



# Berwick Bank Onshore Transmission Works

## Technical Appendix 8.2: Wintering Bird Survey Report

---

Client: SSE Renewables  
Project/Proposal No: 2944  
Version: 1.0  
Date: 2022-03-30



# Document Information

Project Name:	Berwick Bank Onshore Transmission Works
Document Title:	Technical Appendix 8.2: Wintering Bird Survey Report
Client Name:	SSE Renewables
Client Contact:	Laurie Winter
Document Status:	Final for Issue
Author:	A Taylor
Reviewed:	R King, M Forup
Approved:	M Forup
Date:	2022-03-30
Version:	1.0
Project/Proposal Number:	2944
ITPEnergised Office:	4th Floor, Centrum House, 108-114 Dundas Street, Edinburgh EH3 5DQ

## Revision History

Version	Date	Authored	Reviewed	Approved	Notes
1.0	2022-03-30	AT	RK, MF	MF	First draft

© Copyright 2022 ITPE. The concepts and information contained in this document are the property of Energised Environments Limited, ITPE Ltd and Xero Energy Limited, trading as ITPEnergised. Use or copying of this document in whole or in part without the written permission of ITPEnergised companies constitutes an infringement of copyright.

Limitation: This document has been prepared solely for the use of the Client and any party with whom a warranty agreement has been executed, or an assignment has been agreed. No other parties may rely on the contents of this document without written approval from ITPEnergised for which a charge may be applicable. ITPEnergised accepts no responsibility or liability for the consequences of use of this document for any purpose other than that for which it was commissioned, nor the use of this document by any third party with whom an agreement has not been executed.

The contents of this document are confidential to the intended recipient and may not be disclosed. This document may contain confidential information. If received in error, please delete it without making or distributing copies. Opinions and information that do not relate to the official business of Energised Environments Limited registered at 4th Floor, Centrum House, 108-114 Dundas Street, Edinburgh EH3 5DQ or ITPE Ltd., registered at St. Brandon's House 29 Great George Street, Bristol BS1 5QT, or Xero Energy Limited, registered at 60 Elliot Street Glasgow, G3 8DZ trading as ITPEnergised, are not endorsed by the company or companies.

# Contents

<b>Document Information</b>	<b>2</b>
<b>Contents</b>	<b>3</b>
<b>Executive Summary</b>	<b>5</b>
<b>1. Introduction</b>	<b>6</b>
1.1 Overview	6
1.2 Site Description	6
<b>2. Legislation, Policy and Guidelines</b>	<b>6</b>
2.1 Legislation	6
2.2 Biodiversity	8
2.3 Birds of Conservation Concern	9
<b>3. Consultation</b>	<b>9</b>
<b>4. Methodology</b>	<b>9</b>
4.1 Desk Study	9
4.2 Survey Methods	10
4.3 Survey Limitations	10
<b>5. Results</b>	<b>11</b>
5.1 Desk Study	11
5.2 Field Survey	13
<b>6. Discussion</b>	<b>18</b>
6.1 Nature Conservation Designations	18
6.2 Species	18
<b>7. References</b>	<b>20</b>
<b>Annex A – Desk study results</b>	<b>21</b>
<b>Figure 1: Site Location and Study Area</b>	<b>26</b>
<b>Figure 2: Ornithological Designations</b>	<b>27</b>
<b>Figure 3: WBS Results – SPA Qualifying wildfowl</b>	<b>28</b>
<b>Figure 4: WBS Results – SPA Qualifying waders</b>	<b>29</b>
<b>Figure 5: WBS Results – SPA Qualifying seabirds</b>	<b>30</b>



# Executive Summary

A wintering bird survey was undertaken between October 2020 and February 2021. The Study Area covered two potential landfall sites and cable route options for the onshore elements of an offshore wind farm (the proposed Berwick Bank offshore wind farm) which will lead to a proposed new substation site, southwest of Torness Power Station, and underground cable corridor connecting to the National Grid Branxton substation further south. The work was undertaken to also inform the submission of a future planning application for the onshore elements of the offshore wind farm.

The wintering bird survey included a field survey and was further complimented by a desk study. The desk study included a search for ornithology-related nature conservation designations and existing bird data records relevant to the Site and wider study area. The field survey involved walkover surveys to cover the inland area of the Site and a 250 m survey buffer.

The wintering bird survey consisted of four survey visits. The methodology used for the survey and was carried out in line with the methods detailed in Gilbert *et al.* (2011).

The desk study identified four nature conservation designations of international importance (Special Protection Areas, SPAs) within 20 km of the Site but no nature conservation designations of local or national importance designated for ornithological features within 5 km of the Site.

The data search identified that a total of 128 species have been recorded within 5 km of the Site over the last 10 years. Of these, 31 species are listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), 22 are listed within Annex 1 of the Birds Directive 2009, and 44 are listed on the Scottish Biodiversity List. Thirty are included on the Birds of Conservation Concern Red List and a further 51 species are Amber-Listed.

The survey identified a total of 62 bird species of which 14 were designated as migratory or wintering species of the four SPA sites. Of the 14 species, five were included in the citation for the Outer Forth SPA (black-headed gull, common gull, eider, herring gull and gannet), nine for the Firth of Forth (cormorant, curlew, eider, golden plover, grey plover, oystercatcher, pink-footed goose, redshank and wigeon) and one species (gannet) for the Forth Island SPA.

A further 27 species of conservation concern were identified during surveys, including five Schedule 1 listed species (merlin and peregrine, which are also Annex 1 listed species, fieldfare, redwing and snow bunting). An additional thirteen BoCC Red Listed and thirteen BoCC Amber Listed species were identified during the four survey visits. 22 common species were also recorded.

# 1. Introduction

## 1.1 Overview

ITPEnergised was appointed by SSE Renewables (the Applicant) to undertake a wintering bird survey for the onshore transmission works of the proposed Berwick Bank wind farm development at Torness, south of Dunbar. The survey was completed to inform a planning application and incorporated the red line boundary of the Proposed Development (hereafter referred to as the 'Site') and a 250 m survey buffer (the "Study Area") (See Appendix Figure 8.2.1).

This report describes the methods used to gather and record information for the Site and summarises the findings of the study.

## 1.2 Site Description

The Site is approximately 600 hectares (ha) in size and extends from north-west of Skateraw Harbour to Bilsdean in the south. The A1 trunk road and the East Coast Main Line pass through the Site from the north-west to the south-east. The Site largely comprises agricultural land with a mixture of arable and improved grazing fields. A number of watercourses traverse the Site from the west and enter the North Sea to the east. Braidwood Burn and Ogle Burn run through the western reaches of the Site, Branxton burn to the south of the Site and Thornton Burn through the centre of the Site. These watercourses are commonly associated with corridors of scrub and mixed woodland habitat. The majority of woodland habitat present within the Site is located within the southern and south-eastern reaches. The Site also includes a number of small hamlets and farm steadings. Larger settlements include Crowhill, Branxton and Lawfield to the south of the A1 trunk road and Skateraw and Thorntonloch to the north. Torness Power Station is located outwith the north-eastern boundary of the Site at Torness Point and Thorntonloch Caravan Park is located to the east of Thorntonloch. The Site includes areas of the coastline which covered the two proposed landfall locations to the north and south of Torness Point being considered at Scoping stage.

# 2. Legislation, Policy and Guidelines

## 2.1 Legislation

All relevant legislation and guidance documents have been considered as part of this assessment, as referenced in this report (a summary of pertinent nature conservation legislation is presented below).

Of particular relevance are:

- Council Directive 2009/147/EC on the conservation of wild birds (the Birds Directive), transposed into Scottish law through the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended);
- Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive), transposed into Scottish law through the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended);
- The Ramsar Convention on Wetlands 1976;
- The Conservation (Natural Habitats, &c.) (EU Exit) (Scotland) (Amendment) Regulations 2019;
- The Wildlife and Countryside Act 1981 (as amended);
- The Wildlife and Natural Environment (Scotland) Act 2011 (as amended); and
- The Nature Conservation (Scotland) Act 2004 (as amended), which places a statutory duty on all public bodies to further the conservation of biodiversity through the Scottish Biodiversity Strategy, with Scottish priority species and habitats listed on the Scottish Biodiversity List (SBL), itself based

on the former UK Biodiversity Action Plan (UKBAP), and regional biodiversity targets defined through a Local Biodiversity Action Plan (LBAP). The LBAP of relevance to this report is the East Lothian Local Biodiversity Action Plan.

## **2.1.1 International Conventions and Directives**

### **2.1.1.1 The Birds Directive (2009/147/EC)**

The European Union (EU) Directive on the Conservation of Wild Birds (2009/147/EC) was first adopted in 1979 and is the primary mechanism for delivering the EU's obligations under the Convention on Biological Diversity (CBD), and the Ramsar and Bonn Conventions. Collectively, the Birds and Habitats Directives require Member States to take action in order to protect all bird species and their habitats which includes the designation of Special Protection Areas (SPAs) in respect to species listed on Annex I of the Directive.

#### **2.1.1.2 Ramsar Convention on Wetlands**

The Convention on Wetlands of International Importance (the Ramsar Convention) was adopted in Iran in February 1971 and came in to force in the UK in May 1976. The Convention considers the subject area of wetland conservation and comprises three elements of activity:

- The designation of wetlands of international importance as Ramsar sites;
- The promotion of the sustainable use of all wetlands in the territory of each country; and
- International co-operation with other countries to further the sustainable use of wetlands and their resource.

#### **2.1.1.3 The Habitats Regulations**

In Scotland, the Habitats Directive is translated into specific legal obligations by the Conservation (Natural Habitats, &c.) Regulations 1994. This piece of legislation is commonly referred to as the 'Habitats Regulations'.

In terms of ornithological interests, the Habitats Regulations cover the requirements for Special Protection Areas (SPAs), which are designated sites that are considered internationally important for specific species of bird and/their assemblages. Along with Special Areas of Conservation (SACs), designated sites relating to protected habitats and species, they form a network of sites designated together and known collectively as the Natura2000 network.

The Habitats Regulations were most recently amended in 2012.

It should be noted that another international designation, Ramsar, tends to overlap with SPAs, and Ramsar sites are commonly treated as SPAs for HRA purposes.

#### **2.1.1.4 The Convention on Biological Diversity (CBD)**

The CBD was adopted at the Earth Summit in Rio de Janeiro, Brazil in June 1992, and came into force in December 1993. It was the first global treaty to provide a legal framework for biodiversity conservation. The treaty has three primary goals:

- The conservation of biological diversity;
- The sustainable use of its components; and
- The fair and equitable sharing of the benefits arising from the use of genetic resources.

Signatories are required to create and enforce national strategies and action plans to conserve, protect and enhance biological diversity.

The UK Government ratified the convention and published the UKBAP in 1994 and to compliment the UKBAP, separate biodiversity strategies for each of the devolved governments have been subsequently developed, including the Scottish Biodiversity Strategy, launched in 2004.

## 2.1.2 National Legislation

### 2.1.2.1 The Wildlife and Countryside Act

The Wildlife and Countryside Act 1981 (as amended) (WCA) is the principal mechanism for wildlife protection in the UK. Schedule 1 of the Act lists bird species that are afforded special protection. The principal designation established under the Act is the citation of Sites of Special Scientific Interest (SSSI).

The Act also makes it an offence (with exception to species listed in Schedule 2) to intentionally:

- Kill, injure, or take any wild bird;
- Take, damage or destroy the nest of any wild bird while that nest is in use or being built; or
- Take or destroy an egg of any wild bird.

## 2.2 Biodiversity

### 2.2.1 Scottish Biodiversity List (SBL)

Scottish Ministers created the SBL (Scottish Government, 2013) in 2005 to satisfy the requirements under Section 2(4) of the Nature Conservation (Scotland) Act 2004, and to assist public bodies in carrying out conservation of biodiversity, as well as to provide the general public with information regarding conservation within Scotland. The SBL comprises species and habitats listed using both scientific and social criteria. Only scientific criteria are considered relevant to this report. They include the following:

- All UK Priority Species present in Scotland;
- Species which Scotland has an international obligation to safeguard;
- All species defined as nationally rare at a GB or UK level that are present in Scotland;
- Species with populations present (resident, wintering or breeding) in five or fewer 10 km squares or sites in Scotland; and
- All species that are endemic to Scotland.

### 2.2.2 Local Biodiversity Plan

East Lothian does not have an up to date Local Biodiversity Action Plan (LBAP) but a plan created in 2008 to run until 2013 contained several habitat action plans including farmland, coastal areas and woodland which were of relevance to the Site and listed 70 priority bird species in East Lothian (East Lothian Council, 2017a). Given there has been no update to the LBAP since 2008 and the 70 listed LBAP species broadly mirror the SBL species, in terms of protected status only mention on the SBL will be used in this report.

A more recent update on their website states it should be noted that the biodiversity of East Lothian includes over 4000 species of invertebrate, over 300 species of bird, 28 species of mammal and 3 species of reptile (East Lothian Council, 2017b).

The Wildlife and Natural Environment (Scotland) Act 2011, requires public bodies in Scotland to provide a publicly available report, every three years to show they are meeting their biodiversity duty. The most recent report for East Lothian was in 2017; some of the key points highlighted in the report of relevance to the Site are:

- The distribution of pink-footed geese, which arrive in East Lothian in large numbers from September onwards and are an important feature of the Firth of Forth SPA; they often feed and roost in certain arable fields. Therefore, these fields need to be protected as part of the SPA and the distribution of pink-footed geese are recorded each year.
- Encourage and support ecosystem restoration and management, especially in catchments that have experienced the greatest degradation.



- Integrate protected areas policy with action for wider habitats to combat fragmentation and restore key habitats.

## 2.3 Birds of Conservation Concern

The Birds of Conservation Concern (BoCC) is a collaboration between the Statutory Nature Conservation Bodies (SNCBs), Royal Society for the Protection of Birds (RSPB), British Trust for Ornithology (BTO), Wildfowl and Wetlands Trust (WWT), Game and Wildlife Conservation Trust (GWCT) and several other organisations. It uses an approach based on quantitative assessments against standardised criteria, in order to place individual bird species on 'Red', 'Amber' or 'Green' lists to indicate different levels of conservation concern. Red in the context of BoCC is not the same as IUCN's Red List, though IUCN status is one of the criteria used in BoCC assessment. Collectively, the changes in the numbers and proportions of species on Red, Amber or Green lists provide a gauge of the broad direction of status of UK birds and point to the degree of threat they face, as well as the efficacy of conservation measures taken (Eaton *et al.*, 2015).

Birds on the Red and Amber lists are subject to at least one of the factors listed below:

- Red - red list species are those that are globally threatened, have had an historical population decline in the UK from 1800 -1995, a rapid (> or = 50%) decline in UK breeding population over the past 25 years, or a rapid (> or = 50%) contraction of UK breeding range over the past 25 years;
- Amber - amber listed species have had a historical population decline from 1800-1995 but are recovering; population size has more than doubled over the past 25 years, a moderate (25-49%) decline in UK breeding population over the past 25 years, a moderate (25-49%) contraction of UK breeding range over the past 25 years, a moderate (25-49%) decline in UK non-breeding population over the past 25 years, or species with unfavourable conservation status in Europe also known as Species of European Conservation Concern (SPEC); and
- Green - green listed species have no identified threat to their population status.

It should be noted a new version of BoCC (BoCC 5) was published in late 2021 (Stanbury *et al.*, 2021) but as the surveyor was following BoCC 4 (Eaton *et al.*, 2015), this classification of species is the one used in this report.

## 3. Consultation

As part of the ongoing consultation with NatureScot for the Site, a four-visit wintering bird survey was proposed, commencing in October 2020. On 30<sup>th</sup> April 2020, NatureScot responded by email with a broad approval of the survey approach, as follows:

*"We note your proposed suite of site surveys, including additional measures aimed at compensating for lost time (e.g. use of experienced surveyors, identifying follow-up work, pre-construction surveys, use of buffers). We specifically note your question on bird surveys and advise:*

- *the proposed (cable) route avoids nationally-designated sites (except for the stretch at Barns Ness Coast SSSI which we have discussed separately), and will traverse farmland for the most part;*
- *therefore we anticipate a low level of risk to particularly sensitive bird receptors and so under covid-19 related restrictions this site survey programme is acceptable."*

## 4. Methodology

### 4.1 Desk Study

A full desk study was carried out in July 2021 and included for a search for nature conservation designations listed for ornithological reasons as well as records of ornithological species of conservation concern. In terms of designations the search area used were as follows: international and national designations, i.e. Special

Protection Areas (SPAs), Ramsar sites, Sites of Special Scientific Interest (SSSIs), National Parks, and National Nature Reserves (NNRs) were identified within 5 km of the Site but extended to 20 km for SPAs, as well as statutory local designations i.e. Local Nature Reserves (LNR) were identified within 2 km of the Site. Non-statutory designations, such as Local Wildlife Sites (LWSs) and Sites of Interest for Nature Conservation (SINCs) were identified within 2 km of the Site. Only designations with ornithological qualifying features were considered relevant in this study.

Existing records for protected or otherwise notable species (e.g. SBL/LBAP priority species) were identified within 5 km of the Site. Records were obtained from The Wildlife Information Centre (TWIC) and only records from within the last 10 years were considered relevant to the study.

Full details of the methodology used are described in the separate Ecological Desk Study document (ITP Energised, 2021).

## 4.2 Survey Methods

A wintering bird walkover survey, comprising four visits, was carried out between October 2020 and February 2021 to identify winter roosting and foraging bird populations within the Study Area (See Appendix Figure 8.2.1).

The survey was a walkover survey that was carried out in line with methods detailed in Gilbert *et al.* (2011) with the four survey visits undertaken on the following dates:

- 28<sup>th</sup> – 30<sup>th</sup> October 2020;
- 14<sup>th</sup> – 16<sup>th</sup> December 2020;
- 27<sup>th</sup> – 29<sup>th</sup> January 2021; and
- 15<sup>th</sup> - 17<sup>th</sup> February 2021.

All habitats of value to birds within the Study Area were walked, where access was available. Where access was not possible, areas were scanned from field edges or public rights of way. The walkover survey was undertaken at a slow measured pace with all enclosed habitats approached to within at least 100 m. If any groups of birds were identified foraging or roosting in fields, care was taken not to create any disturbance to them, and such areas were therefore scanned at a distance using binoculars. Survey routes between survey visits were varied to reduce data bias.

All bird activity was identified and mapped onto 1:25,000 OS maps of the Site using BTO two-letter codes and appropriate symbols, as outlined in Appendix 1 of Gilbert *et al.* (2011). Due care and attention was taken using appropriate symbols to ensure that multiple registrations of the same bird are carefully recorded on the survey maps.

The wintering bird walkover survey focused on identifying the presence and/or absence for each target species focusing on birds of conservation value, including those protected by the Birds Directive Annex 1, Wildlife and Countryside Act 1981 (as amended) Schedule 1, BoCC red or amber list and/or SBL/LBAP species.

## 4.3 Survey Limitations

The surveyor could access the majority of the Study Area, but access was locally restricted due to the lack of access permission or the presence of large numbers of cattle. Where practical, such sections were scanned from a distance using binoculars. Because the surveyor was able to see and hear birds in all parts of the Study Area, this is not considered to be a significant limitation.

# 5. Results

## 5.1 Desk Study

As shown on Appendix Figure 8.2.2 and detailed in Table 1, four bird-related nature conservation designations of international importance are present within 20 km of the Site. No nature conservation designations of local or national importance designated for ornithological features is present within 2 km or 5 km respectively of the Site. A full description of the four designated sites is outlined in the sections below.

**Table 1: European Protected Sites**

Site Name	Designation	Distance from the Site
Outer Firth of Forth and St Andrews Bay Complex	SPA	Directly east
Firth of Forth	SPA/Ramsar	5.9 km north-west
St Abb's Castle to Fast Head	SPA	6.9 km south-east
Forth Islands	SPA	16 km north-west

### 5.1.1 Outer Forth and St Andrews Bay Complex SPA

#### 5.1.1.1 Designated Site Description

The Outer Firth of Forth and St Andrews Bay Complex SPA lies directly east of the Site and is a large estuarine/marine site on south-east coast of Scotland consisting of the two closely adjacent Firths of Forth and Tay (NatureScot & JNCC (2021). In the mid-Firth of Forth a belt of mud-rich sediments lies between areas of sandy gravels and shell material on either side along the shore. As the estuary widens towards the Outer Firth, there are extensive areas of sandy and gravelly muds and fine sediments. In contrast, St Andrews Bay contains clean sands and gravel with only small areas of muddy sediments. Water depth is variable but large areas, in both the Firth of Forth and St Andrews Bay, are shallow and less than 10 m deep.

The area supports a wide variety of both pelagic and demersal fish, including sandeels, and crustaceans, molluscs and marine worms, all of which comprise the prey of the waterfowl species.

#### 5.1.1.2 Qualifying Interests:

*N.B. All figures relate to numbers at the time of classification except where amended by the 2001 SPA Review.*

The Outer Firth of Forth and St Andrews Bay Complex SPA qualifies under Article 4.1 by regularly supporting a non-breeding population of European importance of the following Annex 1 species: Red-throated diver (*Gavia stellata*) during the period 2001/02 to 2004/2005, Slavonian grebe (*Podiceps auritus*) during the period 2006/07 to 2010/11, little gull (*Larus minutus*) during the period 2001/02 to 2004/05 (126 individuals; more than 50 individuals), and feeding common tern (*Sterna hirundo*) and Arctic tern (*Sterna paradisaea*) from the adjacent breeding colonies.

The Outer Firth of Forth and St Andrews Bay Complex SPA further qualifies under Article 4.2 by regularly supporting populations of European importance of the migratory waterfowl species common eider (*Somateria mollissima*) and by regularly supporting in excess of 20,000 individual waterfowl, including nationally important populations of the following species first recorded during the five year period 2001/02 to 2004/05: Long tailed duck (*Clangula hyemalis*), common scoter (*Melanitta nigra*) and additionally recorded, during the period 2006/07-2010/11: Velvet scoter (*Melanitta fusca*), common goldeneye (*Bucephala clangula*) and red-breasted merganser (*Mergus serrator*).

The Outer Firth of Forth and St Andrews Bay Complex SPA further qualifies under Article 4.2 by regularly supporting populations of European importance of the two following migratory species of seabird: Foraging European shag (*Phalacrocorax aristotelis*) from the nearby colonies and Northern gannet (*Morus bassanus*) monitored during the period 1980-2006.

The Outer Firth of Forth and St Andrews Bay Complex SPA further qualifies under Article 4.2 by regularly supporting in excess of 20,000 individual seabirds during the breeding season including nationally important populations of the following species included following monitoring during the period 1980-2006: Atlantic puffin (*Fratercula arctica*), black-legged kittiwake (*Rissa tridactyla*), Manx shearwater (*Puffinus puffinus*), common guillemot (*Uria aalge*) and herring gull (*Larus argentatus*).

The Outer Firth of Forth and St Andrews Bay Complex SPA further qualifies under Article 4.2 by regularly supporting in excess of 20,000 individual seabirds during the non-breeding season including nationally important populations of the following species included following monitoring during the period 2003/04-2005/06: Black-headed gull (*Chroicocephalus ridibundus*), common gull (*Larus canus*) and herring gull and, included following monitoring during the period 1980-2006, common guillemot, European shag, black-legged kittiwake and razorbill (*Alca torda*).

### 5.1.2 Firth of Forth SPA

#### 5.1.2.1 Designated Site Description

The Firth of Forth SPA is located 6.8 km north-west of the Site at its closest point. The SPA is located on the east coast of Scotland and is a complex estuarine site extending 55 km and covering 6,313.72 ha from Alloa in the west to the East Lothian and Fife coasts. It covers a range of habitats, including intertidal flats, rocky shore, saltmarsh, lagoons and, in the east, sand dune habitats (JNCC, 2018).

#### 5.1.2.2 Qualifying Interests:

The Firth of Forth SPA qualifies under Article 4.1 of the Birds Directive for regularly supporting wintering populations of the following Annex 1 species: red-throated diver, Slavonian grebe, golden plover (*Pluvialis apricaria*) and bar-tailed godwit (*Limosa lapponica*). The SPA also qualifies under Article 4.1 for regularly supporting populations of European importance of the Annex 1 species Sandwich tern (*Sterna sandvicensis*) during the passage period.

The SPA further qualifies under Article 4.2 of the Birds Directive by regularly supporting populations of European importance of the following wintering migratory species: Pink-footed goose (*Anser brachyrhynchus*), shelduck (*Tadorna tadorna*), knot (*Calidris canutus*), redshank (*Tringa totanus*) and turnstone (*Arenaria interpres*). The SPA also qualifies under Article 4.2 for regularly supporting a wintering assemblage, in excess of 20,000 individual waterfowl, of European importance: A winter peak mean of 95,000 waterfowl, comprising 45,000 wildfowl and 50,000 waders including nationally important populations of the following species: Scaup (*Aythya marila*), Slavonian grebe, golden plover, bar-tailed godwit, pink-footed goose, shelduck, knot, redshank, turnstone, great crested grebe (*Podiceps cristatus*), cormorant (*Phalacrocorax carbo*), red-throated diver, curlew (*Numenius arquata*), eider, long-tailed duck (*Clangula hyemalis*), common scoter, velvet scoter, goldeneye (*Bucephala clangula*), red-breasted merganser, oystercatcher (*Haematopus ostralegus*), ringed plover (*Charadrius hiaticula*), grey plover (*Pluvialis squatarola*) and dunlin (*Calidris alpina alpina*).

In the five year winter period 1991/92 to 1995/96 the assemblage additionally included nationally important populations greater than 2,000 individuals of mallard (*Anas platyrhynchos*), lapwing (*Vanellus vanellus*) and wigeon (*Anas penelope*).

### 5.1.3 St Abb's Head to Fast Castle SPA

#### 5.1.3.1 Site Description

St Abb's Head to Fast Castle SPA lies 6.9 km south-east of the Site and comprises an area of sea cliffs and coastal strip stretching over 10 km along the Berwickshire Coast north of St Abbs (NatureScot, 2020). The boundary of the SPA overlaps with that of St Abb's Head to Fast Castle SSSI, and the seaward extension extends approximately 1 km into the marine environment to include the seabed, water column and surface.

#### 5.1.3.2 Qualifying Interests:

*N.B. All figures relate to numbers at the time of classification except where amended by the 2001 SPA Review.*

St Abb's Head to Fast Castle SPA qualifies under Article 4.2 by regularly supporting in excess of 20,000 individual seabirds. The site regularly supports 79,560 seabirds including nationally important populations of the following species: Razorbill, common guillemot, black-legged kittiwake, herring gull and European shag.

#### 5.1.4 Forth Islands SPA

##### 5.1.4.1 Site Description

*N.B. All figures relate to numbers at the time of classification except where amended by the 2001 SPA Review.*

Forth Islands SPA consists of a series of islands supporting the main seabird colonies in the Firth of Forth. The islands include Inchmickery, Isle of May, Fidra, The Lamb, Craigeith and Bass Rock. Bass Rock is closest to the Proposed Development, being located 16 km northwest of the Site and is the only section of the SPA in the search area.

##### 5.1.4.2 Qualifying Interests:

Forth Islands SPA qualifies under Article 4.1 by regularly supporting populations of European Importance of the following Annex 1 species: Arctic tern, roseate tern (*Sterna dougallii*), common tern and Sandwich tern.

Forth Islands SPA further qualifies under Article 4.2 by regularly supporting populations of European importance of the following migratory species: Northern gannet, European shag, lesser black-backed gull (*Larus fuscus*) and Atlantic puffin.

Forth Islands SPA also qualifies under Article 4.2 by regularly supporting nationally important populations of razorbill, common guillemot, black-legged kittiwake, herring gull and great cormorant (*Phalacrocorax carbo*).

#### 5.1.5 Species

A total of 128 bird species have been recorded within 5 km of the Site in the last ten years. Of these, 31 species are listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), 23 are listed within Annex 1 of the Birds Directive 2009, and 44 are listed on the Scottish Priority List. Thirty are included on the BoCC Red List and a further 51 species are Amber-Listed. Full details are described in the Ecological Desk Study (ITP Energised, 2021) and the bird list shown in Table A1 in Annex A.

## 5.2 Field Survey

### 5.2.1 SPA Qualifying Species

A total of 62 bird species were recorded within the Site and 250 m survey buffer during the four visits. Of those 62 species, 15 are listed as either passage or wintering species for one or more of the SPA sites detailed in Section 5.1. and the species and the number of registrations for each species are shown in Table 2 below.

**Table 2 - Wintering bird survey results – SPA qualifying species**

Common Name	Scientific name	SPA*	S1/A1/SPL/BoCC	Visit 1 records (count)	Visit 2	Visit 3	Visit 4	Total
Black-headed gull	<i>Chroicocephalus ridibundus</i>	FoFO	SPL / AMBER	23 (165)	6 (38)	18 (159)	6 (40)	53 (402)
Common gull	<i>Larus canus</i>	FoFO	AMBER		6 (13)	7 (30)		13 (43)
Cormorant	<i>Phalacrocorax carbo</i>	FoF / FI					1 (3)	1 (3)
Curlew	<i>Numenius arquata</i>	FoF	SPL/RED	10 (164)	10 (64)	11 (153)	9 (62)	40 (443)
Dunlin	<i>Calidris alpina</i>	FoF		1(2)		1(30)		3(32)

Common Name	Scientific name	SPA*	S1/A1/SPL/BoCC	Visit 1 records (count)	Visit 2	Visit 3	Visit 4	Total
Eider	<i>Somateria mollissima</i>	FoF / FoFO	AMBER				1 (36)	1 (36)
Gannet	<i>Morus bassanus</i>	FoFO/FI	AMBER		1			1
Golden plover	<i>Pluvialis apricaria</i>	FoF	A1/SPL	5 (527)	2 (152)	5 (190)	3 (24)	15 (893)
Grey plover	<i>Pluvialis squatarola</i>	FoF	AMBER			1 (22)	1 (4)	2 (26)
Herring gull	<i>Larus argentatus</i>	FoFO	SPL/RED	36 (610)	29 (137)	52 (421)	50 (285)	167 (1453)
Lapwing	<i>Vanellus vanellus</i>	FoF	SPL/RED	4 (304)	2 (84)	3 (241)	4 (30)	11 (659)
Oystercatcher	<i>Haematopus ostralegus</i>	FoF	AMBER	8 (195)		8 (95)	4 (98)	20 (388)
Pink footed goose	<i>Anser brachyrhynchus</i>	FoF	AMBER	31 (3146)	5 (185)	5 (216)	10 (592)	51 (4139)
Redshank	<i>Tringa totanus</i>	FoF	AMBER	4 (20)	2 (3)	10 (30)	5 (23)	21 (77)
Shelduck	<i>Tadorna tadorna</i>	FoF	AMBER		1		1	2
Turnstone	<i>Arenaria interpres</i>	FoF	SPL/AMBER	1	3 (4)	1(8)	2(7)	7(20)
Wigeon	<i>Anas penelope</i>	FoF	AMBER				1 (10)	1 (10)

\*Firth of Forth Outer SPA – FoFO; Firth of Forth SPA- FoF; Forth Islands SPA – FI.

### 5.2.1.1 Wildfowl

#### *Pink-footed goose*

Pink-footed goose, a qualifying species for the Firth of Forth SPA, was recorded on all four survey visits. A total of 51 registrations of pink-footed goose totalling 4,139 individuals were recorded across the four visits (See Appendix Figure 8.2.3 and Table 2). Two large groups of 1,250 and 640 individuals were recorded in the south-east of the Site during the first survey visit in October. Numbers of records and individuals were significantly higher on the first survey visit in comparison to visit 2-4 (See Table 2).

#### *Eider*

Eider, a qualifying species of both the Firth of Forth SPA and Outer Forth SPA, was only recorded on a single occasion during all four survey visits. A group of 36 individuals was identified on the fourth visit in February in the north-west of the Site, recorded along the coastline close to the proposed cable landfall (See Appendix Figure 8.2.3 and Table 2).

#### *Shelduck*

Shelduck, a qualifying species for the Firth of Forth SPA, was only recorded on two occasions, with an individual noted on the coastline west of Torness Power on the second and fourth visit in December and February (See Appendix Figure 8.2.3 and Table 2).

#### *Wigeon*

Wigeon, a qualifying species of the Firth of Forth SPA, was only recorded on a single occasion, with an individual noted on the coastline north-west of Torness Power on the fourth visit in February (See Appendix Figure 8.2.3 and Table 2).

### **5.2.1.2 Waders**

A total of eight wader species, curlew, dunlin, golden plover, grey plover, lapwing, oystercatcher, redshank and turnstone, all of which are qualifying species of the Firth of Forth SPA, were recorded during the four survey visits (See Appendix Figure 8.2.3 and Table 2).

#### ***Curlew***

Curlews were commonly recorded throughout all four visits, with a total of 40 registrations comprising 440 individuals and with all the records along the coast or inland coastal 1-2 km strip (See Appendix Figure 8.2.4 and Table 2). There were two registrations of over 100 individuals, one of 120 and one of 112 recorded on the first and third visits respectively, both recording birds in fields inland from the coast.

#### ***Dunlin***

Only two records of dunlin were made; two birds on the first visit and 30 on the third visit. On both occasions these were recorded on the coast to the north-west of the proposed landfall (See Appendix Figure 8.2.4 and Table 2).

#### ***Golden plover***

Golden plovers were recorded during all four visits, with a total of 15 registrations including 893 individuals recorded, of which five groups of over 100 birds were noted. As with curlew, the large groups involved roosting individuals in fields inland from the coast (See Appendix Figure 8.2.4 and Table 2).

#### ***Grey plover***

Only two records of grey plover were made, with 22 birds recorded on the third visit and four on the fourth visit. On both occasions birds were recorded on the coast to the north-west of the proposed landfall (See Appendix Figure 8.2.4 and Table 2).

#### ***Lapwing***

Lapwings were recorded during all four visits, with a total of 11 registrations and including 659 individuals recorded, of which two were groups of over 200 birds. As with other species, the large groups (220 birds during the first visit and 240 birds on the fourth visit) involved individuals roosting in fields inland from the coast (See Appendix Figure 8.2.4 and Table 2).

#### ***Oystercatcher***

Oystercatchers were recorded during three of the four visits, with a total of 20 registrations including 388 individuals being recorded. The majority of records involved birds along the inter tidal zone, with occasional birds roosting or foraging in fields inland from the coast (See Appendix Figure 8.2.4 and Table 2).

#### ***Redshank***

Redshanks were recorded in small numbers along the coast west of Torness Power station on all four visits. A total of 21 registrations were noted and comprised a total of 77 individuals (See Appendix Figure 8.2.4 and Table 2).

#### ***Turnstone***

Turnstones were recorded in small numbers along the coast west of Torness Power station on all four visits. A total of seven registrations were noted and comprised 20 individuals (See Appendix Figure 8.2.4 and Table 2).

### **5.2.1.3 Seabirds**

#### ***Black-headed gull***

Black-headed gulls were common and widespread within the Study Area during all four survey visits. A total of 53 registrations, which included 402 individuals, were recorded (See Appendix Figure 8.2.5 and Table 2).

A group of approximately 600 individuals was noted offshore east of Torness Power station during the first survey visit in October.

### Common gull

Common gull was only recorded on the second and third survey visits (in December and January, respectively) when six and seven registrations were made, the records totalling 43 individuals, widespread within the Study Area (See Appendix Figure 8.2.4 and Table 2).

### Herring gull

Herring gulls were frequent and widespread within the Study Area on all four survey visits. A total of 167 registrations comprising 1,453 individuals were made, with occasional large groups noted, including two groups of 120 and 160 individuals recorded close to the railway tracks on the first survey visit in October (see Appendix Figure 8.2.5 and Table 2). In addition to birds recorded within the Study Area itself, a group of approximately 1,500 individuals was noted offshore east of Torness Power station during the first survey visit in October.

### Cormorant and gannet

A gannet and a group of three cormorants were the only records for these two species, with all records being made along the coastal strip (See Appendix Figure 8.2.5 and Table 2).

## 5.2.2 Other Species of Conservation Concern

In addition to the SPA qualifying species outlined in Table 2, a further 26 species of conservation concern were recorded during the four survey visits; these are shown in Table 3. These 26 species included the following five Schedule 1 listed species: Fieldfare, merlin, peregrine, redwing and snow bunting. Of these, merlin and peregrine are also Annex 1 listed species. The location of the Schedule 1 and Annex 1 listed raptor species records are shown in Volume 5, Confidential Appendix Figure 8.2.6. In addition, of the 26 species, 13 are BoCC Red list species, 12 are BoCC Amber list species and 18 are SBL priority species. The most frequently recorded species were linnets, skylark, tree sparrow, starling and fieldfare all of which are typical of low lying farmland habitats in the winter months.

**Table 3 - Wintering bird survey results – Other bird species of conservation concern**

Common Name	Scientific name	Sch1/ A1/ SBL	BoCC	Visit 1 (Count)	Visit 2	Visit 3	Visit 4
Bean goose	<i>Anser fabalis</i>	SPL	AMBER				1
Bullfinch	<i>Pyrrhula pyrrhula</i>	SPL	AMBER	1	5		3
Dunnock	<i>Prunella modularis</i>	SPL	AMBER	21	11	9	8
Fieldfare	<i>Turdus pilaris</i>	Sch1	RED	22	114	2	35
Great black-backed gull	<i>Larus marinus</i>		AMBER	18	11	12	5
Greylag goose	<i>Anser anser</i>		AMBER	32	61		17
House sparrow	<i>Passer domesticus</i>	SPL	RED	38	5		42
Kestrel	<i>Falco tinnunculus</i>	SPL	AMBER	1			
Linnets	<i>Linaria cannabina</i>	SPL	RED	243	340		161
Lesser redpoll	<i>Acanthis cabaret</i>	SPL	RED		6		2
Mistle thrush	<i>Turdus viscivorus</i>		RED	16	7	1	36
Mallard	<i>Anas platyrhynchos</i>		AMBER	13	4		12
Merlin	<i>Falco columbarius</i>	Sch1/A1/SPL	RED		1		
Meadow pipit	<i>Anthus pratensis</i>		AMBER	31	12	3	13



Common Name	Scientific name	Sch1/ A1/ SBL	BoCC	Visit 1 (Count)	Visit 2	Visit 3	Visit 4
Grey partridge	<i>Perdix perdix</i>	SPL	RED		5		2
Peregrine	<i>Falco peregrinus</i>	Sch1/A1					
Reed bunting	<i>Emberiza schoeniclus</i>	SPL	AMBER	16	4	2	3
Redwing	<i>Turdus iliacus</i>	Sch1/ SPL	RED	40	36	2	35
Skylark	<i>Alauda arvensis</i>	SPL	RED	117	11	2	232
Snow bunting	<i>Plectrophenax nivalis</i>	Sch1/SPL	AMBER	3			
Starling	<i>Sturnus vulgaris</i>	SPL	RED	189	58		55
Snipe	<i>Gallinago gallinago</i>		AMBER				1
Song thrush	<i>Turdus philomelos</i>	SPL	RED	3	11	3	4
Siskin	<i>Spinus spinus</i>	SPL		12	11		
Tree sparrow	<i>Passer montanus</i>	SPL	RED	107	95	33	44
Twite	<i>Linaria flavirostris</i>	SPL	RED	4			

### 5.2.3 Common Species

A further 22 common species were recorded during the four survey visits; see Table 4. The three most frequently recorded species were jackdaw, rook and woodpigeon which in winter form large feeding flocks in open fields and are typical of this low-lying farmland landscape.

**Table 4 - Wintering bird survey results – common bird species**

Common Name	Scientific name	Visit 1 (Count)	Visit 2	Visit 3	Visit 4
Blackbird	<i>Turdus merula</i>	25	36	14	46
Blue tit	<i>Cyanistes caeruleus</i>	5	50	19	67
Buzzard	<i>Buteo buteo</i>	10	11	2	3
Carrion crow	<i>Corvus corone</i>	49	62	21	45
Collared dove	<i>Streptopelia decaocto</i>	12	19	6	6
Chaffinch	<i>Fringilla coelebs</i>	69	73	22	167
Coal tit	<i>Periparus ater</i>		6		1
Goldfinch	<i>Carduelis carduelis</i>	171	132	63	81
Great tit	<i>Parus major</i>		2	5	4
Grey heron	<i>Ardea cinerea</i>	1	3		
Jackdaw	<i>Corvus monedula</i>	332	625	307	384
Long-tailed tit	<i>Aegithalos caudatus</i>	59			
Magpie	<i>Pica pica</i>	23	7	12	24
Pied wagtail	<i>Motacilla alba</i>	1	18	4	12
Robin	<i>Erithacus rubecula</i>	36	26	8	24
Rock pipit	<i>Anthus petrosus</i>	1	5		4
Rook	<i>Corvus frugilegus</i>	505	1105	551	774
Stonechat	<i>Saxicola rubicola</i>	2	2		

Common Name	Scientific name	Visit 1 (Count)	Visit 2	Visit 3	Visit 4
Sparrowhawk	<i>Accipiter nisus</i>	3	5		
Water rail	<i>Rallus aquaticus</i>				1
Woodpigeon	<i>Columba palumbus</i>	507	627	260	823
Wren	<i>Troglodytes troglodytes</i>	28	6	7	7

## 6. Discussion

### 6.1 Nature Conservation Designations

#### 6.1.1 Overview

As identified in Section 4.1.1 Outer Firth of Forth and St Andrews Bay Complex SPA lies immediately east of Site, with the nearest point directly east of the Site. The SPA is designated primarily for migratory and over wintering species of which five species, black-headed gull, common gull, eider, herring gull and gannet, were recorded during the wintering bird survey.

The Firth of Forth SPA lies 5.9 m north of the Site is designated for a number of migratory and over-wintering species of which a total of nine species, cormorant, curlew, eider, golden plover, grey plover, oystercatcher, pink-footed goose, redshank and wigeon, were recorded during the wintering bird survey.

St Abb's Head to Fast Castle SPA lies 6.9km south-east of the Site and is designated only for its breeding seabirds and is not considered further with respects to wintering birds.

Forth Islands SPA is designated primarily for breeding species but it also qualifies due to the presence of a number of migratory species, one of which, gannet, was recorded during the wintering bird survey.

#### 6.1.2 Evaluation

The Proposed Development lies directly west of the Outer Firth of Forth and St Andrews Bay Complex SPA but is over 5.5 km from the other SPAs. The proximity of Outer Firth of Forth and St Andrews Bay Complex SPA means works may have the possibility to impact on birds within this protected site due to visual and noise disturbance. These impacts are likely to be short term and temporary in nature but will need to be taken into consideration in the development process.

Pink-footed geese, large gulls and golden plover are known to range long distances to forage during both the breeding and non-breeding seasons, meaning in addition to the potential impacts caused by the proximity of protected sites the Proposed Development may impact on gulls, pink-footed geese and golden plover away from protected sites at foraging or roosting sites.

The presence of these long ranging species means there is the potential for connectivity between the Site and the SPA and Ramsar sites and there is a potential for activities associated with the Proposed Development's construction and operation to result in adverse effects on the qualifying interests and conservation objectives of specific qualifying features. Consequently, a Habitat Regulations Appraisal (HRA) screening exercise was completed and a Report to Inform an Appropriate Assessment (RIAA) was undertaken to assess these potential impacts (ITPE, 2022).

## 6.2 Species

### 6.2.1 Peregrine and Merlin

Peregrine and merlin are both Schedule 1 and Annex 1 species and are legally protected accordingly.

A small number of records were made during the winter months and primarily well away from any potential works areas. This means it is unlikely that individuals of these species will be impacted by the works.

#### **6.2.2 Red / Amber Listed / SPL and LBAP Species**

The Site contains a number of different habitats which provide suitable habitat for a range for roosting and foraging for a number of wintering wildfowl, wader and coastal species as well as lowland, farmland, and woodland passerine species.

Of the 47 species recorded, redwing, fieldfare and snow bunting are afforded protection the Schedule 1 of the Wildlife and Countryside Act (1981), the highest level of protection for breeding birds in the UK, 13 of the recorded species are Red listed on the BoCC and a further 13 are Amber listed; of these 47, 19 are also SPL priority species and, as such, are species of conservation concern.

The presence of this wintering bird assemblage is typical of lowland areas around the coastline of Scotland and given the large areas of similar habitat stretching to the north and south of the Site it is considered that impacts on these species will be limited to visual and noise disturbance and species will likely relocate elsewhere until the works are complete.

## 7. References

East Lothian Council (2017a): East Lothian Biodiversity Action Plan 2008 to 2013. Available online at: [https://www.eastlothian.gov.uk/download/downloads/id/27787/technical\\_note\\_10\\_planning\\_for\\_biodiversity.pdf](https://www.eastlothian.gov.uk/download/downloads/id/27787/technical_note_10_planning_for_biodiversity.pdf) (accessed February 2022).

East Lothian Council (2017b): Biodiversity. Available at: [https://www.eastlothian.gov.uk/info/210569/countryside\\_and\\_wildlife/12104/biodiversity](https://www.eastlothian.gov.uk/info/210569/countryside_and_wildlife/12104/biodiversity) (accessed February 2022).

Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015). Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. *British Birds* 108, 708–746. Available online at: [www.britishbirds.co.uk/wp-content/uploads/2014/07/BoCC4.pdf](http://www.britishbirds.co.uk/wp-content/uploads/2014/07/BoCC4.pdf) (accessed February 2022).

Gilbert G, Gibbons DW & Evans J (2011). *Bird monitoring methods, a manual of techniques for key UK species*. RSPB, Sandy, Bedfordshire UK.

ITP Energised (2021). Berwick Bank Ecological Desk Study. Unpublished.

ITP Energised (2022). Berwick Bank Report to Inform an Appropriate Assessment. Unpublished.

JNCC (2018) SPA Description - Firth of Forth. Available online at <http://jncc.defra.gov.uk/default.aspx?page=1979>.

NatureScot (2020). SiteLink Map Search. Available online at: <https://sitelink.nature.scot/map>

NatureScot & JNCC (2021). Outer Firth of Forth and St Andrews Bay Complex Special Protection Area (SPA): Draft Conservation Objectives. Joint publication: NatureScot & JNCC, Nov. 2021. Available online at: <https://sitelink.nature.scot/site/10478>

Scotland's Environment Interactive Map. Available online at: <https://map.environment.gov.scot/sewebmap/> (accessed February 2022).

Scottish Government (2013). Scottish Biodiversity List. Version 1.5. Available online at: <http://www.gov.scot/Topics/Environment/Wildlife-Habitats/16118/Biodiversitylist/SBL> (accessed February 2022).

Stanbury A, Eaton M, Aebischer N, Balmer D, Brown A, Douse A, Lindley P, McCulloch N, Noble D and Win I (2021). The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. *British Birds* 114: 723-747. Available online at <https://britishbirds.co.uk/content/status-our-bird-populations> (accessed February 2022).

# Annex A – Desk study results

Table A1 – Desk study results

Vernacular Name	Scientific name	EU Birds Directive: Annex 1	Schedule 1 Wildlife & Countryside Act 1981	Scottish Priority List	Birds of Conservation Concern (BoCC) 4
Lesser Redpoll	<i>Acanthis cabaret</i>			X	Red
Common Redpoll	<i>Acanthis flammea</i>				Amber
Goshawk	<i>Accipiter gentilis</i>		X		
Sparrowhawk	<i>Accipiter nisus</i>				
Marsh Warbler	<i>Acrocephalus palustris</i>		X		Red
Sedge Warbler	<i>Acrocephalus schoenobaenus</i>				
Reed Warbler	<i>Acrocephalus scirpaceus</i>			X	
Common sandpiper	<i>Actitis hypoleucos</i>				Amber
Skylark	<i>Alauda arvensis</i>			X	Red
Razorbill	<i>Alca torda</i>				Amber
Kingfisher	<i>Alcedo atthis</i>	X	X	X	Amber
Little Auk	<i>Alle alle</i>				
Pintail	<i>Anas acuta</i>				Amber
Teal	<i>Anas crecca</i>				Amber
Mallard	<i>Anas platyrhynchos</i>				Amber
European White-fronted Goose	<i>Anser albifrons albifrons</i>				
Greylag Goose	<i>Anser anser</i>				Amber
Pink-footed Goose	<i>Anser brachyrhynchus</i>				Amber
Snow Goose	<i>Anser caerulescens</i>				
Bean Goose	<i>Anser fabalis</i>			X	Amber
Rock Pipit	<i>Anthus petrosus</i>				
Meadow Pipit	<i>Anthus pratensis</i>				Amber
Water Pipit	<i>Anthus spinoletta</i>				Amber
Tree Pipit	<i>Anthus trivialis</i>			X	Red
Swift	<i>Apus apus</i>			X	Amber
Grey Heron	<i>Ardea cinerea</i>				
Turnstone	<i>Arenaria interpres</i>				Amber
Short-eared Owl	<i>Asio flammeus</i>	X		X	Amber

Vernacular Name	Scientific name	EU Birds Directive: Annex 1	Schedule 1 Wildlife & Countryside Act 1981	Scottish Priority List	Birds of Conservation Concern (BoCC) 4
Long-eared Owl	<i>Asio otus</i>				
Ring-necked Duck	<i>Aythya collaris</i>				
Pochard	<i>Aythya ferina</i>			X	Red
Tufted Duck	<i>Aythya fuligula</i>				Green
Scaup	<i>Aythya marila</i>		X	X	Red
Waxwing	<i>Bombycilla garrulus</i>				
Brent Goose	<i>Branta bernicla</i>				Amber
Greater Canada Goose	<i>Branta canadensis</i>				
Barnacle Goose	<i>Branta leucopsis</i>	X		X	Amber
Goldeneye	<i>Bucephala clangula</i>				Amber
Buzzard	<i>Buteo buteo</i>				
Rough-legged Buzzard	<i>Buteo lagopus</i>				
Lapland Bunting	<i>Calcarius lapponicus</i>		X		Amber
Sanderling	<i>Calidris alba</i>				Amber
Dunlin (schinzii race)	<i>Calidris alpina schinzii</i>	X			Amber
Baird's Sandpiper	<i>Calidris bairdii</i>				
Knot	<i>Calidris canutus</i>				Amber
Curlew Sandpiper	<i>Calidris ferruginea</i>				Amber
Purple Sandpiper	<i>Calidris maritima</i>		X	X	Amber
Little Stint	<i>Calidris minuta</i>				
Ruff	<i>Calidris pugnax</i>	X	X	X	Red
Goldfinch	<i>Carduelis carduelis</i>				
Black Guillemot	<i>Cephus grylle</i>				Amber
Treecreeper	<i>Certhia familiaris</i>				
Little Ringed Plover	<i>Charadrius dubius</i>		X		
Ringed Plover	<i>Charadrius hiaticula</i>				Red
Black Tern	<i>Chlidonias niger</i>	X	X		Green
Black-headed gull	<i>Chroicocephalus ridibundus</i>			X	Amber
Dipper	<i>Cinclus cinclus</i>				Amber
Hen Harrier	<i>Circus cyaneus</i>	X	X	X	Red
Long-tailed Duck	<i>Clangula hyemalis</i>		X		Red

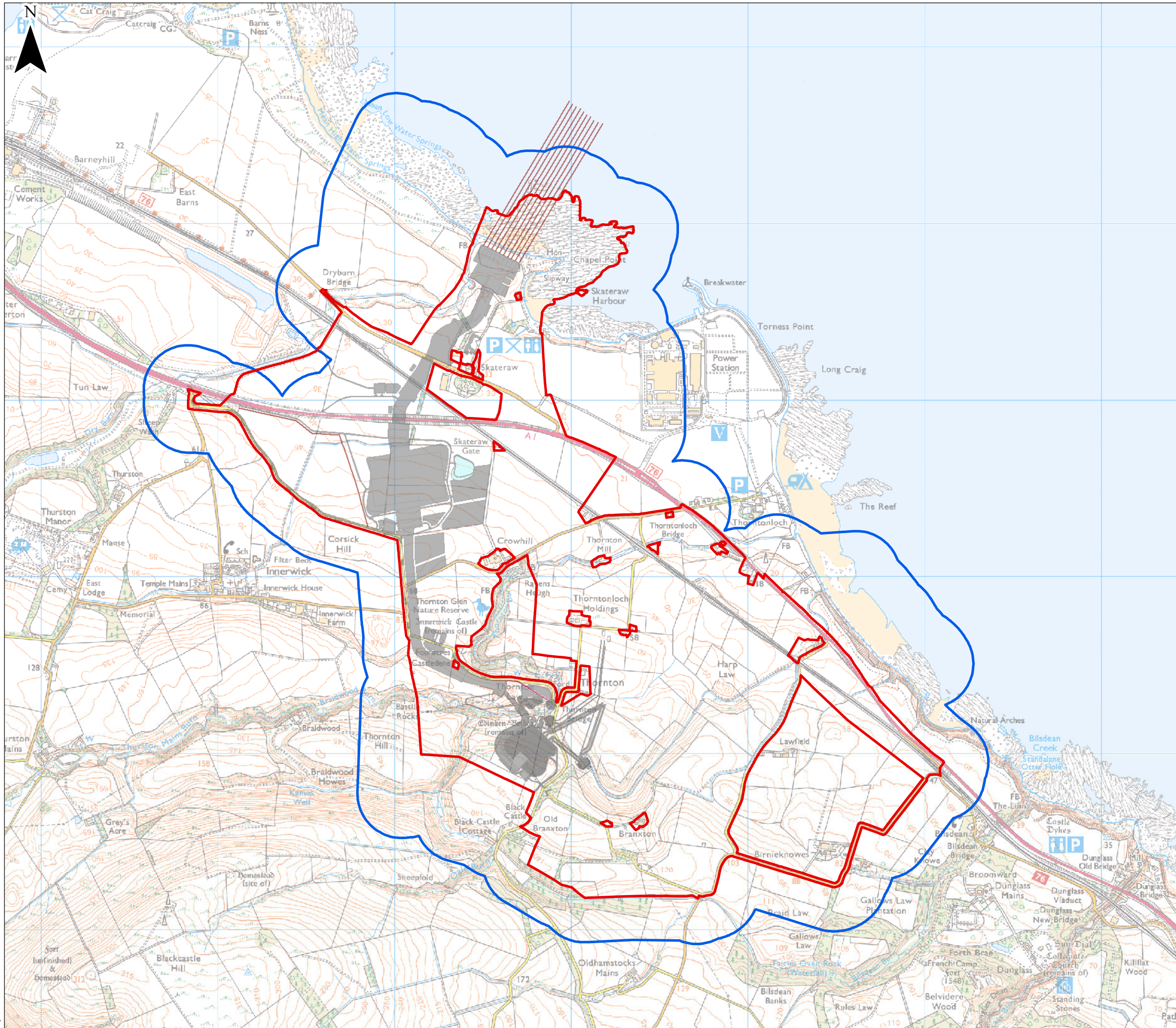
Vernacular Name	Scientific name	EU Birds Directive: Annex 1	Schedule 1 Wildlife & Countryside Act 1981	Scottish Priority List	Birds of Conservation Concern (BoCC) 4
Hawfinch	<i>Coccothraustes coccothraustes</i>			X	Red
Stock Dove	<i>Columba oenas</i>				Amber
Raven	<i>Corvus corax</i>				
Hooded Crow	<i>Corvus cornix</i>			X	
Quail	<i>Coturnix coturnix</i>		X		Amber
Cuckoo	<i>Cuculus canorus</i>			X	Red
Blue Tit	<i>Cyanistes caeruleus</i>				
Whooper swan	<i>Cygnus cygnus</i>	X	X	X	Amber
Mute swan	<i>Cygnus olor</i>				Amber
House Martin	<i>Delichon urbicum</i>				Amber
Great Spotted Woodpecker	<i>Dendrocopos major</i>				
Little Egret	<i>Egretta garzetta</i>	X			Green
Reed Bunting	<i>Emberiza schoeniclus</i>			X	Amber
Shore Lark	<i>Eremophila alpestris</i>		X		Amber
Robin	<i>Erithacus rubecula</i>				
Merlin	<i>Falco columbarius</i>	X	X	X	Red
Peregrine	<i>Falco peregrinus</i>	X	X	X	
Kestrel	<i>Falco tinnunculus</i>			X	Amber
Pied flycatcher	<i>Ficedula hypoleuca</i>				Red
Red-breasted Flycatcher	<i>Ficedula parva</i>	X			
Puffin	<i>Fratercula arctica</i>				Red
Brambling	<i>Fringilla montifringilla</i>		X	X	
Coot	<i>Fulica atra</i>				
Fulmar	<i>Fulmarus glacialis</i>				Amber
Snipe	<i>Gallinago gallinago</i>				Amber
Moorhen	<i>Gallinula chloropus</i>				
Black-throated Diver	<i>Gavia arctica</i>	X	X	X	Amber
Great Northern Diver	<i>Gavia immer</i>	X	X	X	Amber
Red-throated Diver	<i>Gavia stellata</i>	X	X	X	Green
Crane	<i>Grus grus</i>	X			Amber
Oystercatcher	<i>Haematopus ostralegus</i>				Amber

Vernacular Name	Scientific name	EU Birds Directive: Annex 1	Schedule 1 Wildlife & Countryside Act 1981	Scottish Priority List	Birds of Conservation Concern (BoCC) 4
Swallow	<i>Hirundo rustica</i>				Green
Storm Petrel	<i>Hydrobates pelagicus</i>	X		X	Amber
Little Gull	<i>Hydrocoloeus minutus</i>		X		Green
Red Grouse	<i>Lagopus lagopus</i>				
Red-backed Shrike	<i>Lanius collurio</i>	X	X	X	Red
Herring Gull	<i>Larus argentatus</i>			X	Red
Common Gull	<i>Larus canus</i>				Amber
Lesser Black-backed Gull	<i>Larus fuscus</i>				Amber
Iceland Gull	<i>Larus glaucoides</i>				Amber
Glaucous Gull	<i>Larus hyperboreus</i>				Amber
Great black-backed Gull	<i>Larus marinus</i>				Amber
Bar-tailed Godwit	<i>Limosa lapponica</i>	X		X	Amber
Linnet	<i>Linaria cannabina</i>			X	Red
Twite	<i>Linaria flavirostris</i>			X	Red
Grasshopper warbler	<i>Locustella naevia</i>			X	Red
Crossbill	<i>Loxia curvirostra</i>		X		
Bluethroat	<i>Luscinia svecica</i>	X	X		
Jack Snipe	<i>Lymnocyptes minimus</i>				Green
Velvet Scoter	<i>Melanitta fusca</i>		X		Red
Common Scoter	<i>Melanitta nigra</i>		X	X	Red
Smew	<i>Mergellus albellus</i>	X		X	Amber
Goosander	<i>Mergus merganser</i>				
Red-breasted Merganser	<i>Mergus serrator</i>				
Bee-eater	<i>Merops apiaster</i>		X		
Red Kite	<i>Milvus milvus</i>	X	X	X	Green
Gannet	<i>Morus bassanus</i>				Amber
Pied Wagtail	<i>Motacilla alba</i>				
Grey Wagtail	<i>Motacilla cinerea</i>				Red
Yellow Wagtail	<i>Motacilla flava</i>			X	Red
Spotted Flycatcher	<i>Muscicapa striata</i>			X	Red
Curlew	<i>Numenius arquata</i>			X	Red



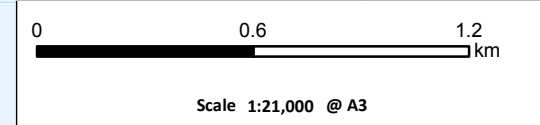
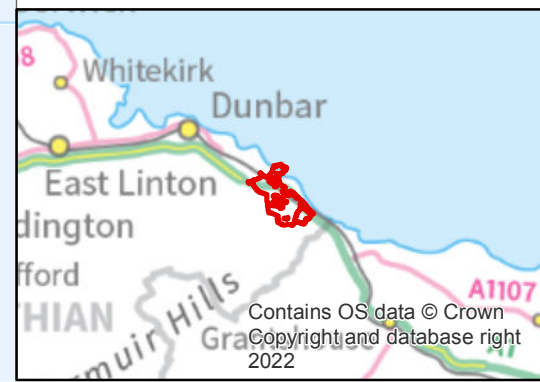
Vernacular Name	Scientific name	EU Birds Directive: Annex 1	Schedule 1 Wildlife & Countryside Act 1981	Scottish Priority List	Birds of Conservation Concern (BoCC) 4
Whimbrel	<i>Numenius phaeopus</i>		X		Red
Wheatear	<i>Oenanthe oenanthe</i>				Green
Golden Oriole	<i>Oriolus oriolus</i>		X		Red
Osprey	<i>Pandion haliaetus</i>	X	X	X	Amber
Great Tit	<i>Parus major</i>				
House Sparrow	<i>Passer domesticus</i>			X	Red
Tree sparrow	<i>Passer montanus</i>			X	Red
Grey Partridge	<i>Perdix perdix</i>			X	Red

## Figure 8.2.1: Site Location and Study Area



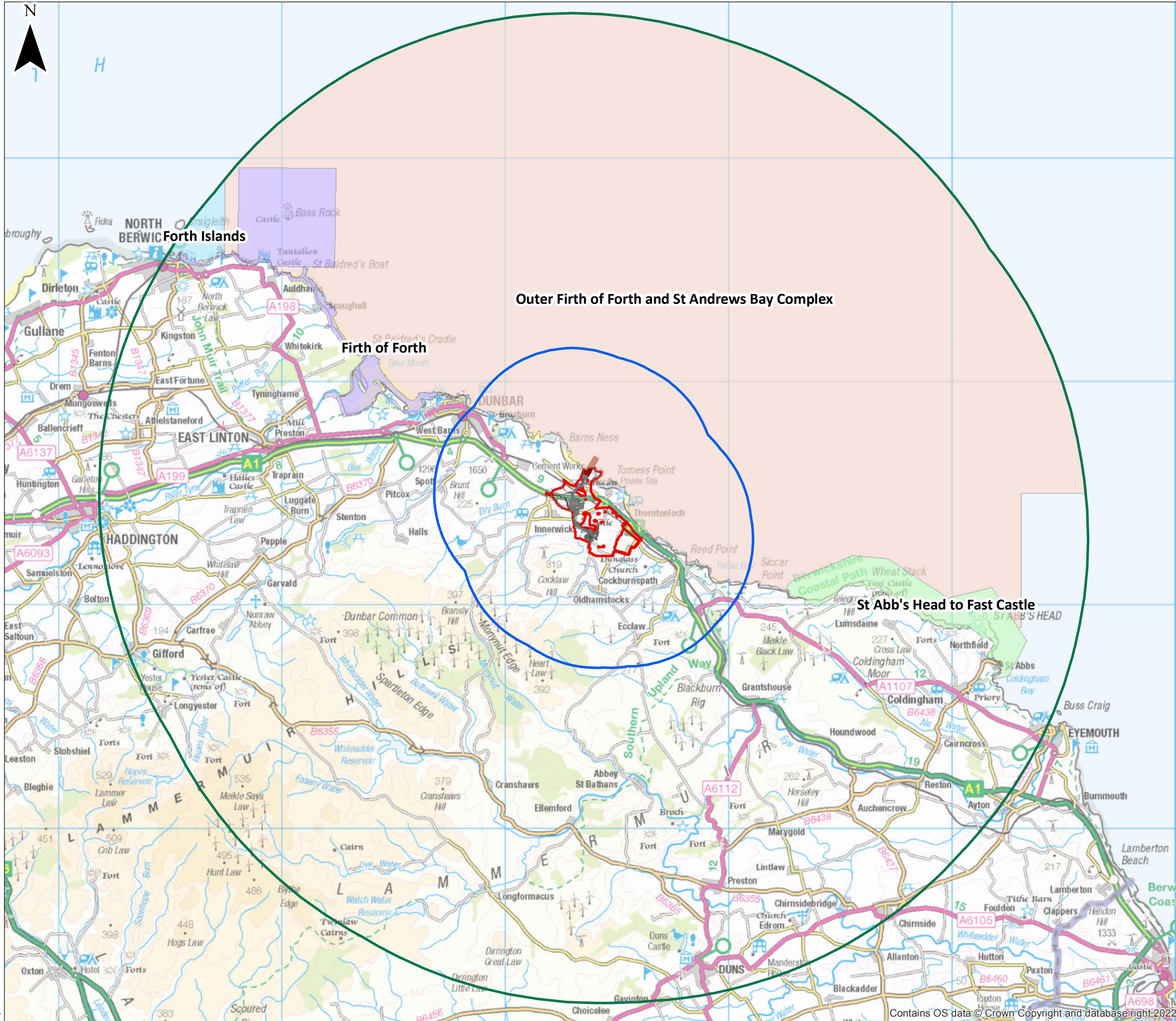
**Key:**

- Site Boundary
- Study Area (250m)



Berwick Bank  
 Wintering Bird Survey  
**Appendix Figure 8.2.1**  
 Survey Areas

## Figure 8.2.2: Ornithological Designations

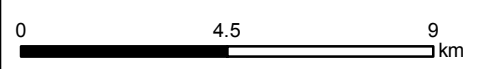


**Key:**

- Site Boundary
- 5km buffer
- 20km buffer

**Protected Sites**

- Firth of Forth SPA/Ramsar
- Forth Islands SPA
- Outer Firth of Forth and St Andrews Bay Complex SPA
- St Abb's Head to Fast Castle SPA



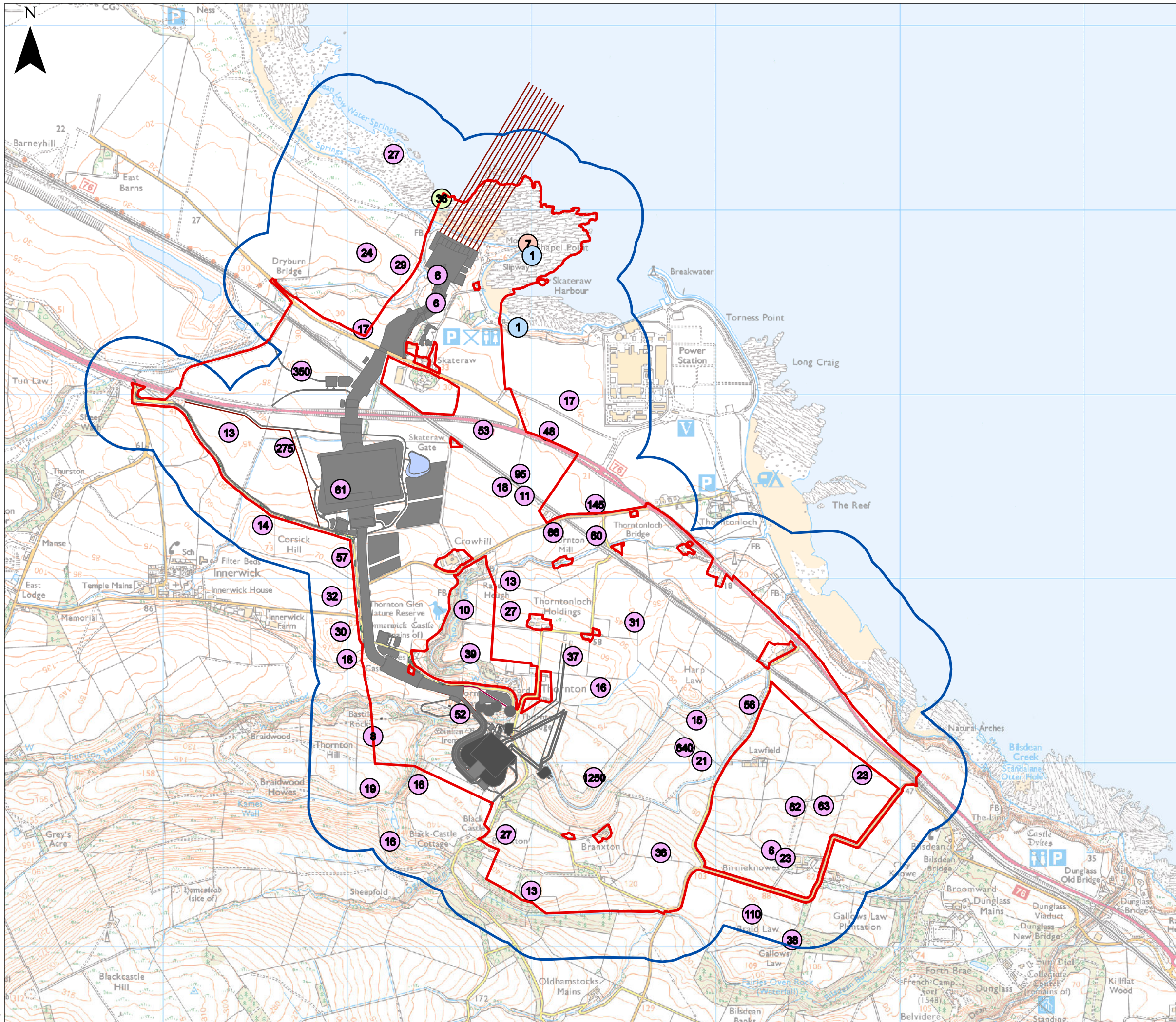
Scale 1:165,000 @ A3



Berwick Bank  
Wintering Bird Survey  
Appendix Figure 8.2.2

Ornithological Designations

## Figure 8.2.3: WBS Results – SPA Qualifying wildfowl

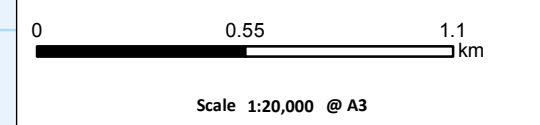


Key:

- Site Boundary
- Survey Buffer (250m)

Species

- Eider
- Pink-footed goose
- Shelduck
- Wigeon



Berwick Bank  
 Wintering Bird Survey  
 Appendix Figure 8.2.3

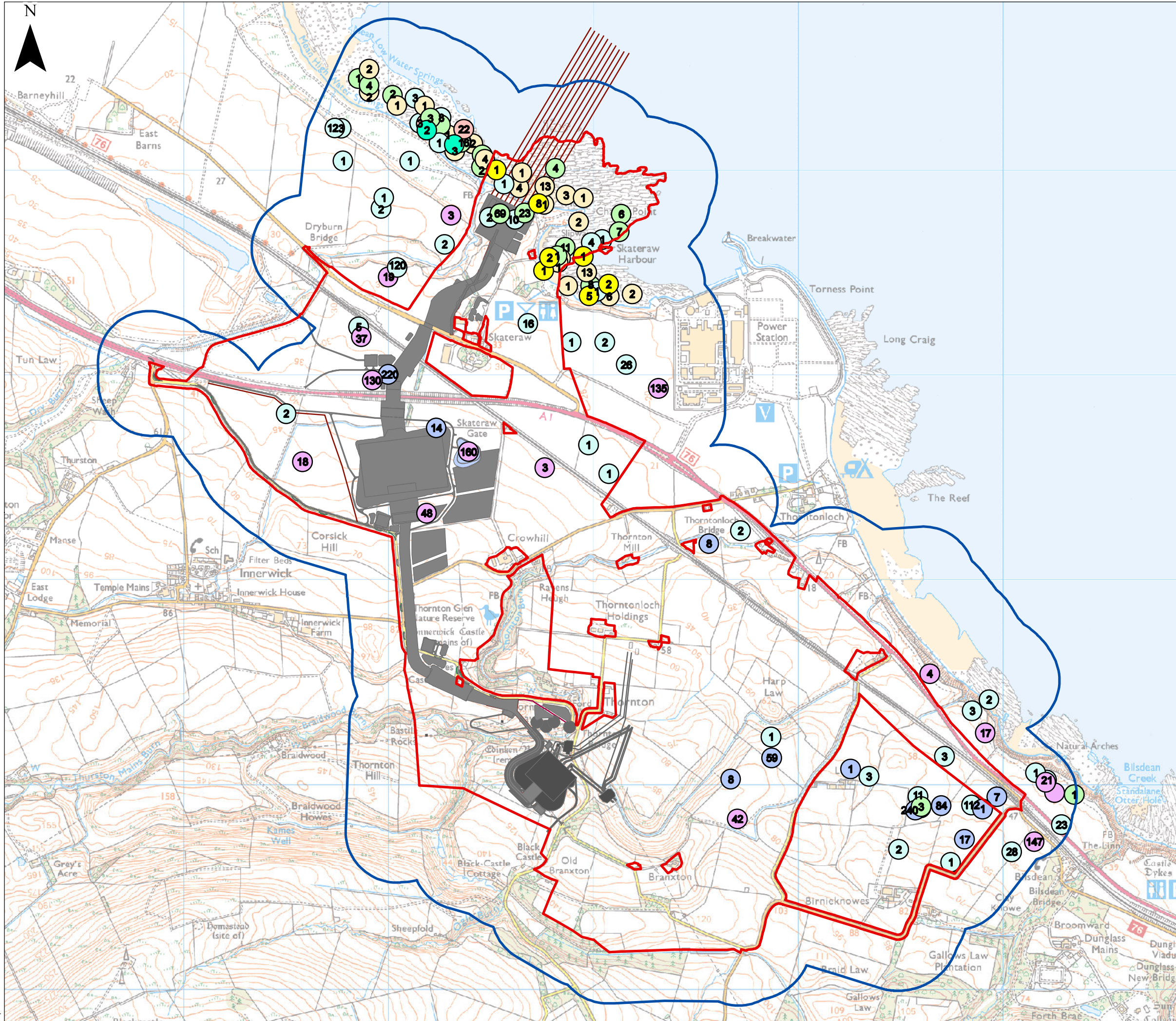
SPA Designated Species - Wildfowl

Date: 03/11/2022	Drawn by: AT	Checked by: RK	Version: v1
------------------	--------------	----------------	-------------

Project Number: 2904

## Figure 8.2.4: WBS Results – SPA Qualifying waders





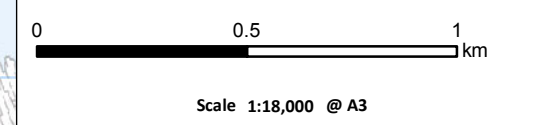
**Key:**

- Site Boundary
- Survey Buffer (250m)

**Wintering Birds**

**Species**

- Curlew
- Dunlin
- Golden plover
- Grey plover
- Lapwing
- Oystercatcher
- Redshank
- Turnstone



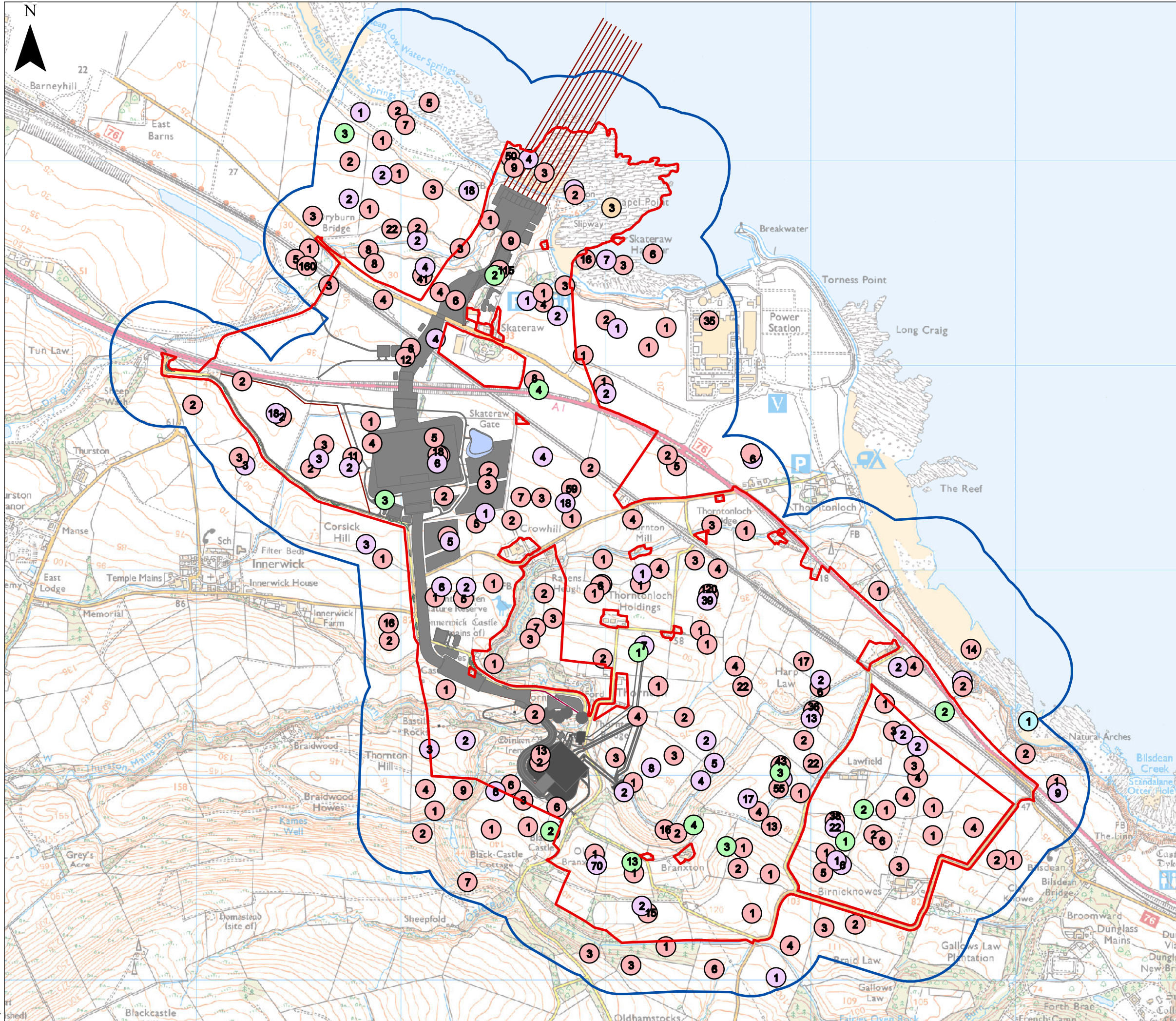
Berwick Bank  
Wintering Bird Survey  
**Appendix Figure 8.2.4**

**SPA Designated Species - Waders**

Date: 03/11/2022	Drawn by: AT	Checked by: RK	Version: v1
------------------	--------------	----------------	-------------

Project Number: 2944

## Figure 8.2.5: WBS Results – SPA Qualifying seabirds



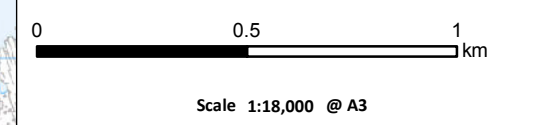
Key:

- Site Boundary
- Study Area (250m)

**Wintering Birds**

**Species**

- Black-headed gull
- Common gull
- Cormorant
- Gannet
- Herring gull



Berwick Bank  
Wintering Bird Survey  
**Appendix Figure 8.2.5**

**SPA Designated Species - Seabirds**

Date: 03/11/2022	Drawn by: AT	Checked by: RK	Version: v1
------------------	--------------	----------------	-------------

Project Number: 2904

## Figure 8.2.6: WBS Results – Other species (Confidential)

Refer to Volume 5.



ITPenergised is a leading, international consultancy offering renewable energy, natural resources, environmental, engineering, technical advisory and asset management services for clients with onshore and offshore projects.

**Visit the ITPenergised group offices in:**

Bristol, London, Edinburgh, Glasgow, Buenos Aires, Lisbon, Madrid, Delhi, Beijing, Canberra, Auckland

**Sectors:**

Onshore Renewables & Storage | Offshore Renewables | Oil & Gas  
Property & Urban Regeneration | Corporate, Industrial & Manufacturing

