



# Annex 2: Relevant conservation site details for HRAR

For proposed Sizewell C nuclear power station

July 2022

Version 1

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## Contents

1. Sites within a defined zone of influence or direct or indirect connectivity to SZC .....	4
1.1. Alde, Ore and Butley Estuaries SAC .....	4
1.2. Alde-Ore Estuary Ramsar .....	6
1.3. Alde-Ore Estuary SPA .....	7
1.4. Benacre to Easton Bavents SPA .....	9
1.5. Dew's Pond SAC .....	10
1.6. Minsmere to Walberswick Heaths and Marshes SAC .....	11
1.7. Minsmere-Walberswick Ramsar .....	13
1.8. Minsmere-Walberswick SPA .....	15
1.9. Orfordness-Shingle Street SAC .....	16
1.10. Outer Thames Estuary SPA .....	18
1.11. Sandlings SPA .....	21
1.12. Southern North Sea SAC/Marine Protected Area .....	22
2. More distant sites potentially functionally linked to SZC .....	24
2.1. Coquet Island SPA .....	24
2.2. Flamborough and Filey Coast SPA .....	25
2.3. Humber Estuary Ramsar .....	26
2.4. Humber Estuary SAC .....	27
2.5. Plymouth Sound and Estuaries SAC .....	29
2.6. Sizewell Marshes SSSI .....	30
2.7. The Wash and North Norfolk Coast SAC .....	31
3. Continental sites .....	33
References .....	35

# 1. Sites within a defined zone of influence or direct or indirect connectivity to SZC

## 1.1. Alde, Ore and Butley Estuaries SAC

The Alde, Ore and Butley Estuaries Special Area of Conservation (SAC) site is located to the south of the proposed SZC development, the location of which is provided in Annex 1 of the SZC HRAR (Environment Agency, 2022a).

The boundary of the SAC overlaps with 2 protected areas, including:

- Alde-Ore Estuary SPA
- Alde-Ore Estuary Ramsar

The site [citation](#) accessed December 2020 states that:

“this estuary, made up of three rivers, is the only bar-built estuary in the UK with a shingle bar. This bar has been extending rapidly along the coast since 1530, pushing the mouth of the estuary progressively south-westwards. The eastwards-running Alde River originally entered the sea at Aldeburgh, but now turns south along the inner side of the Orfordness shingle spit. It is relatively wide and shallow, with extensive intertidal mudflats on both sides of the channel in its upper reaches and saltmarsh accreting along its fringes. The Alde subsequently becomes the south-west flowing River Ore, which is narrower and deeper with stronger currents.

The smaller Butley River has extensive areas of saltmarsh and a reedbed community bordering intertidal mudflats. It flows into the Ore shortly after the latter divides around Havergate Island. The mouth of the River Ore is still moving south as the Orfordness shingle spit continues to grow through longshore drift from the north. There is a range of littoral sediment and rock biotopes (the latter on sea defences) that are of high diversity and species richness for estuaries in eastern England. Water quality is excellent throughout. The area is relatively natural, being largely undeveloped by man and with very limited industrial activity. The estuary contains large areas of shallow water over subtidal sediments, and extensive mudflats and saltmarshes exposed at low water. Its diverse and species-rich intertidal sand and mudflat biotopes grade naturally along many lengths of the shore into vegetated or dynamic shingle habitat, saltmarsh, grassland and reedbed.”

### 1.1.1. Qualifying features

Taken from the Natural England (NE) designated sites view accessed [March 2022](#).

- Atlantic salt meadows
- Estuaries (Sub features: Atlantic salt meadows, intertidal coarse sediment, intertidal mixed sediments, intertidal mud, intertidal sand and muddy sand, subtidal mud, and mixed sediments)

- Mudflats and sandflats not covered by seawater at low tide. (Intertidal mudflats and sandflats) (Sub features: intertidal coarse sediment, intertidal mixed sediment, intertidal mud, intertidal sand and muddy sand)

### 1.1.2. Conservation objectives from designated sites view

”Ensure that the integrity of the site is maintained or restored as appropriate and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring the:

- extent and distribution of qualifying natural habitats
- structure and function (including typical species) of qualifying natural habitats, and
- supporting processes on which qualifying natural habitats rely”

Fine [Supplementary advice on conserving and restoring site features is availablek.](#)

### 1.1.3. Relevant EPR permits and associated risks

EPR permit	Associated risks
<b>Water discharge activity</b>	Change in nutrients Change in salinity regime Change in thermal regime Physical damage Siltation Toxic contamination Turbidity
<b>Combustion activity</b>	Toxic contamination Nutrient enrichment Acidification
<b>Radioactive substances regulation</b>	Radiological effects

## 1.2. Alde-Ore Estuary Ramsar

The Alde-Ore Estuary Ramsar site is located to the south of the proposed SZC development, the location of which is provided in Annex 1 of the SZC HRAR (Environment Agency, 2022a).

The boundary of the Ramsar overlaps with several protected areas, including:

- Alde Ore and Butley Estuaries SAC
- Alde-Ore Estuary SPA
- Orfordness-Shingle Street SAC
- Outer Thames Estuary SPA

The Ramsar [Sites Information Service](#) accessed December 2020, states that the Alde-Ore Estuary Ramsar is:

“an estuary complex of three rivers comprising various habitats including intertidal mudflats, saltmarsh, a vegetated shingle spit, saline lagoons, and semi-intensified grazing marsh. The site supports nationally scarce plants and invertebrates and notable assemblages of breeding and wintering wetland birds. Human activities include recreation, fishing, livestock grazing, and hunting.”

### 1.2.1. Qualifying features

- avocet (*Recurvirostra avosetta*) (Wintering)
- lesser black-backed gull (*Larus fuscus*) (Breeding)
- redshank (*Tringa totanus*) (Wintering)
- waterbird assemblage (Wintering)
- wetland bird assemblage (Breeding)
- wetland invertebrate assemblage
- wetland plant assemblage

Further information on these features can be found in Annex 2 of this HRAR (Environment Agency, 2022b).

### 1.2.2. Conservation objectives

There are no conservation objectives set for the Ramsar site, therefore consideration will be given to the conservation objectives for the Alde-Ore Estuary SPA and Alde, Ore and Butley Estuaries SAC when assessing impacts on the features of the Ramsar.



### 1.2.3. Relevant EPR permits and associated risks

EPR permit	Associated risks
<b>Water discharge activity</b>	Change in nutrients Siltation Toxic contamination Change in salinity regime Change in thermal regime Physical damage Turbidity pH
<b>Combustion activity</b>	Toxic contamination Nutrient enrichment Acidification
<b>Radioactive substances regulation</b>	Radiological effects

### 1.3. Alde-Ore Estuary SPA

The Alde-Ore Estuary Special Protection Area (SPA) site is located to the south of the proposed SZC development, the location of which is provided in Annex 1 of the SZC HRAR (Environment Agency, 2022a).

The boundary of the SPA overlaps with several protected areas, including:

- Alde Ore and Butley Estuaries SAC
- Alde-Ore Estuary Ramsar
- Orfordness-Shingle Street SAC
- Outer Thames Estuary SPA

The background information and geography of the SPA, provided in the Natural England Designated Sites View entry for [Alde-Ore Estuary SPA](#) accessed December 2020 states that:

“The Alde-Ore Estuary SPA is located on the Suffolk coast between Aldeburgh to the North and Bawdsey to the South. The site includes Havergate Island and Orford Ness, as well as the estuaries of the rivers Alde, Butley and Ore.

The Alde-Ore Estuary SPA is composed of Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*), intertidal mudflats, shingle, coastal lagoons and estuarine fish communities. Bird usage of habitats within the SPA varies seasonally, with different areas being utilised for nesting and feeding at different times of the year.

Important feeding habitats within the site include the extensive intertidal mudflats located in the Upper Alde Estuary and along the estuary from Snape to North Weir Point. These areas are important for avocet, redshank and ruff. The estuary is also important in providing feeding habitat for little and Sandwich tern. The lagoons located within the site provide additional feeding grounds for avocet and little tern and, as the tide advances up the estuary and the birds move inland, the saltmarsh becomes an important foraging area for little tern and mudflat feeding species such as redshank. Both the little and Sandwich tern may also forage offshore.

As well as feeding habitat, the site also provides good nesting habitat. The shingle areas around Orford Ness are important for nesting little and Sandwich tern. The saltmarsh that is particularly widespread at Havergate Island, Orford Ness and along the Butley and Alde Rivers, is important for nesting marsh harrier, avocet and lesser black-backed gull.”

### 1.3.1. Qualifying features

- avocet (*Recurvirostra avosetta*) (breeding)
- avocet (*Recurvirostra avosetta*) (non-breeding)
- lesser black-backed gull (*Larus fuscus*) (breeding)
- little tern (*Sterna albifrons*) (breeding)
- marsh harrier (*Circus aeruginosus*) (breeding)
- redshank (*Tringa totanus*) (non-breeding)
- ruff (*Philomachus pugnax*) (non-breeding)
- Sandwich tern (*Sterna sandvicensis*) (breeding)

Further information on these features can be found in Annex 2 of this HRAR (Environment Agency, 2022b).

### 1.3.2. Conservation objectives from designated sites view

“The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:

- the extent and distribution of the habitats of the qualifying features
- the structure and function of the habitats of the qualifying features
- the supporting processes on which the habitats of the qualifying features rely
- the populations of each of the qualifying features
- the distribution of qualifying features within the site”

Find [Supplementary advice on conserving and restoring site features](#).



### 1.3.3. Relevant EPR permits and associated risks

EPR permit	Associated risks
<b>Water discharge activity</b>	Change in nutrients Change in salinity regime Change in thermal regime Toxic contamination Turbidity Physical damage Siltation
<b>Combustion activity</b>	Toxic contamination Nutrient enrichment Acidification
<b>Radioactive substances regulation</b>	Radiological effects

## 1.4. Benacre to Easton Barents SPA

The Benacre to Easton Barents SPA site is located approximately 15km to the north of the proposed SZC development, the location of which is provided in Annex 1 of the SZC HRAR (Environment Agency, 2022a).

The site [citation](#) accessed December 2020 states that:

“Benacre to Easton Barents SPA site is situated on the east coast of Suffolk and extends southwards from Kessingland to Southwold. The site comprises the majority of the 526.3 hectare Benacre to Easton Barents SSSI (notified in 1989 under the Wildlife and Countryside Act, 1981) of which Benacre Broad NNR is a part. The SPA site includes Benacre, Covehithe and Easton broads and excludes the cliffs at Covehithe and Easton Barents. The variety of habitats present, include semi-natural broadleaved woodland, tall fen vegetation, shingle, dunes and grassland, saltmarsh and coastal lagoons. These habitats are important for breeding, wintering and passage birds.”

### 1.4.1. Qualifying features

Features considered in this assessment:

- bittern (*Botaurus stellaris*) (breeding)

- little tern (*Sterna albifrons*) (breeding)
- marsh harrier (*Circus aeruginosus*) (breeding)

Further information on these features can be found in Annex 2 of this HRAR (Environment Agency, 2022b).

### 1.4.2. Conservation objectives from designated sites view

”Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring.

- The extent and distribution of the habitats of the qualifying features
- The structure and function of the habitats of the qualifying features
- The supporting processes on which the habitats of the qualifying features rely
- The population of each of the qualifying features, and,
- The distribution of the qualifying features within the site”.

Find [Supplementary advice on conserving and restoring site features](#).

### 1.4.3. Relevant EPR permits and associated risks

EPR permit	Associated risks
<b>Water discharge activity</b>	Change in nutrients Change in salinity regime Change in thermal regime Toxic contamination Turbidity pH Physical damage Siltation

## 1.5. Dew’s Pond SAC

The Dew’s Pond SAC site is located to the north-west of the proposed SZC development, the location of which is provided in Annex 1 of the SZC HRAR (Environment Agency, 2022a).

The site [citation](#) accessed December 2020 states that:

“This site in rural East Suffolk comprises a series of 12 ponds set in an area of formerly predominantly arable land. The ponds range from old field ponds created for agricultural purposes to some constructed in recent years specifically for wildlife. Some of the land has been converted from arable to grassland, with a variety of grassland types present. Other habitats include hedges and ditches. Great crested newts have been found in the majority of ponds on the site.

### 1.5.1. Qualifying feature

- Great crested newt (*Triturus cristatus*)

Further information on these features can be found in Annex 2 of this HRAR (Environment

### 1.5.2. Conservation objectives from designated sites view

“Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring.

- The extent and distribution of the habitats of qualifying species
- The structure and function of the habitats of qualifying species
- The supporting processes on which the habitats of qualifying species rely
- The populations of qualifying species, and,
- The distribution of qualifying species within the site”.

Find [Supplementary advice on conserving and restoring site features](#).

### 1.5.3. Relevant EPR permits and associated risks

EPR permit	Associated risks
<b>Combustion activity</b>	Toxic contamination Nutrient enrichment Acidification
<b>Radioactive substances regulation</b>	Radiological effects

## 1.6. Minsmere to Walberswick Heaths and Marshes SAC

The Minsmere to Walberswick Heaths and Marshes SAC site is adjacent to the proposed SZC development, the location of which is provided in Annex 1 of the SZC HRAR (Environment Agency, 2022a).

The SAC boundary overlaps with the following protected areas:

- Minsmere–Walberswick SPA
- Minsmere–Walberswick Ramsar

The [Minsmere to Walberswick Heaths and Marshes SAC citation](#) site description accessed December 2020 reads as follows:

“Lowland dry heaths occupy an extensive area of this site on the east coast of England, which is at the extreme easterly range of heath development in the UK. The heathland is predominantly heather – western gorse (*Calluna vulgaris* – *Ulex gallii*) heath, usually more characteristic of western parts of the UK. This type is dominated by heather, western gorse and bell heather (*Erica cinerea*).

Shingle beach forms the coastline at Walberswick and Minsmere. It supports a variety of scarce shingle plants, including sea pea (*Lathyrus japonicus*), sea campion (*Silene maritima*) and small populations of sea kale (*Crambe maritima*), grey hair-grass (*Corynephorus canescens*) and yellow horned-poppy (*Glaucium flavum*). A well-developed beach strandline of mixed sand and shingle supports annual vegetation. Species include those typical of sandy shores, such as sea sandwort (*Honckenya peploides*) and shingle plants such as sea beet (*Beta vulgaris* ssp. *Maritima*).”

### **1.6.1. Qualifying features**

- European dry heaths
- Annual vegetation of drift lines
- Perennial vegetation of stony banks

Further information on these features can be found in Annex 2 of this HRAR (Environment Agency, 2022b).

### **1.6.2. Conservation objectives from designated sites view**

“Ensure that the integrity of the site is maintained or restored as appropriate and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring the:

- extent and distribution of qualifying natural habitats and habitats
- structure and function (including typical species) of qualifying natural habitats, and
- supporting processes on which qualifying natural habitats rely”

Find [Supplementary advice on conserving and restoring site features](#)

### 1.6.3. Relevant EPR permit and associated risks

EPR permit	Associated risks
<b>Water discharge activity</b>	Change in nutrients pH Change in salinity regime Physical damage Toxic contamination
<b>Combustion activity</b>	Toxic contamination Nutrient enrichment Acidification
<b>Radioactive substances regulation</b>	Radiological effects

## 1.7. Minsmere-Walberswick Ramsar

The Minsmere-Walberswick Ramsar site is adjacent to the proposed SZC development, the location of which is provided in Annex 1 of the SZC HRAR (Environment Agency, 2022a).

The Ramsar boundary overlaps with the following protected areas:

- Minsmere to Walberswick Heaths and Marshes SAC
- Minsmere-Walberswick SPA

The Ramsar [Sites Information Service](#) (accessed 1/12/20), states that Minsmere-Walberswick Ramsar is:

“a mosaic of coastal habitats consisting of shingle beaches, dunes, estuarine mudflats, grazing marshes, lagoons, reedbeds, and heathland. The marshes support the largest continuous stand of reedbed in England and Wales. The site supports an outstanding diversity of breeding birds, including a number of nationally rare species which winter at the site, as well as rare species of marshland flora and insect fauna. A flagship reserve, in which a well-developed system of trails and hides are maintained. Human activities include groundwater abstraction and increasing numbers of visitors.”

### 1.7.1. Qualifying features

From NE designated sites view accessed March 2022 via the [Designated Sites View link](#):

- mosaic of marine, freshwater, marshland and associated habitats
- wetland bird assemblage (Breeding)
- wetland invertebrate assemblage
- wetland plant assemblage

Further information on these features can be found in Annex 2 of this HRAR (Environment Agency, 2022b).

### 1.7.2. Conservation objectives

There are no conservation objectives set for the Ramsar site, therefore consideration will be given to the conservation objectives for the Minsmere to Walberswick Heaths and Marshes SAC and Minsmere-Walberswick SPA when assessing impacts on the features of the Ramsar.

### 1.7.3. Relevant EPR permits and associated risks

EPR permit	Associated risks
<b>Water discharge activity</b>	Change in nutrients Change in salinity regime Change in thermal regime Turbidity Toxic contamination pH Physical damage Siltation
<b>Combustion activity</b>	Toxic contamination Nutrient enrichment Acidification
<b>Radioactive substances regulation</b>	Radiological effects



## 1.8. Minsmere-Walberswick SPA

The Minsmere-Walberswick SPA site is adjacent to the proposed SZC development and is part of the Minsmere to Walberswick European Marine Site. The location of which is provided in Annex 1 of the SZC HRAR (Environment Agency, 2022a).

The SPA boundary overlaps with the following protected areas:

- Minsmere to Walberswick Heaths and Marshes SAC
- Minsmere-Walberswick Ramsar
- Outer Thames Estuary SPA
- Southern North Sea SAC

The [Designated Sites View \(naturalengland.org.uk\)](https://naturalengland.org.uk) accessed December 2020 reads as follows:

“The Minsmere-Walberswick SPA contains areas of grazing marsh, extensive reedbeds, the estuary of the River Blyth, and areas of lowland heath and woodland. The boundaries of the site follows those of the Minsmere-Walberswick Heath and Marshes SSSI.”

### 1.8.1. Qualifying features

- avocet (*Recurvirostra avosetta*) (breeding)
- bittern (*Botaurus stellaris*) (breeding)
- gadwall (*Anas strepera*) (breeding)
- gadwall (*Anas strepera*) (non-breeding)
- greater white-fronted goose (*Anser albifrons albifrons*) (non-breeding)
- hen harrier (*Circus cyaneus*) (non-breeding)
- little tern (*Sterna albifrons*) (breeding)
- marsh harrier (*Circus aeruginosus*) (breeding)
- nightjar (*Caprimulgus europaeus*) (breeding)
- shoveler (*Anas clypeata*) (breeding)
- shoveler (*Anas clypeata*) (non-breeding)
- teal (*Anas crecca*) (breeding)

Further information on these features can be found in Annex 2 of this HRAR (Environment Agency, 2022b).

### 1.8.2. Conservation objectives from designated sites view

“Ensure that the integrity of the site is maintained or restored as appropriate and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring the:

- extent and distribution of the habitats of the qualifying features
- structure and function of the habitats of the qualifying features
- supporting processes on which the habitats of the qualifying features rely
- population of each of the qualifying features, and,
- distribution of the qualifying features within the site.”

Find [Supplementary advice on conserving and restoring site features](#)

### 1.8.3. Relevant EPR permit and associated risks

EPR permit	Associated risks
<b>Water discharge activity</b>	Change in nutrients Change in salinity regime Change in thermal regime Turbidity Toxic contamination pH Physical damage Siltation
<b>Combustion activity</b>	Toxic contamination Nutrient enrichment Acidification
<b>Radioactive substances regulation</b>	Radiological effects

### 1.9. Orfordness-Shingle Street SAC

The Orfordness-Shingle Street SAC site is located to the south of the proposed SZC development, the location of which is provided in Annex 1 of the SZC HRAR (Environment Agency, 2022a).

The boundary of the SAC overlaps with several protected areas, including:

- Alde-Ore Estuary SPA
- Alde-Ore Estuary Ramsar
- Outer Thames Estuary SPA

The site [citation](#) (accessed December 2020), states that:

“Orfordness is an extensive shingle structure consisting of a foreland, a 15 km-long spit and a series of recurves running from north to south. It supports some of the largest and most natural sequences in the UK of shingle vegetation affected by salt spray. The southern end has a particularly fine series of undisturbed ridges, with zonation of communities determined by the ridge pattern. Pioneer communities with sea pea (*Lathyrus*

japonicus) and false oat-grass (*Arrhenatherum elatius*) grassland occur. Locally these are nutrient-enriched by the presence of a gull colony; elsewhere they support rich lichen communities. The northern part of Orfordness has suffered considerable damage from defence-related activities but a restoration programme for the shingle vegetation is underway.

Drift-line vegetation occurs on the sheltered, western side of the spit, at the transition from shingle to saltmarsh, as well as on the exposed eastern coast. The drift-line community is widespread and comprises sea beet (*Beta vulgaris* ssp. *maritima*) and (orache *Atriplex* spp).

The site also includes a series of percolation lagoons that have developed in the shingle bank adjacent to the shore at the mouth of the Ore estuary. The salinity of the lagoons is maintained by percolation through the shingle, although at high tides sea water can overtop the shingle bank. The fauna of these lagoons includes typical lagoon species, such as the cockle (*Cerastoderma glaucum*), the ostracod (*Cyprideis torosa*) and the gastropods (*Littorina saxatilis tenebrosa*) and (*Hydrobia ventrosa*). The nationally rare starlet sea anemone (*Nematostella vectensis*) is also found at the site.”

### 1.9.1. Qualifying features

- Coastal lagoons\*
- Annual vegetation of drift lines
- Perennial vegetation of stony banks; Coastal shingle vegetation outside the reach of waves

\* denotes a priority habitat<sup>1</sup>

Further information on these features can be found in Annex 2 of this HRAR (Environment Agency, 2022b)

### 1.9.2. Conservation objectives from designated sites view

”Ensure that the integrity of the site is maintained or restored as appropriate and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring.

- The extent and distribution of qualifying natural habitats
- The structure and function (including typical species) of qualifying natural habitats, and
- The supporting processes on which qualifying natural habitats rely”

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<sup>1</sup> Some of the natural habitats and 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. These priority natural habitats and species are denoted by an asterisk (\*) in Annex I and II of the Habitats Directive.

Find [Supplementary advice on conserving and restoring site features](#)

### 1.9.3. Relevant EPR permits and associated risk

EPR permit	Associated risks
<b>Water discharge activity</b>	Change in nutrients Change in salinity regime Physical damage Toxic contamination pH Siltation Turbidity
<b>Combustion activity</b>	Toxic contamination Nutrient enrichment Acidification
<b>Radioactive substances regulation</b>	Radiological effects

### 1.10. Outer Thames Estuary SPA

The Outer Thames Estuary SPA site is adjacent to the proposed SZC development, with the outlets from the WDA directly into it. The location of this site is provided in Annex 1 of the SZC HRAR (Environment Agency, 2022a).

The boundary of the SPA overlaps with several protected areas local to SZC, including:

- Alde Ore Estuary Ramsar
- Alde-Ore Estuary SPA
- Benacre to Easton Barents SPA
- Minsmere to Walberswick Heaths and Marshes SAC
- Minsmere-Walberswick SPA
- Minsmere-Walberswick Ramsar
- Orfordness to Shingle Street SAC

The site also protects important at-sea foraging waters for common and little tern which breed at these adjacent SPAs:

- Great Yarmouth North Denes

- Benacre to Easton Bavents
- Breydon Water
- Minsmere-Walberswick
- Alde-Ore Estuary
- Foulness
- Thanet Coast and Sandwich Bay

The coastal waters of the SPA are used for foraging, as well as a wide range of maintenance activities, such as bathing and loafing. Terns nesting on the Scroby Sands sandbank and nearby Great Yarmouth North Denes SPA may also forage within the adjacent Greater Wash SPA, suggesting there is a degree of connectivity between sites.

The background information and geography of the SPA, provided in Natural England and JNCC Conservation Advice for Marine Protected Areas: [Outer Thames Estuary SPA](#) (accessed December 2020), states that:

“The Outer Thames Estuary SPA is located on the southeast coast of England, stretching from Caister-on-Sea in Norfolk down the Suffolk coast to Sheerness on the Kent coastline, and reaching as far as Canvey Island into the Thames Estuary. The SPA is divided into three discreet areas: the outer estuary of the Thames (including Kent and Essex coastal waters); the Suffolk and south Norfolk coastal waters; and an offshore area further northeast. The site crosses the 12 nautical mile boundary and therefore lies partly in territorial and partly in offshore waters.

The SPA consists of areas of shallow and deeper water, high tidal current streams and a range of mobile sediments. Large areas of mud, silt and gravelly sediments form the deeper water channels, including the port approaches to London. The seabed in the area of the Norfolk and Suffolk coast is of a similar composition to that in the main estuary with large shallow areas of mud, sand, silt and gravelly sediments but, less disturbance through shipping or dredging because the area is north of Harwich and Felixstowe. Sand and silt dominates the offshore areas, as is typical of the southern North Sea.

Throughout much of the site, sand forms large sandbanks separated by troughs. In the northern part of the site the main sandbanks are (north to south) Middle Cross Sand, Scroby Sands, Helm Sand, Newcombe Sand, Aldeburgh Napes, Aldeburgh Ridge, North Ship Head and Bawdsey Bank; in the southern part of the site the main sandbanks are Red Sand, Kentish Flats, West and East Barrow, Sunk Sand, Shingles, Long Sand, Margate Sand and Kentish Knock. In some areas, the crests of the sandbanks are above Mean High Water, such as Scroby Sands.

The coastal parts of the site consist of shingle and sand beaches, rapidly eroding low cliffs and mudflat-lined estuaries. The site abuts already designated SPAs at parts of the Rivers Yare and Bure, Minsmere and around Foulness. Intertidal mud banks and sandbanks separated from the mainland coast by subtidal areas at mean low water are within the SPA boundary, except where they are within the boundaries of existing SPAs.

The site is designated for non-breeding red-throated diver (*Gavia stellata*), a diving seabird which overwinters in large numbers within the southern North Sea, feeding predominately on fish. The red-throated diver lives mostly in shallow inshore waters, except when coming ashore to breed as observed in the north of Scotland in summer. This species uses the SPA for all other activities, including feeding, roosting, bathing and preening.

The site is also designated for breeding common tern (*Sterna hirundo*) and little tern (*Sternula albifrons*). Both tern species breed on the dynamic Scroby Sands intertidal sandbank, located 6km offshore from Great Yarmouth and within this SPA ([Natural England \(NE\) and Joint Nature Conservation Committee \(JNCC\), 2015](#)).

### 1.10.1. Qualifying features

- common tern (*Sterna hirundo*) (breeding)
- little tern (*Sternula albifrons*) (breeding)
- red-throated diver (*Gavia stellata*) (non-breeding)

Further information on these features can be found in Annex 2 of this HRAR (Environment Agency, 2022b).

### 1.10.2. Conservation objectives from the citation

“The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring the:

- extent and distribution of the habitats of the qualifying features
- structure and function of the habitats of the qualifying features
- supporting processes on which the habitats of the qualifying features rely
- populations of each of the qualifying features
- distribution of qualifying features within the site”

[Supplementary advice on conserving and restoring site features is available via this link.](#)

### 1.10.3. Relevant EPR permits and associated risks

EPR permit	Associated risks
<b>Water discharge activity</b>	Toxic contamination
<b>Combustion activity</b>	Toxic contamination Nutrient enrichment Acidification
<b>Radioactive substances regulation</b>	Radiological effects



## 1.11. Sandlings SPA

The Sandlings SPA site is located to the south-west of the proposed SZC development, the location of which is provided in Annex 1 of the SZC HRAR (Environment Agency, 2022a).

The site [citation](#) (accessed December 2020), states that:

“The Sandlings Forest SPA lies near the Suffolk Coast between the Deben Estuary and Leiston. In the 19th century, the area was dominated by heathland developed on glacial sandy soils. During the 20th century, large areas of heath were planted with blocks of commercial conifer forest and others were converted to arable agriculture. Lack of traditional management has resulted in the remnant areas of heath being subject to successional changes, with the consequent spread of bracken, shrubs and trees, although recent conservation management work is resulting in their restoration. The heaths support both acid grassland and heather-dominated plant communities, with dependant invertebrate and bird communities of conservation value. Woodlark (*Lullula arborea*) and Nightjar (*Caprimulgus europaeus*) have also adapted to breeding in the large conifer forest blocks, using areas that have recently been felled and recent plantation, as well as areas managed as open ground.”

### 1.11.1. Qualifying features

- nightjar (*Caprimulgus europaeus*) (breeding)
- woodlark (*Lullula arborea*) (breeding)

Further information on these features can be found in Annex 2 of this HRAR (Environment Agency, 2022b).

### 1.11.2. Conservation objectives from designated sites view

“Ensure that the integrity of the site is maintained or restored as appropriate and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring the:

- extent and distribution of the habitats of the qualifying features
- structure and function of the habitats of the qualifying features
- supporting processes on which the habitats of the qualifying features rely
- population of each of the qualifying features, and,
- distribution of the qualifying features within the site.”

Find [Supplementary advice on conserving and restoring site features](#)

### 1.11.3. Relevant EPR permits and associated risks

EPR permit	Associated risks
Combustion activity	Toxic contamination Nutrient enrichment Acidification
Radioactive substances regulation	Radiological effects

## 1.12. Southern North Sea SAC/Marine Protected Area

The Southern North Sea SAC/MPA site is adjacent to the proposed SZC development, with WDA outlets directly into the SAC. The location site is provided in Annex 1 of the SZC HRAR (Environment Agency, 2022a).

The JNCC [site information](#) (accessed on 2/12/2020) states that:

“The Southern North Sea SAC is an area of importance for harbour porpoise. This site includes key winter and summer habitat for this species and covers an area over three times the size of Yorkshire, making it the largest SAC in UK and European waters at the point of designation in 2019.

Located to the east of England, this site stretches from the central North Sea (north of Dogger Bank) to the Straits of Dover in the south, covering an area of 36,951 km<sup>2</sup>. The majority of this site lies offshore, though it does extend into coastal areas of Norfolk and Suffolk crossing the 12 nautical mile boundary and hence, both Natural England and JNCC are responsible for providing statutory advice. A mix of habitats, such as sandbanks and gravel beds, are included in the site.”

### 1.12.1. Qualifying feature

- Harbour porpoise

Further information on these features can be found in Annex 2 of this HRAR (Environment Agency, 2022b).

### 1.12.2. Conservation objectives from JNCC information

“To ensure that the integrity of the site is maintained and that it makes the best possible contribution to maintaining Favourable Conservation Status (FCS) for Harbour Porpoise in UK waters.

In the context of natural change, this will be achieved by ensuring that:

- Harbour porpoise is a viable component of the site

- There is no significant disturbance of the species, and
- The condition of supporting habitats and processes, and the availability of prey is maintained.”

[Supplementary advice on conserving and restoring site features is available via this link.](#)

### 1.12.3. Relevant EPR permits and associated risks

EPR permit	Associated risks
<b>Water discharge activity</b>	Toxic contamination Turbidity
<b>Radioactive substances regulation</b>	Radiological effects

## 2. More distant sites potentially functionally linked to SZC

### 2.1. Coquet Island SPA

The Coquet Island SPA site is located approximately 400km from the proposed SZC development. The location is provided in Annex 1 of the SZC HRAR (Environment Agency, 2022a).

Due to the distance of Coquet Island from SZC, only the bird features with foraging ranges show that they could potentially reach the site will be considered.

The [site citation](#) (accessed March 2022), states that:

“Coquet Island is a small uninhabited island which lies less than a mile off the coast of Northumberland, near Amble, in the north-east of England. The island is managed by the RSPB and consists of a flat grassy plateau, surrounded by low sandstone cliffs and intertidal boulders and rock. The total area of the island at mean low water is 22ha.”

#### 2.1.1. Qualifying features

The relevant qualifying feature is:

- fulmar (*Fulmarus glacialis*) designated as part of the breeding seabird assemblage

Further information on these features can be found in Annex 2 of this HRAR (Environment Agency, 2022b),

Other features of this site will not be considered.

#### 2.1.2. Conservation objectives from designated sites view

“Ensure that the integrity of the site is maintained or restored as appropriate and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring the:

- extent and distribution of qualifying natural habitats and habitats of qualifying species
- structure and function (including typical species) of qualifying natural habitats
- structure and function of the habitats of qualifying species
- supporting processes on which qualifying natural habitats and habitats of qualifying species rely
- populations of qualifying species, and,
- distribution of qualifying species within the site.”

Find [Supplementary advice on conserving and restoring site features](#)

### 2.1.3. Relevant EPR permits and associated risks

EPR permit	Associated risks
<b>Water discharge activity</b>	Change in salinity regime Change in thermal regime Change in nutrients Toxic contamination Turbidity

## 2.2. Flamborough and Filey Coast SPA

The Flamborough and Filey Coast SPA site is located approximately 250km from the proposed SZC development. The location is provided in Annex 1 of the SZC HRAR (Environment Agency, 2022a).

Due to the distance of Flamborough and Filey Coast SPA from SZC, only the bird features with foraging ranges show that they could potentially reach the site will be considered.

The [site citation](#) accessed March 2022, states that:

“The Flamborough and Filey Coast SPA straddles the border of East Yorkshire and North Yorkshire at the western coast of the North Sea. It has two sections - Flamborough to the south, and Filey to the north - both encompassing clifftop, sea cliff and intertidal rock habitats and offshore to 2km. It extends inland in the sections running from Cunstone Nab in the north to Carr Naze at the corner of Filey Brigg, then from the south of Filey Bay at Reighton to its southernmost point at Sewerby steps. The expanse of Filey Bay divides these two inland sections, but is not included in the designation.”

### 2.2.1. Qualifying features

The relevant qualifying features are:

- gannet (*Morus bassanus*) (breeding)
- kittiwake (*Rissa tridactyla*) (breeding)
- fulmar (*Fulmaris glacialis*) breeding Seabird assemblage
- puffin (*Fratercula arctica*) (breeding sea bird assemblage)

Further information on these features can be found in Annex 2 of this HRAR (Environment Agency, 2022b).

Other features will not be considered.

## 2.2.2. Conservation objectives from designated sites view

”Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring the:

- extent and distribution of qualifying natural habitats and habitats of qualifying species
- structure and function (including typical species) of qualifying natural habitats
- structure and function of the habitats of qualifying species
- supporting processes on which qualifying natural habitats and habitats of qualifying species rely
- populations of qualifying species, and,
- distribution of qualifying species within the site”

Find [Supplementary advice on conserving and restoring site features](#)

## 2.2.3. Relevant EPR permits and associated risks

EPR permit	Associated risks
<b>Water discharge activity</b>	Change in salinity regime Change in thermal regime Change in nutrients Toxic contamination Turbidity

## 2.3. Humber Estuary Ramsar

The Humber Estuary Ramsar site is over 190km from the proposed SZC development. The location is provided in Annex 1 of the SZC HRAR (Environment Agency, 2022a).

Due to the distance of the Humber Estuary Ramsar from SZC, only the mobile Annex II features are relevant for assessment.

The [site citation](#) accessed January 2022, states that:

“Ramsar criterion 3 The Humber Estuary Ramsar site supports a breeding colony of grey seals (*Halichoerus grypus*) at Donna Nook. It is the second largest grey seal colony in England and the furthest south regular breeding site on the east coast.



Ramsar criterion 8 The Humber Estuary acts as an important migration route for both river lamprey (*Lampetra fluviatilis*) and sea lamprey (*Petromyzon marinus*) between coastal waters and their spawning areas.”

### 2.3.1. Qualifying features

The relevant qualifying features are:

- river lamprey (*Lampetra fluviatilis*) (Passage)
- sea lamprey (*Petromyzon marinus*) (Passage)
- grey seal (*Halichoerus grypus*)

Further information on these features can be found in Annex 2 of this HRAR (Environment Agency, 2022b),

Other features of this site will not be considered.

### 2.3.2. Conservation objectives

There are no conservation objectives set for the Ramsar site, therefore consideration will be given to the conservation objectives for the Humber Estuary SAC when assessing impacts on the features of the Ramsar.

### 2.3.3. Relevant EPR permits and associated risks

EPR permit	Associated risks
<b>Water discharge activity</b>	Change in nutrients Change in salinity regime Change in thermal regime pH Siltation Toxic contamination Turbidity

## 2.4. Humber Estuary SAC

The Humber Estuary SAC site is over 190km from the proposed SZC development. The location is provided in Annex 1 of the SZC HRAR (Environment Agency, 2022a).

Due to the distance of the Humber Estuary SAC from SZC, only the mobile Annex II species are relevant for assessment.

The [site citation](#) accessed December 2020 states that:

“Significant fish species include river lamprey (*Lampetra fluviatilis*) and sea lamprey (*Petromyzon marinus*) which breed in the River Derwent, a tributary of the River Ouse. Grey seals (*Halichoerus grypus*) come ashore in autumn to form breeding colonies on the sandy shores of the south bank at Donna Nook.”

### 2.4.1. Qualifying features

The relevant qualifying features are for this assessment are:

- river lamprey (*Lampetra fluviatilis*) (Passage)
- sea lamprey (*Petromyzon marinus*) (Passage)
- grey seal (*Halichoerus grypus*)

Further information on these features can be found in Annex 2 of this HRAR (Environment Agency, 2022b).

Other features of this site will not be considered.

### 2.4.2. Conservation objectives from designated sites view

“Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring the:

- extent and distribution of qualifying natural habitats and habitats of qualifying species
- structure and function (including typical species) of qualifying natural habitats
- structure and function of the habitats of qualifying species
- supporting processes on which qualifying natural habitats and habitats of qualifying species rely
- populations of qualifying species, and,
- distribution of qualifying species within the site.”

Find [Supplementary advice on conserving and restoring site features](#)

### 2.4.3. Relevant EPR permits and associated risks

EPR permit	Associated risks
<b>Water discharge activity</b>	Change in nutrients Change in salinity regime Change in thermal regime pH Siltation Toxic contamination

EPR permit	Associated risks
	Turbidity

#### 2.4.4. Minsmere to Walberswick Heaths and Marshes SSSI

Minsmere to Walberswick Heaths and Marshes SSSI is adjacent to SZC.

It is considered appropriate to assess the Minsmere-Walberswick Marshes SSSI as providing functionally linked land to the following SPA and Ramsars:

- Minsmere-Walberswick SPA
- Minsmere-Walberswick Ramsar
- Alde-Ore Estuary SPA
- Alde Ore Estuary Ramsar

The bittern and marsh harrier features of the Minsmere-Walberswick SPA and Ramsar have the potential to use the supporting habitat Minsmere to Walberswick Heaths and Marshes SSSI (outside the European site).

## 2.5. Plymouth Sound and Estuaries SAC

The Plymouth Sound and Estuaries SAC is over 530km away from the proposed SZC development. The location is provided in Annex 1 of the SZC HRAR (Environment Agency, 2022a).

Due to the distance of the Plymouth Sound and Estuaries SAC from SZC, only the mobile marine Annex II species are relevant for assessment.

Natural England's guidance on the site [designated sites view](#) accessed March 2022 states that:

“Plymouth Sound and Estuaries SAC is located on the south coast of England and straddles the border between Devon and Cornwall. Plymouth Sound and its associated tributaries comprise a complex site of marine inlets. The high diversity of reef and sedimentary habitats, and salinity conditions, give rise to diverse communities representative of ria systems and some unusual features. These features include abundant southern Mediterranean-Atlantic species rarely found in Britain. It is also the only known spawning site for the Allis shad (*Alosa alosa*).”

### 2.5.1. Qualifying feature

The relevant qualifying feature for this assessment is:

- allis shad (*Alosa alosa*)

Further information on these features can be found in Annex 2 of this HRAR (Environment Agency, 2022b),

Other features of this site will not be considered.

## 2.5.2. Conservation objectives from designated sites view

”Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring the:

- extent and distribution of qualifying natural habitats and habitats of qualifying species
- structure and function (including typical species) of qualifying natural habitats
- structure and function of the habitats of qualifying species
- supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- populations of qualifying species, and,
- distribution of qualifying species within the site”

Find [Supplementary advice on conserving and restoring site features](#)

## 2.5.3. Relevant EPR permits and associated risks

EPR permit	Associated risks
<b>Water discharge activity</b>	Change in salinity regime Change in thermal regime Change in nutrients Toxic contamination pH Siltation Turbidity

## 2.6. Sizewell Marshes SSSI

Sizewell Marshes SSSI is situated between Minsmere-Walberswick SPA and Ramsar and Sandlings SPA.

It is considered appropriate to assess Sizewell Marshes SSSI as providing functionally linked land to the following SPA and Ramsars:

- Minsmere-Walberswick SPA
- Minsmere-Walberswick Ramsar

- Alde-Ore Estuary SPA
- Alde-Ore Estuary Ramsar

The marsh harrier feature of the above sites has the potential to use the supporting habitat of Sizewell Marshes SSSI.

## 2.7. The Wash and North Norfolk Coast SAC

The Wash and North Norfolk Coast SAC is over 100km to the north of the proposed SZC development. The location is provided in Annex 1 of the SZC HRAR (Environment Agency, 2022a).

Due to the distance of The Wash and North Norfolk Coast SAC from SZC, only the mobile marine Annex II species are relevant for assessment.

Natural England's guidance on The Wash and North Norfolk Coast SAC's [background information](#) accessed December 2020, states that:

“The site is also important for Harbour (common) seals (*Phoca vitulina*), providing key habitat for breeding and hauling-out. The site is home to the largest colony of common seals in the UK, around 7% of the UK breeding population, and they can be found hauling out on sand and mudflats throughout in areas such as Blakeney Point.”

### 2.7.1. Qualifying feature

The relevant qualifying feature for this assessment is:

- harbour (common) seal (*Phoca vitulina*)

Further information on these features can be found in Annex 2 of this HRAR (Environment Agency, 2022b).

Other features of this site will not be considered.

### 2.7.2. Conservation objectives from designated sites view

To ensure that the integrity of the site is maintained or restored as appropriate and ensure that the site contributes to achieving the favourable conservation status of its qualifying features, by maintaining or restoring the:

- extent and distribution of qualifying natural habitats and habitats of qualifying species
- structure and function (including typical species) of qualifying natural habitats
- structure and function of the habitats of qualifying species
- supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- populations of qualifying species
- distribution of qualifying species within the site”

Find [Supplementary advice on conserving and restoring site features](#)

### 2.7.3. Relevant EPR permits and associated risks

EPR permit	Associated risks
<b>Water discharge activity</b>	Change in thermal regime Toxic contamination Turbidity



### 3. Continental sites

The following continental sites were also identified and considered accordingly:

#### **Elbe zwischen Geesthacht und Hamburg SCI (DE2526332)**

Located approximately 580km from SZC and designated for twaite shad and river lamprey.

#### **Hamburger Unterelbe SCI (DE2526305)**

Located approximately 580km from SZC and designated for twaite shad, river lamprey and sea lamprey.

#### **Mühlenberger Loch/Neßsand SCI (DE2424302)**

Located approximately 560km from SZC and designated for twaite shad and sea lamprey.

#### **Nebenarme der Weser mit Strohauser Plate und Juliusplate SCI (DE2516331)**

Located approximately 475km from SZC and designated for twaite shad, river lamprey, and sea lamprey.

#### **Rapfenschutzgebiet Hamburger Stromelbe SCI (DE2424303)**

Located approximately 565km from SZC and designated for twaite shad, river lamprey and sea lamprey.

#### **Schelde- en Durmeëstuarium van de Nederlandse grens tot Gent SAC (BE2300006)**

Located approximately 197km from SZC designated for twaite shad and river lamprey.

#### **Schleswig-Holsteinisches Elbästuar und angrenzende Flächen SCI (DE2323392)**

Located approximately 510km from SZC and designated for twaite shad, river lamprey and sea lamprey.

#### **Unterelbe SCI (DE2018331)**

Located approximately 510km from SZC and designated for twaite shade, river lamprey and sea lamprey.

#### **Unterweser SCI (DE2316331)**

Located approximately 480km from SZC and designated for twaite shad, river lamprey and sea lamprey.

#### **Weser bei Bremerhaven SCI (DE2417370)**

Located approximately 480km from SZC and designated for twaite shad, river lamprey, and sea lamprey.

The location of all these sites is provided in Annex 1 of the SZC HRAR (Environment Agency, 2022a).

## References

ENVIRONMENT AGENCY, 2022a.

Environment Agency, 2022. Annex 1 Relevant Site Plans for Proposed Sizewell C Nuclear Power Station. Bristol: Environment Agency.

See [Information regarding three new environmental permit applications for the proposed Sizewell C power station site, Sizewell, Suffolk, IP16 4UR](#) on our Citizen Space website.

ENVIRONMENT AGENCY, 2022b.

Environment Agency, 2022. Annex 3 Ecological narrative of the designated features for Proposed Sizewell C Nuclear Power Station Bristol: Environment Agency.

See [Information regarding three new environmental permit applications for the proposed Sizewell C power station site, Sizewell, Suffolk, IP16 4UR](#) on our Citizen Space website.

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