-section	25,683	4,881	32.65%
	Offshore	9,353	2,359	17.64%
<b>Common gull</b>	Nearshore	1,221	116	91.59%
	Mid-section	66	15	5.46%
	Offshore	33	6	2.95%
<b>Black-headed gull</b>	Nearshore	1,279	10	100.00%
<b>Great black-backed gull</b>	Nearshore	87	39	81.19%
	Mid-section	7	15	16.70%
	Offshore	0	6	2.11%
<b>Herring gull</b>	Nearshore	17,226	4,226	72.31%
	Mid-section	3,106	2,738	15.22%
	Offshore	1,790	3,463	12.47%
<b>Lesser lack-backed gull</b>	Nearshore	48	0	50.85%
	Mid-section	15	7	17.41%
	Offshore	22	39	31.74%
<b>Sandwich tern</b>	Nearshore	426	79	100.00%
<b>Arctic tern</b>	Nearshore	0	679	32.80%
	Mid-section	15	560	31.91%
	Offshore	413	547	35.28%
<b>Great skua</b>	Nearshore	10	0	32.53%
	Mid-section	15	0	48.93%
	Offshore	0	6	18.54%

Species	Section of the Export Cable Corridor Study Area	Design-based peak year 1	Design-based peak year 2	Percentage of Birds in each section of the Export Cable Corridor Study Area
<b>Arctic skua</b>	Mid-section	7	0	39.76%
	Offshore	0	6	60.24%
<b>Guillemot</b>	Nearshore	79,121	49,515	46.85%
	Mid-section	28,155	26,876	29.07%
	Offshore	34,510	18,499	24.07%
<b>Razorbill</b>	Nearshore	11,960	7,201	51.14%
	Mid-section	14,993	6,692	30.95%
	Offshore	9,626	1,355	17.91%
<b>Black guillemot</b>	Nearshore	10	0	39.90%
	Mid-section	7	7	60.10%
<b>Puffin</b>	Nearshore	314	3,019	41.38%
	Mid-section	318	2,581	35.56%
	Offshore	686	597	23.07%
<b>Red-throated diver</b>	Nearshore	20	39	88.98%
	Mid-section	0	7	11.02%
<b>European storm petrel</b>	Offshore	0	11	100.00%
<b>Fulmar</b>	Nearshore	274	223	50.16%
	Mid-section	96	96	19.87%
	Offshore	162	156	29.97%
<b>Manx shearwater</b>	Nearshore	69	98	66.62%
	Mid-section	29	15	18.95%
	Offshore	11	17	14.43%
<b>Gannet</b>	Nearshore	4,561	497	40.15%
	Mid-section	674	966	23.71%
	Offshore	1,394	909	36.14%
<b>Cormorant</b>	Nearshore	20	20	100.00%
<b>Shag</b>	Nearshore	19	0	66.55%
	Mid-section	0	15	33.45%
<b>Grey heron</b>	Nearshore	10	10	100.00%
<b>Duck species</b>	Nearshore	19	0	100.00%
<b>Wader species</b>	Offshore	17	17	100.00%
<b>Gull species</b>	Nearshore	291	39	69.76%
	Mid-section	110	22	18.92%
	Offshore	45	6	11.32%
<b>Small gull species</b>	Nearshore	78	19	81.38%

Species	Section of the Export Cable Corridor Study Area	Design-based peak year 1	Design-based peak year 2	Percentage of Birds in each section of the Export Cable Corridor Study Area
	Mid-section	22	7	10.59%
	Offshore	17	6	8.03%
<b>Large gull species</b>	Nearshore	136	30	59.11%
	Mid-section	29	22	16.25%
	Offshore	45	28	24.63%
<b>Black-backed gull species</b>	Nearshore	10	10	100.00%
<b>Fulmar/gull species</b>	Nearshore	29	97	22.30%
	Mid-section	66	22	15.93%
	Offshore	45	262	61.77%
<b>Tern species</b>	Nearshore	10	0	36.79%
	Offshore	17	0	63.21%
<b>Common/Arctic tern</b>	Nearshore	39	187	38.96%
	Mid-section	7	74	16.00%
	Offshore	318	22	45.05%
<b>Common/Arctic/Roseate tern</b>	Offshore	0	151	100.00%
<b>Skua species</b>	Nearshore	19	0	100.00%
<b>Storm petrel species</b>	Offshore	0	22	100.00%
<b>Auk species</b>	Nearshore	450	305	44.52%
	Mid-section	362	302	33.72%
	Offshore	340	73	21.76%
<b>Auk/shearwater species</b>	Nearshore	363	448	55.93%
	Mid-section	89	184	20.20%
	Offshore	279	61	23.87%
<b>Shearwater species</b>	Offshore	6	6	100.00%
<b>Small shearwater species</b>	Mid-section	0	7	56.91%
	Offshore	6	0	43.09%
<b>Guillemot/razorbill</b>	Nearshore	5,530	3,746	45.76%
	Mid-section	2,928	3,519	31.89%
	Offshore	2,783	1,205	22.35%
<b>Cormorant/shag</b>	Nearshore	48	204	100.00%
<b>Unidentified bird species</b>	Nearshore	215	477	37.52%
	Mid-section	155	530	33.01%
	Offshore	173	323	29.47%

**Table 4.4: Design-based Estimates from DAS Across the Entire Cable Corridor Study Area**

Species	April 2022	May 2022	June 2022	July 2022	August 2022	April 2023	May 2023	June 2023	July 2023	August 2023	Peak
<b>Mallard</b>	0	0	0	0	0	0	0	0	0	59	59
<b>Common Eider</b>	147	108	20	0	29	74	157	49	19	295	295
<b>Rock Dove</b>	0	0	0	0	0	19	0	0	0	0	19
<b>Oystercatcher</b>	0	0	0	0	78	0	0	0	0	0	78
<b>Curlew</b>	0	0	0	0	10	0	0	0	0	0	10
<b>Kittiwake</b>	4,028	15,584	25,995	17,611	47,384	12,624	16,581	6,812	8,342	3,273	47,384
<b>Common gull</b>	147	113	0	26	1,321	116	98	49	17	0	1,321
<b>Black-headed gull</b>	0	10	10	10	1,279	0	0	10	0	0	1,279
<b>Great black-backed gull</b>	0	39	7	0	95	27	29	20	46	0	95
<b>Herring gull</b>	654	17,285	2,825	7,117	5,833	971	3,470	7,184	4,233	384	17,285
<b>Lesser black-backed gull</b>	0	39	25	37	63	7	0	39	0	0	63
<b>Sandwich tern</b>	10	0	0	399	426	0	29	10	10	79	426
<b>Arctic tern</b>	0	0	0	7	427	0	6	29	1,364	1,423	1,423
<b>Great skua</b>	0	10	0	15	0	0	0	0	0	6	15
<b>Arctic skua</b>	0	0	0	7	0	0	0	0	6	6	7
<b>Guillemot</b>	45,714	128,665	72,785	48,235	71,864	75,852	87,388	53,679	8,455	5,723	128,665
<b>Razorbill</b>	11,120	13,929	6,510	4,742	31,269	9,654	7,919	14,097	7,406	5,710	31,269
<b>Black guillemot</b>	17	0	0	0	0	0	0	7	0	0	17
<b>Puffin</b>	636	475	423	217	1,021	723	597	1,058	550	6,196	6,196

Species	April 2022	May 2022	June 2022	July 2022	August 2022	April 2023	May 2023	June 2023	July 2023	August 2023	Peak
Red-throated diver	0	20	0	0	0	7	39	0	0	0	39
European storm petrel	0	0	0	0	0	0	0	0	0	11	11
Fulmar	354	455	221	394	338	424	343	176	378	323	455
Manx shearwater	11	6	104	30	0	15	98	17	0	30	104
Gannet	1,167	5,991	3,167	1,081	466	729	1,341	470	1,220	1,868	5,991
Cormorant	0	0	20	0	0	0	20	0	0	0	20
Shag	0	0	10	19	0	0	0	15	0	0	19
Grey heron	0	0	10	0	0	0	0	0	0	10	10
Duck species	0	0	0	0	19	0	0	0	0	0	19
Wader species	0	0	0	0	17	0	0	0	17	0	17
Gull species	10	109	48	40	446	10	0	67	10	0	446
Small gull species	20	29	59	85	97	15	6	27	10	0	97
Large gull species	0	29	10	23	210	0	0	50	11	30	210
Black-backed gull species	0	0	10	0	0	10	0	0	0	0	10
Fulmar/gull species	0	0	7	100	96	19	29	186	262	85	262
Tern species	0	17	0	10	0	0	0	0	0	0	17
Commic Tern	0	19	20	0	357	0	13	0	144	277	357
Commic/Roseate Tern	0	0	0	0	0	0	0	0	151	0	151
Skua species	0	0	0	19	0	0	0	0	0	0	19
Storm petrel species	0	0	0	0	0	0	0	17	0	22	22

Species	April 2022	May 2022	June 2022	July 2022	August 2022	April 2023	May 2023	June 2023	July 2023	August 2023	Peak
<b>Auk species</b>	820	728	457	176	168	248	239	504	326	641	820
<b>Auk/Shearwater species</b>	357	318	496	72	35	36	54	294	448	39	496
<b>Shearwater species</b>	0	0	0	0	6	0	0	0	0	6	6
<b>Small shearwater species</b>	0	0	0	0	6	0	0	0	7	0	7
<b>Guillemot/Razorbill</b>	5,919	7,227	2,819	1,781	6,474	4,614	6,000	6,416	1,725	312	7,227
<b>Cormorant/Shag</b>	29	29	10	10	48	10	10	204	19	30	204
<b>Unidentified bird species</b>	348	306	93	37	53	17	7	1,046	389	69	1,046

**Table 4.5: Summary of Deceased Birds Found Along the Export Cable Corridor Study Area During Extended DAS**

Species	April 2022	May 2022	June 2022	July 2022	August 2022	April 2023	May 2023	June 2023	July 2023	August 2023	TOTAL
Eider	-	-	-	-	-	-	1	-	-	-	1
Kittiwake	-	-	-	-	2	-	-	-	54	9	65
Herring gull	-	-	2	3	1	-	-	-	1	-	7
Great skua	-	-	-	-	-	-	-	-	-	1	1
Gannet	1	12	31	11	23	-	-	1	2	-	81
Gull species	-	-	1	-	1	-	-	-	3	-	5
Small gull species	-	-	-	1	-	-	-	-	-	-	1
Large gull species	-	1	-	-	-	-	-	-	4	-	5
Fulmar/gull species	-	-	-	4	4	-	-	12	62	47	129
Auk species	-	-	-	-	-	-	-	-	1	-	1
Guillemot/Razorbill species	2	-	-	1	10	-	3	1	74	22	113
Unidentified bird species	2	1	2	4	5	-	2	1	86	16	119
<b>TOTAL</b>	<b>5</b>	<b>14</b>	<b>36</b>	<b>24</b>	<b>46</b>	<b>-</b>	<b>6</b>	<b>15</b>	<b>287</b>	<b>95</b>	<b>528</b>

## 4.4 Comparison of Surveys and WeBS Data

4.4.1 The core count data from the WeBS covers the period of 2022 to 2023 in Haugh's Bay and included the following information:

- five-year average peak count using yearly data from 2018/2019 to 2022/2023; and
- peak counts per species surveyed between 2022 and 2023.

4.4.2 No low tide data or monthly peak counts were available at the time of writing for this report.

4.4.3 WeBS count data were obtained from the BTO for the most recent high tide datasets gathered from the survey area which most closely corresponded to the Proposed Development intertidal survey areas. This corresponds to the WeBS St Cyrus (8.5 km south-west of the intertidal survey area) to Stonehaven (16.5 km north-east of the intertidal survey area) count sector, with the most recent counts dating from 2022 to 2023. With the intertidal survey area itself being 2.5 km across, the WeBS count section covers significantly more of the coast.

4.4.4 Table 4.6 to Table 4.11 present the most recent peak count per species and the overall five-year mean peak count per species from the relevant count sector. It is important to note that this WeBS count sector far extends the Export Cable Landfall Intertidal Study Area (see Figure 3.1) and therefore is likely to include a higher number of species and records. Furthermore, as the DAS focuses primarily on birds over sea, other intertidal species may be underestimated.

4.4.5 The WeBS data lists 32 species as being recorded in Haughs Bay, which is only five less than recorded in the intertidal surveys. This can be explained by several seabirds, raptors and corvids being included in the Bowdun OWF surveys, which would not have been taken into account for the WeBS. Without those, there is a greater number of species recorded in the WeBS, possibly reflecting the larger extent of the survey area.

4.4.6 Deceased and unidentified birds from both the non-breeding intertidal surveys and the Extended DAS have been omitted from the tables below.

### Waterfowl

4.4.7 The species of geese recorded during the non-breeding intertidal surveys were inconsistent with the single species recorded during the WeBS. Only Brent goose was recorded within the WeBS data, whereas the intertidal survey recorded Canada goose, barnacle goose and pink-footed goose. These numbers mostly represent a group of individuals flying over the survey area once over the non-breeding period (Table 4.1), making it unlikely that they are regular visitors.

4.4.8 Wigeon, mallard and eider were recorded in moderate numbers in both the intertidal survey (peak count of 50 sitting individuals (Table 4.2)) and the WeBS sector (100 individuals (Woodward *et al.*, 2024)). The higher numbers in the WeBS sector can be attributed to the larger survey area.

- 4.4.9 Common scoter, goosander and red-breasted merganser were recorded in the WeBS sector but not in the intertidal survey, likely due to the larger area covered for the WeBS surveys. Additionally, a large number of tufted duck were recorded in the intertidal survey area but not in the WeBS sector, however these occurred all in the same survey month (Table 4.1) so are likely not regular visitors.
- 4.4.10 Only two species of waders, oystercatcher and curlew, were recorded in the Extended DAS data.

**Table 4.6: Summary of the Waterfowl Peak Count from 2022/2023 and the Average Five-Year Peak WeBS Count Data Compared to the Annual Peak Count Data Recorded in the Survey Area during the Intertidal Surveys and the DAS Nearshore Surveys**

Species	Peak count from the intertidal surveys	Peak count from the DAS nearshore surveys	Peak WeBS count data from 2022/2023	Average five-year peak WeBS count data
Brent goose	0	0	14	3
Canada goose	7	0	0	0
Barnacle goose	12	0	0	0
Pink-footed goose	85	0	0	0
Shelduck	5	0	0	1
Wigeon	57	0	25	21
Mallard	41	6	83	57
Tufted duck	39	0	0	0
Eider	63	30	145	117
Common scoter	0	0	10	3
Goosander	0	0	58	61
Red-breasted merganser	0	0	0	9

### Divers

- 4.4.11 Red-throated diver were recorded in very small numbers in the intertidal surveys, DAS nearshore surveys and the WeBS. Conversely, black-throated diver were recorded at a peak of one individual in the intertidal survey only.

**Table 4.7: Summary of the Diver Peak Count from 2022/2023 and the Average Five-Year Peak Count from the WeBS Data Compared to the Annual Peak Count Data Recorded in the Survey Area during the Intertidal Surveys and the DAS Nearshore Surveys**

Species	Peak count from the intertidal surveys	Peak count from the DAS nearshore surveys	Peak WeBS count data from 2022/2023	Average five-year peak WeBS count data
Red-throated diver	1	4	1	3
Black-throated diver	1	0	0	0

### Wader Species

- 4.4.12 Oystercatcher, ringed plover, and curlew were all recorded with similar peak counts for the WeBS 2022/2023 and five-year average. This matches what was found in the 2023/2024 intertidal survey, which suggests that these species regularly use the survey area. The nearshore DAS section recorded much lower numbers of oystercatcher and curlew, because it only identifies birds over sea, so this is likely a substantial underrepresentation.
- 4.4.13 Ruddy turnstone and redshank were also recorded in with similar peak counts for the WeBS 2022/2023 and five-year average, however they had a smaller peak count during the intertidal survey. This is likely caused by the smaller survey area, so it can be assumed that these species are regular visitors to the area.
- 4.4.14 Dunlin, purple sandpiper, knot and curlew sandpiper had much lower peak counts or were absent during the intertidal surveys compared to the WeBS. This could either be attributed to the larger survey area for the latter, or that these species are not regular visitors to the intertidal survey area.
- 4.4.15 Snipe and golden plover were recorded during the intertidal survey but not during the 2022/2023 or five-year average WeBS.

**Table 4.8: Summary of the Wading Species Peak Count from 2022/2023 and the Average Five-Year Peak Count from the WeBS Data Compared to the Annual Peak Count Data Recorded in the Survey Area during the Intertidal Surveys and the DAS Nearshore Surveys**

Species	Peak count from the intertidal surveys	Peak count from the DAS nearshore surveys	Peak WeBS count data from 2022/2023	Average five-year peak WeBS count data
Oystercatcher	296	8	271	279
Lapwing	272	0	48	94
Golden plover	2	0	0	0
Ringed plover	22	0	31	21
Curlew	108	1	142	103
Ruddy turnstone	59	0	119	87
Knot	0	0	1	1
Curlew sandpiper	0	0	6	1
Dunlin	1	0	49	11
Purple sandpiper	4	0	28	46
Snipe	37	0	1	0
Redshank	33	0	179	90

### Waterbirds

- 4.4.16 Cormorants were recorded in high numbers during the WeBS (five-year average peak count of 99), which is not the case for the intertidal survey or the nearshore DAS. This is likely due to a significantly smaller survey area.
- 4.4.17 Shag occurred in a very small number in the WeBS sector, which matches what was found during the intertidal surveys and nearshore DAS.

**Table 4.9: Summary of the Waterbirds Peak Count from 2022/2023 and the Average Five-Year Peak Count from the WeBS Data Compared to the Annual Peak Count Data Recorded in the Survey Area during the Intertidal Surveys and the DAS Nearshore Surveys**

Species	Peak count from the intertidal surveys	Peak count from the DAS nearshore surveys	Peak WeBS count data from 2022/2023	Average five-year peak WeBS count data
Cormorant	2	2	102	99
Shag	4	2	10	6

### Gulls and Terns

- 4.4.18 Black-headed gull peak counts were similar for the intertidal survey, nearshore DAS, 2022/2023 WeBS and average five-year WeBS. Great black-backed gull and artic tern peak count for the intertidal survey also closely matches the average five-year WeBS peak count. This indicates that these species frequent the survey area regularly.
- 4.4.19 Peak counts for common gull and herring gull are much higher for the intertidal survey and nearshore DAS compared to the WeBS data. Furthermore, sandwich tern and lesser black-backed gull were not recorded at all during the WeBS over the five-year period. This is likely due to recording gulls and terns being optional in the WeBS survey methodology.
- 4.4.20 Within the nearshore DAS, kittiwake were recorded in substantially higher numbers than the during the WeBS. This is because the DAS nearshore portion of the Export Cable Corridor Study Area extends 10 km from the shore whereas the WeBS survey only extends down to low tide.

**Table 4.10: Summary of Gulls and Terns Peak Count from 2022/2023 and the Average Five-Year Peak Count from the WeBS Data Compared to the Annual Peak Count Data Recorded in the Survey Area during the Intertidal Surveys and the DAS Nearshore Surveys**

Species	Peak count from the intertidal surveys	Peak count from the DAS nearshore surveys	Peak WeBS count data from 2022/2023	Average five-year peak WeBS count data
Kittiwake	0	1,627	4	1
Common gull	175	126	2	30
Black-headed gull	175	132	21	221
Great black-backed gull	60	9	6	62
Herring gull	285	1,760	44	104
Lesser black-backed gull	6	5	0	0
Sandwich tern	0	44	0	0
Common tern	0	0	0	6
Arctic tern	25	69	0	22

#### Seabirds and Other Birds

- 4.4.21 The WeBS recorded similar peak counts of grey heron during 2022/2023 and the five-year period to what was recorded in the intertidal surveys and nearshore DAS, indicating that this species is regularly found in the survey area.
- 4.4.22 Kingfisher were recorded once during the 2022/2023 WeBS, but as the average five-year peak count is zero it is unlikely to be regularly found within the survey area.
- 4.4.23 No seabirds or other species were recorded during the WeBS as these species are not assessed by WeBS, therefore no comparison is possible.

**Table 4.11: Summary of Seabirds and Other Birds Peak Count from 2023/2024 and the Average Five-Year Peak Count from the WeBS Data Compared to the Annual Peak Count Data Recorded in the Survey Area during the Intertidal Surveys and the DAS Nearshore Surveys**

Species	Peak count from the intertidal surveys	Peak count from the DAS nearshore surveys	Peak WeBS count data from 2022/2023	Average five-year peak WeBS count data
Rock dove	0	2	0	0
Great skua	0	1	0	0
Common guillemot	2	8,084	0	0
Grey heron	9	1	3	7
Razorbill	0	1,222	0	0
Black guillemot	0	1	0	0
Puffin	0	307	0	0
Fulmar	0	28	0	0
Manx shearwater	0	10	0	0
Gannet	0	466	0	0
Common buzzard	2	0	0	0
Short-eared owl	1	0	0	0
Kingfisher	0	0	1	0
Skylark	4	0	0	0
Song thrush	1	0	0	0
Stonechat	1	0	0	0
Linnet	20	0	0	0
Yellowhammer	6	0	0	0

### Overall

4.4.24 Overall, the WeBS data suggest that the coastal habitats of the survey area support a similar diversity and abundance of waterbird species to that recorded by the nearshore DAS and intertidal bird surveys. Therefore, the nearshore DAS and intertidal bird survey data are considered to provide a comprehensive and robust baseline, identifying the diversity and abundance of the birds occurring within the survey area.

## **4.5 Summary of Survey Results of the Intertidal and Nearshore Habitats Specifically in Relation to Haughs Bay**

- 4.5.1 This section considers the importance of the intertidal and nearshore habitats of the Export Cable Corridor Study Area for qualifying bird species associated with the designated sites in proximity to Haughs Bay. No SPAs overlap the Export Cable Corridor; however, one (Fowlsheugh SPA) is within the Export Cable Corridor Study Area. Table 4.12 presents the peak count of birds that are qualifying features of this SPA and recorded in the survey area, compared to the peak count of birds in the SPA and in the UK population. An estimate of the breeding and wintering populations in the UK is derived from a summary of the fourth report by the Avian Population Estimates Panel (Woodward *et al.*, 2020), and the seasonal definitions are derived from NatureScot (2020).
- 4.5.2 The peak count of qualifying features in the Export Cable Corridor Study Area refers to the design-based estimated number of individuals recorded in the DAS during the breeding season.

**Table 4.12: Peak Counts of Qualifying Features Recorded Within the Export Cable Corridor Study Area. Boldface Percentages Represent Peak Counts >1% of the SPA Population**

Species	UK wintering population	UK breeding population	SPA population (adults)	Peak estimate in survey area during the species-specific breeding and non-breeding season	Peak count – Percentage (%) of UK population	Peak count – Percentage (%) of the SPA population
<b>Fowlsheugh SPA</b>						
<b>Razorbill (breeding)</b>	-	165,000	18,844	31,269	<b>19.0%</b>	<b>165.9%</b>
<b>Fulmar (breeding)</b>	-	350,000	1,050	455	0.1%	<b>43.3%</b>
<b>Herring gull (breeding)</b>	740,000	130,000	2,070	Breeding: 17,285	Breeding pop: <b>13.3%</b>	Breeding pop: <b>835.0%</b>
<b>Kittiwake (breeding)</b>	-	205,000	28,078	47,384	<b>23.1%</b>	<b>168.8%</b>
<b>Guillemot (breeding)</b>	-	950,000	93,570	128,665	<b>13.5%</b>	<b>137.5%</b>

## **4.6 Desk Study of the Area Beyond the Nearshore Environment**

- 4.6.1 The characterisation of wetland bird and seabird abundance and distribution for the section of the Export Cable Corridor Study Area beyond the 250 m of the shoreline that is partially covered by the DAS used pre-existing published data, notably Woodward *et al.* (2023), Waggitt *et al.* (2019) and Wakefield *et al.* (2017).
- 4.6.2 Consideration has been given to contextual data, such as fish spawning grounds, bathymetry and benthic habitats as potential influences on bird abundance and distribution.
- 4.6.3 The results of the desk study review characterising bird interests of the Export Cable Corridor Study Area are given in Table 4.13.

**Table 4.13: Characterisation of Bird Interests Within the Export Cable Corridor Study Area Beyond the 250 m of the Shoreline that is Partially Covered by the DAS**

Species	Summary Description of Presence Along the Offshore portion of the Export Cable Corridor Study Area (Nearshore section: within 10 km of coast, Mid-section: 10 km to 25 km from the coast, Offshore section: beyond 25 km of the coast)	Qualifying Season	Source
<b>Mallard</b>	The desk study shows that mallard that breed in Britain are relatively sedentary and do not tend to travel long distances. This confirms that it is unlikely that mallard will be found in the mid-section or offshore section of the Export Cable Corridor Study Area, which was proven by birds only being recorded in the nearshore section during the Extended DAS (Table 4.3).	N/A	DAS; Woodward <i>et al.</i> (2023)
<b>Eider</b>	The desk study shows that there is no indication that this species is present in significant densities along the mid or offshore portion of the Export Cable Corridor Study Area in any season, as eider typically forage in waters less than 4 m deep (Pethon, 1967). This is evidenced by 99.38% of the total number of eider recorded during the Extended DAS being located in the nearshore portion of the Export Cable Corridor Study Area, the remaining 0.62% being in the offshore section.  Eider were also recorded nearshore during the non-breeding intertidal survey (Table 4.1 and Table 4.2), explained by the fact that this species largely remains in Britain year-round.	N/A	DAS; Woodward <i>et al.</i> (2023); Furness (2015); Woodward <i>et al.</i> (2024)
<b>Rock dove</b>	The desk study shows that there is no indication that this species is present in significant densities along the mid or offshore portion of the Export Cable Corridor Study Area in any season, though two individuals were recorded in the Extended DAS data.	N/A	DAS; Smith (2023)
<b>Oystercatcher</b>	The desk study shows that there is a possibility that oystercatcher migratory routes may overlap the Export Cable Corridor Study Area, but mostly they will remain nearshore or inland. This is evidenced by the DAS only recording oystercatcher at the nearshore section and during the non-breeding intertidal surveys.	N/A	DAS; Woodward <i>et al.</i> (2023); O'Brian and Bainbridge (2002)
<b>Curlew</b>	The desk study shows that there is a possibility that curlew migratory routes may overlap the Export Cable Corridor Study Area, but mostly they will remain nearshore or inland. This is evidenced by the DAS only recording curlew at the nearshore section and moderate numbers recorded during the non-breeding intertidal surveys.	N/A	DAS; Woodward <i>et al.</i> (2023); O'Brian and Bainbridge (2002)

Species	Summary Description of Presence Along the Offshore portion of the Export Cable Corridor Study Area (Nearshore section: within 10 km of coast, Mid-section: 10 km to 25 km from the coast, Offshore section: beyond 25 km of the coast)	Qualifying Season	Source
<b>Kittiwake</b>	<p>Kittiwake were recorded in all three sections of the Export Cable Corridor Study Area of the Extended DAS data, with 49.71% of the total individuals recorded found in the nearshore section as well as 32.65% and 17.64% for the mid-section and offshore section respectively.</p> <p>The desk study indicates that this species can be found in the breeding season in medium to high densities, notably associated with foraging activity. However, kittiwake exhibit highly flexible foraging strategies due to prey distribution (Daunt <i>et al.</i>, 2002; Camphuysen, 2005), therefore although they could potentially occur at any point in the Export Cable Corridor Study Area these will be temporary and transient.</p> <p>Kittiwake are likely to be present during the non-breeding season in moderate densities throughout the offshore portion of the Export Cable Corridor Study Area. They were not recorded during the intertidal surveys (Table 4.1).</p> <p>This species is also a qualifying feature of Fowlsheugh SPA during the breeding season, located within the Export Cable Study Area (Table 3.1).</p>	Breeding	DAS; Wakefield <i>et al.</i> (2017); Cleasby <i>et al.</i> (2020); Waggitt <i>et al.</i> (2019); Camphuysen <i>et al.</i> (2007); Daunt <i>et al.</i> (2002); Camphuysen (2005)
<b>Common gull</b>	The desk study shows that there is no indication that this species is present in significant densities along the mid-section or offshore portion of the Export Cable Corridor Study Area in any season. Common gull remain primarily in inshore waters, which is evidenced by 91.59% of the total individuals recorded in the nearshore section of the Export Cable Corridor Study Area. Any common gull recorded in the further sections may reflect birds that are migrating from more northerly colonies in Norway.	N/A	DAS; Woodward <i>et al.</i> (2024)
<b>Black-headed gull</b>	The desk study shows that there is no indication that this species is present in significant densities along the offshore portion of the Export Cable Corridor Study Area in any season. This species is mostly found either to be in coastal or inland waterbodies, which would explain why they were recorded only in the nearshore portion of the Export Cable Corridor Study Area (Table 4.3) during the non-breeding season and were recorded most months during the non-breeding intertidal surveys.	N/A	DAS; Woodward <i>et al.</i> (2024)

Species	Summary Description of Presence Along the Offshore portion of the Export Cable Corridor Study Area (Nearshore section: within 10 km of coast, Mid-section: 10 km to 25 km from the coast, Offshore section: beyond 25 km of the coast)	Qualifying Season	Source
<b>Great black-backed gull</b>	<p>Great black-backed gull were recorded in all three sections of the Export Cable Corridor Study Area of the Extended DAS data in very low numbers, with 81.19% of the total individuals recorded found in the nearshore section as well as 16.70% and 2.11% for the mid-section and offshore section respectively.</p> <p>The desk study indicates that the low numbers are likely due to the majority of breeding great black-backed gull residing in Orkney, Shetland and the Western Isles, which are not within foraging range of the Export Cable Corridor Study Area. Higher densities of birds along the nearshore areas, as we see in Table 4.3, is likely caused by individuals highly associating with fishing vessels.</p>	N/A	DAS; Woodward <i>et al.</i> (2024)
<b>Herring gull</b>	<p>Herring gull were recorded in all three sections of the Export Cable Corridor Study Area of the Extended DAS data in moderate to high numbers, with 72.31% of the total individuals recorded found in the nearshore section as well as 15.22% and 12.47% for the mid-section and offshore section respectively.</p> <p>The desk study indicates that this species can be found in the non-breeding season in low densities throughout the Export Cable Corridor Study Area, likely due to individuals from northerly colonies migrating for the winter. This coincides with the recordings from the intertidal surveys (Table 4.1 and Table 4.2). During the breeding season, herring gull stay close to the coast, which is evidenced by the DAS results (Table 4.3).</p>	Breeding	DAS; Waggitt <i>et al.</i> (2019); Woodward <i>et al.</i> (2024)
<b>Lesser black-backed gull</b>	<p>The desk study indicates that the majority of lesser black-backed gull migrate south for the winter, with only small densities present along the Export Cable Corridor Study Area during the breeding season.</p> <p>Despite this, lesser black-backed gull were recorded in small numbers during both the intertidal surveys and all three sections of the Export Cable Corridor Study Area during the Extended DAS. This could be due to this species being highly associated with fishing vessels.</p>	N/A	DAS; Waggitt <i>et al.</i> (2019); Woodward <i>et al.</i> (2024)

Species	Summary Description of Presence Along the Offshore portion of the Export Cable Corridor Study Area (Nearshore section: within 10 km of coast, Mid-section: 10 km to 25 km from the coast, Offshore section: beyond 25 km of the coast)	Qualifying Season	Source
<b>Sandwich tern</b>	<p>Sandwich tern were recorded in the Extended DAS data in the nearshore section of the Export Cable Corridor Study Area only, and were not recorded during the non-breeding season intertidal surveys.</p> <p>The desk study indicates that sandwich tern primarily forage in waters within 1 km from their colony on the coast up to 10 km, with the probability of occurrence of foraging birds highest in areas with water less than 10 m deep and with low levels of temperature stratification.</p> <p>Therefore, it is unlikely that sandwich tern would occur in significant numbers in the mid-section or offshore section of the Export Cable Corridor Study Area.</p>	N/A	DAS; Baxter <i>et al.</i> (2011)
<b>Arctic tern</b>	<p>Arctic tern were recorded in all three sections of the Export Cable Corridor Study Area of the Extended DAS data, with 32.80% of the total individuals recorded found in the nearshore section as well as 31.91% and 35.28% for the mid-section and offshore section respectively.</p> <p>A group of 25 individuals was also recorded during the non-breeding nearshore surveys (Table 4.1).</p> <p>The desk study indicates that Arctic tern primarily remain inshore during the breeding season, however this was not what was found during the Extended DAS. Individuals recorded in the mid-section and offshore section of the Export Cable Corridor Study Area could either be attributed to adults returning to more northerly colonies during May, to failed and non-breeding adults or to dispersal in August from the main breeding sites.</p>	N/A	DAS; Woodward <i>et al.</i> (2024)
<b>Great skua</b>	<p>Great skua were recorded in very low numbers in all three sections of the Export Cable Corridor Study Area of the Extended DAS data, with 32.53% of the total individuals recorded found in the nearshore section as well as 48.93% and 18.54% for the mid-section and offshore section respectively.</p> <p>The desk study shows that great skua are widespread in low densities during the Extended DAS, are commonly associated with fishing vessels and are often found in deep waters in low densities. Great skua are unlikely to occur in the Export Cable Corridor Study Area in significant numbers as the majority breed in northern Scotland, such as Shetland or Orkney.</p>	N/A	DAS; Woodward <i>et al.</i> (2024); Wade <i>et al.</i> (2014)

Species	Summary Description of Presence Along the Offshore portion of the Export Cable Corridor Study Area (Nearshore section: within 10 km of coast, Mid-section: 10 km to 25 km from the coast, Offshore section: beyond 25 km of the coast)	Qualifying Season	Source
<b>Arctic skua</b>	<p>Arctic skua were recorded in very low numbers in the mid-section and offshore section of the Export Cable Corridor Study Area.</p> <p>The desk study shows that there is no indication that this species is present in significant densities along the mid or offshore portion of the Export Cable Corridor Study Area in any season as they primarily breed in the Northern Isles of Scotland, in Shetland and Orkney.</p>	N/A	DAS; Woodward <i>et al.</i> (2024)
<b>Guillemot</b>	<p>Guillemot were recorded in all three sections of the Export Cable Corridor Study Area of the Extended DAS data, with 46.85% of the total individuals recorded found in the nearshore section as well as 29.07% and 24.07% for the mid-section and offshore section respectively.</p> <p>This species was also recorded twice during the non-breeding nearshore surveys (Table 4.1).</p> <p>The desk study indicates that this species can be found in the breeding season in medium to high densities. Moderate to low densities occur throughout the offshore portion of the Export Cable Corridor Study Area during the non-breeding season, though this can have significant variance each year (Buckingham <i>et al.</i>, 2022).</p> <p>This species is also a qualifying feature of Fowlsheugh SPA during the breeding season, located within the Export Cable Corridor Study Area (Table 3.1).</p>	Breeding	DAS; Cleasby <i>et al.</i> (2020); Wakefield <i>et al.</i> (2017); Waggitt <i>et al.</i> (2019); Camphuysen, (2005); Buckingham <i>et al.</i> (2022)
<b>Razorbill</b>	<p>Razorbill were recorded in all three sections of the Export Cable Corridor Study Area of the Extended DAS data, with 51.14% of the total individuals recorded found in the nearshore section as well as 30.95% and 17.91% for the mid-section and offshore section respectively.</p> <p>The desk study indicates that razorbill can be found in the breeding season in moderate densities, and low densities during the non-breeding period throughout the offshore portion of the Export Cable Corridor Study Area with significant variance each year (Buckingham <i>et al.</i>, 2022; St John Glew <i>et al.</i>, 2019). Despite this, they were not recorded during the intertidal surveys (Table 4.1).</p> <p>This species is also a qualifying feature of Fowlsheugh SPA during the breeding season, located within the Export Cable Corridor Study Area (Table 3.1).</p>	Breeding	DAS; Cleasby <i>et al.</i> (2020); Wakefield <i>et al.</i> (2017); Waggitt <i>et al.</i> (2019); Woodward <i>et al.</i> (2024); Camphuysen, (2005); Buckingham <i>et al.</i> (2022)

Species	Summary Description of Presence Along the Offshore portion of the Export Cable Corridor Study Area (Nearshore section: within 10 km of coast, Mid-section: 10 km to 25 km from the coast, Offshore section: beyond 25 km of the coast)	Qualifying Season	Source
<b>Black guillemot</b>	<p>The desk study shows that the breeding distribution of black guillemot stretches from north-east Scotland to Scandinavia, Spitsbergen and northern Russia. This species is usually found inshore, which is evidenced by the very low number recorded during the DAS (three individuals), of which 39.90% occurred in the nearshore section and 60.10% in the mid-section. It is unlikely that black guillemot occur in significant numbers along Export Cable Corridor Study Area as they are a non-migratory species that breeds primarily in the North of Scotland.</p>	N/A	DAS; Woodward <i>et al.</i> (2024); Johnston <i>et al.</i> (2018)
<b>Puffin</b>	<p>Puffin were recorded in all three sections of the Export Cable Corridor Study Area of the Extended DAS data, with 41.38% of the total individuals recorded found in the nearshore section as well as 35.56% and 23.07% for the mid-section and offshore section respectively.</p> <p>The desk study indicates that this species can be found in all seasons in moderate to low densities within the Export Cable Corridor Study Area with significant variance during the non-breeding season (St John Glew <i>et al.</i>, 2019).</p>	N/A	DAS; Camphuysen, (2005); Waggitt <i>et al.</i> (2019);
<b>Red-throated diver</b>	<p>Red-throated diver were scarcely recorded during the Extended DAS, with the majority being recorded in the nearshore section of the Export Cable Corridor Study Area (Table 4.3).</p> <p>The desk study shows that red-throated diver breed mainly in lochs in the northern and Western Isles and are mostly absent during the non-breeding season. A single individual was recorded during the non-breeding intertidal surveys, which could be a migrant bird arriving from Scandinavia.</p>	N/A	DAS; Gibbons <i>et al.</i> (1997); Woodward <i>et al.</i> (2024)
<b>European storm petrel</b>	<p>The desk study shows that there is no indication that this species is present in significant densities along the offshore portion of the Export Cable Corridor Study Area in any season. This coincides with only two European storm petrel being recorded in the offshore section of the DAS during the breeding season, likely migrating from Shetland to their wintering grounds off Africa.</p>	N/A	DAS; Waggitt <i>et al.</i> (2019); Woodward <i>et al.</i> (2024)

Species	Summary Description of Presence Along the Offshore portion of the Export Cable Corridor Study Area (Nearshore section: within 10 km of coast, Mid-section: 10 km to 25 km from the coast, Offshore section: beyond 25 km of the coast)	Qualifying Season	Source
<b>Fulmar</b>	<p>Fulmar were recorded in moderate to low numbers in all three sections of the Export Cable Corridor Study Area of the Extended DAS data, with 50.16% of the total individuals recorded found in the nearshore section as well as 19.87% and 29.97% for the mid-section and offshore section respectively. No fulmar were recorded during the non-breeding intertidal surveys.</p> <p>The desk study indicates that this species can be found in medium and low densities throughout the Export Cable Corridor Study Area during the breeding and non-breeding seasons respectively. Fulmars range widely when feeding during the breeding season, which can explain the higher proportion of individuals around the coast and the offshore section recorded during the DAS (Table 4.3).</p> <p>This species is also a qualifying feature of Fowlsheugh SPA during the breeding season, located within the Export Cable Corridor Study Area (Table 3.1).</p>	Breeding	DAS; Waggitt <i>et al.</i> (2019); Woodward <i>et al.</i> (2024)
<b>Manx shearwater</b>	<p>Manx shearwater were recorded in very small numbers during the Extended DAS, with 66.62% of the total individuals recorded in the nearshore section, 18.95% in the mid-section and 14.43% in the offshore section (Table 4.3). No Manx shearwater were recorded during the non-breeding intertidal surveys.</p> <p>The desk study indicates that most Manx shearwater colonies are situated on the West coast of the UK and in more Northerly locations such as the Faroes and Iceland.</p>	N/A	DAS; Waggitt <i>et al.</i> (2019); Woodward <i>et al.</i> (2024)
<b>Gannet</b>	<p>Gannet were recorded in small to moderate numbers during the Extended DAS, with 40.15% of the total individuals recorded in the nearshore section, 23.71% in the mid-section and 36.14% in the offshore section (Table 4.3). No gannets were recorded during the non-breeding intertidal surveys.</p> <p>The desk study shows that gannet are present along the Export Cable Corridor Study Area in low densities during the non-breeding season. These increase during the breeding season, however hotspots in the UK are mostly on the west coast or further south from the Export Cable Corridor Study Area.</p>	N/A	DAS; Waggitt <i>et al.</i> (2019); Woodward <i>et al.</i> (2024); Grecian <i>et al.</i> (2012)

Species	Summary Description of Presence Along the Offshore portion of the Export Cable Corridor Study Area (Nearshore section: within 10 km of coast, Mid-section: 10 km to 25 km from the coast, Offshore section: beyond 25 km of the coast)	Qualifying Season	Source
<b>Cormorant</b>	<p>Cormorant were recorded twice in the Extended DAS data in the nearshore section of the Export Cable Corridor Study Area and 11 times during the non-breeding intertidal surveys (Table 4.3, Table 4.1 and Table 4.2).</p> <p>The desk study shows that though cormorant occur in most shallow inshore waters in Scotland, there is no evidence that this species is present in great numbers along the Export Cable Corridor Study Area during the breeding season. During the non-breeding season, individuals from three SPAs are present in the northwest of the North Sea (Furness, 2015), though remaining close to shore as they usually feed in water less than 10m deep.</p>	N/A	DAS; Furness (2015); Woodward <i>et al.</i> (2024)
<b>Shag</b>	<p>Shag were recorded in small numbers during both the breeding season DAS and the non-breeding intertidal surveys. During the breeding season, shag were recorded in the nearshore section and mid-section (Table 4.3).</p> <p>The desk study demonstrated that there is no indication that shag are present in significant densities along the offshore portion of the Export Cable Corridor Study Area in any season. This is typically because shags rarely forage away from the shore and are typically found in waters less than 40 m deep (Wanless <i>et al.</i>, 1991).</p>	N/A	DAS; Cleasby <i>et al.</i> (2020); Wakefield <i>et al.</i> (2017); Waggitt <i>et al.</i> (2019)
<b>Grey heron</b>	<p>Grey heron are widespread throughout Scotland year round, with their favoured habitat being near sea level, particularly sea lochs. This is evidenced by grey heron records being limited to the nearshore section of the DAS only, as well as records every month during the non-breeding intertidal surveys.</p> <p>The desk study therefore demonstrated that there is no indication that grey heron are present in significant densities along the offshore portion of the Export Cable Corridor Study Area in any season.</p>	N/A	DAS; Carss and Elston (2003); Marquiss (1989)

## 5 Summary and Conclusions

5.1.1 The intertidal survey and nearshore DAS bird data demonstrate that the survey area supports a diversity of bird species typical of coastal areas in Aberdeenshire, including waterfowl (predominantly seaducks), wading birds, divers, gull, terns and other seabirds.

5.1.2 This section addresses the four main objectives of the report outlined in Section 1.2. These objectives provide an appropriate framework for summarising the key findings and conclusions as follows:

- identification of areas supporting significant numbers (>1%) of qualifying features of coastal/marine SPAs and Ramsar Sites;
- identification of areas important for large assemblages of wetland birds and seabirds;
- identification of seasonal periods of sensitivity for seabirds and wetland birds; and
- providing a robust baseline characterisation to inform environmental assessment and monitoring.

### **Identification of Areas Supporting Significant Numbers (i.e. >1%) of Qualifying Features of the SPAs and Ramsar Sites**

5.1.3 The Fowlsheugh SPA, located 5.69 km from the Export Cable Corridor at its closest point (Table 3.1) overlaps with the Export Cable Corridor Study Area. During the breeding season peak counts within the study area exceeded the 1% population threshold for all qualifying features. Notably, the herring gull breeding population from Fowlsheugh SPA was recorded at 85.46% of the SPA population within the Export Cable Corridor Study Area (Table 4.12). These data confirm the importance of the Export Cable Corridor Study Area for SPA qualifying seabird species during the breeding season.

### **Identify Any Areas Which are of Importance for Large Assemblages of Wetland Birds and Seabirds**

5.1.4 The intertidal and nearshore areas of Haughs Bay support a diverse assemblage of wetland birds and seabirds. Non-breeding intertidal surveys identified 37 species plus nine unidentified species. During high tide, oystercatcher, lapwing, curlew, and redshank were consistently recorded, while at low tide black-headed gull, curlew, herring gull, oystercatcher, and redshank were the most frequent. Recorded behaviours, including roosting and foraging, indicate that the intertidal area of Haughs Bay provides a sheltered habitat utilised by non-breeding wetland bird assemblages.

5.1.5 Breeding nearshore and offshore DAS surveys identified the highest species diversity in the nearshore section of the Export Cable Corridor Study Area. Species designated as qualifying features or named components of the breeding seabird assemblage for Fowlsheugh SPA were observed throughout the study area, indicating that the corridor provides suitable habitat for breeding seabirds.

### **Identify Seasonal Periods of Sensitivity for Seabirds and Wetland Birds**

- 5.1.6 During the breeding season, the Export Cable Corridor Study Area supports a range of SPA qualifying seabird species as described above. Moreover, it was identified that the study area may overlap with the migratory routes of both oystercatcher and curlew, with the majority of observations recorded within the nearshore or inland areas. Therefore, the area could be used as a staging post for both species. Additionally, it was found that the study area is used by all of the qualifying breeding seabirds of Fowlsheugh SPA (Table 4.12).

### **Provide a Baseline Characterisation**

- 5.1.7 The combined intertidal surveys, nearshore and offshore DAS, and supporting desk studies provide a robust and comprehensive baseline characterisation of bird species diversity and abundance within the Export Cable Corridor Study Area. Comparative WeBS data closely align with the survey findings, reinforcing the reliability of the dataset in representing the typical bird assemblages of the area.
- 5.1.8 The survey scope encompassed all key habitats and seasonal periods necessary to capture the presence and distribution of relevant species, including those qualifying under nearby SPAs. This comprehensive dataset forms a solid foundation to inform the EIA and the Report to Inform the Appropriate Assessment.

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## ANNEX A. ADDITIONAL INFORMATION

### A1 Survey Details

#### A1.1 Non-breeding Intertidal Surveys

A1.1.1 Details of the intertidal surveys are provided in Table A1.1 and Table A1.2

Table A1.1: Details of 2023/2024 Intertidal Survey Dates, Times and Weather Conditions

Survey ID	Month	Date	Tide	Start time	End time	Duration (hrs)	Wind speed	Wind direction	Rain	Cloud cover	Visibility
1	September	26/09/2023	Low tide	17:00:00	19:00:00	2	4	N	0	2	2
2		28/09/2023	High tide	13:00:00	16:30:00	4	5	N	0	8	2
3	October	12/10/2023	High tide	12:30:00	15:30:00	3	3	NE	0	6	2
4		24/10/2023	Low tide	15:00:00	17:30:00	3	3	SW	0	5	2
5	November	07/11/2023	Low tide	14:00:00	16:30:00	3	3	SE	0	7	2
6		28/11/2023	High tide	13:00:00	15:00:00	3	3	SE	0	3	2
7	December	13/12/2023	High tide	13:00:00	15:00:00	2	2	SW	0	6	2
8		19/12/2023	Low tide	11:30:00	13:30:00	2	2	NE	0	1	2
9	January	24/01/2024	High tide	12:00:00	14:30:00	3	4	E	0	5	2
10		30/01/2024	Low tide	09:30:00	12:30:00	3	1	E	0	0	2
11	February	08/02/2024	High tide	11:00:00	14:00:00	3	3	SW	0	7	2
12		27/02/2024	Low tide	08:00:00	11:00:00	3	2	NE	1	8	2
13	March	08/03/2024	High tide	11:30:00	14:00:00	3	2	W	0	8	2
14		26/03/2024	Low tide	08:00:00	11:00:00	3	2	SW	1	8	2

Key: Wind speed: according to Beaufort scale; Wind direction: according to 16-point compass; Rain: 0 = None; 1 = Drizzle/Mist; 2 = Light showers; 3 = Heavy showers; 4 = Heavy rain; Cloud cover: in eighths of sky (oktas); Cloud height: 0 = <150 m; 1 = 150-500 m; 2 = >500 m; Visibility: 0 = Poor (<1 km); 1 = Moderate (1 -3 km); 2 = Good (>3 km)

**Table A1.2: Details of 2023/2024 Intertidal Survey Disturbance**

Survey ID	Month	Date	Tide	Start time	End time	Disturbance	Notes
1	September	26/09/2023	Low tide	17:00:00	19:00:00	-	No disturbance recorded
2		28/09/2023	High tide	13:00:00	16:30:00	-	No disturbance recorded
3	October	12/10/2023	High tide	12:30:00	15:30:00	14 walkers 5 dogs	-
4		24/10/2023	Low tide	15:00:00	17:30:00	-	No disturbance recorded
5	November	07/11/2023	Low tide	14:00:00	16:30:00	1 walker 1 dog 1 angler	-
6		28/11/2023	High tide	13:00:00	15:00:00	-	No disturbance recorded
7	December	13/12/2023	High tide	13:00:00	15:00:00	2 walkers 2 dogs	-
8		19/12/2023	Low tide	11:30:00	13:30:00	-	No disturbance recorded
9	January	24/01/2024	High tide	12:00:00	14:30:00	6 walkers 6 dogs	Dog walkers present throughout
10		30/01/2024	Low tide	09:30:00	12:30:00	-	No disturbance recorded
11	February	08/02/2024	High tide	11:00:00	14:00:00	10 walkers 10 dogs	Dog walkers present
12		27/02/2024	Low tide	08:00:00	11:00:00	-	No disturbance recorded
13	March	08/03/2024	High tide	11:30:00	14:00:00	3 walkers 5 dogs	-
14		26/03/2024	Low tide	08:00:00	11:00:00	5 walkers 4 dogs	-

## A1.2 Extended DAS data

A1.2.1 Details of the DASs are provided in Table A1.3.

**Table A1.3: Weather Conditions During DAS Flights from April 2022 to August 2023**

Target Date	Actual Date	Visibility (km)	Sea State	Turbidity	Cloud Cover	Wind Speed (kts/direction)
<b>April 2022</b>	28/04/2022	30+	0	0	0 – 96	0 to 2/SW
	29/04/2022	30+	0	0	96 - 100	0 to 2/SW
<b>May 2022</b>	02/06/2022	10+	1	0	0	1 to 8/S to W to N to E
<b>June 2022</b>	25/06/2022	10+	2	1	15 - 35	24 to 37/S
<b>July 2022</b>	07/07/2022	10+	1 to 2	2	50 - 70	10 – 28/W
<b>August 2022</b>	01/08/2022	10+	2 - 4	1	0 - 80	14 – 26/W
<b>April 2023</b>	18/05/2023	10+	1	1	70	10/W
	19/05/2023	10+	1 to 2	0 to 1	0 to 90	3 – 8/E, S, W
<b>May 2023</b>	27/05/2023	10 to 20	1 to 3	1 to 2	40 to 95	5 – 19/SW to N
<b>June 2023</b>	12/06/2023	10+	0 to 1	0	50 to 80	1 – 17/SW to N
<b>July 2023</b>	23/07/2023	10+	1	1	10	16 – 22/NE
<b>August 2023</b>	10/08/2023	10+	0 to 1	0 to 1	80 to 90	2 – 8/NW to E

Sea State: 0 = Calm (Glass), 1 = Calm (Rippled), 2 = Smooth, 3 = Slightly Moderate, 4 = Moderate

Turbidity: 0 = Clear, 1 = Slightly Turbid, 2 = Moderately Turbid, 3 = Highly Turbid

Cloud Cover: 0 = Clear, 1-10 = Few, 11-50 = Scattered, 51-95 = Broken, 96-100 = Overcast

## A2 Raw Counts During the Extended DAS Programme

A2.1.1 The DAS raw counts for the nearshore section of the Export Cable Corridor Study Area is presented in Table A2.1, for the mid-section is presented in Table A2.2 and the offshore section is presented in Table A2.3.

**Table A2.1: Summary of Extended DAS Nearshore Survey Results from April 2022 to August 2023**

Species	April 2022	May 2022	June 2022	July 2022	August 2022	April 2023	May 2023	June 2023	July 2023	August 2023	Total
Mallard	-	-	-	-	-	-	-	-	-	6	6
Eider	15	11	2	-	3	7	16	5	2	30	91
Rock dove	-	-	-	-	-	2	-	-	-	-	2
Oystercatcher	-	-	-	-	8	-	-	-	-	-	8
Curlew	-	-	-	-	1	-	-	-	-	-	1
Kittiwake	256	1,056	1,627	571	1,274	1,117	1,044	205	711	198	8,059
Common gull	15	11	-	-	126	12	10	3	1	-	178
Black headed gull	-	1	1	1	132	-	-	1	-	-	136
Great black-backed gull	-	4	-	-	9	2	3	-	4	-	22
Herring gull	66	1760	239	228	402	97	332	101	434	39	3,698
Lesser lack-backed gull	-	4	2	-	5	-	-	-	-	-	11
Sandwich tern	1	-	-	41	44	-	3	1	1	8	99
Arctic tern	-	-	-	-	-	-	-	3	37	69	109
Great skua	-	1	-	-	-	-	-	-	-	-	1
Guillemot	1,679	8,084	5,210	1,220	949	4,915	5,049	871	306	400	28,683
Razorbill	16	27	32	8	5	42	26	20	19	307	5,887

Species	April 2022	May 2022	June 2022	July 2022	August 2022	April 2023	May 2023	June 2023	July 2023	August 2023	Total
<b>Black guillemot</b>	1	-	-	-	-	-	-	-	-	-	<b>1</b>
<b>Puffin</b>	16	27	32	8	5	42	26	20	19	307	<b>502</b>
<b>Red-throated diver</b>	-	2	-	-	-	-	4	-	-	-	<b>6</b>
<b>Fulmar</b>	28	27	12	17	20	23	17	7	13	11	<b>175</b>
<b>Manx shearwater</b>	-	-	7	1	-	-	10	-	-	3	<b>21</b>
<b>Gannet</b>	8	466	112	24	5	8	11	-	51	33	<b>718</b>
<b>Cormorant</b>	-	-	2	-	-	-	2	-	-	-	<b>4</b>
<b>Shag</b>	-	-	1	2	-	-	-	-	-	-	<b>3</b>
<b>Grey heron</b>	-	-	1	-	-	-	-	-	-	1	<b>2</b>
<b>Duck species</b>	-	-	-	-	2	-	-	-	-	-	<b>2</b>
<b>Gull species</b>	1	10	3	3	30	1	-	4	1	-	<b>53</b>
<b>Small gull species</b>	2	3	6	8	6	1	-	2	1	-	<b>29</b>
<b>Large gull species</b>	-	3	1	1	14	-	-	-	-	3	<b>22</b>
<b>Black-backed gull species</b>	-	-	1	-	-	1	-	-	-	-	<b>2</b>
<b>Fulmar/gull species</b>	-	-	-	-	3	2	3	10	-	-	<b>18</b>
<b>Tern species</b>	-	-	-	1	-	-	-	-	-	-	<b>1</b>
<b>Common/ Arctic tern</b>	-	-	2	-	4	-	-	-	8	19	<b>33</b>
<b>Skua species</b>	-	-	-	2	-	-	-	-	-	-	<b>2</b>
<b>Auk species</b>	12	46	36	4	3	14	11	22	17	31	<b>196</b>

Species	April 2022	May 2022	June 2022	July 2022	August 2022	April 2023	May 2023	June 2023	July 2023	August 2023	Total
<b>Auk/ shearwater species</b>	5	20	37	-	-	3	3	5	46	4	<b>123</b>
<b>Guillemot/ razorbill</b>	112	565	187	50	157	299	382	174	78	24	<b>2,028</b>
<b>Cormorant/ shag</b>	3	3	1	1	5	1	1	21	2	3	<b>41</b>
<b>Unidentified bird species</b>	2	22	8	-	2	1	-	49	6	1	<b>91</b>

Table A2.2: Summary of Extended DAS Mid-Export Cable Corridor Study Area Survey Results from April 2022 to August 2023

Species	April 2022	May 2022	June 2022	July 2022	August 2022	April 2023	May 2023	June 2023	July 2023	August 2023	Total
<b>Kittiwake</b>	113	412	872	821	3,491	182	662	334	48	89	7,024
<b>Common gull</b>	-	-	-	2	9	-	-	2	1	-	14
<b>Great black-backed gull</b>	-	-	1	-	1	1	-	2	1	-	6
<b>Herring gull</b>	1	5	26	422	173	4	29	372	1	-	1,033
<b>Lesser lack-backed gull</b>	-	-	-	2	2	1	-	-	-	-	5
<b>Arctic tern</b>	-	-	-	1	2	-	-	-	62	76	141
<b>Great skua</b>	-	-	-	2	-	-	-	-	-	-	2
<b>Arctic skua</b>	-	-	-	1	-	-	-	-	-	-	1
<b>Guillemot</b>	2,201	3,389	1,448	2,193	3,827	2,705	3,645	3,628	445	167	23,648
<b>Razorbill</b>	470	183	67	187	2,038	225	369	909	160	117	4,725
<b>Black guillemot</b>	1	-	-	-	-	-	-	1	-	-	2

Species	April 2022	May 2022	June 2022	July 2022	August 2022	April 2023	May 2023	June 2023	July 2023	August 2023	Total
<b>Puffin</b>	43	18	5	6	39	18	35	40	20	350	574
<b>Red-throated diver</b>	-	-	-	-	-	1	-	-	-	-	1
<b>Fulmar</b>	4	13	5	9	12	10	11	4	13	11	92
<b>Manx shearwater</b>	-	-	4	2	-	2	-	-	-	-	8
<b>Gannet</b>	16	29	92	50	31	45	131	29	55	86	564
<b>Shag</b>	-	-	-	-	-	-	-	2	-	-	2
<b>Gull species</b>	-	-	1	-	15	-	-	3	-	-	19
<b>Small gull species</b>	-	-	-	1	3	-	-	1	-	-	5
<b>Large gull species</b>	-	-	-	1	4	-	-	3	-	-	8
<b>Fulmar/gull species</b>	-	-	1	9	3	-	-	3	-	1	17
<b>Common/ Arctic tern</b>	-	1	-	-	-	-	1	-	6	10	18
<b>Auk species</b>	49	27	5	2	9	10	11	31	12	41	197
<b>Auk/ shearwater species</b>	4	12	9	6	1	1	1	25	-	-	59
<b>Small shearwater species</b>	-	-	-	-	-	-	-	-	1	-	1
<b>Guillemot/ razorbill</b>	276	134	53	103	398	183	199	478	47	5	1,876
<b>Unidentified bird species</b>	21	4	2	2	-	1	1	72	1	2	106

**Table A2.3: Summary of Extended DAS Offshore Survey Results from April 2022 to August 2023**

Species	April 2022	May 2022	June 2022	July 2022	August 2022	April 2023	May 2023	June 2023	July 2023	August 2023	Total
Eider	-	-	-	-	-	1	-	-	-	-	1
Kittiwake	123	396	654	1,077	1,677	82	262	423	191	120	5,005
Common gull	-	1	-	2	6	-	-	1	-	-	10
Great black-backed gull	-	-	-	-	-	-	-	1	-	-	1
Herring gull	-	4	52	321	119	-	-	621	-	-	1,117
Lesser lack-backed gull	-	-	1	4	-	-	-	7	-	-	12
Arctic tern	-	-	-	-	74	-	1	-	98	33	206
Great skua	-	-	-	-	-	-	-	-	-	1	1
Arctic skua	-	-	-	-	-	-	-	-	1	1	2
Guillemot	2,333	4,400	1,985	3,624	6,188	1,515	1,972	3,317	394	100	25,828
Razorbill	604	111	235	242	1,726	146	139	243	111	51	3,608
Puffin	29	14	13	17	123	33	15	102	39	107	492
European storm petrel	-	-	-	-	-	-	-	-	-	2	2
Fulmar	9	17	12	29	10	23	17	14	28	24	183
Manx shearwater	2	1	1	1	-	-	-	3	-	-	8
Gannet	174	218	250	86	34	58	48	46	57	163	1,134
Wader species	-	-	-	-	3	-	-	-	3	-	6
Gull species	-	2	2	2	8	-	-	1	-	-	15

Species	April 2022	May 2022	June 2022	July 2022	August 2022	April 2023	May 2023	June 2023	July 2023	August 2023	Total
Small gull species	-	-	-	-	3	1	1	-	-	-	5
Large gull species	-	-	-	1	8	-	-	5	2	-	16
Fulmar/gull species	-	-	-	6	8	-	-	12	47	14	87
Tern species	-	3	-	-	-	-	-	-	-	-	3
Common/ Arctic tern	-	2	-	-	57	-	1	-	4	3	67
Common/Arctic/ Roseate tern	-	-	-	-	-	-	-	-	27	-	27
Storm petrel species	-	-	-	-	-	-	-	3	-	4	7
Auk species	61	14	12	22	13	7	9	11	13	6	168
Auk/ shearwater species	50	6	12	5	5	-	3	11	-	-	92
Shearwater species	-	-	-	-	1	-	-	-	-	1	2
Small shearwater species	-	-	-	-	1	-	-	-	-	-	1
Guillemot/ razorbill	499	127	107	96	363	68	141	216	111	7	1,735
Unidentified bird species	31	11	-	4	6	-	-	7	58	8	125

## ANNEX B. SCIENTIFIC NAMES AND CONSERVATION LISTINGS OF BIRD SPECIES

B1.1.1 A list of scientific names, as well as details of relevant legislation and conservation status, of all bird species referred to in this report is provided in Table B.1.

Table B.1: Scientific Names and Conservation Listings of Bird Species Referred to in this Report

Species*		Schedule 1/Annex I listings	Conservation listings**
Common name	Scientific name		
Brent goose	<i>Branta bernicla</i>	-	Amber
Canada goose	<i>Branta canadensis</i>	-	-
Barnacle goose	<i>Branta leucopsis</i>	Annex I	Amber
Pink-footed goose	<i>Anser brachyrhynchus</i>	-	Amber
Shelduck	<i>Tadorna tadorna</i>	-	Amber
Wigeon	<i>Mareca penelope</i>	-	Amber
Mallard	<i>Anas platyrhynchos</i>	-	Amber
Tufted duck	<i>Aythya fuligula</i>	-	Green
Common eider	<i>Somateria mollissima</i>	-	Amber
Common scoter	<i>Melanitta nigra</i>	Schedule 1	Red
Goosander	<i>Mergus merganser</i>	-	Green
Red-breasted merganser	<i>Mergus serrator</i>	-	Amber
Rock dove	<i>Columbia livia</i>	-	Green
Oystercatcher	<i>Haematopus ostralegus</i>	-	Amber
Lapwing	<i>Vanellus vanellus</i>	-	Red
Golden plover	<i>Pluvialis apricaria</i>	Annex I	Green; SBL
Ringed plover	<i>Charadrius hiaticula</i>	-	Red
Curlew	<i>Numenius arquata</i>	-	Red; SBL
Ruddy turnstone	<i>Arenaria interpres</i>	-	Amber
Knot	<i>Calidris canutus</i>	-	Amber
Curlew sandpiper	<i>Calidris ferruginea</i>	-	Amber
Dunlin	<i>Calidris alpina</i>	-	Red; SBL
Purple sandpiper	<i>Calidris maritima</i>	Schedule 1	Red; SBL
Snipe	<i>Gallinago gallinago</i>	-	Amber
Redshank	<i>Tringa totanus</i>	-	Amber
Black-legged kittiwake	<i>Rissa tridactyla</i>	-	Red
Common gull	<i>Larus canus</i>	-	Red
Black-headed gull	<i>Chroicocephalus ridibundus</i>	-	Amber

Species*		Schedule 1/Annex I listings	Conservation listings**
Common name	Scientific name		
Great black-backed gull	<i>Larus marinus</i>	-	Red
Herring gull	<i>Larus argentatus</i>	-	Red; SBL
Lesser black-backed gull	<i>Larus fuscus</i>	-	Amber
Sandwich tern	<i>Thalasseus sandvicensis</i>	Annex 1	Amber
Common tern	<i>Sterna hirundo</i>	Annex 1	Amber
Arctic tern	<i>Sterna paradisaea</i>	Annex 1	Red
Great skua	<i>Stercorarius skua</i>	-	Red
Arctic skua	<i>Stercorarius parasiticus</i>	-	Red
Common guillemot	<i>Uria aalge</i>	-	Amber
Razorbill	<i>Alca torda</i>	-	Amber
Black guillemot	<i>Cephus grylle</i>	-	Green
Atlantic Puffin	<i>Fratercula arctica</i>	-	Red
Red-throated diver	<i>Gavia stellata</i>	Schedule 1; Annex I	Green; SBL
Black-throated diver	<i>Gavia arctica</i>	Schedule 1; Annex I	Amber; SBL
European storm petrel	<i>Hydrobates pelagicus</i>	Annex 1	Amber
Fulmar	<i>Fulmarus glacialis</i>	-	Amber
Manx shearwater	<i>Puffinus puffinus</i>	-	Amber
Gannet	<i>Morus bassanus</i>	-	Amber
Cormorant	<i>Phalacrocorax carbo</i>	-	Green
Shag	<i>Gulosus aristotelis</i>	-	Amber
Grey heron	<i>Ardea cinerea</i>	-	Green
Common buzzard	<i>Buteo buteo</i>	-	Green
Short-eared owl	<i>Asio flammeus</i>	Annex I	Amber; SBL
Kingfisher	<i>Alcedo atthis</i>	Schedule 1; Annex I	Green
Skylark	<i>Alda arvensis</i>	-	Red
Song thrush	<i>Turdus philomelos</i>	-	Amber
Stonechat	<i>Saxicola rubicola</i>	-	Amber
Linnet	<i>Linaria cannabina</i>	-	Red
Yellowhammer	<i>Emberiza citrinella</i>	-	Red

\*Species names and order in which they are listed follow the British List maintained by the BOU (2022);

\*\*Red = UK BoCC Red list (Stanbury et al., 2021; 2024); Amber = UK BoCC Amber list (Stanbury et al., 2021; 2024); SBL = Scottish Biodiversity Lista  
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