



Brighter strategies
for greener projects



Client: Cumberland Council

Project: Iron Line

Report: Shadow Habitats Regulation Assessment

QUALITY ASSURANCE

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1.0 INTRODUCTION

Greengage Environmental Limited (Greengage) was commissioned by Cumberland Council to undertake a shadow Habitats Regulation Assessment (sHRA) to inform a planning application at Hodbarrow Nature Reserve and a parcel of land immediately north of the nature reserve proposed for development as a Visitor Centre and car park, located on the south-west coast of Cumbria. For the purpose of this report the 'site' refers to the nature reserve and the land proposed for the Visitor Centre and car park, as shown in Appendix A, Figure A.1.

The planning application for the site seeks “*Erection of visitor centre with café/shop, group room, staff/volunteer, toilet facilities and vehicle parking; consolidation, repair and installation of interpretive sculpture to Towsey Hole Windmill; refurbishment of existing Tern Island Hide; new bird hides, pathways, gateway features, street furniture, and demarcation of spaces at existing car park; enhancement of wildlife habitats; associated landscaping and drainage infrastructure; and maintenance of byway with restricted vehicular access -The Iron Line Project.*” For the purpose of this report the 'planning application boundary' refers to the nature reserve and land proposed for the Visitor Centre and car park excluding the Hodbarrow lagoon, as shown in Appendix A Figure A.1.

The site and planning application boundaries form part of wider statutory designated sites as follows:

- Morecambe Bay and Duddon Estuary Special Protection Area (SPA);
- Morecambe Bay Special Area of Conservation (SAC); and,
- Duddon Estuary Ramsar site; and
- Duddon Estuary Site of Special Scientific Interest (SSSI).

The SPA and SAC sites are European sites designated sites referred to as National Site Network (NSN) sites (formally Natura 2000) under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019¹ which aims to:

- Maintain or, where appropriate, restore habitats and species listed in Annexes I and II of the Habitats Directive² to a favourable conservation status (FCS); and,
- Contribute to ensuring, in their area of distribution, the survival and reproduction of wild birds and securing compliance with the overarching aims of the Wild Birds Directive³.

Ramsar sites do not form part of the NSN however the Duddon Estuary Ramsar overlaps the SACs and SPA designations and all Ramsar sites remain protected in the same way as SACs and SPAs.

SSSIs are designated under the Wildlife and Countryside Act 1981 and sHRA's relate specifically and exclusively to the qualifying interests of European sites. However, the conservation objectives of these European sites, which are underpinned by SSSI designations, are protected under the Habitats Regulations.

This document is to inform Cumberland Council, as the Competent Authority, about whether there is potential for Likely Significant Effects (LSEs) arising from the planning application upon the statutory designated sites listed above. This sHRA has considered an effect to be 'likely' if it 'cannot be excluded on the basis of objective information' and 'significant' if it 'undermines the conservation objectives'.

Legislation and Policy of relevance to receptors and sites described in this report are outlined in Appendix B. The reasons for each designation are described in Section 3.1 below.

This report should be read in conjunction with the Ecological Impact Assessment (EclA)⁴, shadow Appropriate Assessment (sAA)⁵, Visitor and Action Management Plan (VAMP)⁶, and Construction Environmental Management Plan (CEMP)⁷ and Construction Phase Safety, Health & Environment (SHE) Plan⁸.

1.1 SITE DESCRIPTION

The site is located on the edge of the Duddon Estuary in south-west Cumbria and encompasses the Hodbarrow Nature Reserve (excluding Hodbarrow Lagoon) and land proposed for the development of a Visitor centre and car park, extending to 57.91 ha in total.

The Hodbarrow Nature Reserve hereafter referred to as 'the nature reserve' including Hodbarrow lagoon extends to 105 ha in total. The nature reserve is part of a popular 3-mile circular walk with paths through dense willow and bramble scrub, calcareous grasslands, sand dunes and along the sea wall looking out over Hodbarrow lagoon to the north and the Irish sea to the south. The nature reserve is a former iron mine which opened in the early 1860's and closed in 1968. The majority of buildings associated with the mine have been removed however the nature reserve is scattered with remnant structures from the mine in the form of old stone walls, quarries, lighthouses, beacons and the partial remains of an old sea wall. In 1905 a new sea wall, comprising large tidal breakwater, was built to further protect the ironworks from the sea and still stands today. The new sea wall loops across to a caravan park 0.3km east of Haverigg. Following the mines' closure the area behind the new sea wall was flooded and formed a, now freshwater, lagoon which supports large populations of breeding and wintering wildfowl and waders. The Royal Society for the Protection of Birds (RSPB) purchased the site in 1986 and their management practices included scrub clearance and the creation of limestone slag islands within the lagoon which have successfully encouraged and sustained breeding

populations of little terns (*Sternula albifrons*), common terns (*Sterna hirundo*), sandwich terns (*Thalasseus sandvicensis*) and overwintering bird assemblages. The populations of breeding terns and overwintering wildfowl contribute to the wider designation of Duddon Estuary and Morcambe Bay SPA and Duddon Estuary Ramsar Site.

The nature reserve mosaic of habitats on-site also support rich and diverse plant communities and assemblages of invertebrates. The nature reserve currently attracts over 40,000 visitors a year, 10,000 of which are not local.

Land immediately to the north of the nature reserve, proposed for development as a Visitor Centre and car park, extends to approximately 2.1 ha and comprises dense scrub, calcareous grassland and an access road which leads to a Household Waste Recycling Centre off-site to the north.

The planning application boundary extends to approximately 57.69 ha and is centred on National Grid Reference SD 17718 78724, OS Co-ordinates 317718, 478724.

1.2 SITE PROPOSALS

The planning application for the site seeks *"Erection of visitor centre with café/shop, group room, staff/volunteer, toilet facilities and vehicle parking; consolidation, repair and installation of interpretive sculpture to Towsey Hole Windmill; refurbishment of existing Tern Island Hide; new bird hides, pathways, gateway features, street furniture, and demarcation of spaces at existing car park; enhancement of wildlife habitats; associated landscaping and drainage infrastructure; and maintenance of byway with restricted vehicular access -The Iron Line Project."*

As the site will be made more accessible, including car parking, formalised paths and the construction of the Visitor Centre to include provision of food and a restrooms, the ambitions for the scheme are to double visitor numbers to 80,000 a year. For the purpose of this sHRA works to be carried out as part of this planning application, within the planning application boundary, hereafter are referred to as the Proposed Development.

1.3 POLICY CONTEXT AND GUIDANCE

The site falls within the local authority of Cumberland Council which is subject to the former borough council Copeland Local Plan 2021-2039⁹. Prior to adoption, the Copeland Local Plan was subject to a Habitats Regulations Assessment (HRA) which has been used to inform this sHRA¹⁰.

As the site and planning application boundary are located within an internationally protected site with multiple designations, in order for permission for the Proposed Development to be granted, a HRA under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations)¹¹ is a requirement.

The requirement for HRA of projects or plans is set out under the provisions of Article 6 of the Habitats Directive (92/43/EEC)² which, together with the Wild Birds Directive (2009/147/EC)³, aims to protect and improve Europe's most important habitats and species, and has been transposed into law English law by the Habitats Regulations.

Under Regulation 63 of the Habitats Regulations, competent authorities are required to undertake an HRA in respect of a project or plan which:

- Either alone or in combination with other plans or projects would be likely to have a significant effect on a Habitats site; and,
- Is not directly connected with the management of the site for nature conservation.

Regulation 63 further makes it clear that the person applying for the authorisation of the project or plan must provide such information as the Competent Authority may reasonably require for the purposes of the assessment or to enable them to determine whether an Appropriate Assessment (AA) is required. This sHRA document provides such information.

In addition, Greengage have referenced comments within Natural England's response to an earlier planning application at the site (ref: 451621, 21st September 2023) to inform this assessment. This included the following comments of relevance:

"There is currently insufficient information in the submitted Habitats Regulation Assessment (HRA) to conclude that the proposal will not have an adverse effect on the integrity of the above sites. There is also insufficient information to fully assess impacts to the Duddon Estuary Site of Special Scientific Interest (SSSI)".

"The Habitat Regulation Assessment (HRA) conclusion of no adverse effect on the integrity of the above European sites relies heavily on detailed mitigation within a subsequent Landscape and Ecological Management Plan (LEMP). Due to the high-risk nature of the proposal and the potential significant impacts Natural England advise the measures to mitigate the risks need to be precautionary and provided in detail within the Appropriate Assessment (AA) section of the HRA, for a thorough and complete conclusion to be made".

"All impacts to designated breeding birds, non-breeding birds, and natterjack toads that require mitigation need to be escalated and assessed through the AA, giving weight to the significance of the potential impacts. Mitigation included in the AA needs to be measurable and secured."

"This proposal could impact the integrity of European sites and therefore more detail on how the impacts will be mitigated is required before planning permission can be granted. A revised HRA is required to ensure all risks that need mitigating are fully assessed at the AA stage."

1.4 OBJECTIVES

This sHRA specifically aims to:

- Collect and analyse up-to-date information regarding all Habitats sites that could potentially be affected by the Proposed Development, including their conservation objectives and qualifying interest features;
- Undertake a Stage 1 Screening assessment, detailing likely impacts of the Proposed Development assessed against the conservation objectives and qualifying interest features of all identified Habitats sites within the zone of influence individually and in combination with other plans and projects;
- Provide a conclusion as to whether a Stage 2 ‘shadow’ AA is required for the site; and,
- Provide a report, which can be used by Cumberland Council, as the Competent Authority, to inform the Habitats Regulations Assessment.

2.0 METHODOLOGY

The European Commission (EC) have produced guidance for assessing the effects of plans and projects on sites protected under EU Directives (NSN sites)¹² and the Department of Environment, Food and Rural Affairs (DEFRA) provide core guidance for developers, regulators and land/marine managers¹³. In the absence of a standardised statutory methodology for undertaking HRA, these documents are typically followed by Competent Authorities in undertaking their duties under the EU Directives and the Habitats Regulations which give effect to those Directives in the UK.

The EU guidance Assessment of plans and projects significantly affecting European sites (EC, 2001) sets out a 4-stage process for the assessment of LSEs and the AA as described below.

2.1 STAGE 1 - SCREENING

The screening stage considers whether a project, alone, or in combination with other projects, stands to result in LSEs on a NSN site, and seeks to assess the significance of said effects. This Stage therefore determines the need for a more detailed AA (Stage 2).

If, at this stage, no LSEs are predicted, then a judgement on the LSEs can be made by the Competent Authority (in this instance Cumberland Council) and the plan or project may proceed to adoption without further reference to the Habitats Regulations.

This screening stage is broken down further into 4 steps.

- Step 1 Management of the NSN site(s): Determining whether the project or plan is directly connected with, or necessary to, the management of any NSN site or its special interest features;
- Step 2 Description of the plan or project: Describing the project or plan and the description and characterisation of other projects or plans that in combination have the potential for having significant effects on the NSN site(s);
- Step 3 Characteristics of the NSN site(s) and prediction of impacts: Identifying the potential effects of the plan or project on the NSN site(s). This includes sites which are outside of the project area that may be affected by virtue of their connections with the project area, the potential for indirect effects of the project to be experienced at a distance from the site or for sites with mobile species, those which have significant ecological links with land in the project area; and,

- Step 4 Assessment of significance: Assessing the significance of any effects on the NSN site(s). Regulation 61(6) of the Habitats Regulations 2017 states that: *“In considering whether a plan or project will adversely affect the integrity of the site, the competent authority must have regard to the manner in which it is proposed to be carried out or to any conditions or restrictions subject to which they propose that the consent, permission or other authorisation should be given”*.

A precautionary approach must be followed with a plan or project assumed to result in LSE unless such effects can be ruled out.

2.2 COMPETENCIES

Laura Thomas, Senior Consultant, has a BSc (Hons) in Biology and an MSc in Evolutionary and Behavioural Ecology. She also holds a Natural England Bat Survey Level 1 Class Licence and is a Qualifying member of CIEEM. Laura has over seven years' experience in the commercial sector.

Francesca Thorley, Senior Consultant, has a BSc (Hons) in Geography and an MSc in Biodiversity and Conservation. She holds a Natural England Great Crested Newt Licence, is Certified to undertake River Condition Assessments and is an Associated Member of CIEEM. Francesca has over 6 years' experience in the commercial sector.

Jennie Caddick, Associate Consultant, holds a BSc (Hons) in Ecology and full CIEEM membership. She has 20 years consultancy experience working for a varied client base, with a focus on complex schemes where requirement for consultation and bespoke surveying has been used and holds Natural England Survey Licences for Bats (Class 2), Great Crested Newt, Water Vole and White-clawed Crayfish. In addition, she has also held mitigation licences for Otter.

This report was prepared by Laura Thomas, reviewed by Francesca Thorley and authorised by Jennie Caddick, who confirms that the report is in line with the following:

- Represents sound industry practice;
- Reports and recommends correctly, truthfully and objectively;
- Is appropriate given the local site conditions and scope of works proposed; and,
- Avoids invalid, biased and exaggerated statements.

3.0 SCREENING SUPPORTING INFORMATION

3.1 DESCRIPTIONS OF DESIGNATED SITES

The nature reserve lies within the Morecambe Bay and Duddon Estuary SPA, Morecambe Bay SAC, and Duddon Estuary Ramsar and SSSI. The Visitor Centre and car park site lies just outside the boundary of these designations.

Morecambe Bay is a large estuary situated on the northwest English coast in Cumbria and Lancashire. The Bay includes the Duddon Estuary which is formed by the River Duddon and the smaller Kirkby Pond as they open into the Irish Sea at the south-west corner of the Lake District. Morecambe Bay contains a mosaic of coastal habitats covering approximately 62 ha and supports breeding and overwintering bird assemblages of international importance as well as nationally important numbers of natterjack toads (*Epidalea calamita*) and a rich assemblage of wetland plants and invertebrates.

Morecambe Bay and Duddon Estuary SPA¹⁴

Qualifying species

The Morecambe Bay and Duddon Estuary SPA qualifies under Article 4.1 of the Directive (2009/147/EC) as it is used regularly by 1% or more of the Great Britain (GB) populations of the following species listed in Annex I in any season:

Table 3.1 Qualifying species at Morecambe Bay and Duddon Estuary SPA

Species	Season	% of Population
Whooper swan (<i>Cygnus Cygnus</i>)	Non-breeding	1.0% of GB population
Little egret (<i>Egretta garzetta</i>)	Non-breeding	3.0% of GB population
European golden plover (<i>Pluvialis apricaria</i>)	Non-breeding	1.0% of GB population (1991)
Bar-tailed Godwit (<i>Limosa lapponica</i>)	Non-breeding	8.0% of GB population
Ruff (<i>Calidris pugnax</i>)	Non-breeding	1.0% of GB population
Mediterranean gull (<i>Larus melancephalus</i>)	Non-breeding	1.0% of GB population
Little tern (<i>Sternula albifrons</i>)	Breeding	2.2% of GB population

Species	Season	% of Population
Sandwich tern (<i>Sterna sandvicensis</i>)	Breeding	5.7% of GB population (1992)
Common tern (<i>Sterna hirundo</i>)	Breeding	2.0% of GB population (1991)

The Morecambe Bay and Duddon Estuary SPA qualifies under Article 4.2 of the Directive (79/409/EEC) as it is used regularly by 1% or more of the biogeographical populations of the following regularly occurring migratory species (other than those listed in Annex I) in any season:

Table 3.2 Annex 2 Migratory species at Morecambe Bay and Duddon Estuary SPA

Species	Season	% of Population
Pink-footed goose (<i>Anser brachyrhynchus</i>)	Non-breeding	4.5% of biogeographic population
Common shelduck (<i>Tadorna tadorna</i>)	Non-breeding	2.0% of biogeographic population
Northern pintail (<i>Anas acuta</i>)	Non-breeding	4.2% of biogeographic population
Eurasian oystercatcher (<i>Haematopus ostralegus</i>)	Non-breeding	6.8% of biogeographic population
Grey plover (<i>Pluvialis squatarola</i>)	Non-breeding	1.0% of biogeographic population (1991)
Common ringed plover (<i>Charadrius hiaticula</i>)	Non-breeding	1.4% of biogeographic population
Eurasian curlew (<i>Numenius arquata</i>)	Non-breeding	1.5% of biogeographic population
Black-tailed godwit (<i>Limosa limosa</i>)	Non-breeding	4.0% of biogeographic population
Ruddy turnstone (<i>Arenaria interpres</i>)	Non-breeding	1.0% of biogeographic population
Red knot (<i>Calidris canutus</i>)	Non-breeding	7.3% of biogeographic population
Sanderling (<i>Calidris alba</i>)	Non-breeding	3.0% of biogeographic population (1991)
Dunlin (<i>Calidris alpina alpina</i>)	Non-breeding	2.0% of biogeographic population
Common redshank (<i>Tringa totanus</i>)	Non-breeding	4.6% of biogeographic population
Lesser black-backed gull (<i>Larus fuscus</i>)	Non-breeding	1.7% of biogeographic population

Species	Season	% of Population
Lesser black-backed gull (<i>Larus fuscus graellsii</i>)	Breeding	2.7% of biogeographic population
European herring gull (<i>Larus argentatus argenteus</i>)	Breeding	1.0% of biogeographic population (1991)

Assemblage qualification

The Morecambe Bay and Duddon Estuary SPA qualifies under Article 4.2 of the Directive (2009/147/EC) as it used regularly by over 20,000 seabirds in any season.

At time of the 1997 citation of 1997 citation of Morecambe Bay SPA, the area supported 40,672 individual seabirds including: herring gulls, lesser black-backed gulls, Sandwich terns, common terns and little terns.

The site qualifies under Article 4.2 of the Directive (2009/147/EC) as it used regularly by over 20,000 waterbirds in any season. During the period 2009/10 – 2013/14, the site held a five year peak mean value of 266,751 individual birds. The main components of the assemblage include all of the qualifying features listed above, as well as an additional 19 species present in numbers exceeding 1% of the GB total and / or exceeding 2,000 individuals: great white egret (*Ardea alba*), Eurasian spoonbill (*Platalea leucorodia*), light-bellied brent goose (Nearctic origin), Eurasian wigeon (*Mareca penelope*), Eurasian teal (*Anas crecca*), green-winged teal (*Anas carolinensis*), mallard (*Anas platyrhynchos*), ring-necked duck (*Aythya collaris*), common eider (*Somateria mollissima*), common goldeneye, red-breasted merganser (*Mergus serrator*), great cormorant (*Phalacrocorax carbo*), northern lapwing (*Vanellus vanellus*), little stint (*Calidris minuta*), spotted redshank (*Tringa erythropus*), common greenshank (*Tringa nebularia*), black-headed gull (*Chroicocephalus ridibundus*), common (mew) gull (*Larus canus*) and European herring gull.

In accordance with the Standard Data Form for sites within the 'UK national site network of European sites' the following threats, pressures and activities have impacts on the site:

Table 3.3 Negative impacts and activities on the Morecambe Bay and Duddon Estuary SPA

Negative Impact	Rank	Inside/Outside
G01 Outdoor sports and leisure activities, recreational activities	High (H)	Inside
H04 Air pollution, air-borne pollutants	Medium (M)	Inside
F02 Fishing and harvesting aquatic resources	H	Inside

Negative Impact	Rank	Inside/Outside
H03 Marine water pollution	H	Both
M02 Changes in biotic conditions	H	Both
M01 Changes in abiotic conditions	M	Both
D04 Airports, flightpaths	M	Inside
K03 Interspecific faunal relations	M	Inside

Table 3.4 Positive impacts and activities on the Morecambe Bay and Duddon Estuary SPA

Positive Impact	Rank	Inside/Outside
A06 Annual and perennial non-timber crops	M	Both
D05 Improved access to site	M	Inside
A04 Grazing	M	Inside
A02 Modification of cultivation practices	M	Inside
G05 Other human intrusions and disturbances	M	Inside
G03 Interpretative centres	M	Inside

Morecambe Bay SAC¹⁵

The Morecambe Bay SAC qualifies under Article 6 of the habitats directive (92/43/EEC). The primary reason for its international designation includes the following Annex I habitats and Annex II species:

- Annex I Habitats:
 - Estuaries;
 - Mudflats and sandflats not covered by seawater at low tide;
 - Large shallow inlets and bays;
 - Perennial vegetation of stony banks;
 - Salicornia and other annuals colonizing mud and sand;
 - Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*);
 - Shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes");
 - "Fixed coastal dunes with herbaceous vegetation ("grey dunes")" *Priority feature; and,
 - Humid dune slacks.

* Priority natural habitats or species for which UK SACs have been selected are considered to be particular priorities for conservation at a European scale and are subject to special provisions in the Habitats Regulations. They must be considered when a competent authority is required to make a HRA, including an AA, under the relevant parts of the Habitats Regulations.

- Annex II Species:
 - Great crested newt (*Triturus cristatus*) (GCN);
- The Annex I habitats also present but are not a primary reason for selection of the site include:
 - Sandbanks which are slightly covered by sea water all the time;

- Coastal lagoons *Priority feature;
- Reefs;
- Embryonic shifting dunes;
- Atlantic decalcified fixed dunes (*Calluno-Ulicetea*) * Priority feature; and,
- Dunes with *Salix repens* ssp. *argentea* (*Salicion arenariae*).

There has been only one Annex I habitat identified within the planning application boundary which is "Fixed coastal dunes with herbaceous vegetation ("grey dunes")". European Community Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC) supporting documentation for the conservation status assessment for this habitat has identified the following pressures and threats:

Table 3.5 Characterisation of pressures/threats for the Annex I habitat Fixed coastal dunes with herbaceous vegetation ("grey dunes")

Characterisation of Pressures/ Threat	Pressure Ranking	Threat Ranking
L02 Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices)	H	H
J03 Mixed source air pollution, air-borne pollutants	H	H
F02 Construction or modification (e.g. of housing and settlements) in existing urban or recreational areas	H	H
A06 Abandonment of grassland management (e.g. cessation of grazing or mowing)	H	H
F07 Sports, tourism and leisure activities (F07)	H	H
F08 Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defences or coastal protection works and infrastructures)	H	H
N03 Increases or changes in precipitation due to climate change	H	H
B03 Replanting with or introducing non-native or non-typical species (including new species and GMOs)	M	M

Characterisation of Pressures/ Threat	Pressure Ranking	Threat Ranking
A02 Conversion from one type of agricultural land use to another (excluding drainage and burning)	M	M
L01 Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization)	M	H
I02 Other invasive alien species (other than species of Union concern)	M	M

Duddon Estuary Ramsar¹⁶

The Duddon Estuary Ramsar is designated under the Convention on the Wetlands of International Importance especially as Waterfowl Habitat 1971 – the Ramsar Convention. Qualification for Ramsar criteria:

- Supports nationally important numbers of the rare natterjack toad, near the north- western edge of its range (an estimated 18-24% of the British population). Supports a rich assemblage of wetland plants and invertebrates- at least one nationally scarce plant including *Epipactis dunensis*, *Limonium humile*, *Centaurium littorale*, *Pyrola rotundifolia*, *Equisetum variegatum*, *Corallorhiza trifida*, *Coincya monensis ssp. monensis*. and at least two British Red Data Book invertebrates *Colletes cunicularius*, *Psen littoralis*, *Hypocaccus rugiceps*;
- Supports nationally important numbers of waterfowl during spring and autumn passage;
- Internationally important waterfowl assemblage (greater than 20,000 birds); and,
- Over winter the site regularly supports internationally important populations of Knot (*Calidris canutus*) Pintail (*Anas acuta*), Redshank (*Tringa totanus*).

Adverse factors affecting the ecological character of the Duddon Estuary Ramsar site include small scale factors such as overgrazing by domestic livestock as well as erosion. Larger scale factors include recreational/tourism disturbance.

The Ramsar Information Sheet includes the following statement relating to the site's vulnerability and management:

"The Duddon Estuary is a diverse estuarine system dependent on the physical processes that dominate the natural system: consequently the vulnerability of habitats is linked to the physical environment. The intertidal zone is being threatened by coastal squeeze as a result of land claim and coastal defence works as well as sea level rise and storm surges"..."waterfowl wintering on estuaries are vulnerable to loss of feeding areas through disturbance, land claim and development. The Duddon Estuary

partnership are addressing some of the threats arising from recreational pressure and bait digging"... "There are various developments of housing, amenity and industry adjacent to the site, however to date there has been no significant effect on the nature conservation interest of the estuary"

Duddon Estuary SSSI¹⁷

The citation includes information expanding on what has been described in relation to the NSN designation. Extracts below have been selected from the SSSI citation to provide a broader picture.

"The Duddon Estuary is of international and national importance for wintering wildfowl and waders and provides a vital link in the chain of west coast estuaries used by migrating birds, as well as being of particular importance as one of a series of estuaries on the north-west coast where the majority of the British population of natterjack toads occur."

"The mouth of the estuary forms an extensive flat sand plain, with the sands being very mobile. The mid and upper reaches of the estuary are flanked by saltmarsh and beyond high water are extensive sand dunes on both the north and south sides of the mouth of the estuary. These sand dune systems are particularly important for a diverse range of community types, supporting a number of rare and uncommon plants, as well as a variety of nationally rare and scarce invertebrate species. The past activities of the mining and iron-making industries have created a number of artificial habitats which have become areas of wildlife interest. These include the slag banks of Askham Pier and Borwick Rails, and the largest coastal lagoon in north-west England at Hodbarrow Lagoon."

Natterjack toad

The natterjack toad is a nationally rare species in Britain and over 95% of the population is associated with five estuaries, the Alt, Ribble, Duddon, Esk and Solway. The Duddon Estuary itself is therefore one of the most important areas in Britain for this species and contains between 18–25% of the U.K population, which in turn is equivalent to 50% of the Cumbrian natterjack toad population. The toads breed in ephemeral ponds associated with a range of habitats including dune slacks, marshy grassland, bare sand and slag banks, and hibernate and forage in the surrounding semi-natural vegetation, artificial habitats and semi-improved pastures. Particular concentrations occur at Millom Ironworks, Sandscale Haws and the stretch of coast between Sandside and Dunnerholme, but the species is evenly distributed over the whole estuary.

Invertebrates

*"As a result of the range of habitats found at North Walney and Sandscale, these two sites are also important for their invertebrate populations, many typical of coastal habitats with a number of rare and nationally scarce species including the digger wasp (*Psen littoralis*), the solitary bee (*Colletes cunicularis*), water beetles*

associated with brackish waters (*Octhebius marinus*) and (*O. auriculatus*), and moths including the Shore Wainscot (*Mythimna litoralis*) and the Portland moth (*Ochropleura praecox*)."

3.2 ECOLOGICAL CONTEXT

A Preliminary Ecological Appraisal (PEA) was carried out by Greengage on 25th March 2025¹⁸ and confirmed that habitats remain largely unchanged since previous surveys, during May 2021 and August 2021¹⁹ and January 2022²⁰. Further detail on the ecological context is summarised below and can be found in the accompanying Phase II report²¹ and Phase II report addendum²².

Visitor centre and car park

Habitats

A NVC survey undertaken during June 2021 and May 2022 recorded Annex I grassland present within the Visitor Centre and car park site. No habitats associated with the SAC and Ramsar designation communities were recorded in this location.

Breeding birds

The RSPB have provided historical breeding bird data for the nature reserve from 1988 up to 2024 (of which data from the past 10 years has been reviewed). No records of breeding birds were identified at the Visitor Centre and car park, and the habitats in this area include small expanses of grassland and dense scrub which are unsuitable for supporting the qualifying bird species.

Overwintering birds

The RSPB have provided historical overwintering bird data for the nature reserve from 2010 up to 2024 (of which data from the past 10 years has been reviewed). No records of overwintering birds were identified at the Visitor Centre and car park, and the habitats associated with this area do not have value for qualifying overwintering bird species which typically require coastal habitats, estuarine habitats or large expanses of water.

Amphibians

Amphibian presence/likely absence surveys for GCN and natterjack toads were carried out between May and June 2021 and 2022²¹. Surveys recorded the likely absence of GCN and therefore noted that the Visitor Centre and car park had Negligible value for GCN. As discussed within the Phase II Report Update²², GCN are considered highly unlikely to have dispersed onto site since these surveys.

Amphibian surveys have not identified natterjack toads using the Visitor Centre and car park, however, the previous sHRA²³ detailed photographs (provided by a member of the general public) of a natterjack toad on the road to the recycling centre on the Visitor Centre and car park site near the Annex 1 grassland. This activity was described as representing an occasional transient/opportunistic natterjack toad using the site at certain times when dispersing/foraging.

Invertebrates

Invertebrate surveys carried out between May and July 2021 and April and May 2022 recorded a total of 86 terrestrial invertebrate species across the Visitor Centre and car park site, predominantly associated with tall sward, scrub and bare ground habitats. Section 41 species, dingy skipper (*Erynnis tages*) was also recorded during the National Vegetation Classification (NVC) survey. In total 13 species (~15%) are regarded as locally common or locally scarce and the following 3 (~3%) as notable species:

- *Amara curta* Dejean beetle, Nationally Scarce;
- *Orthochaetes setiger* weevil, Nationally Scarce (Notable B); and,
- Dingy skipper, Section 41 species of principal importance.

Despite finding some nationally scarce species, the site fails to meet Natural England's Species Quality Index (SQI) threshold as national level of importance.

Nature reserve

Habitats

NVC survey was undertaken in June 2021 and May 2022 for a 20m buffer either side of existing paths and the BOAT on site recorded NVC community and Annex 1 habitat 'Fixed coastal dunes with herbaceous vegetation (grey dunes)' (see Appendix A Figure A.2 for approximate location) and it is likely that this habitat continues beyond the extents of the survey buffer. This habitat is cited within the Morecambe Bay SAC designation.

The RSPB Annual Report 2012/13 noted that “conductivity monitoring was carried out this year giving an average lagoon reading of 1500 μ S – showing that the margins and surface at least are practically fresh water rather than brackish” and that the lagoon is unlikely to qualify as an Annex 1 habitat 'Coastal Lagoon' due to a lack of salinity.

Breeding birds

The RSPB have provided historical breeding bird data up to 2024 for the nature reserve with the following breeding bird species confirmed:

- Common tern;
- Sandwich tern;
- Little tern;
- Lesser black-backed gull; and,
- Herring gull.

The Hodbarrow lagoon within the nature reserve is an important refuge for breeding terns, specifically on the purpose-built limestone slag island (known as 'tern island') which supports a maximum of 15% of the U.K. population of Sandwich terns.

The Hodbarrow lagoon is used regularly by over 20,000 sea birds in any one season and used regularly by 1% or more of the Great Britain populations of species listed in Annex I in any season, including breeding little tern, Sandwich tern and common tern. The nature reserve is also regularly used by 1% or more of the biogeographical populations of regularly occurring migratory species (other than those listed in Annex I) in any one season, including breeding lesser black-backed gull and European herring gull specifically on a purpose-built limestone slag island (known as 'gull island').

Overwintering birds

The RSPB have provided historical overwintering bird data up to 2024 for the nature reserve which confirmed the presence of the following overwintering species:

- Black-tailed godwit;
- Curlew;
- Dunlin;
- Ringed plover;
- Oystercatcher;

- Grey plover;
- Knot;
- Mediterranean gull;
- Redshank;
- Sanderling;
- Ruddy turnstone;
- Whooper swan; and,
- Little Egret.

The wintering bird assemblage contributes to the Duddon Estuary and Morecambe Bay SPA interest features, with qualifying species recorded within the nature reserve particularly associated with the wetland/lagoon habitat.

Amphibians

No GCN were identified during the 2021 and 2022 surveys and no records of GCN were identified in the RSPB data for the site. Survey effort did not include the lagoons due to them being too large for GCN (measuring 13,100m² and 26,000m²), with optimal size for ponds considered to be approximately 50-250m²,²⁴. In 2023, the RSPB received Species Recovery Trust funding to create new swales and ponds on the nature reserve, although specifically for natterjack toads and which therefore should be kept absent of emergent vegetation. This reduces suitability for GCN use as vegetation leaves are required for egg laying. As discussed within the Phase II report addendum²², GCN dispersal onto site is considered highly unlikely and the 2022 likely absence status is considered to remain valid. Targeted GCN surveys have not been updated to support this submission.

The 2021 and 2022 surveys confirmed likely absence of natterjack toads on the nature reserve. In 2023 the RSPB received Species Recovery Trust funding to enable habitat enhancements across the nature reserve, including the creation of scrapes and ponds for natterjack toad. Despite habitat enhancement works and an increase in suitable habitat on the nature reserve, including the presence of nearby populations with calling males identified as close as 65m from the nature reserve, no natterjack toads have been identified on further surveys to date (as of 9th April 2025).

Invertebrates

Invertebrate surveys carried out between May and July 2021 and April and May 2022 recorded a total of 159 species of terrestrial invertebrate. 129 of the species recorded (~81%) are without a status, being widely distributed and common, 26 species (~16%) are regarded as locally common or locally scarce, three (~2%) are currently accorded Nationally Scarce or Section 41 status and one is classed as data deficient:

- *Attactagenus plumbeus* weevil, Notable;
- *Saprinus aeneus* beetle, Nationally Scarce;
- *Coenonympha nymphula*, Section 41 priority species; and,
- *Ceruella virgata*, Data Deficient.

Despite finding some nationally scarce species, the site fails to meet Natural England's Species Quality Index (SQI) threshold to meet national level of importance. As such invertebrates are not considered further within this sHRA.

4.0 SCREENING ASSESSMENT

4.1 STEP ONE

The Government guidance²⁵ states that for a project to be ‘directly connected with or necessary to the management of the site’, the ‘management’ component must relate to measures that are for conservation purposes, and the ‘directly’ element refers to measures that are solely conceived for the conservation management of a NSN and Ramsar site and not direct or indirect consequences of other activities.

The Proposed Development is not directly connected to measures that are solely conceived for the conservation management of the NSN and Ramsar site or necessary to the management of the NSN and Ramsar site for nature conservation. Therefore, it must be determined whether the Proposed Development is likely to have a significant effect on the NSN and Ramsar site.

4.2 STEP TWO

This step requires description of the proposals project and description and characterisation of other plans or projects that in combination have the potential for having significant effects on the NSN site(s).

Proposals involve "*Erection of visitor centre with café/shop, group room, staff/volunteer, toilet facilities and car park; consolidation, repair and installation of interpretive sculpture to Towsey Hole Windmill; refurbishment of existing Tern Hide; new bird hides, pathways, gateway features and street furniture; enhancement of wildlife habitats; associated landscaping and drainage infrastructure; and maintenance of BOAT with restricted vehicular access.*"

Identification of Other Projects

Cumberland Council have identified other plans/projects that should be considered in the in-combination impact assessment, as follows (email from Christie Burns dated 12th April 2023 and update from Nick Hayhurst on the 28/03/2025):

- 4/19/2153/0g1 – Port Haverigg Holiday Village, Haverigg – removal of Condition 10 of planning permission 4/81/1132/086;
- 4/19/2298/0e1 – Port Haverigg Holiday Village, Haverigg – lawful development as a caravan site, and land used in conjunction for roads, parking and manoeuvring. Open recreation areas, water sport including boat yard and quay, miniature railway and bbq and landscaping;

- 4/22/2402/0b1 - Port Haverigg Holiday Village, Steel Green, Haverigg - amendments to layout and landscaping including relocation of ponds and enlargement of toilet block for planning approval reference 4/10/2387/0f1 - proposed extension of existing holiday village to provide 100 no. static caravan pitches, 20 no. motor home pitches, 30 no. touring caravan pitches, camping area for up to 20 no. tents, communal facilities building, 2 no. shower and toilet blocks, park maintenance compound, tourist information building incorporating cafe & public toilets, associated landscaping and infrastructure works; and,
- 4/22/2402/0B1 - Port Haverigg Holiday Village, Steel Green, Haverigg variation of Condition 2 of planning permission 4/81/1132/086.

Additionally Greengage have reviewed the My Neighbourhood map²⁶ planning applications to search for applications of developments that meet the Impact Risk Zone (IRZ) criteria, with potential to affect the SSSIs (determined to be up to 12km following a review from Defra's interactive Multi-Agency Geographic Information for the Countryside²⁷). Any projects that have not begun, are not completed or have not received planning approval have been considered. Greengage have identified the following:

- 4/24/2415/0F1- Installation of an additional 7 solar lights to complete coverage of the Millom community track.

4.3 STEP THREE

This step requires characteristics of the NSN site(s) and prediction of impacts: Identifying the potential effects of the plan or project on the NSN site(s).

Prior to adoption, the Copeland Local Plan was subject to a HRA²⁸ which identified the following pathways of impact and their descriptions where likely significant effect (LSE) may arise to the NSN sites. The following are considered relevant to the site:

- Loss of Supporting Habitat. Directly losing qualifying NSN habitats or habitats that support a qualifying species. SPAs and most Ramsar sites are designated for bird species, which are mobile features and therefore often utilise land outside the geographic limits of the NSN site for feeding, roosting or even breeding;
- Reduced Water Quality. Both surface water and ground water can arise from developments. Surface water pollution may arise as a result of runoff from hard surfaces or where existing catchments have been modified. Reduced water quality can also occur as a result of population increases which lead to increased pressure on waste water treatment works capacities, and can result in increased levels of nutrients in receiving water courses. In many urban areas, sewage treatment and surface water drainage systems are combined, and therefore a predicted increase in flood and storm events could increase pollution risk. Groundwater pollution can arise as a consequence of spillages infiltrating permeable surfaces within the catchment of NSN sites;

- **Altered Hydrology.** Appropriate hydrological conditions are a key consideration for many NSN and Ramsar sites. These can be affected by many anthropogenic activities including weirs, dams impacting river flow or by processes such as siltation or dredging. Estuarine and marine hydrological conditions can be influenced by coastal defence works or other coastal construction that can alter erosion and accretion patterns;
- **Reduced Air Quality.** The main pollutants of concern for NSN sites are oxides of nitrogen (NO_x), ammonia (NH₃) and sulphur dioxide (SO₂). Ammonia emissions are dominated by agriculture, with some chemical processes also making notable contributions, whilst sulphur dioxide is primarily from industrial processes. A major source of nitrogen emissions, however, is the output of vehicle exhausts. Increases in nitrogen can have a directly toxic effect upon vegetation. In addition, greater nitrogen concentrations within the atmosphere will lead to greater rates of nitrogen deposition to soils and increase in soil fertility, which can have a serious negative effect on nitrogen limited habitats;
- **Recreational Pressure and Disturbance.** Recreational pressure from visitors can cause erosion, fragmentation of habitats and damage through trampling which could be exacerbated by cycling, motorcycling, water sports and other forms of vehicular recreation. Disturbance could be caused by water sports, visual presence, noise, light and vibration. The HRA notes that although species such as amphibians are subject to disturbance, concern regarding the effects of disturbance is primarily focused on the NSN sites designated for birds; and,
- **Non-recreational Pressure and Disturbance.** Disturbance from factors other than recreation may occur, such as the proximity of noisy, visually intrusive or light-generating development.

The Copeland Local Plan HRA concluded that the pathways of impact from recreational pressure and disturbance, and loss of or disturbance to supporting habitats, will not lead to LSE on any NSN sites, both alone and in combination with other plans and projects.

4.4 STEP FOUR

The threats and pressures identified in Step 3 for the NSN and Ramsar sites and their conservation objectives have been assessed with reference to impacts in this section.

Loss of Supporting Habitat

Table 4.1 Screening Assessment for Impact Pathway 'Loss of Supporting Habitat'

Interest Feature (Designation)	Potential Risks	Screening Assessment	Screening Conclusion
Construction			
Habitats (SAC)	Loss of Annex I H2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)	The works associated with the nature reserve have been designed carefully to avoid impacts on designated features, such as the habitats of the SAC/Ramsar. As such the proposals have avoided the loss of cited Annex 1 H2130 Fixed coastal dunes with herbaceous vegetation (grey dunes) habitat.	No LSE
Breeding birds (SPA and Ramsar)	Loss of tern and gull islands	All coastal habitats, the Hodbarrow lagoon and the tern island and gull islands (i.e. habitats that may be used for feeding/roosting/nesting by SPA species) will remain outside of the planning application boundary and will not be directly damaged/modified by the Proposed Development. The remaining two lagoons are within the planning application boundary however will not be directly damaged/modified by the Proposed Development.	No LSE
Overwintering birds (SPA and Ramsar)	Loss of lagoon habitat		
Natterjack toads (Ramsar)	Loss of suitable natterjack toad habitat	The proposals will not result in the loss of any potential natterjack toad breeding ponds. The works are largely confined to dense scrub clearance and will not result in the loss of any foraging or commuting habitat as dense scrub is deemed unsuitable for natterjack toads ²⁹ . The habitat preferences of natterjack toad are for are open, unshaded terrestrial habitat with extensive areas of unvegetated or minimally vegetated ground (i.e. with vertical plant growth of no more than 1 cm or so) ³⁰ .	No LSE

Interest Feature (Designation)	Potential Risks	Screening Assessment	Screening Conclusion
Operational			
Not applicable during the operational phase as no qualifying habitats or habitats supporting qualifying species will be lost (see recreational pressure and disturbance below for assessment of risks to habitats).			

Reduced Water Quality

Table 4.2 Screening Assessment for Impact Pathway 'Reduced Water Quality'

Interest Feature (Designation)	Potential Risks	Screening Assessment	Screening Conclusion
Construction			
Habitats (SAC)	Surface water pollution and ground water pollution degrading habitats	As identified in the supporting information above, pollution to surface waters (limnic & terrestrial, marine & brackish), marine water pollution and pollution to groundwater (point sources and diffuse sources) is not listed as a pressure or threat for Annex 1 H2130 Fixed coastal dunes with herbaceous vegetation (grey dunes) habitat. No other SAC habitats are predicted to be impacted from the Proposed Development. Considering the temporary nature and the relatively small scale of works proposed along the BOAT, it is considered unlikely that any contaminated runoff that may run onto SAC habitats during works would significantly impact the SAC estuary habitats. Nonetheless, a Construction Environmental Management Plan (CEMP) ³¹ is in place to mitigate pollution events such as increased dust deposition, nitrogen deposition, spill occurrences from machinery etc.	No LSE

Interest Feature (Designation)	Potential Risks	Screening Assessment	Screening Conclusion
Breeding birds (SPA and Ramsar) Overwintering birds (SPA and Ramsar)	Surface water pollution and ground water pollution entering the lagoon and reducing water quality	Research has shown that persistent organic pollutants have been shown to exhibit a wide range of toxic properties in birds³². The Proposed Development of the hide overlooking Hodbarrow Lagoon and the maintenance of the BOAT along the old sea wall and refurbishment of the existing bird hide will occur immediately adjacent to the Hodbarrow Lagoon where the tern and gull islands are located and overwintering bird assemblages are present. As such any pollution event during construction at these features could toxify the water and impact breeding and overwintering bird populations. Considering the temporary nature and the relatively small scale of works proposed along the sea wall BOAT, it is considered unlikely that any contaminated runoff that may enter the lagoon during works would significantly impact breeding and overwintering bird assemblages. However, as we cannot predict surface water pollution levels in the event of a pollution occurrence during construction, a precautionary approach has been applied. As such, this impact should be taken to the Appropriate Assessment stage of the HRA as required under the Habitats Regulations, and mitigation secured to ensure a conclusion of no adverse effect on the integrity of this interest feature. As per the Environment Agency's Pollution Prevention Guidelines Works and Maintenance in or Near Water: PPG5³³ all works outside of 10m of the lagoon are considered to have no LSE.	LSE
Natterjack toads (Ramsar)	Surface water pollution and ground water pollution entering	Maintenance of the BOAT will be undertaken within 10m of some of the natterjack toad scrapes/pond habitats (See Figure A.2). Research suggests that natterjack toad populations on heathland were found to avoid acidic ponds ³⁴ and as such in the absence of mitigation, pollution events that could alter the pH of these scrapes/ponds	LSE

Interest Feature (Designation)	Potential Risks	Screening Assessment	Screening Conclusion
	the scrapes/ponds and reducing water quality	could have a LSE on the local natterjack toad populations. As such, this impact should be taken to the Appropriate Assessment stage of the HRA as required under the Habitats Regulations, and mitigation secured to ensure a conclusion of no adverse effect on integrity of this interest feature.	
Operational			
Habitats (SAC)	Surface water pollution and ground water pollution degrading habitats	As identified in the supporting information above, pollution to surface waters (limnic & terrestrial, marine & brackish), marine water pollution and pollution to groundwater (point sources and diffuse sources) is not listed as a pressure or threat for Annex 1 H2130 Fixed coastal dunes with herbaceous vegetation (grey dunes) habitat. The maintenance of the BOAT will involve the use the existing materials to scrape and fill in any potholes. The formalisation of the paths will use natural and permeable materials. As such there is no drainage strategy required for the nature reserve. The BOAT will have restricted vehicular access to emergency vehicles only which will reduce the nitrogen emissions from vehicle exhausts as such the air quality will not affect the water quality leaving no LSE on the habitat.	No LSE
Breeding birds (SPA and Ramsar)	Surface water pollution and ground water pollution entering the lagoon and reducing water quality	The drainage strategy ³⁵ is all surface water drainage from the Visitor Centre and car park will firstly go into attenuation/treatment tanks under the car park area and then will be discharged into the Old Redhills Quarry, off-site to the north, via a drain laid in the existing access road to the Household Waste Recycling Centre. There will therefore be no surface water discharge into the Hodbarrow Lagoon. Additionally, foul water will be pumped from the site to Mainsgate Road via an existing main running in the shared service trench to the south of the access road. As such there will	No LSE
Overwintering birds (SPA and Ramsar)			No LSE

Interest Feature (Designation)	Potential Risks	Screening Assessment	Screening Conclusion
		be no surface water pollution or ground water pollution entering the lagoon as a result of the proposals and as such no LSE on water quality are anticipated.	
Natterjack toads (Ramsar)	Surface water pollution and ground water pollution entering the natterjack toad ponds and reducing water quality	The habitat enhancements for natterjack toads undertaken by RSPB in 2023 included natterjack toad habitat enhancements, including creation of scrapes/ponds. The scrapes/ponds are located either side of the BOAT. As such the reduction in vehicle use along the BOAT will protect any natterjacks that may be moving to/ between these ponds. Additionally, the reduction of vehicle use will reduce the likelihood of pollution runoff from vehicles leaching into the scrapes/ponds, which may alter the pH of these ponds and reduce their suitability for natterjack toad. However, ambitions for the scheme are to double visitor numbers from 40,000 to 80,000 a year. The increase in visitors has potential to increase the frequency of human and dog disturbance to the scrapes/ponds. Dogs entering the ponds in particular can alter the turbidity, siltation and leach chemicals from flea treatments on their fur. This can cause an increase in toxicity and as such reduction in reduced water quality. As such in the absence of mitigation, pollution events that could alter the pH of these ponds could have a LSE on the local natterjack toad populations. As such, this impact should be taken to the Appropriate Assessment stage of the HRA as required under the Habitats Regulations, and mitigation secured to ensure a conclusion of no adverse effect on the integrity.	LSE

Altered Hydrology

Table 4.3 Screening Assessment for Impact Pathway 'Altered Hydrology'

Interest Feature (Designation)	Potential Risks	Screening Assessment	Screening Conclusion
Construction			
Habitats (SAC)	F08 Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defences or coastal protection works and infrastructures)	The proposed works will be confined to the existing hardstanding and areas of dense scrub and will not seek to modifying the coastline, estuary or coastal conditions. As such no LSE's are predicted.	No LSE
Breeding birds (SPA and Ramsar)	Loss of tern and gull island habitat from increasing water levels	The works will not involve any additional surface water entering the lagoon that could reduce the land available for nesting colonies or removal of any water that would reduce the lagoon habitat. As such, no LSE's are predicted.	No LSE
Overwintering birds (SPA and Ramsar)	Loss of lagoon habitat from removal of water		
Natterjack toads (Ramsar)	Loss of suitable natterjack toad habitat from the removal of water from existing ponds	The proposed works will be confined to the existing hardstanding and areas of dense scrub and will not seek to reduce or modifying the existing scrapes/ponds for future natterjack populations.	No LSE

Interest Feature (Designation)	Potential Risks	Screening Assessment	Screening Conclusion
Operational			
Habitats (SAC)	F08 Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defences or coastal protection works and infrastructures)	The proposed works will be confined to the existing hardstanding and areas of dense scrub and will not seek to modifying the coastline, estuary or coastal conditions. As such no LSE's are predicted.	No LSE
Breeding birds (SPA and Ramsar)	Loss of tern and gull island habitat from increasing water levels	As described in Table 4.2 the drainage strategy report ³⁵ proposes additional surface water from the Visitor Centre and carpark to be filtered underground and discharged off-site. The drainage strategy report Error! Bookmark not defined. states that "all surface water discharge shall be restricted to the 1:1 year greenfield rate." The attenuation will be provided below ground (i.e. to not cause flooding) and has climate change allowances of 35% for the 1:30 year and 1:100 year event, based on a 60 year design life. As such during operation no additional surface water that could reduce land available for nesting colonies is proposed to enter the lagoon and no removal of water is proposed that would reduce the lagoon habitat. As such, no LSE's are predicted.	No LSE
Overwintering birds (SPA and Ramsar)	Loss of lagoon habitat from removal of water		

Interest Feature (Designation)	Potential Risks	Screening Assessment	Screening Conclusion
Natterjack toads (Ramsar)	Loss of suitable natterjack toad habitat from the removal of water from existing ponds	The maintenance of the BOAT will involve the use the existing materials to scrape and fill in any potholes. The formalisation of the paths will use natural and permeable materials. As such, the permeability of the site is predicted to remain the same and therefore no alterations of the hydrology of the scrapes/ponds adjacent to the paths and BOAT are anticipated. As such, no LSE's are predicted.	No LSE

Reduced Air Quality

Table 4.4 Screening Assessment for Impact Pathway 'recreational pressure and disturbance'

Interest Feature (Designation)	Potential Risks	Screening Assessment	Screening Conclusion
Construction			
Habitats (SAC)	J03 Mixed source air pollution, air-borne pollutants	Nitrogen concentrations from vehicle emissions within the atmosphere can lead to greater rates of nitrogen deposition to soils and increase in soil fertility, which can have a serious negative effect on the quality of nitrogen-limited terrestrial habitats. There will be increased vehicle movements to and from site during construction. In accordance with the CEMP, there will be a maximum of 25 personnel on site at one time, the contractors fleet comprises largely Electric Vehicles (EV) or Hybrids and vehicle sharing is encouraged during the construction phase which will reduce levels the potential vehicle emissions from additional vechicals	LSE

Interest Feature (Designation)	Potential Risks	Screening Assessment	Screening Conclusion
		during the construction phase. Nonetheless, even a small increase in vehicles on site has the potential of increasing the nitrogen emissions from vehicle exhausts. The Department of Transport's Transport Analysis Guidance states that "beyond 200m, the contribution of vehicle emissions from the roadside to local pollution levels is not significant" and as such all development taking place outside of a 200m radius of the Annex 1 H2130 Fixed coastal dunes with herbaceous vegetation (grey dunes) has been screened out (see Appendix A.2 for the radius). Construction within 200m of the Annex 1 habitat has potential to impact them through reduction in air quality through pollution events such as increased dust deposition, nitrogen deposition from machinery. As such this impact, should be taken to the Appropriate Assessment stage of the HRA as required under the Habitats Regulations, and mitigation secured to ensure a conclusion of no adverse effect on the integrity of the interest feature.	
Breeding birds (SPA and Ramsar)	Increased dust deposition, and an increase in nitrogen emissions from vehicle exhausts. This could impact the breeding and wintering bird assemblages as there is literature to suggest there is correlation between oxidative	There will be increased vehicle movements within 200m of the lagoon to and from site during construction which could impact air quality through pollution events such as increased dust deposition and an increase in nitrogen emissions from vehicle exhausts and machinery. Considering the temporary nature and the relatively small scale of works proposed along the sea wall/BOAT, it is considered unlikely that any pollution events would significantly impact the breeding and overwintering bird assemblages. However, as this potential changes in air quality cannot be measured this	LSE

Interest Feature (Designation)	Potential Risks	Screening Assessment	Screening Conclusion
	stress in some bird species and nitrogen levels ³⁶ .	impact should be taken to the Appropriate Assessment stage of the HRA as required under the Habitats Regulations, and mitigation secured to ensure a conclusion of no adverse effect on integrity.	
Overwintering birds (SPA and Ramsar)	Increased dust deposition, and an increase in nitrogen emissions from vehicle exhausts. This could impact the breeding and wintering bird assemblages as there is literature to suggest there is correlation between oxidative stress in some bird species and nitrogen levels ³⁶ .		
Natterjack toads (Ramsar)	Increased dust deposition, and an increase in nitrogen emissions from vehicle exhausts altering the water quality of natterjack toad habitats.	There are several scrapes/ponds adjacent to the BOAT. Increased vehicle movements to and from site during construction could result in an increase in nitrogen emissions from vehicle exhausts, greater rates of nitrogen deposition to the scrapes/ponds, which can have a serious negative effect on the water quality, alter the pH and reduce suitability for natterjack toads. As such this impact, should be taken to the Appropriate Assessment stage of the HRA as required under the Habitats Regulations, and mitigation secured to ensure a conclusion of no adverse effect on the integrity of the interest feature.	LSE
Operational			

Interest Feature (Designation)	Potential Risks	Screening Assessment	Screening Conclusion
Habitats (SAC)	J03 Mixed source air pollution, air-borne pollutants	The proposals will increase the numbers of cars to the Visitor Centre and car park site, located approximately 600m northeast of the nearest cited habitat Annex 1 H2130 Fixed coastal dunes with herbaceous vegetation (grey dunes). The Department of Transport's Transport Analysis Guidance states that "beyond 200m, the contribution of vehicle emissions from the roadside to local pollution levels is not significant". The increase in vehicles to the Visitor Centre and carpark will have a negligible effect on the nearest cited Annex 1 habitat. Additionally, restrictions to the number of cars using the BOAT, and specifically those parking in the unofficial parking spot (see Appendix C) immediately adjacent to the cited Annex 1 H2130 Fixed coastal dunes with herbaceous vegetation (grey dunes) habitat, should improve the air quality in the vicinity of this habitat.	No LSE
Breeding, birds (SPA and Ramsar)	Increased dust deposition, and an increase in nitrogen emissions from vehicle exhausts. This could impact the breeding and wintering bird assemblages as there is literature to suggest there is correlation between oxidative stress in some bird species and nitrogen levels ³⁶	The proposals will increase vehicle movements to the Visitor Centre and car park however, the Visitor Centre and car park are located over 200m from the lagoon. The Department of Transport's Transport Analysis Guidance states that "beyond 200m, the contribution of vehicle emissions from the roadside to local pollution levels is not significant". The access road to the Visitor Centre does fall within 200m and there is a stretch within 10m of the lagoon, separated by some scrub planting, however this is not considered a significant barrier. Despite this, breeding colonies on gull island and tern island are situated over 500m away from this access road and as such increase in vehicle emissions from the roadside to local pollution levels is not significant.	No LSE

Interest Feature (Designation)	Potential Risks	Screening Assessment	Screening Conclusion
Overwintering birds (SPA and Ramsar)	Increased dust deposition, and an increase in nitrogen emissions from vehicle exhausts. This could impact the breeding and wintering bird assemblages as there is literature to suggest there is correlation between oxidative stress in some bird species and nitrogen levels ³⁶	There will be an increase in vehicle movements along the access road to the Visitor Centre which does fall within 200m and there is a stretch within 10m of the lagoon separated by some scrub planting, however this is not considered significant barrier. This could impact air quality through increased dust deposition and an increase in nitrogen emissions from vehicle exhausts resulting in impacts to the wintering bird assemblages. Literature suggest there is correlation between oxidative stress in some bird species and nitrogen levels ³⁶ . As such this impact, should be taken to the Appropriate Assessment stage of the HRA as required under the Habitats Regulations, and mitigation secured to ensure a conclusion of no adverse effect on integrity.	LSE
Natterjack toads	Increased dust deposition, and an increase in nitrogen emissions from vehicle exhausts altering the water quality of natterjack toad habitats.	Suitable habitats in the form of the scrapes/ponds for natterjack toad are situated on the nature reserve, over 200m from the access road. As such the contribution of vehicle emissions from the roadside to local pollution levels is not significant. Additionally, the restriction of cars using the BOAT immediately adjacent to the scrapes and pond habitats should improve the air quality in the vicinity of these habitats. As such there is no LSE on air quality from the proposals on future natterjack toad populations.	No LSE

Recreational Pressure and Disturbance

Table 4.5 Screening Assessment for Impact Pathway 'Recreational Pressure and Disturbance'

Interest Feature (Designation)	Potential Risks	Screening Assessment	Screening Conclusion
Not applicable during the construction phase however please see non-recreational disturbance in Table 4.6 below.			
Operational			
Habitats (SAC)	F07 Sports, tourism and leisure activities	The aspirations of the scheme will be that there will be a reduction of cars using the BOAT and parking in the unofficial parking spot (Appendix C) immediately adjacent to the cited Annex I H2130 Fixed coastal dunes with herbaceous vegetation (grey dunes) habitat. As such this should reduce antisocial activity associated with off-road driving across grassland and dune habitats on the site, reduced fly tipping as well as reduced airborne nitrogen oxides (NO_x) levels associated with cars. Additionally, the proposals will bring long-term management to the site for a period of at least 30 years. The aspirations for the scheme are that visitor numbers will increase from 40,000 to 80,000 annually. This increase in recreational pressure could result in habitat degradation through trampling from footfall, introduction of invasive species and increase in eutrophication through dog faeces. This impact, should be taken to the Appropriate Assessment stage of the HRA as required under the Habitats Regulations, and mitigation secured to ensure a conclusion of no adverse effect on integrity.	LSE

Interest Feature (Designation)	Potential Risks	Screening Assessment	Screening Conclusion
Breeding birds (SPA and Ramsar)	General disturbance (noise, activity, etc.) causing a barrier, displacement and preventing passage.	Proposals estimate peaks of between 100 visitors per hour over the course of a day during peak periods (school holidays, warm weather); the current visitor numbers are approximately 50 people per hour. The increase in visitors has potential to increase the frequency of human disturbance to breeding terns and gulls. The 0.5 ha tern island was created within 100m of the existing BOAT, which lies closer than the recommended human disturbance buffer zones for tern species (ranging from 200-400m) ³⁷ . This can affect the breeding success of birds in a variety of ways including reduced intake of food, increased energy expenditure, physiological impacts such as increased stress and direct impact through disturbance/predation by domestic dogs. This impact, should be taken to the Appropriate Assessment stage of the HRA as required under the Habitats Regulations, and mitigation secured to ensure a conclusion of no adverse effect on integrity.	LSE
Overwintering birds (SPA and Ramsar)		There will be an increase in vehicle traffic to the Visitor Centre and car park which at its closest point passes the lagoon within 10m. This road is already subject to vehicle traffic consisting of those visiting site and accessing the Household Waste Recycling Centre off-site to the north. The buffer zones for human disturbance for the non-breeding bird species range from 200m to 1km (see Table 5.2 of the EclA). The lagoon forms a total of 50.24ha and is approximately 850m-1,300m across. Therefore, there would be ample area of the lagoon available to all species if they were seeking to avoid humans. However, increased disturbance can impact birds	LSE

Interest Feature (Designation)	Potential Risks	Screening Assessment	Screening Conclusion
		in a variety of ways including reduced intake of food, increased energy expenditure, physiological impacts such as increased stress and direct impact through disturbance/predation by domestic dogs. As such, this impact should be taken to the Appropriate Assessment stage of the HRA as required under the Habitats Regulations, and mitigation secured to ensure a conclusion of no adverse effect on integrity.	
Natterjack toads (Ramsar)	General disturbance (activity, dogs entering breeding ponds)	The aspirations of the scheme will be that there will be a reduction of vehicles using the BOAT and reduction of antisocial activity associated with off-road driving, which would reduce the chance of natterjack toads being run over by vehicles using the site. The Visitor Centre and car park will be closed during the night and so no change in visitor numbers across the nature reserve are predicted when natterjacks are dispersing or foraging. The site is already subject to some disturbance from site users. No natterjack toads have been identified on site during surveys to date (as of 9th April 2025). However, suitable habitat exists on site and nearby populations exist, with calling males heard from a pond off-site approximately 65m east of the nature reserve. The proposals will seek to increase visitor numbers which is predicted to equate to 220 people each day if spread evenly across the year. The natterjack toad ponds are located immediately adjacent to well-used paths and in the absence of mitigation could be subject to regular disturbance by dogs off their leash. As such, this impact should be taken to the Appropriate Assessment stage of the HRA	LSE

Interest Feature (Designation)	Potential Risks	Screening Assessment	Screening Conclusion
		as required under the Habitats Regulations, and mitigation secured to ensure a conclusion of no adverse effect on integrity.	

Non- Recreational Pressure and Disturbance

Table 4.6 Screening Assessment for Impact Pathway 'Non-recreational Pressure and Disturbance'

Interest Feature (Designation)	Potential Risks	Screening Assessment	Screening Conclusion
Construction			
Habitats (SAC)	Construction or modification (e.g. of housing and settlements) in existing urban or recreational areas	Maintenance works will be undertaken to the BOAT and the repair and installation of interpretive sculpture to Towsey Hole Windmill which will be within close proximity to the cited Annex 1 H2130 Fixed coastal dunes with herbaceous vegetation (grey dunes). Indirect impacts such as pollution events could result in modification of the habitat. As such, this impact should be taken to the Appropriate Assessment stage of the HRA as required under the Conservation of Habitats Regulations, and mitigation secured to ensure a conclusion of no adverse effect on integrity.	LSE
Breeding birds (SPA and Ramsar)	Non-recreational disturbance (noise, visual, light activity, etc.) in/nearby the estuary causing a barrier, displacement and preventing passage.	Construction activities within the immediate vicinity of the lagoon, such as the maintenance along the BOAT along the seawall, the restoration of the existing bird hide and the creation of the hide on the old sea wall, have the potential to indirectly disturb the qualifying species (breeding tern and gull colonies) due to increased noise, vibration and pollution events. In accordance with the CEMP, there is predicted to be up to 25 personnel working on site at one time. Of the qualifying species, common tern, sandwich tern and little tern are known to have medium to high susceptibility to human disturbance within the breeding season ³⁷ which can lead to colonies abandoning their nests and cause colonies to move and decrease breeding success. Recommended buffer distances for human disturbance during the breeding season is	LSE

Interest Feature (Designation)	Potential Risks	Screening Assessment	Screening Conclusion
		considered to range from 100-400m for tern species³⁷. There is limited research on the recommended buffer zones for breeding colonies of Herring gulls and lesser black-backed gull's, perhaps due to the fact they are known to nest in heavily urban environments. Additionally, studies undertaken by Wright et al. (2010), Dooling and Popper (2007) and Cutts et al. (2009) suggest changes in bird behaviour and flight abandonment can begin to occur at chronic noise levels of 55-65dBA, with sudden irregular noise above 50dBA causing the most disturbance. The studies also showed that ambient construction noise levels should be restricted to below 70dBA as birds will habituate to regular noise below this level. The exact machinery for the works is yet to be determined however the contractors predict that the loudest machinery will be the vibrating roller which operates at 103dBA at source. Therefore, behavioural changes and flight abandonment of the site by qualifying bird species present may be caused by the following site activities, depending on the location of the noise generation in relation to the birds: • De-vegetation activities and any required clearance activities; • Excavation, handling, removal and treatment of any arisings; • Activities using plant or loud hand tools; and, • Activities that cause sudden, loud noises. Overall, in the absence of mitigation the indirect impacts of construction associated with formalising the paths along the sea wall, restoring the existing bird hide and building the hide on the old sea wall will have LSE on qualifying breeding birds. As such, this impact should be taken to the Appropriate	

Interest Feature (Designation)	Potential Risks	Screening Assessment	Screening Conclusion
		Assessment stage of the HRA as required under the Habitats Regulations, and mitigation secured to ensure a conclusion of no adverse effect on the integrity of the interest features.	
Overwintering birds (SPA and Ramsar)	Non-recreational disturbance (noise, visual, light activity, etc.) in/nearby the estuary causing a barrier, displacement and preventing passage.	In the absence of mitigation, construction associated with maintenance of the paths on site, in particular the BOAT along the seawall, restoration of the existing bird hide and construction of the hide along the old sea wall has potential to indirectly disturb the qualifying species through a range of pathways including noise, vibration and pollutant spillage. Disturbance from long-term construction works are known to impact several of the overwintering bird species present ³⁸ . Disturbance can have negative physiological costs such as increased heart rate and stress hormones as well as negative energetic costs from the reduced foraging time or flying away from the site of disturbance. The majority of the buffer zones described in Table 5.2 of the EclA have been taken from NatureScot's literature review ³⁷ of disturbance distances of selected bird species, and the 'human disturbance' covers activities such as pedestrians to motorboats out at sea. Works to the old sea wall would fall within 15m of the lagoon which lies well below the lower threshold recommended for buffer zones. The impact of disturbance on the populations of birds that whole sites can support, however this is dependent upon the availability of alternative habitat ³⁸ . The lagoon forms a total of 50.24ha and the width of the lagoon varies between approximately 850m-1,300m across and forms a part of the wider Morecambe Bay and Duddon Estuary SPA, Duddon Estuary Ramsar and SSSI site and therefore birds have	LSE

Interest Feature (Designation)	Potential Risks	Screening Assessment	Screening Conclusion
		ample space to avoid construction without leaving the lagoon. However, as there could be an increase in disturbance this impact should be taken to the Appropriate Assessment stage of the HRA as required under the Habitats Regulations, and mitigation secured to ensure a conclusion of no adverse effect on integrity.	
Natterjack toads (Ramsar)	Non-recreational disturbance (noise, visual, light activity, etc.) in/nearby the estuary causing a barrier, displacement and preventing passage.	The maintenance works will be taking place along the BOAT in immediate vicinity to the scrapes/ponds. As such, the works could indirectly disturb natterjacks via the pathways of increased noise, vibration and pollution events. Additionally, in the absence of mitigation, site clearance in this area has the potential to result in the killing and injury of Natterjack toads. As such, this impact should be taken to the Appropriate Assessment stage of the HRA as required under the Habitats Regulations, and mitigation secured to ensure a conclusion of no adverse effect on integrity.	LSE
Operational			
No predicted non-recreational impacts are anticipated to have LSE on the SAC, breeding or overwintering birds			
Natterjack toads (Ramsar)	Non-recreational disturbance (noise, visual, light activity, etc.) in/nearby the estuary causing a barrier, displacement and preventing passage.	No additional lighting is proposed for the nature reserve. It is understood that there will be some waymarking lighting around the Visitor Centre and car park for public safety reasons during the months where the operational hours close after sunset. The operating hours of the Visitor Centre are yet to be confirmed but is likely between 9:00 and 18:00 hrs. There will be lighting required in the winter between the hours of 15:00 to 18:00 hrs. Natterjack toads are nocturnal and adults emerge from hibernation during March/April ³⁹ when night time temperatures consistently stay above 7°C ⁴⁰ . As such the	LSE

Interest Feature (Designation)	Potential Risks	Screening Assessment	Screening Conclusion
		natterjack toads will be hibernating and unlikely to be disturbed by additional lighting during the winter period. However, up until the 5th March sunset is before 18:00 hrs and as such the lighting has potential to disturb natterjack toads during milder nights if adults begin to emerge. Natterjacks begin to hibernate when temperatures regularly drop below freezing. The time of hibernation varies across Britain, but it is usually latest at coastal sites, where it may not occur until November ⁴¹ . From the 22nd October, sunset is before 18:00 hrs and as such the lighting has potential to disturb natterjack toads before they enter hibernation. As such, this impact should be taken to the Appropriate Assessment stage of the HRA as required under the Habitats Regulations, and mitigation secured to ensure a conclusion of no adverse effect on integrity.	

Screening Summary

Table 4.7 A Summary of the Screening for the Construction Phase

	Feature of Interest	Loss of Supporting Habitat	Reduced Water Quality	Altered Hydrology	Reduced Air Quality	Recreational Pressure and Disturbance	Non-recreational Pressure and Disturbance
Construction							
SAC	Habitats	No LSE	No LSE	No LSE	LSE	N/A	LSE

	Feature of Interest	Loss of Supporting Habitat	Reduced Water Quality	Altered Hydrology	Reduced Air Quality	Recreational Pressure and Disturbance	Non-recreational Pressure and Disturbance
SPA	Breeding Birds	No LSE	LSE	No LSE	LSE		LSE
	Overwintering Birds	No LSE	LSE	No LSE	LSE		LSE
Ramsar	Natterjack Toads	No LSE	LSE	No LSE	LSE		LSE
Operation							
SAC	Habitats	N/A	No LSE	No LSE	No LSE	LSE	N/A
SPA	Breeding Birds		No LSE	No LSE	No LSE	LSE	
	Overwintering Birds		No LSE	No LSE	LSE	LSE	
Ramsar	Natterjack Toads		No LSE	No LSE	No LSE	LSE	LSE

4.5 IN-COMBINATION EFFECTS

Table 4.8 Table Assessing In-combination Effects

Application (and distance from the site)	Description	Features of Note	Likely In-combination effects
4/19/2153/0g1 – Port Haverigg Holiday Village, Haverigg – removal of Condition 10 of planning permission 4/81/1132/086	Greengage have requested access from Cumberland Council but have not been provided access to this application.	This application is for the same site as described below. And the features described below are considered the same for this application.	It is unknown what Condition 10 was in relation to. Greengage have requested further information. As a precaution the likely combination effects will be escalated and assessed through the AA.
4/19/2298/0e1 – Port Haverigg Holiday Village, Haverigg – lawful development as a caravan site, and land used in conjunction for roads, parking and manoeuvring. Open recreation areas, water sport including boat yard and quay, miniature railway and bbq and landscaping.	Greengage have requested access from Cumberland Council but have not been provided access to this application. The proposals description mentions water sport and as such this has been considered within our assessment.	This application is for the same site as described below. And the features described below are considered the same for this application.	As the application mentions water sports there is a potential for recreational disturbance on the breeding and overwintering bird assemblages, as such this will be escalated and assessed through the AA.

Application (and distance from the site)	Description	Features of Note	Likely In-combination effects
4/22/2402/0B1 Port Haverigg Holiday Village, Haverigg – variation of Condition 2 of planning permission (ref: 4/10/2387/0F1) (Approximately 100m south-east of the site)	Variation of condition 2 - amendments to layout and landscaping including relocation of ponds and enlargement of toilet block for planning approval reference 4/10/2387/0f1 - proposed extension of existing holiday village to provide 100 no. Static caravan pitches, 20 no. Motor home pitches, 30 no. Touring caravan pitches, camping area for up to 20 no. Tents, communal facilities building, 2 no. Shower and toilet blocks, park maintenance compound, tourist information building incorporating cafe & public toilets, associated landscaping and infrastructure works	The Preliminary Ecological Appraisal (PEA) update (dated 4th August 2022)⁴² stated that Natural England identified 300-400 natterjack toad tadpoles within the ornamental pond on site. The works were not anticipated to impact the pond. Mitigation has been included for the works which includes sensitive timing of works, safe storage of materials and equipment as well as infilling of all trenches before dusk. The PEA notes the following: The wintering bird surveys undertaken for the 2010 report indicate that the area is avoided by wintering waders, gulls and wildfowl – and this pattern is repeated for the breeding bird survey. It is considered unlikely that there will be any cumulative effects from extending the site in this area – but some mitigation to encourage responsible behaviour by	This application was refused (dated 18th September 2024) "due to the extent of changes required to the previous approval, the number of technical details and conditions requiring variation, and the proposed new access via the adjacent site which would fall outside the scope of the red line for the application. It is considered that without the relevant technical information to prove the contrary the development would be likely to have an unacceptable adverse impact on the surrounding landscape and countryside, flood risk within the surrounding area, highway safety, and impact on protected species particularly Natterjack Toads." Given the response from the LPA on the refusal of the application, it is considered that in the absence of mitigation natterjack toads could be impacted. However, as this application has been refused, no additional LSEs (to the ones highlighted in Table 4.7) are predicted.

Application (and distance from the site)	Description	Features of Note	Likely In-combination effects
		visiting tourists should be put in place." Three new scrapes for natterjack toads were included in the approved design for the extension to the holiday village (Landscape Design Plan drawing 3833.01 by TBA Ltd).	
4/10/2387/Of1 Port Haverigg Holiday Village, Haverigg (Approximately 100m south-east of the site)	Proposed extension of existing holiday village to provide 100 no. Static caravan pitches, 20 no. Motor home pitches, 30 no. Touring caravan pitches, camping area for up to 20 no. Tents, communal facilities building, 2 no. Shower and toilet blocks, park maintenance compound, tourist information building incorporating cafe & public toilets, associated landscaping and infrastructure works	Greengage have not had access to the documents associated with this planning application however the PEA⁴² is an update of the PEA undertaken for the 2010 planning submission and has been used for our assessment. The PEA notes the presence of 300-400 natterjack toad tadpoles in the ornamental pond. "The wintering bird surveys undertaken for the 2010 report indicate that the area is avoided by wintering waders, gulls and wildfowl	The PEA does not predict any cumulative effects extending to the breeding and overwintering birds. A number of mitigation actions have been provided for natterjack toads for the duration of the development. Given the response from the LPA on the refusal of the above application, it is considered that in the absence of mitigation natterjack toads could be impacted. No additional LSEs (to the ones highlighted in Table 4.7) are predicted as a result of this consented development. However, the likely in combination effects on natterjack toads from loss of supporting habitat during construction and recreational pressure and disturbance will be escalated and assessed through the AA.

Application (and distance from the site)	Description	Features of Note	Likely In-combination effects
		– and this pattern is repeated for the breeding bird survey. It is considered unlikely that there will be any cumulative effects from extending the site in this area – but some mitigation to encourage responsible behaviour by visiting tourists should be put in place. "	
4/24/2415/OF1 Installation of an additional 7 solar lights to complete coverage of the Millom community track	As described in the Design and Access statement by Millom Community Track, the granted scheme provides: <i>"additional 7 solar lights to complete coverage of the Millom Community Track. The Millom Community Track (Installed in 2021) is becoming more popular by the day (and night) with users numbering more than 50 on some nights."</i> Condition 4 of the planning permission states the solar lights hereby approved must	Ecological Survey and Assessment (including a licensed bat survey) was undertaken by ERAP (Consultant Ecologists) Ltd in June 2023. The report identified the closest record of natterjack toads as 750m to the south-east of the planning application boundary.	The community track lies approximately 1.5km north of the Visitor Centre and car park site. Light disturbance is considered a non-recreational disturbance and as such has been considered as part in combination analysis. And in particular could have LSE on nocturnal species such as natterjack toads. The Ecological Survey and Assessment recommended a lighting scheme designed in line with Guidance Note 8: Bats and Artificial Lighting in the UK (Institution of Lighting Professionals & Bat Conservation Trust, 2018) and concluded It is possible to implement reasonable actions for the protection and long-term conservation of fauna such as commuting / foraging bats associated with the site.

Application (and distance from the site)	Description	Features of Note	Likely In-combination effects
	not be in operation after 10:00pm on any day		The community track lies approximately 1.5km north of the site. The accompanying AE3 Solar Street Lighting specification document demonstrates that conclusion is that within 20m of the lighting columns, the light spill levels are reduced to 0.4 Lux. As such as the nearest record of natterjacks is 750m away and the community track lies approximately 1.5km north of the site. It is considered there will be no in combination LSE from additional lighting.

4.6 CONCLUSION

All impacts to cited habitats breeding birds, overwintering birds, and natterjack toads that require mitigation need to be escalated and assessed through the AA. A summary of the impacts that require further assessment is as follows:

- Construction Phase
 - Habitats (SAC)
 - reduced air quality and non-recreational pressure
 - Breeding birds (SPA and Ramsar)
 - reduced water quality, reduced air quality, non-recreational disturbance
 - Overwintering birds (SPA and Ramsar)
 - reduced water quality, reduced air quality, non-recreational disturbance
 - Natterjack toads (Ramsar)
 - reduced water quality, reduced air quality, non-recreational disturbance
- Operational Phase
 - Habitats (SAC)
 - recreational pressure and disturbance
 - Breeding birds (SPA and Ramsar)
 - recreational pressure and disturbance
 - Overwintering birds (SPA and Ramsar)
 - reduced air quality, recreational pressure and disturbance
 - Natterjack toads (Ramsar)

-
- recreational pressure and disturbance
 - non-recreational disturbance

APPENDIX A SITE MAPS

Figure A.1 Planning application boundary and designated site boundary

IRON LINE

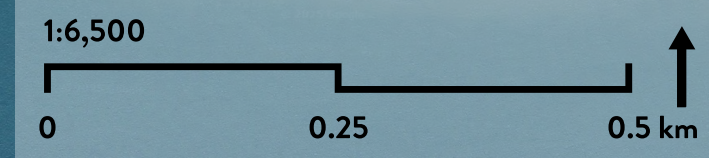
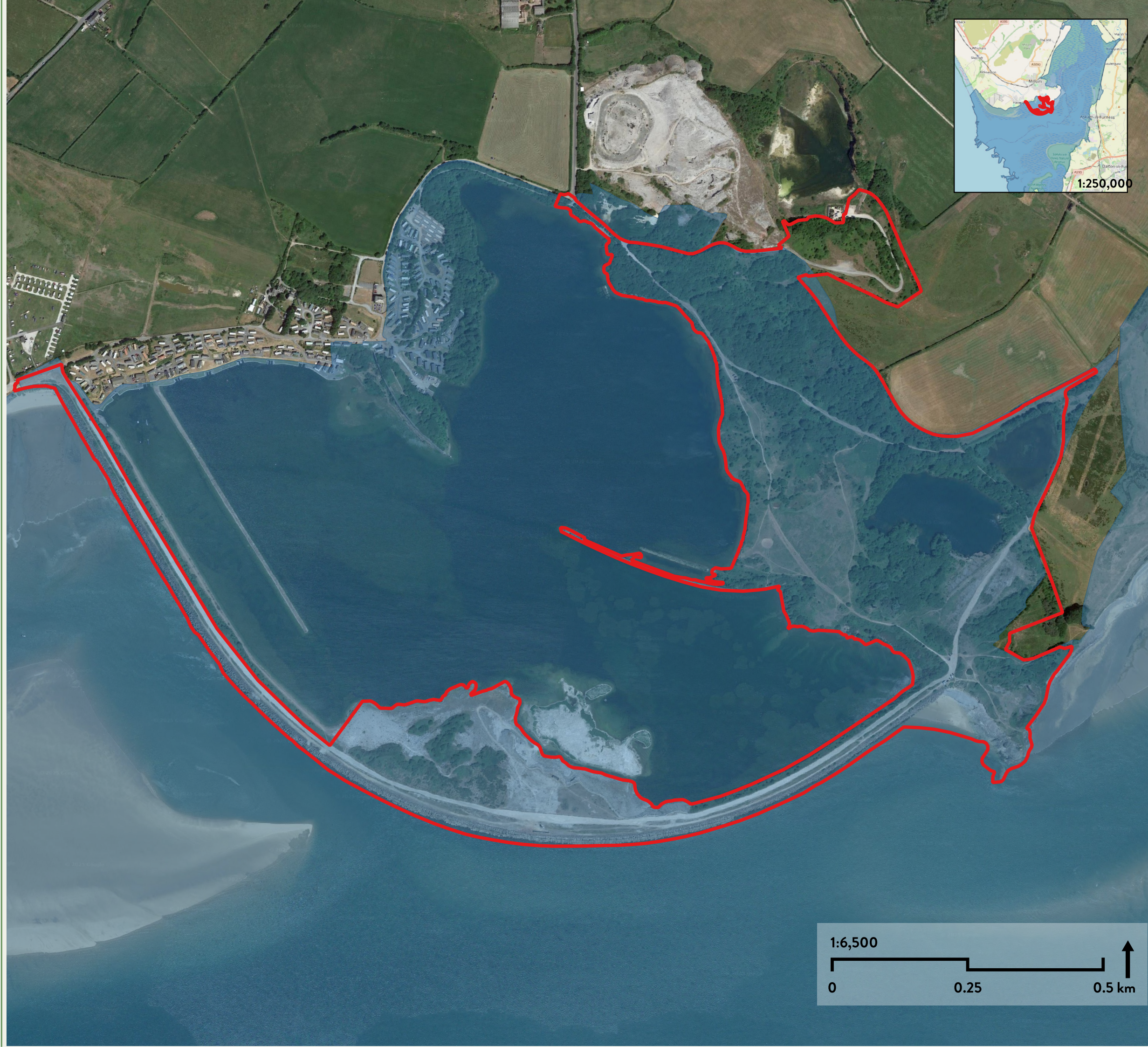
-  Red Line Boundary
-  Designated site boundary

Title: Figure A.1

Drawn by: LT
Date: 09/04/2025

Reviewed by: HB
Date: 09/04/2025

Project number: 553023
Sources: Google Satellite and OpenStreetMap



IRON LINE

- Planning Application Boundary
- Tern islands
- 400m tern island buffer
- Gull island
- Approximate area of Annex I habitat
Fixed coastal dunes with herbaceous vegetation ("grey dunes")
- 200m Annex I habitat buffer
- Suitable natterjack toad habitat
- 10m suitable natterjack toad habitat buffer
- Visitor Centre and carpark footprint
- Approximate location of new hides and existing hide



Title: Figure A.2

Drawn by: LT
Date: 04/04/2025

Reviewed by: JC
Date: 07/04/2025

Project number: 553023
Sources: Google Satellite and OpenStreetMap

Figure A.2 Location of ecological receptors and buffer zones considered within this report

APPENDIX B RELEVANT LEGISLATION AND POLICY

B.1 LEGISLATION

Current key legislation relating to ecology includes the Environment Act 2021⁴³, Wildlife and Countryside Act 1981 (as amended)⁴⁴; The Conservation of Habitats and Species Regulations 2019 ('Habitats & Species Regulations')⁴⁵, The Countryside and Rights of Way Act 2000 (CRoW Act)⁴⁶, and The Natural Environment and Rural Communities Act, 2006⁴⁷.

The Environment Act, 2021

Under the Environment Act⁴⁸, 2021, as of 12th February 2024 and 2nd April 2024, it is mandatory in England for new developments (with a small number of exceptions) to deliver a minimum 10% biodiversity net gain (BNG), as measured by the Statutory Biodiversity Metric or Small Sites Metric (SSM) respectively, secured through planning condition as standard (as per schedule 14 of the Act). Approach to the delivery of BNG must follow the mitigation hierarchy, with avoidance of impact and on-site compensation/gains prioritised, ahead of the use of off-site compensation, or the purchase of statutory credits.

The Act introduces the condition that no development may begin unless a Biodiversity Gain Plan (BGP) has been submitted and approved by the LPA.

The Act also amends requirements of the NERC Act, 2006, adding the need to not just conserve, but enhance biodiversity through planning projects. Furthermore, it introduces the need for the LPA to have regard to relevant local nature recovery strategies and relevant species/protected site conservation strategies, when making their decision.

Under the Act, the enhancements must be maintained for at least 30 years.

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019

The Conservation of Habitats & Species Regulations replace The Conservation (Natural Habitats, etc.) Regulations 1994 (as amended)⁴⁹, and transpose Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora ('EU Habitats Directive')⁵⁰, and Council Directive 79/409/EEC on the Conservation of Wild Birds ('Birds Directive')⁵¹ into UK law (in conjunction with the Wildlife and Countryside Act).

Regulation 43 and 47 respectively of the Conservation of Habitats & Species Regulations makes it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2 (European protected species of animals), or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 5 (European protected species of plant). Development that would contravene the protection afforded to European protected species requires a derogation (in the form of a licence) from the provisions of the Habitats Directive.

Regulation 63 (1) states: 'A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which –

(a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects); and

(b) is not directly connected with or necessary to the management of that site;

must make an appropriate assessment of the implications for that site in view of that site's conservation objectives.'

Wildlife and Countryside Act 1981 (as amended)

The Wildlife and Countryside Act 1981 (as amended) is the principal mechanism for the legislative protection of wildlife in Great Britain. This legislation is the means by which the Convention on the Conservation of European Wildlife and Natural Habitats⁵² (the 'Bern Convention') and the Birds Directive and EU Habitats Directive are implemented in Great Britain.

The Countryside and Rights of Way Act 2000

The Wildlife and Countryside Act has been updated by the CRoW Act. The CRoW Act amends the law relating to nature conservation and protection of wildlife. In relation to threatened species it strengthens the legal protection and adds the word 'reckless' to the offences of damaging, disturbing, or obstructing access to any structure or place a protected species uses for shelter or protection, and disturbing any protected species whilst it is occupying a structure or place it uses for shelter or protection.

The Natural Environment and Rural Communities Act 2006

The Natural Environment and Rural Communities Act 2006 states that every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity. Biodiversity Action Plans provide a framework for prioritising conservation actions for biodiversity.

Section 41 of the Natural Environment and Rural Communities Act requires the Secretary of State to publish a list of species of flora and fauna and habitats considered to be of principal importance for the purpose of conserving biodiversity. The list, a result of the most comprehensive analysis ever undertaken in the UK, currently contains 1,149 species, including for example, hedgehog (*Erinaceus europaeus*), and 65 habitats that were listed as priorities for conservation action under the now defunct UK Biodiversity Action Plan⁵³ (UK BAP). Despite the devolution of the UK BAP and succession of the UK Post-2010 Biodiversity Framework⁵⁴ (and Biodiversity 2020 strategy⁵⁵ in England), as a response to the Convention on Biological Diversity's (CBD's) Strategic Plan for Biodiversity 2011-2020 and EU Biodiversity Strategy (EUBS)⁵⁶, this list (now referred to as the list of Species and Habitats of Principal Importance in England) will be used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 41 of the Natural Environment and Rural

Communities Act 2006 'to have regard' to the conservation of biodiversity in England, when carrying out their normal functions.

Biodiversity Action Plans

Non-statutory Biodiversity Action Plans (BAPs) have been prepared on a local and regional scale throughout the UK over the past 15 years. Such plans provide a mechanism for implementing the government's broad strategy for conserving and enhancing the most endangered ('priority') habitats and species in the UK for the next 20 years. As described above the UK BAP was succeeded in England by Biodiversity 2020 although the list of priority habitats and species remains valid as the list of Species of Principal Importance for Nature Conservation.

Regional and local BAPs are still valid however and continue to be updated and produced.

Detail on the relevant BAPs for this site are provided in the main text of this report.

Legislation Relating to NSN Sites and Habitats Directive Annex I/II Species

European Commission Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora ('EU Habitats Directive'), and Council Directive 79/409/EEC on the Conservation of Wild Birds ('Birds Directive') form the cornerstones of nature conservation legislation across EU member states. Priority species requiring protection across Europe are listed in the Annexes of these Directives. Regulation 63(1) of the Conservation of Habitats and Species Regulations 2019 and Offshore Marine Conservation Regulations, 2007 (as amended) transpose these directives into UK law and set the basis for the designations of protected sites (known as NSN sites; Special Areas of Conservation under the Habitat Directive and Special Areas of Protection under the Birds Directive) that are of importance for habitats, species or assemblages listed on the directive Annexes. In the UK Ramsar sites are also offered the same level of protection as SPAs and SACs however the qualifying species for the designation may differ; Ramsar sites being designated specifically as important wetland habitats.

Under article 6(3) of the Habitats Directive, where projects stand to have likely significant effect (in accordance with the European Court of Justice ruling of C-127/02 Waddenzee cockle fishing) upon the integrity of conservation objectives (i.e. conservation status of the qualifying species or habitats) within the designated sites then the Competent Authority must undertake an Appropriate Assessment.

Natterjack Toads

Natterjack Toads are a European Protected Species (EPS) listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2019 (EU Exit) (as amended), and Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), as well as recognised as a species of national conservation importance under section 41 (S.41) of the Natural Environment Rural Communities Act 2006 (NERC Act) - England.

Specifically, the existing legal framework makes it illegal to:

- Intentionally or deliberately capture, injure or kill a Natterjack Toad,
- Damage or destroy a breeding or resting place of a Natterjack Toad, or intentionally or recklessly damage or destroy any structure or place used for shelter or protection,
- Intentionally or recklessly disturb a Natterjack Toad in a place used for shelter or protection, or deliberately disturb Natterjack Toad in such a way as to be likely significant to affect (i) the ability of any significant group to survive, breed, rear or nurture their young, or (ii) the local distribution or abundance,
- Intentionally or recklessly obstruct access to a place used for shelter or protection,
- Possess a Natterjack Toad (alive or dead), or any part of a Natterjack Toad.

Legislation Relating to Birds (Nesting)

Nesting birds, with certain exceptions, are protected from intentional killing, destruction of nests and destruction/taking of eggs under the Wildlife and Countryside Act 1981 (as amended) and the CROW Act. Any clearance of dense vegetation should therefore be undertaken outside of the nesting bird season, taken to run conservatively from March to August (inclusive), unless an ecologist confirms the absence of active nests prior to clearance.

Legislation Relating to Invasive Non-native Species

Section 14 of the Wildlife and Countryside Act 1981 (as amended) prevents the release into the wild of certain plants and animals which may cause ecological, environmental or socio-economic harm. It prohibits the introduction into the wild of any animal of a kind which is not ordinarily resident in, and is not a regular visitor to, Great Britain in a wild state, or any species of animal or plant listed on Schedule 9 of the Act. In the main, Schedule 9 lists non-native species that are already established in the wild, but which continue to pose a conservation threat to native biodiversity and habitats, such that further releases should be regulated. The Schedule also includes some native species (for example barn owl) in order to provide a level of control to ensure that releases, in particular reintroduction programs, are carried out in an appropriate manner and biodiversity is properly safeguarded.

B.2 PLANNING POLICY

National

National Planning Policy Framework

The National Planning Policy Framework (NPPF) 2024⁵⁷ sets out the Government's planning policies for England, including how plans and decisions are expected to apply a presumption in favour of sustainable development. Chapter 15 of the NPPF focuses on conservation and enhancement of the natural environment, stating plans should 'identify and pursue opportunities for securing measurable net gains for biodiversity'.

It goes on to state: ‘if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused’. Alongside this, it acknowledges that planning should be refused where irreplaceable habitats such as ancient woodland are lost.

Local

Copeland Local Plan

Policy DS7: Sustainable Drainage

New development must incorporate Sustainable Drainage Systems unless it can be demonstrated that this not appropriate. Drainage systems should be well designed with consideration given to the additional benefits they can provide as spaces for landscape, biodiversity and recreation.

Development on greenfield sites should seek to achieve pre-development or better levels of surface water runoff and on previously developed sites, a reduction in surface water discharge should be sought. In demonstrating a reduction clear evidence of existing connections from the site and associated rates of discharge calculations should be provided. In both cases, measures should be put in place to prevent pollution entering watercourses with surface water managed at source. Where identified on the local validation list applicants should submit a Drainage Strategy that shows how foul and surface water will be effectively managed and maintained. Where SuDS are being incorporated details of their long-term management should be provided. This will be secured through the use of s106 agreements. Surface water should be discharged in the following order of priority:

1. To a suitable soakaway or some other form of infiltration system
2. An attenuated discharge to a surface water body such as a watercourse giving full consideration to the catchment and sub-catchments
3. An attenuated discharge to a public surface water sewer, highway drain or another discharge system where there is clear evidence, to the satisfaction of the Council, that alternative preferred options are not available
4. An attenuated discharge to a public combined sewer where there is clear evidence, to the satisfaction of the Council, that alternative preferred options are not available

Strategic Policy T1: Tourism Development

The Local Plan will support the creation, enhancement and expansion of tourist attractions, new build visitor accommodation and infrastructure in locations consistent with the settlement hierarchy. All tourism development must be of an appropriate scale, located where the environment and infrastructure can accommodate the visitor impact, and where it does not result in unacceptable harm to environmental assets (including landscapes, heritage assets and biodiversity) or the character of the area. Proposals for tourism development outside of defined settlements will be supported where:

- The proposal is for a specific activity or function that requires such a location; or
- The proposal enhances Copeland’s existing place bound assets; or

- The proposal is for the change of use, or diversification of an existing building, to provide overnight or longer stay visitor accommodation; or
- The proposal is for a farm diversification scheme in a rural area that will provide or enhance tourist provision.

Policy T2: Tourism Development along the Developed Coast

Opportunities for tourist development in close proximity to the coastline (with the exception of areas designated as undeveloped coast) of an appropriate type and scale will be supported in principle where the proposal:

- a) Provides improved accessibility to the coastal walkways and cycle routes; or
- b) Improves the quality and range of holiday accommodation including overnight tourist provision; or
- c) Creates or enhances gateways and/or hubs; or
- d) Enhances the offer for both onshore and offshore visitors at Whitehaven Harbour including provision for the docking of cruise ships; or
- e) Provides opportunities to enhance the tourism offer in South Copeland.

In all circumstances development should be of an appropriate scale located where the environment and infrastructure can accommodate the visitor impact, and where it does not result in unacceptable harm to environmental assets including landscapes, heritage assets, and biodiversity. All development should ensure local landscape character is maintained and avoid detrimental impacts on setting of Heritage Coast.

Strategic Policy N1: Conserving and Enhancing Biodiversity and Geodiversity

The Council is committed to conserving Copeland's biodiversity and geodiversity including protected species and habitats.

Potential harmful impacts of any development upon biodiversity and geodiversity must be identified and considered at the earliest stage

Proposals must demonstrate, to the satisfaction of the Council, that the following mitigation hierarchy must have been undertaken:

Avoidance – Biodiversity and geodiversity must be considered when drafting up proposals and any potential harmful effects on biodiversity and geodiversity must be identified along with appropriate measures that will be taken to avoid these effects.

Mitigation – Where harmful effects cannot be avoided, they must be appropriately mitigated in order to overcome or reduce negative impacts.

Compensation – Where mitigation is not possible or viable or in cases where residual harm would remain following mitigation, harmful effects should be compensated for. Where this is in the form of compensatory habitat an area of equivalent or greater biodiversity value should be provided.

Compensation is a last resort and will only be accepted in exceptional circumstances.

Where harm remains to a National Site Network, Ramsar site, or functionally linked land, or Site of Special Scientific Interest, development will only be approved where it can be demonstrated that there are imperative reasons of overriding public interest. In such cases, compensatory measures must ensure the overall coherence of the network of European or National Sites as a whole is protected.

Planning permission will be refused for any development if significant harm cannot be avoided, mitigated or compensated for.

A Construction Environmental Management Plan should be submitted where appropriate and sustainable construction methods must be used where possible.

Development proposals where the principal objective is to conserve or enhance biodiversity and geodiversity interests will be supported in principle.

Strategic Policy N2: Local Nature Recovery Networks

The Council will support the identification, implementation, protection and enhancement of Local Nature Recovery Networks that provide important linkages for wildlife within Copeland and beyond. Development which protects or enhances Local Nature Recovery Networks will be supported in principle.

Strategic Policy N3: Biodiversity Net Gain

All development, with the exception of that listed in the Environment Act 2021 and any documents which may supersede it must provide at least 10% biodiversity net gain over and above existing site levels, following the application of the mitigation hierarchy set out in Policy N1 above. This is in addition to any compensatory habitat provided under Policy N1.

Net gain should be delivered on site where possible. Where on-site provision cannot be achieved in full, the remaining provision must be made elsewhere. This should be provided in order of the following preference:

1. Off site in an area identified as a Local Nature Recovery Network in the Plan area;
2. Off site on an alternative suitable site within Cumberland ;
3. Off-site on an alternative suitable site;
4. Through the purchase of off-site biodiversity units on the market;
5. Through the purchase of an appropriate amount of national biodiversity credits.

Sites where net gain is provided (on or off site) must be managed and monitored by the landowner for a minimum period of 30 years. Where appropriate applicants should supply a Habitat Creation Plan and a Habitat Management and Monitoring Plan (HMMP). Monitoring reports detailing the site's condition post-enhancement must be submitted to the Council each year over this period.

Where there is evidence of deliberate neglect or damage to any of the habitats on development sites in order to reduce its biodiversity value the biodiversity predevelopment value of the onsite habitat will be calculated as the biodiversity value of the habitat on the date immediately before the degradation took place.

Strategic Policy N8: The Undeveloped Coast

The Council will ensure that the landscape character of the undeveloped coast is maintained by conserving the intrinsic qualities, natural beauty and open character of the undeveloped coast from inappropriate development. Inappropriate development includes that which affects views within or towards/from the St Bees and Whitehaven Heritage Coast. The following types of development will however be supported:

- Development which supports the management of the undeveloped coast for biodiversity;
- Development which provides or improves safe access to and interpretation of the undeveloped coast for residents and visitors such as appropriate fencing, signage and interpretation boards;
- Energy generating developments that that require a coastal location along the undeveloped coast, provided that the potential impacts on biodiversity, landscape and heritage assets are carefully assessed against the benefits. Where negative impacts are likely these must be mitigated against and compensated for.

APPENDIX C CURRENT USE OF SITE

Figure C.1 Evidence of car parking and vehicle tracks across sensitive habitats



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