

**Cockenzie BESS**

Report to Inform a Habitats  
Regulations Appraisal - Screening

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## Issuing office

4 Riverside Studios | Newcastle Business Park | Newcastle Upon Tyne | NE4 7YL  
 T: 0191 303 8964 | W: www.bsg-ecology.com | E: info@bsg-ecology.com

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	<b>Name</b>	<b>Position</b>	<b>Date</b>
<b>Originated</b>	Claire Dewson	Principal Ecologist	20 July 2023
<b>Reviewed</b>	Ian Heard	Principal Ecologist	20 July 2023
<b>Updated</b>	Claire Dewson	Principal Ecologist	09 August 2023
<b>Reviewed</b>	Jim Gillespie	Director	10 August 2023
<b>Approved for issue to client</b>	Jim Gillespie	Director	11 August 2023
<b>Issued to client</b>	Claire Dewson	Principal Ecologist	11 August 2023

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# 1 Introduction

## Background to Commission

- 1.1 BSG Ecology was commissioned by Cockenzie Storage Limited (the client) in February 2023 to undertake a range of surveys and reports including evidence in support of a Habitats Regulations Appraisal (HRA) for the proposed works at Cockenzie.
- 1.2 This report provides the necessary information to enable East Lothian Council to assess potential impacts of the proposal on Internationally Important Wildlife Sites (IIWS) and thereby meet its obligations as Competent Authority under The Conservation of Habitats and Species Regulations 2017 (as amended)<sup>1</sup> and to ensure alignment with the relevant policy within the Local Plan 2018, Policy PROP EGT1.

## Site Description

- 1.3 The Site is located to the west of Avenue Road in Cockenzie and consists of a single arable field. Adjacent habitats include small areas of grassland, scrub, and woodland. To the west lies a former power station, whilst land to the south appears to have been used to store fuel for the power station. The Site is fenced off from the land to the south. The town of Cockenzie lies to the north and east of the Site. The Firth of Forth lies approximately 475 m to the north from the nearest point. The Site is approximately 8.9 hectares (ha) in size and is centred on Ordnance Survey National Grid reference NT 40059 75234. The location of the Site is shown on Figure 1, Appendix 1.
- 1.4 During the breeding bird surveys, the surveyors reported that the Site was regularly used by dog walkers and walkers. The Phase 1 habitat survey was undertaken in February 2023 and the surveyor also observed similar use by residents to that reported in the spring and summer.
- 1.5 The Site is not subject to any nature conservation designations, the Impact Risk Zones for Scotland are not currently presented in Defra's interactive map (<https://magic.defra.gov.uk/MagicMap.aspx>).

## Description of Project

- 1.6 The client proposes to develop the Site into a battery energy storage system (BESS) facility with, transformers, substation and associated Infrastructure. Green infrastructure will be incorporated into the design to screen the development from nearby residential properties. During the construction phase all site compounds will be located within the current Site boundary.
- 1.7 The full construction period will be between 12-14 months, but the majority of the construction will be completed in a 4-6 month period to allow the civil works time to settle before the main construction works. The works are expected to start June 2025 and finish July 2026.

## Purpose of the Report

- 1.8 This report provides evidence in support of a Stage 1 HRA and should be regarded as a draft for consultation with Nature Scot and the LPA and other key stakeholders, to seek their detailed views.

## Report Scope and Structure

- 1.9 There are certain ecological sites that are designated for their international importance and to which special considerations under the Conservation of Species and Habitat Regulations 2017 (as amended including the Conservation of Habitats and Species (amendment) (EU Exit) Regulations 2019), apply either through operation of law or government policy. For ease, these will be referred to as the 'Habitats Regulations' throughout the remainder of this document. These sites include Special Areas of Conservation (SAC) that have been designated to protect certain species and habitats; Special Protection Areas (SPA), classified to protect certain species of wild birds; and Ramsar sites designated to protect internationally important wetland areas. For clarity these are referred to here

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<sup>1</sup> Article 6 of the Habitats Directive (Directive 92/43/EEC) and Regulation 48 of the Conservation (Natural Habitats, &c.) Regulations 1994

as Internationally Important Wildlife Sites (IIWS) throughout this document. It is important to note that the amending 2019 Regulations generally seek to retain the requirements of the 2017 Habitats Regulations but with adjustments for the UK's exit from the European Union. Regulation 4 confirms that the interpretation of these Regulations as they had effect, or any guidance as it applied, before exit day, shall continue to do so.

- 1.10 These sites are subject to special legal protection that imposes restrictions on a Competent Authority from granting consent, permission or authorisations for any plan or project that may affect the conservation status and integrity of these designations. The Habitats Regulations require the Competent Authority, before deciding to undertake, or give any consent, permission or other authorisation for a plan or project which is likely to have a significant effect on these designated sites (either alone or in combination with other plans or projects) to make an appropriate assessment of the implications of the plan or project for potentially affected sites in view of those sites' conservation objectives.
- 1.11 A Stage 1 (Screening) HRA (this report) provides an initial evaluation of whether significant effects on the qualifying interest features and conservation objectives of IIWS are likely as a result of the proposal. The results of this assessment determine whether a more detailed Appropriate Assessment (Stage 2) is required. Likely Significant Effects (LSE) are considered first in isolation and then in combination with other plans and projects if appropriate. In line with the precautionary principal, unless a significant effect can be objectively ruled out with certainty, it is considered 'likely'.
- 1.12 This screening exercise takes into account recent case law, including the People Over Wind and Sweetman v Coillte Teoranta (C-323/17) which determined that mitigation aimed specifically at reducing the impacts of a given plan or project on an IIWS should be taken into account at Stage 2 only (Appropriate Assessment) and not at Stage 1 (Screening).

#### **Contributors**

- 1.13 The report has been prepared by Claire Dewson, who has worked in the ecological sector for over 20 years. During this time, she has undertaken HRAs for Local Planning Authorities as the competent authority as well as preparing HRA reports for plans and projects on a consultancy basis.
- 1.14 The report has been reviewed by Jim Gillespie. Jim is an experienced professional ecologist with over 30 years' experience. He has prepared HRA reports and managed and/or contributed to numerous projects that have included a requirement for HRA.

## 2 Methodology

### HRA Process

- 2.1 The Habitats Directive and Habitats Regulations do not specify how an assessment should be undertaken. The methodology for this report is therefore informed by Department for Environment, Food and Rural Affairs, Ministry of Housing, Communities and Local Government, guidance and best practice including Dodd et al., (2007), Nature Scot's Habitats Regulations Guidance and Conservation Advice Documents and is in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) (2018) where appropriate.
- 2.2 HRAs are required for all development/strategic plans likely to impact IIWS (also referred to in Scotland as National Site Network (NSN) sites and sometimes European sites). In line with DEFRA (2021), such assessments follow the precautionary approach in considering the effects on site integrity, in that projects may only proceed if the Competent Authority has ascertained that it will not adversely affect the integrity of an IIWS. Habitats Regulations do not provide statutory protection for potential SPAs (pSPAs), possible/probable SACs (pSACs)<sup>2</sup> or listed or proposed Ramsar sites. For the purpose of considering development proposals and their likely impacts on such sites, government policy (4)<sup>3</sup> in Scotland is that the aforementioned sites 'should be given the same protection' as IIWS sites. The requirements of the Habitats Regulations with regard to the implications of plans or projects are set out within Regulation 63 of the Habitats Regulations. The step-based approach implicit within this Regulation is referred to as a 'Habitats Regulations Appraisal', which is the term that has been used throughout this report.
- 2.3 Although the HRA process relates specifically and exclusively to the qualifying interests of IIWS, given that each designation overlaps to some degree with Site(s) of Special Scientific Interest (SSSI), features of international importance cited for these nationally important sites, and their condition, are important considerations for the planning process and form part of this assessment where relevant and possible.
- 2.4 The Habitats Regulations describe a procedure that provides for a systematic set of stages for the transparent consideration of the likely significant effects a plan or project could have on an IIWS. Guidance states that there are four stages in producing an assessment as follows in Table 1 below.
- 2.5 Each stage determines whether a further stage in the process is required. If, for example, the conclusions at the end of Stage One are that there are no likely significant effects on the IIWS, there is no requirement to proceed further.

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<sup>2</sup> In Scotland, IIWS sites are defined in regulation 10 of the Habitats Regulations and include candidate SACs, designated SACs and classified SPAs.

<sup>3</sup> 4<sup>th</sup> National Planning Framework (NP4)

**Table 1: Stages in the Habitats Regulations Appraisal process**

Stage	Description	Legislative Context
Purpose	Determines if the purpose of the plan or project is directly connected with, or necessary, to the management of an IIWS. If it is, then no further assessment is necessary	Regulation 63(1)(b)
Scoping	The identification of any IIWS that might be within scope of a HRA, i.e., those IIWSs should be taken forward to the screening stage based on a wide consideration of spatial and ecological factors. Such IIWSs may be located within the plan or project area but may also include sites located in neighbouring authority areas.	
Screening	Assessment of whether a plan or project, either alone or in combination with other plans or projects, is likely to have a significant effect on any IIWSs' qualifying features (habitats and species) and the achievement of the IIWS's conservation objectives.  This is also known as the 'test of likely significant effect' (ToLSE).	Regulation 63(1)(a)
Appropriate Assessment	Consideration of the impacts of the proposals to determine whether it is possible to conclude with certainty that the project will not result in an adverse effect on the integrity of an IIWS, either alone or in combination with other plans or projects and with reference to the IIWS's conservation objectives.  This is also known as the test of 'adverse effect on integrity' (AEoI).  At this stage consent may be granted for the plan or project if it is possible to conclude with certainty that the proposal will not result in any adverse effect on the integrity of any IIWS, either alone or in combination with other plans or projects.	Regulation 63(5)
If it cannot be concluded with certainty that the proposal will not result in any adverse effect on the integrity of any IIWS then proceed to:		
Assessment of alternative solutions	Assess whether there is an alternative solution to the plan or project, i.e., one that avoids adverse effects on IIWSs.  If no such alternative solution exists, the process continues to an assessment of whether there are 'imperative reasons of overriding public interest' (IROPI) for the plan or project to proceed.	Regulation 64(1)
Assessment of IROPI	Assess whether a plan or project can be justified as being needed for 'imperative reasons of overriding public interest' (IROPI).	Regulation 64(1)
Compensatory measures	Identify and secure any necessary compensatory measures to ensure that the overall coherence of the 'national site network' is protected.	Regulation 68

**Functionally Linked Land**



2.6 A development has the potential to impact an IIWS either directly, for example as a result of land-take, or indirectly, for example as a result of changes in air quality. When assessing impacts it is important to note that impacts need to be considered on 'functionally linked land'. Functionally linked land can be defined as follows (Chapman & Tyldesley, 2016):

2.7 *'the term 'functional linkage' refers to the role or 'function' that land or sea beyond the boundary of a European site [IIWS] might fulfil in terms of ecologically supporting the populations for which the site was designated or classified. Such land is therefore 'linked' to the European site [IIWS] in question because it provides an important role in maintaining or restoring the population of qualifying species at favourable conservation status.'*

2.8 In this report consideration has been given to whether the proposed development will impact land that is functionally linked to an IIWS.

### Stage 1 HRA (Screening)

2.9 Likely significant effect (LSE) is not defined in the Habitats Regulations and case law informs how Regulation 63(1) should be interpreted, as follows:

- 'significant' means 'any effect that would undermine the conservation objectives of an IIWS site'<sup>4</sup>;
- 'likely' is a low threshold and simply means that there is a 'risk' or 'doubt' regarding such an effect that 'cannot be excluded on the basis of objective information'<sup>5</sup>; and
- [it] '... is not that significant effects are probable, a risk is sufficient'... and there must be 'credible evidence that there was a real, rather than a hypothetical, risk'<sup>6</sup>.

2.10 A good working definition of 'significant effect' is, therefore, any effect that may reasonably be predicted as a consequence of a plan or project that may affect the achievement of conservation objectives of the features for which the IIWS was designated but excluding trivial and inconsequential effects (de minimis effects). Further, likely effect is not only one that is probable but should also be taken to mean an effect that could happen if its occurrence cannot be ruled out, based on the best available impartial information. Effects that are likely to be significant include:

- causing change to the ecological coherence or robustness of the site, or to the wider series of IIWS (for example by presenting a barrier between isolated fragments or reducing the ability of the site to act as a source of new colonisers);
- causing reduction in the area of a particular habitat within the site or the actual site, or in some way sterilising part of the site from its ecological functioning;
- causing direct or indirect change to the physical quality of the environment (including the hydrology) or habitat within the site;
- causing ongoing disturbance to species or habitats for which the site is designated/classified/listed;
- altering community structure (species composition);
- causing direct or indirect damage to the size, characteristics or reproductive ability of populations on the site or using supporting habitat outside the site;
- altering the vulnerability of populations to other impacts;

<sup>4</sup> Landelijke Vereniging tot Behoud van de Waddenzee and Nederlandse Vereniging tot Bescherming van Vogels v Staatssecretaris van Landbouw, Natuurbeheer en Visserij (2004), European Court of Justice, C-127/02 (referred to as the Waddenzee judgement) at paragraphs 44, 47 and 48.

<sup>5</sup> Waddenzee judgement at paragraphs 44 and 45.

<sup>6</sup> Boggis at paragraphs 36 and 37

- causing a reduction in the resilience of the feature against external change (for example its ability to respond to extremes of environmental conditions); and
  - affecting restoration of a feature where this is a conservation objective.
- 2.11 Each phase of the proposal (project) has been considered against each of the IIWS qualifying features and an assessment of potential effects made using best available evidence and information.
- 2.12 The construction and operational elements of the proposal have first been considered 'alone', that is in isolation from any potential combined effects of other development proposals that may also affect the IIWS. Following assessment of effects 'alone', the assessment then considers the potential for significant effects 'in combination' with other plans or proposals if appropriate. A precautionary principle is applied to the process of assessing significant effects.
- 2.13 In addition, the effects of the proposal are considered alongside other live (within the planning system pending decision or decided but not yet in place) plans or projects to assess whether they may add up to a significant 'in-combination' effect.
- 2.14 This report provides evidence in support of a Stage 1 HRA and should be regarded as a draft for consultation with Nature Scot and the LPA and other key stakeholders, to seek their detailed views.
- 2.15 If Stage 1 (Screening) finds the project, alone, is likely to result in LSE<sup>7</sup> on the integrity of the site, then the scale and significance of these effects 'alone' must then be assessed in Stage 2 and potential mitigation measures proposed and assessed to avoid these impacts. Where Stage 1 finds the project will not have a likely significant effect on site integrity on its own but will do so in combination with other plans or projects, the scale and significance of these 'in-combination' impacts must be considered in Stage 2 prior to exploring mitigation. In either case, where mitigation measures are proposed, these should be agreed with Nature Scot.
- 2.16 It should be noted that "integrity" is defined by the European Commission (2000) as relating to the reasons for the site's designation as follows:

*'the integrity of a site is the coherence of the site's ecological structure and function, across its whole area, or the habitats, complex of habitats and/or populations of species for which the site is or will be classified.'*

### **Screening Area**

- 2.17 There are no standard criteria for determining the spatial scope of an HRA and so the decision to include or exclude IIWSs from an assessment needs to be supported by application of the source-pathway-receptor conceptual model, which highlights whether there is any potential pathway that connects the development to any IIWSs. In this case the spatial scope of the assessment is informed by identifying the impacts that could potentially arise as a result of the development, assessing the spatial and temporal scope of those impacts and understanding the effects on sensitive receptors that might arise.
- 2.18 For the purposes of this assessment, given the scale and nature of the proposed development and particular interest features of nearby IIWS, a 10km radius was considered appropriate as an initial screening radius around the proposed development. This distance is considered sufficiently precautionary to capture reasonably foreseeable potential impact pathways in reasonably foreseeable situations and is appropriate in this instance.
- 2.19 The 10km search radius encompasses all or part of the following IIWS (as shown on Figure 1, Appendix 1):
- Firth of Forth SPA

<sup>7</sup> The term 'likely significant effect' comes from Regulation 48(1) of the Habitats Regulations and its interpretation has been shaped by case law and guidance (e.g. European Commission, 2001; European Commission, 2018).

- Firth of Forth Ramsar Site
- Outer Firth of Forth and St Andrews Bay Complex SPA

- 2.20 The Conservation Advice for each site (JNCC, 2020), together with standard data forms (JNCC 2018, 2020) and individual component SSSI citations, where relevant, provide the necessary context for HRAs and detail on the site's structure, function and supporting processes. These objectives, provided by the JNCC, aim to ensure that the integrity of each site is maintained or restored as appropriate, and that each site contributes to achieving the aims of the Habitats Regulations.
- 2.21 The condition of the sites is estimated using Scotland's Environment Feature Condition.
- 2.22 The Conservation Advice and supporting information such as Conservation Priorities and Advice to Support Management and Conservation Measures are designed to help avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and to ensure for the qualifying species that the following are maintained in the long term by:
- Population of the species as a viable component of the site;
  - Distribution and extent of habitats supporting the species;
  - Structure, function and supporting processes of habitats supporting the species; and
  - No significant disturbance of the species.
- 2.23 Pressures on and threats to the sites are identified, based on the features assessment section for each designated site on Nature Scot's website (Nature Scot 2005, 2015) and Conservation Management Advice documents where available (Nature Scot 2022).

### 3 Stage 1 HRA (Screening)

#### Overview

- 3.1 This section provides a summary of each IIWS and sets out the potential ways in which the proposal might reasonably be expected to affect the qualifying features of these sites based on a rapid assessment, as appropriate, of location, proximity, type, scale, extent, duration, frequency and timing including embedded mitigation measures of the proposed operations or activities.
- 3.2 A brief description of the IIWS, taken largely from the site citations (JNCC) is presented below, along with a summary of the qualifying habitats and species.

#### Firth of Forth SPA

- 3.3 The site is located approx. 440 m (closest point) to the north of the proposed development Site. The primary reason for classification is the presence of:
- an internationally important non-breeding population of red-throated diver *Gavia stellata*,
  - an internationally important non-breeding population of Slavonian grebe *Podiceps auritus*;
  - an internationally important non-breeding population of golden plover *Pluvialis apricaria*;
  - an internationally important non-breeding population of bar-tailed godwit *Limosa lapponica*;
  - an internationally important passage population of sandwich tern *Sterna sandvicensis*;
  - an internationally important migratory population of pink-footed goose *Anser brachyrhynchus*;
  - an internationally important migratory population of shelduck *Tadorna tadorna*;
  - an internationally important migratory population knot *Calidris canutus*;
  - an internationally important migratory population redshank *Tringa tetanus*;
  - an internationally important migratory population turnstone *Arenaria interpres*; and
  - an internationally important waterfowl assemblage, in excess of 20,000 individuals.
- 3.4 Further details of percentages of populations and numbers of species can be found in Table 5, Appendix 2.
- 3.5 The Firth of Forth SPA covers 6317.93 ha and is located on the south-east coast of Scotland stretching from Alloa to the coast of Fife and East Lothian. The boundary of the SPA mostly follows that of the Firth of Forth Site of Special Scientific Interest and slightly overlaps with Forth Islands SPA.
- 3.6 It is comprised of a wide variety of habitats including extensive invertebrate-rich intertidal flats and rocky shores, areas of saltmarsh, lagoons and sand dune.
- 3.7 The main current pressure/threat to the integrity of the site is recreational disturbance especially from walkers and dog walkers and poor water quality adversely affecting availability and suitability of feeding and roosting habitats, climate change, game and fisheries management.

#### Site Condition

- 3.8 Scotland's Environment website indicates that some bird species are in favourable condition whilst some species are in unfavourable condition. Species populations that are identified as being in

unfavourable condition are: common scoter, goldeneye *Bucephala clangula*, golden plover, great crested grebe *Podiceps cristatus*, knot, long-tailed duck *Clangula hyemalis*, red-breasted merganser *Mergus serrator*, scaup *Aythya marila* and Slavonian grebe.

### **Conservation Objectives**

- 3.9 To avoid deterioration of the habitats of the qualifying species or significant disturbance of the qualifying species, thus ensuring that the integrity of the site is maintained; and to ensure for the qualifying species that the following are maintained in the long term:
- Population of the species as a viable component of the site;
  - Distribution of the species within site;
  - Distribution and extent of habitats supporting the species;
  - Structure, function and supporting processes of habitats supporting the species; and
  - No significant disturbance of the species

### **Firth of Forth Ramsar Site**

- 3.10 The site is located approx. 440 m (closest point) to the north of the proposed development Site. The primary reason for classification is the presence of:
- an internationally important non-breeding population of Slavonian grebe *Podiceps auratus*;
  - an internationally important non-breeding population of pink-footed goose *Anser brachyrhynchus*;
  - an internationally important non-breeding population of shelduck *Tadorna tadorna*;
  - an internationally important non-breeding population knot *Calidris canutus*;
  - an internationally important non-breeding population redshank *Tringa tetanus*;
  - an internationally important non-breeding population turnstone *Arenaria interpres*;
  - an internationally important non-breeding goldeneye *Bucephala clangula*;
  - an internationally important non-breeding population of bar-tailed godwit *Limosa lapponica*;
  - an internationally important passage population of sandwich tern *Sterna sandvicensis*;
  - an internationally important non-breeding population of red-throated diver *Gavia stellata*;
  - an internationally important non-breeding population of golden plover *Pluvialis apricaria*; and
  - an internationally important waterbird assemblage, in excess of 20,000 individuals.
- 3.11 Further details of percentages of populations and numbers can be found in Table 6, Appendix 2.
- 3.12 The Ramsar has a site area of 6317.93 ha and it is located on the south-east coast of Scotland stretching east from Alloa to the coasts of Fife and East Lothian. The boundary of the Ramsar site is coincident with the Firth of Forth Special Protection Area (SPA), which underpins all the bird features of the Ramsar site. It also lies within the Firth of Forth Site of Special Scientific Interest (SSSI).
- 3.13 It is comprised of a wide variety of habitats including extensive invertebrate-rich intertidal flats and rocky shores, areas of saltmarsh, lagoons and sand dune.

### **Site Condition**

- 3.14 The qualifying species for the Ramsar site are subject to the same threats and pressures as the Firth of Forth SPA and it is expected that the qualifying species are in the same condition as those reported for the SPA.

### **Conservation Objectives**

- 3.15 The conservation objectives for Ramsar sites are taken to be the same as for the corresponding SACs/SPAs (where sites overlap). The conservation objectives are considered when assessing the potential effects of the project on the sites; information on the sensitivities of the interest features also informs the assessment.

### **Outer Firth of Forth and St Andrews Bay Complex**

- 3.16 The site is located approx. 475 m (closest point) to the north of the proposed development Site. The primary reason for classification is the presence of:
- an internationally important non-breeding population red-throated diver *Gavia stellata*;
  - an internationally important non-breeding population Slavonian grebe *Podiceps auratus*;
  - an internationally important non-breeding population little gull *Larus minutus*;
  - an internationally important feeding population of common tern *Sterna hirundo* and Arctic tern *Sterna paradisaea*;
  - an internationally important migratory population of common eider *Somateria mollissima*;
  - an internationally important migratory population of foraging European shag *Phalacrocorax aristotelis*;
  - an internationally important migratory population of northern gannet *Morus bassanus*;
  - an internationally important waterfowl assemblage, in excess of 20,000 individuals;
  - an internationally important breeding population of sea birds, in excess of 20,000 individuals; and
  - an internationally important of non-breeding sea birds, in excess of 20,000 individuals.
- 3.17 'The Outer Firth of Forth and St Andrews Bay Complex SPA covers 272,068.09 ha and was designated in 2020. The site is located on the south-east coast of Scotland stretching from Kirk Hill to Abroath in the north and consists of two adjacent Firths: the Forth and the Tay. 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 10m deep. The boundary of the SPA mostly follows that of the Firth of Forth Site of Special Scientific Interest and slightly overlaps with Forth Islands SPA.
- 3.18 The area supports a wide variety of both pelagic and demersal fish, including sand eels, and crustaceans, molluscs and marine worms, all of which, especially sand eels, comprise the prey of the waterfowl species.
- 3.19 The main current pressure/threat to the integrity of the site is fishing both commercial and lone fishermen, visual and physical disturbance, marine development causing disturbance and displacement, reduction in prey availability, pollution, change in water clarity, plastic waste, increase in microbial pathogens and lighting.'
- 3.20 Further details of percentages of populations and numbers can be found in Table 7, Appendix 2.

**Site Condition**

- 3.21 Scotland's Environment website indicates that all qualifying features are in favourable maintained condition except the breeding seabird assemblage for which condition has not been assessed.

**Conservation Objectives**

- To ensure that the qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA are in favourable condition and to make an appropriate contribution to achieving Favourable Conservation Status.
- To ensure that the integrity of the Outer Firth of Forth and St Andrews Bay Complex SPA is restored in the context of environmental changes by meeting all 3 objectives below for each qualifying feature:
  - The populations of qualifying features are viable components of the site.
  - The distributions of the qualifying features throughout the site are maintained by avoiding significant disturbance of the species.
  - The supporting habitats and processes relevant to the qualifying features and their prey/food resources are maintained, or where appropriate restored, at the Outer Firth of Forth and St Andrews Bay Complex SPA.

**Information to inform the Screening Assessment**

- 3.22 A programme of inland winter walkover surveys was conducted between February and March 2012 and September 2012 and January 2013 to inform a different planning application (21/01474/PPM) nearby. The surveys were designed to identify foraging and roosting grounds used by wetland birds associated with the Firth of Forth SPA, Ramsar site and SSSI as well as other species of conservation concern using the habitats of the survey area. These surveys focussed on open habitats and a surrounding buffer of 500 m which includes this development Site.
- 3.23 Whilst the Site is located approximately 440 m and 475 m away from the SPA(s) and Ramsar site the bird surveys recorded no SPA qualifying species within or immediately adjacent to the development Site.
- 3.24 No additional wintering bird surveys have been undertaken of the Site and immediate surrounding area because the Site itself is small and enclosed and heavily disturbed by walkers and dog walkers. The potential to support birds associated with the SPA is severely reduced.

**Impact Pathways and Likely Significant Effects Test**

- 3.25 The following section of this report carries out the screening of likely significant effects. This fulfils the requirement of Regulation 63 of the Habitats Regulations (as amended) that a proposed project is assessed to determine whether or not it is likely to have a significant effect on the qualifying features (species and habitats) of any International Site, either alone or in combination with other plans or projects.
- 3.26 The proposed development is not directly connected with or necessary to the management of any International Site.
- 3.27 The following International Sites, as described in the earlier section, have been scoped in for consideration for screening for any likely significant effects (for the location of the sites see Figure 2 in Section 7):
- Firth of Forth SPA
  - Firth of Forth Ramsar site
  - Outer Firth of Forth and St Andrews Bay SPA

3.28 The following types of potentially adverse activity, as described in the earlier section, have been scoped in as a source of any likely significant effects and are included within the screening process set out below in accordance with the requirements of Regulation 63 of the Habitats Regulations (as amended):

- Physical habitat loss – Impacts on habitats, i.e. the loss or destruction of habitats, arising from the proposed development including habitats within international site boundaries and habitats outside international sites that have the potential to be ‘functionally linked’;
- Physical habitat damage – Impacts on habitats, i.e. temporary / short-term disturbance, arising from the proposed development including habitats within international site boundaries and habitats outside the international sites that have the potential to be ‘functionally linked’;
- Disturbance – Impacts on sensitive species due to, for example, noise and vibration from working machinery or visual from the presence of people and lighting.
- Changes in water quality which may arise from the following: potential pollution of surface water from fuel spills; potential release of suspended solids/sediment into the Firth of Forth as a result of the development; dust generated from construction works.
- Mortality – due to increased traffic from construction works.

3.29 Each International Site is assessed in turn with reference to the potentially adverse activity, first considering the site alone and then, if necessary, considering the site in-combination with other plans and projects.

3.30 The screening for likely significant effects has not relied on avoidance or reduction measures that allow a conclusion of ‘no likely significant effect’ to be reached<sup>8</sup>. Instead, it is accepted that there may be a ‘likely significant effect’ in the absence of these measures, which triggers the need to move to the next stage, i.e. appropriate assessment.

Table 2: Screening Appraisal for Firth of Forth SPA

Site:	Interest features:
Firth of Forth SPA	The Firth of Forth SPA qualifies under:  Article 4.1 by: <ul style="list-style-type: none"> <li>• regularly supporting populations of international importance of the Annex 1 species:</li> <li>• Red-throated diver;</li> <li>• Slavonian grebe;</li> <li>• Golden plover;</li> <li>• Bar-tailed godwit; and</li> <li>• Sandwich tern.</li> </ul> Article 4.2 by: <ul style="list-style-type: none"> <li>• regularly supporting populations of international importance of the migratory species</li> <li>• Pink-footed goose;</li> <li>• Shelduck;</li> <li>• Knot;</li> </ul>

<sup>8</sup> People Over Wind and Sweetman judgement (12 April 2018, C-323/17).



	<ul style="list-style-type: none"> <li>• Redshank; and</li> <li>• Turnstone.</li> <li>• regularly supporting in excess of 20,000 individual waterfowl, including nationally important populations of:  common scoter, cormorant, curlew, dunlin, eider, goldeneye, great crested grebe, grey plover, lapwing, long-tailed duck, mallard, oystercatcher, red-breasted merganser, ringed plover, scaup, velvet scoter and wigeon.</li> </ul>
<b>Potentially adverse activity:</b>	<b>Assessment:</b>
Physical habitat loss	<p>The proposed development will not involve works within the boundary of the SPA and is located inland and does not comprise any intertidal habitats; most qualifying features are pelagic, associated with maritime habitats.</p> <p>The nearest part of the SPA is 440 m from the application site. Habitat loss arising from the proposed development may impact on the SPA if the area in the vicinity of the application site is used by any qualifying features (birds), including areas that are 'functionally linked' to the SPA.</p> <p>There is a theoretical potential for the application Site to provide habitat that is used by some SPA species for foraging and roosting at high-tide. For example, oystercatcher may utilise some terrestrial habitats foraging for earthworms and other terrestrial invertebrates. These fields comprise amenity grassland and arable.</p> <p>However, bird survey data obtained from East Lothian Council's planning portal in connection with planning application 21/01474/PPM, included non-breeding bird surveys and the survey area included this application site. The 2012/13 surveys recorded no SPA qualifying species within or immediately adjacent to the development Site.</p> <p>The arable area is small at approx. 5ha, the Site is enclosed reducing sight lines, overhead power lines are present and it suffers from disturbance from walkers and dog walkers. . The Site is unlikely to support a valuable non breeding assemblage of waders and wildfowl associated with the designation.</p> <p>Given the above, and applying the precautionary principle, it is considered that the proposed development is not likely to have a significant effect on the qualifying features (birds).</p>
Conclusion	<b>No likely significant effect.</b>
Physical habitat damage	The assessment presented for habitat loss (see above) is also relevant when considering habitat damage and disturbance. The disturbance and damage of habitats during the construction and operation phases are expected to have similar impacts as those described above when considering the impacts arising from habitat loss.

	<p>Taking into account the location and scope of the proposed work and applying the precautionary principle, it is concluded that the proposed development is not likely to have a significant effect on the qualifying feature.</p>
<p>Conclusion</p>	<p><b>No likely significant effect.</b></p>
<p>Disturbance</p>	<p>Construction of the proposed scheme has the potential to increase noise and vibration levels through typical construction activities.</p> <p>Typically, visual stimuli will result in a disturbance effect such as a flight response before associated noise. The response of roosting (and feeding) waders to disturbance at a site can depend on factors such as the species involved, type of disturbance, degree of habituation, availability of alternative roost / feeding locations, and the individual bird's condition and need for feeding or resting. Alert distances triggering a behavioural response of unhabituated waterbirds during feeding range<sup>9</sup> from approximately 50 m to 275 m.</p> <p>Although species can become habituated to disturbance, it does not necessarily mean that they will be habituated to new types of disturbance such as construction activities.</p> <p>The application Site lies between two existing roads which connect urban settlements and receive regular traffic flow.</p> <p>The SPA is over 440 m from the works with the B1348, a housing estate with gardens and other buildings and minor roads positioned in between the Site and designation. At this distance the noise and vibration levels from the proposed development are expected to dissipate and not be significant.</p> <p>Despite a potential increase in noise level anticipated from use of the road during the construction phase of the proposed scheme, this will not significantly increase beyond the existing baseline adjacent to the roads.</p> <p>The Site and adjacent fields are surrounded by housing and major roads and are likely to be subject to indirect light pollution and any additional small scale increase in lighting is unlikely to result in a discernible change to the current base line.</p> <p>Historical survey work has confirmed that no SPA qualifying species were recorded within or immediately adjacent to the development Site.</p> <p>Current surveys have confirmed that the Site is small and enclosed as well as heavily disturbed and is unlikely to support a valuable non breeding assemblage of waders and wildfowl or the qualifying species associated with the designations.</p> <p>Considering the location and scope of the proposed work and applying the precautionary principle, it is concluded that the proposed development is not likely to have a significant effect on the qualifying features (birds).</p>

<sup>9</sup> Cutts, N.D., Phelps, A., & Burdon, D., (2009) Construction and waterfowl: Defining sensitivity, response, impacts and guidance report.

Conclusion	No likely significant effect.
Changes in water quality	There are no watercourses connecting the Site to the coast and associated nature conservation designations. Taking this into account and the surface water drainage systems that will be created on Site as part of the scheme. It is considered that the proposed development is not likely to have a significant effect on the qualifying features of the SPA.
Conclusion	No likely significant effect.
Mortality	<p>It is expected that the proposed scheme will result in a temporary increase in traffic and, therefore, may result in increased mortality of species (birds) via traffic collision to qualifying interests.</p> <p>However, taking into account the existing roads adjacent to the Site and relatively the lack of qualifying birds recorded and likely to be using the Site, it is considered that this is not likely to occur at a significant level.</p>
Conclusion	No likely significant effect.
Overall conclusion	The development of the application Site, when considered alone, will not have a likely significant effect on the Firth of Forth SPA and its interest features as a result of physical habitat loss and damage, disturbance and mortality.

Table 3: Screening Appraisal for Firth of Forth Ramsar Site

Site:	Interest features:
Firth of Forth Ramsar Site	Qualifying interest features: Ramsar criterion 5: <ul style="list-style-type: none"> <li>Assemblages of 27,028 waterfowl</li> </ul> Ramsar criterion 6: <ul style="list-style-type: none"> <li>Internationally important populations waterbirds</li> </ul>
Potentially adverse activity:	Assessment:
Physical habitat loss	See Table 2 – the screening assessment for likely significant effects on the Ramsar site is the same as reported for the Firth of Forth SPA.
Conclusion	No likely significant effect.
Physical habitat damage	See Table 2 – the screening assessment for likely significant effects on the Ramsar site is the same as reported for the Firth of Forth SPA.
Conclusion	No likely significant effect.
Disturbance	See Table 2 – the screening assessment for likely significant effects on the Ramsar site is the same as reported for the Firth of Forth SPA.
Conclusion	No likely significant effect.
Changes in water quality	See Table 2 – the screening assessment for likely significant effects on the Ramsar site is the same as reported for the Firth of Forth SPA.
Conclusion	No likely significant effect.

Mortality	See Table 2 – the screening assessment for likely significant effects on the Ramsar site is the same as reported for the Firth of Forth SPA
Conclusion	No likely significant effect.
Overall conclusion	The development of the application Site, when considered alone, will not have a likely significant effect on the Firth of Forth Ramsar Site and its interest features.

Table 4: Screening Appraisal for Outer Firth of Forth and St Andrews Bay SPA

Site:	Interest features:
Outer Firth of Forth and St Andrews Bay SPA	<p>Outer Firth of Forth and St Andrews Bay Complex qualifies under:</p> <p>Article 4.1 by:</p> <ul style="list-style-type: none"> <li>• Regularly supporting a non-breeding population of international importance of the following Annex 1 species:</li> <li>• Red-throated diver;</li> <li>• Slavonian grebe;</li> <li>• Little gull;</li> <li>• Common tern; and</li> <li>• Arctic tern.</li> </ul> <p>Article 4.2 by:</p> <ul style="list-style-type: none"> <li>• Regularly supporting populations of international importance of the following migratory seabirds species:</li> <li>• European shag; and</li> <li>• Northern gannet.</li> <li>• an internationally important waterfowl assemblage, in excess of 20,000 individuals;</li> <li>• an internationally important breeding population of sea birds, in excess of 20,000 individuals; and</li> <li>• an internationally important of non-breeding sea birds, in excess of 20,000 individuals.</li> </ul>
Potentially adverse activity:	Assessment:
Physical habitat loss	<p>The proposed development will not involve works within the boundary of the SPA and is located inland and does not comprise any intertidal habitats; most qualifying features are pelagic, associated with maritime habitats.</p> <p>The nearest part of the SPA is 475 m from the application site. Habitat loss arising from the proposed development may impact on the SPA if the area in the vicinity of the application site is used by any qualifying features (birds), including areas that are 'functionally linked' to the SPA,</p> <p>There is theoretical potential for the application site to provide habitat that is used by some SPA species for foraging and roosting at high-tide. For example, oystercatcher may utilise some terrestrial habitats foraging for</p>

	<p>earthworms and other terrestrial invertebrates. These fields comprise amenity grassland and arable.</p> <p>Bird survey data obtained from East Lothian Council's planning portal in connection with planning application 21/01474/PPM, included non-breeding bird surveys and the survey area included this application site. The 2012/13 surveys recorded no SPA qualifying species within or immediately adjacent to the development Site.</p> <p>The application Site is small at 8.9ha, is enclosed, overhead power lines and suffers from disturbance from walkers and dog walkers which would reduce the suitability of the Site to support a valuable non breeding assemblage of waders and wildfowl associated with the designation.</p> <p>Applying the precautionary principle, it is considered that the proposed development is not likely to have a significant effect on the qualifying features (birds).</p>
Conclusion	<b>No likely significant effect.</b>
Physical habitat damage	<p>The assessment presented for habitat loss (see above) is also relevant when considering habitat damage and disturbance. The disturbance and damage of habitats during the construction and operation phases are expected to have similar impacts as those described above when considering the impacts arising from habitat loss.</p> <p>Taking into account the location and scope of the proposed work and applying the precautionary principle, it is concluded that the proposed development is not likely to have a significant effect on the qualifying features (birds).</p>
Conclusion	<b>No likely significant effect.</b>
Disturbance	<p>Construction of the proposed scheme has the potential to increase noise and vibration levels through typical construction activities.</p> <p>Typically, visual stimuli will result in a disturbance effect such as a flight response before associated noise. The response of roosting (and feeding) waders to disturbance at a site can depend on factors such as species involved, type of disturbance, degree of habituation, availability of alternative roost/ feeding locations, and the individual bird's condition and need for feeding or resting. Alert distances triggering a behavioural response of unhabituated waterbirds during feeding range<sup>10</sup> from approximately 50 m to 275 m.</p> <p>Although species can become habituated to disturbance, it does not necessarily mean that they will be habituated to new types of disturbance such as construction activities.</p> <p>The application Site lies between two existing roads which connect urban settlements and receive regular traffic flow.</p> <p>The SPA is over 475 m from the works with the B1348, a housing estate with gardens and other buildings and minor roads positioned in between the Site and designation. At this distance the noise and vibration levels are expected to dissipate and not be significant.</p>

<sup>10</sup> Cutts, N.D., Phelps, A., & Burdon, D., (2009) Construction and waterfowl: Defining sensitivity, response, impacts and guidance report.

	<p>Despite a potential increase in noise level anticipated from use of the road during the construction phase of the proposed scheme, this will not significantly increase beyond the existing baseline adjacent to the roads.</p> <p>The Site and adjacent fields are surrounded by housing and major roads and are likely to be subject to indirect light pollution and any additional small scale increase in lighting is unlikely to result in a discernible change to the current base line.</p> <p>Historical survey work has confirmed that no SPA qualifying species were recorded within or immediately adjacent to the development Site.</p> <p>Current surveys have confirmed that the Site is small and enclosed as well as heavily disturbed and is unlikely to support a valuable non breeding assemblage of waders and wildfowl associated with the designation.</p> <p>Considering the location and scope of the proposed work and applying the precautionary principle, it is concluded that the proposed development is not likely to have a significant effect on the qualifying features (birds) should they be present in the local area.</p>
Conclusion	No likely significant effect.
Changes in water quality	There are no watercourses connecting the Site to the coast and associated nature conservation designations. Taking this into account and the surface water drainage systems that will be created on Site as part of the scheme. It is considered that the proposed development is not likely to have a significant effect on the qualifying features of the SPA.
Conclusion	No likely significant effect.
Mortality	It is expected that the proposed scheme will result in a temporary increase in traffic and, therefore may result in increased mortality of species (birds) via traffic collision to qualifying interests. However, taking into account the existing roads adjacent to the Site and relatively the lack of qualifying birds recorded using the Site, it is considered that this is not likely to occur at a significant level.
Conclusion	No likely significant effect.
Overall conclusion	The development of the application Site, when considered alone, will not have a likely significant effect on the Outer Firth of Forth and St Andrews Bay SPA and its interest features as a result of physical habitat loss and damage, disturbance and mortality.

**Appraisal of Likely Significant Effects of Proposals ‘In-Combination’**

3.31 All impact pathways identified for screening purposes including embedded mitigation measures are de minimis (nugatory effects indistinguishable from background variations) and cannot make any

tangible contribution to an in-combination effect. It is not necessary, therefore, to assess potential in-combination effects in detail in relation to any specific projects or plans.

### **Summary of Appraisal of Likely Significant Effects (LSE)**

- 3.32 The screening test (Stage 1 HRA) has concluded no LSE alone or in combination on the qualifying features of the IIWS located within a 10 km radius are likely to arise from the proposed development. This is predominantly due to the distance from the designations, embedded mitigation measures and the unsuitability of the Site to support the qualifying species.

## 4 Conclusions

4.1 This document provides all the necessary information for the Competent Authority to carry out an HRA for the purposes of Regulation 63 of the Habitats Regulations 2017, as amended, should one be required. The outcomes allow the following conclusions to be drawn:

- it is considered that there are no impact pathways alone or in combination, during construction and operation of the proposed scheme, that could undermine the conservation objectives of Firth of Forth SPA and Ramsar site or the Outer Firth of Forth and St Andrews Bay SPA; and
- therefore, LSE can be ruled out; and
- it is considered that there is no need for any further assessment.



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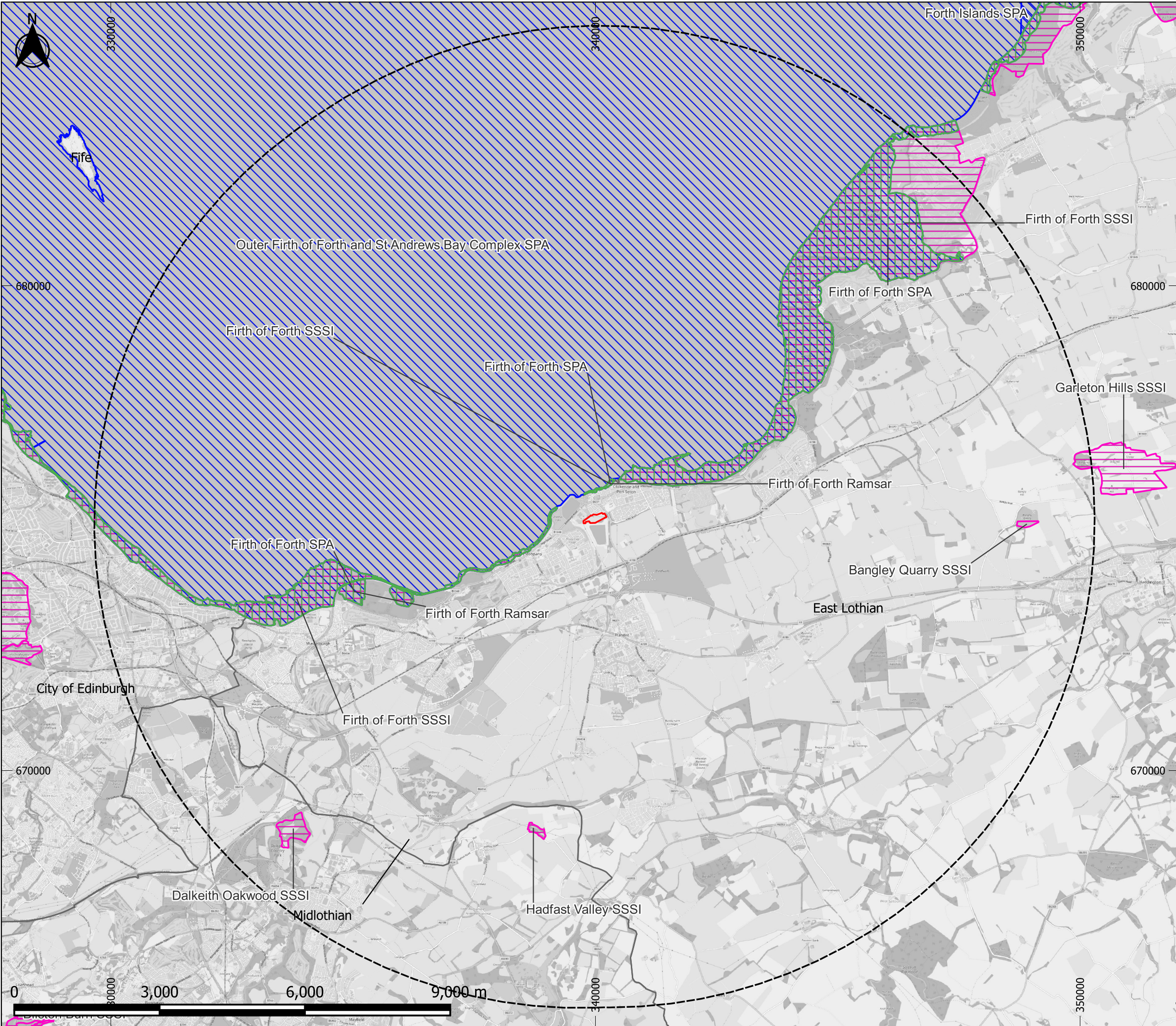
East Lothian Local Plan  
[https://www.eastlothian.gov.uk/info/210547/planning\\_and\\_building\\_standards/12242/local\\_development\\_plan](https://www.eastlothian.gov.uk/info/210547/planning_and_building_standards/12242/local_development_plan)

*East Lothian Council (2018) Updated habitats regulations appraisal and appropriate assessment.*

## Appendix 1: Figures

(overleaf)

- Figure 1: Site boundary and Statutory designated sites



- Legend
- Site boundary
  - 10km from site boundary
  - Ramsar
  - Special Protection Areas
  - Sites of Special Scientific Interest



OFFICE: NEWCASTLE  
 T: 0191 303 8964  
 JOB REF: P23-074

PROJECT TITLE  
 COCKENZIE BESS  
 COCKENZIE STORAGE LTD

DRAWING TITLE  
 Figure 1: Statutory Sites within 10 km

DATE: 23/03/2023      CHECKED: JH      SCALE: 1:75,000  
 DRAWN: MSG      APPROVED: JH      VERSION: 1.0

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No dimensions are to be scaled from this drawing and are to be checked on site. Area measurements for indicative purposes only.

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Projection: OSGB 1936/British National Grid - EPSG 27700

Sources: © Natural England

## Appendix 2: Citations

**Table 5: Firth of Forth SPA**

<b>Site name:</b> Firth of Forth SPA
Site code: UK9004411
Year designated: Designated on 30 October 2001 amended 25 April 2018
Area: 6317.93 ha
Component SSSIs: Firth of Forth SSSI
<p>Qualifying Interest N.B All figures relate to numbers at the time of classification:</p> <p>The Firth of Forth SPA qualifies under Article 4.1 by regularly supporting populations of European importance of the Annex 1 species (1993/94 to 1997/98 winter peak means): red-throated diver <i>Gavia stellata</i> (90 individuals, 2% of the GB population), Slavonian grebe <i>Podiceps auritus</i> (84 individuals, 21% of the GB population), golden plover <i>Pluvialis apricaria</i> (2,949 individuals, 1% of the GB population) and bar-tailed godwit <i>Limosa lapponica</i> (1,974 individuals, 4% of the GB population).</p> <p>The Firth of Forth SPA qualifies under Article 4.1 by regularly supporting a population of European importance of the Annex 1 species: sandwich tern <i>Sterna sandvicensis</i> during the passage period (a winter peak mean during the five year period 1993/94 to 1997/98 of 1,617 individuals, 6% of the GB population).</p> <p>The Firth of Forth SPA further qualifies under Article 4.2 by regularly supporting populations of European importance of the migratory species (1993/94 to 1997/98 winter peak means): pink-footed goose <i>Anser brachyrhynchus</i> (10,852 individuals, 6% of the Eastern Greenland/Iceland/UK biogeographic population); shelduck <i>Tadorna tadorna</i> (4,509 individuals, 2% of the North-western Europe biogeographic population); knot <i>Calidris canutus</i> (9,258 individuals, 3% of the North-eastern Canada/Greenland/Iceland/North-western Europe biogeographic population); redshank <i>Tringa totanus</i> (4,341 individuals, 3% of the Eastern Atlantic biogeographic population) and turnstone <i>Arenaria interpres</i> (860 individuals, 1% of the Western Palearctic biogeographic population).</p> <p>The Firth of Forth SPA also qualifies under Article 4.2 by regularly supporting in excess of 20,000 individual waterfowl. In the five year period 1992/93 to 1996/97 a winter peak mean of 95,000 individual waterfowl was recorded, comprising 45,000 wildfowl and 50,000 waders including nationally important populations of the following species: scaup <i>Aythya marila</i> (437 individuals, 4% of the GB population); Slavonian grebe (84 individuals); golden plover (2,949 individuals); bar-tailed godwit (1974 individuals); pink-footed goose (10,852 individuals, 6% of the GB population); shelduck (4,509 individuals, 6% of the GB population); knot (9258 individuals, 3% of the GB population); redshank (4,341 individuals, 4% of the GB population); turnstone (860 individuals, 1% of the GB population); great crested grebe <i>Podiceps cristatus</i> (720 individuals, 7% of the GB population); cormorant <i>Phalacrocorax carbo</i> (682 individuals, 5% of the GB population); red-throated diver (90 individuals); curlew <i>Numenius arquata</i> (1,928 individuals, 2% of the GB population); eider <i>Somateria mollissima</i> (9,400 individuals, 13% of the GB population); long-tailed duck <i>Clangula hyemalis</i> (1,045 individuals, 4% of the GB population); common scoter <i>Melanitta nigra</i> (2,880 individuals, 8% of the GB population); velvet scoter <i>Melanitta fusca</i> (635 individuals, 21% of the GB population); goldeneye <i>Bucephala clangula</i> (3,004 individuals, 18% of the GB population); red-breasted merganser <i>Mergus serrator</i> (670 individuals, 7% of the GB population); oystercatcher <i>Haematopus ostralegus</i> (7,846 individuals, 2% of the GB population); ringed plover <i>Charadrius hiaticula</i> (328 individuals, 1% of the GB population); grey plover <i>Pluvialis squatarola</i> (724 individuals, 2% of the GB population); dunlin <i>Calidris alpina alpina</i> (9,514 individuals, 2% of the GB population). 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 <i>Anas platyrhynchos</i> (2,564 individuals, 0.5% of the GB population); lapwing <i>Vanellus vanellus</i> (4,148 individuals, 0.3% of the GB population), and wigeon <i>Anas penelope</i> (2,139 individuals, 0.78% of the GB population).</p>

**Table 6: Firth of Forth Ramsar Site**

<b>Site name: Firth of Forth Ramsar Site</b>
Site code: UK13017
Year designated: Designated on 30 <sup>th</sup> October 2001 amended 1 November 2021
Area: 6317.72 ha
Component SSSIs: Firth of Forth SSSI
<p>Interest Features (marked in bold): N.B All bird figures relate to numbers at the time of designation:</p> <p>Firth of Forth Ramsar site qualifies under Ramsar Criterion 2 by supporting: (1993/94 to 1997/98 winter peak means): red-throated diver <i>Gavia stellata</i> (90 individuals, 2% of the GB population), golden plover <i>Pluvialis apricaria</i> (2,949 individuals, 1% of the GB population).</p> <p>Firth of Forth Ramsar site further qualifies under Ramsar Criterion 5 by regularly supporting waterbirds in numbers of 20,000 individuals or more. In the five-year period 1992/93 to 1996/97, a winter peak mean of 95,000 individual waterbirds was recorded, comprising 45,000 wildfowl and 50,000 waders.</p> <p>The site also qualifies under Ramsar Criterion 4 by supporting the following waterbird species at a critical stage in their life cycles (data 1992/93 to 1996/97 except where stated): scaup <i>Aythya marila</i> (437 individuals, 4% of the GB population), great crested grebe <i>Podiceps cristatus</i> (720 individuals, 7% of the GB population), cormorant <i>Phalacrocorax carbo</i> (682 individuals, 5% of the GB population), curlew <i>Numenius arquata</i> (1,928 individuals, 2% of the GB population), eider <i>Somateria mollissima</i> (9,400 individuals, 13% of the GB population), long-tailed duck <i>Clangula hyemalis</i> (1,045 individuals, 4% of the GB population), common scoter <i>Melanitta nigra</i> (2,880 individuals, 8% of the GB population), velvet scoter <i>Melanitta fusca</i> (635 individuals, 21% of the GB population), red-breasted merganser <i>Mergus serrator</i> (670 individuals, 7% of the GB population), oystercatcher <i>Haematopus ostralegus</i> (7,846 individuals, 2% of the GB population), ringed plover <i>Charadrius hiaticula</i> (328 individuals, 1% of the GB population), grey plover <i>Pluvialis squatarola</i> (724 individuals, 2% of the GB population), and dunlin <i>Calidris alpina alpina</i> (9,514 individuals, 2% of the GB population).</p> <p>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 <i>Anas platyrhynchos</i> (2,564 individuals, 0.5% of the GB population), lapwing <i>Vanellus vanellus</i> (4,148 individuals, 0.3% of the GB population), and wigeon <i>Anas penelope</i> (2,139 individuals, 0.78% of the GB population). Red-throated diver, golden plover, Slavonian grebe, pink-footed goose, shelduck, knot, redshank, turnstone, goldeneye and bar-tailed godwit are also components of the waterbird assemblage.</p> <p>Firth of Forth Ramsar site also qualifies under Ramsar Criterion 6 by regularly supporting 1% or more of the individuals in a population of waterbirds (1993/94 to 1997/98 winter peak means): Slavonian grebe <i>Podiceps auritus</i> (84 individuals, 2% of the Northwest Europe biogeographic population), Pink-footed goose <i>Anser brachyrhynchus</i> (10,852 individuals, 6% of the Eastern Greenland/Iceland/UK biogeographic population), shelduck <i>Tadorna tadorna</i> (4,509 individuals, 2% of the North-western Europe biogeographic population), knot <i>Calidris canutus</i> (9,258 individuals, 3% of the NE Canada &amp; Greenland/W Europe biogeographic population), redshank <i>Tringa totanus</i> (4,341 individuals, 3% of the Eastern Atlantic biogeographic population), turnstone <i>Arenaria interpres</i> (860 individuals, 1% of the NE Canada &amp; Greenland/W Europe &amp; NW Africa biogeographic population), goldeneye <i>Bucephala clangula</i> (3,004 individuals, 1% of the NW &amp; C Europe biogeographic population), bar-tailed godwit <i>Limosa lapponica</i> (1,974 individuals, 2% of the Western European biogeographic population), and sandwich tern <i>Sterna sandvicensis</i> during the passage period (a winter peak mean of 1,617 individuals, 1% of the Europe and West Africa biogeographic population).</p>

**Table 7: Outer Firth of Forth and St Andrews Bay SPA**

<b>Site name: Outer Firth of Forth and St Andrews Bay SPA</b>
Site code: UK9020316
Year designated: Designated on 3 December 2020
Area: 272, 068.09 ha
Component SSSIs:
Qualifying interest features:
<p>The Outer Firth of Forth and St Andrews Bay Complex Special Protection Area (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 <i>Gavia stellata</i> during the period 2001/02 to 2004/05 (a mean peak estimate of 851 individuals; 5.0% of the Great Britain population); Slavonian grebe <i>Podiceps auritus</i> during the period 2006/07 to 2010/11 (an average of 30 individuals (2.7% of the Great Britain population); little Gull <i>Larus minutus</i> during the period 2001/02 to 2004/05 (126 individuals; more than 50 individuals) and feeding common tern <i>Sterna hirundo</i> and Arctic tern <i>Sterna paradisaea</i> from the adjacent breeding colonies.</p> <p>The Outer Firth of Forth and St Andrews Bay Complex Special Protection Area (SPA) further qualifies under Article 4.2 by regularly supporting populations of European importance of the following migratory waterfowl species: common eider <i>Somateria mollissima</i> average peak counts recorded during the five year period 2001/02 to 2004/05 (21,546 individuals 2.1% of the biogeographic population and 35.9% of the Great Britain population) and by regularly supporting in excess of 20,000 individual waterfowl including nationally important populations of the following species during the five year period 2001/02 to 2004/05: long tailed duck <i>Clangula hyemalis</i> (1,948 individuals, 17.7% of the Great Britain population), common scoter <i>Melanitta nigra</i> (4,677 individuals, 4.7% of the Great Britain population) and during the period 2006/07-2010/11: velvet scoter <i>Melanitta fusca</i> (775 individuals, 31% of the Great Britain population), common goldeneye <i>Bucephala clangula</i> (589 individuals, 2.9% of the Great Britain population) and red-breasted merganser <i>Mergus serrator</i> (431 individuals, 5.1% of the Great Britain population).</p> <p>The Outer Firth of Forth and St Andrews Bay Complex Special Protection Area (SPA) further qualifies under Article 4.2 by regularly supporting populations of European importance of following migratory species of seabird: foraging european shag <i>Phalacrocorax aristotelis</i> from the nearby colonies, and northern gannet <i>Morus bassanus</i> during the period 1980-2006 (10,945 individuals, 1.4% of biogeographical population and 2.7% of the Great Britain population).</p> <p>The Outer Firth of Forth and St Andrews Bay Complex Special Protection Area (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 during the period 1980-2006: Atlantic puffin <i>Fratercula arctica</i> (61,086 individuals, 5.3% of the Great Britain population), black-legged kittiwake <i>Rissa tridactyla</i> (12,020 individuals, 1.6% of the Great Britain population), manx shearwater <i>Puffinus puffinus</i> (2,885 individuals, more than 2,000 individuals), common guillemot <i>Uria aalge</i> (28,123 individuals, more than 2,000 individuals) and herring gull <i>Larus argentatus</i> (3,044 individuals, 1.1% of the Great Britain population).</p> <p>The Outer Firth of Forth and St Andrews Bay Complex Special Protection Area (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 during the period 2003/04-2005/06: black-headed gull <i>Chroicocephalus ridibundus</i> (26,835 individuals, 1.2% of the Great Britain population), common gull <i>Larus canus</i> (14,647 individuals, 2.1% of the Great Britain population), and herring gull <i>Larus argentatus</i> (12,313 individuals, 1.7% of the Great Britain population) and, during the period 1980-2006: common guillemot <i>Uria aalge</i> (21,968 individuals, more than 2,000 individuals), european shag <i>Phalacrocorax aristotelis</i> (2,426 individuals, 2.2% of the Great Britain population), black-legged kittiwake <i>Rissa tridactyla</i> (3,191 individuals, more than 2,000 individuals) and razorbill <i>Alca torda</i> (5,481 individuals, more than 2,000 individuals).</p>