
Assessment of England Coast Path proposals between Tilbury and Southend on the:

- **Thames Estuary and Marshes Special Protection Area and Ramsar Site**
- **Benfleet and Southend Marshes Special Protection Area and Ramsar Site**
- **Foulness (Mid-Essex Coast Phase 5) Special Protection Area and Ramsar Site**
- **Essex Estuaries Special Area of Conservation**
- **Outer Thames Estuary Special Protection Area**

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Summary

I) Introduction

This is a record of the Habitats Regulations Assessment ('HRA') undertaken by Natural England (in its role of competent authority) in accordance with the assessment and review provisions of the Conservation of Habitats and Species Regulations 2017 ('the Habitats Regulations').

Natural England has a statutory duty under the Marine and Coastal Access Act 2009 to improve access to the English coast. This assessment considers the potential impacts of our detailed proposals for coastal access from Tilbury to Southend on the following sites of international importance for wildlife: Benfleet and Southend Marshes Special Protection Area (SPA) and Ramsar site; Outer Thames Estuary SPA; Thames Estuary and Marshes SPA and Ramsar; Foulness SPA and Ramsar site.

This assessment should be read alongside Natural England's related Coastal Access Reports which between them fully describe and explain its access proposals for the stretch as a whole. This summary explains common principles, background and reports which explain how we propose to implement coastal access along each of the constituent lengths within the stretch.

The Coastal Access Reports for Tilbury to Southend-on-Sea can be found here: <https://www.gov.uk/government/collections/england-coast-path-tilbury-to-southend-on-sea>

II) Background

The main wildlife interests for this stretch of coast are summarised in Table 1 (see section B1 for a full list of qualifying features).

Table 1: Summary of the main wildlife interest

Interest	Description
Non-breeding waterbirds	Over the winter and during spring and autumn migration periods the Thames Estuary (including both Benfleet & Southend Marshes and Thames Estuary & Marshes sites) support internationally important assemblages of waterbirds, including several species present in internationally or nationally important numbers. Extensive intertidal mudflats are the key feeding areas for many species. Saltmarshes, grazing marshes and water bodies – both within the site and nearby – are also important feeding habitats, as are adjacent arable fields and grassland. These protected birds also need suitable undisturbed places to roost at high tide.

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Interest	Description
Breeding terns and waders	Three tern and two wader species (avocet and ringed plover) breed within Foulness SPA in important numbers in spring and summer. They nest mainly on sparsely vegetated shingle, shell or sand. Waders feed in a variety of wetland habitats generally near their nest sites. The terns forage more widely along the coast and offshore in the Outer Thames Estuary SPA.
Wetland and coastal plants and invertebrates	The Thames Estuary & Marshes and Foulness Ramsar sites support a diverse range of plants and invertebrates, many of which are nationally rare or important. These species are mainly found in the intertidal habitat (particularly saltmarsh), grazing marshes and ditches.

III) Our approach

Natural England’s approach to ensuring the protection of sensitive nature conservation features under the Coastal Access Programme is set out in section 4.9 Coastal Access: Natural England’s Approved Scheme 2013 [Ref 1].

Our final published proposal for a stretch of England Coast Path is preceded by detailed local consideration of options for route alignment, the extent of the coastal margin and any requirement for restrictions, exclusions or seasonal alternative routes. The proposal is thoroughly considered before being finalised and initial ideas may be modified or rejected during the iterative design process, drawing on the range of relevant expertise available within Natural England.

Evidence is also gathered as appropriate from a range of other sources which can include information and data held locally by external partners or from the experience of local landowners, environmental consultants and occupiers. The approach includes looking at any current visitor management practices, either informal or formal. It also involves discussing our emerging conclusions as appropriate with key local interests such as landowners or occupiers, conservation organisations or the local access authority. In these ways, any nature conservation concerns are discussed early, and constructive solutions identified as necessary.

The conclusions of our assessment are certified by both the member of staff responsible for developing the access proposal and the person responsible for considering any environmental impacts. This ensures appropriate separation of duties within Natural England.

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IV) Aim and objectives for the design of our proposals

The new national arrangements for coastal access will establish a continuous well-maintained safe walking route around the coast between Tilbury and Southend with sea views where possible, while ensuring that designated sites are not adversely impacted by the proposed route and associated margin and clarify where people can access the foreshore and other parts of the coastal margin. Our proposals largely follow the line of the existing Public Rights of Way. However, a key consideration in developing coastal access proposals for this stretch of coast has been the possible disturbance to non-breeding and breeding waterbirds as a result of recreational activities. Our aim in developing proposals for this stretch has been to secure and enhance opportunities for people to enjoy their visit whilst ensuring appropriate protection for waterbirds.

This formalised England Coastal path will influence how people use the coast for recreation and our aim in designing our detailed proposals has been to secure and enhance opportunities for people to enjoy their visit whilst ensuring appropriate protection for affected European sites.

Objectives for design of our detailed local proposals have been to:

- Avoid exacerbating disturbance at sensitive locations by making use of established paths
- Where there is no suitable established and regularly used coastal route, develop proposals that take account of risks to sensitive nature conservation features and incorporate mitigation as necessary in our proposals
- Clarify where people may access the foreshore and other parts of the coastal margin on foot for recreational purposes
- Work with local partners to design detailed proposals that take account of and complement efforts to manage access in sensitive locations
- Where practical, incorporate opportunities to raise people's awareness of this stretch of coast for wildlife and how people can help efforts to protect it, for example information boards/signage highlighting key wildlife and outlining what responsible visitor behaviour looks like.

V) Conclusion

We have considered whether our detailed proposals for coastal access between Tilbury and Southend-on-Sea might have an impact on any of the features associated with the eight designated European sites that occur along this stretch of coast: Thames Estuary and Marshes SPA and Ramsar site, Benfleet and Southend Marshes SPA and Ramsar site, Outer Thames Estuary SPA, Foulness SPA and Ramsar site and Essex Estuaries SAC. In

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Part C of this assessment, we identify some possible risks to the relevant qualifying features and conclude that proposals for coastal access, without incorporated mitigation, may have a significant effect on these sites.

In Part D we consider these risks in more detail, taking account of avoidance and mitigation measures incorporated into our access proposal, and conclude that there will not be an adverse effect on the integrity of the designated sites. These measures are summarised in Table 2 below.

Table 2. Summary of risks and consequent mitigation built into our proposals

Risk to conservation objectives	Relevant design features of the access proposal
<p>Repeated disturbance to foraging or resting birds during winter and on passage, following changes in recreational activities as a result of the access proposal, may lead to reduced fitness and reduction in population and/or contraction in the distribution of qualifying features within the designated sites themselves or undesignated areas of land functionally linked to them.</p>	<ul style="list-style-type: none"> ▪ Nearly all intertidal areas adjacent to the route are saltmarshes or mudflats unsuitable for walking, so access will be excluded by direction. (Though not a mitigation measure per se, this substantially reduces the risk of bird disturbance.) ▪ New access along Fobbing Creek and Parting Gut uses the folding to reduce visual disturbance to the birds. ▪ Culverts on the landward side of the length of new access will be gated and fenced to ensure that the sensitive marshes behind remain inaccessible to people and dogs. ▪ RSPB reserves at Vange Marsh and Bowers Marsh will be covered by a year-round dog to leads restriction to complement existing management and reduce the likelihood of disturbance.
<p>Repeated trampling, following changes in recreational activities as a result of the access proposal, may damage sensitive habitats, plant communities or species, leading to long-term declines in their quality, distribution, or numbers within the site.</p>	<ul style="list-style-type: none"> ▪ The trail is aligned inland of saltmarsh and other sensitive intertidal habitats within designated sites. ▪ For most of its length the trail is aligned along the sea wall following existing public or permissive footpaths. ▪ All the saltmarsh and other sensitive intertidal habitats in the coastal margin

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	<p>are unsuitable for walking and access will be excluded by direction.</p> <ul style="list-style-type: none">▪ Signposts and waymarking will be used to ensure the route of the trail is clear and easy to follow.
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VI) Implementation

Once a route for the trail has been confirmed by the Secretary of State, we will work with Essex County Council, Thurrock Borough Council and Southend-on-Sea Borough Council to ensure any works on the ground are carried out with due regard to the conclusions of this appraisal and relevant statutory requirements.

VII) Thanks

The development of our proposals has been informed by input from people with relevant expertise within Natural England and other key organisations. The proposals have been thoroughly considered before being finalised and our initial ideas were modified during an iterative design process. We are grateful to the Essex Wildlife Trust; the RSPB; Ray Reeves, Coalhouse Fort; Chris Dennis and Mark Nowers for information on the black godwit monitoring project and to other organisations and local experts whose contributions have helped to inform development of our proposals.

PART A: Introduction and information about the England Coast Path

A1. Introduction

Natural England has a statutory duty under the Marine and Coastal Access Act 2009 to improve access to the English coast. The duty is in two parts: one relating to securing a long-distance walking route around the whole coast: we call this the England Coast Path; the other relating to a margin of coastal land associated with the route where in appropriate places people will be able to spread out and explore, rest or picnic.

To secure these objectives, we must submit reports to the Secretary of State for Environment, Food and Rural Affairs recommending where the route should be and identifying the associated coastal margin. The reports must follow the approach set out in our methodology (the Coastal Access Scheme), which – as the legislation requires – has been approved by the Secretary of State for this purpose.

Where implementation of a Coastal Access Report would be likely to have a significant effect on a site designated for its international importance for wildlife, called a 'European site'¹, the report must be subject to special procedures designed to assess its likely significant effects.

The conclusions of this screening are certified by both the member of staff responsible for developing the access proposal and the person responsible for considering any environmental impacts. This ensures appropriate separation of duties within Natural England.

Natural England's approach to ensuring the protection of sensitive nature conservation features under the Coastal Access Programme is set out in the Coastal Access Scheme [Ref 1]. Note that, following a ruling by the Court of Justice of the European Union (Case C-323/17 – usually cited as *People over Wind*), we have issued a technical memorandum concerning the application of this methodology where assessment under the Habitats Regulations is required.

A2. Details of the plan or project

This assessment considers Natural England's proposals for coastal access along the stretch of coast between Tilbury and Southend-on-Sea. Our proposals to the Secretary of State for this stretch of coast are presented in a series of reports that explain how we propose to implement coastal access along each of the constituent lengths within the stretch. Within this

¹ Ramsar sites are treated in the same way by UK government policy

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assessment we consider each of the relevant reports, both separately and as an overall access proposal for the stretch in question.

Our proposals for coastal access have two main components:

- alignment of the England Coast Path; and,
- designation of coastal margin.

England Coast Path

A continuous walking route around the coast – the England Coast Path National Trail - will be established by joining up existing coastal paths and creating new sections of path where necessary. The route will be established and maintained to National Trail quality standards. The coastal path will be able to 'roll back' as the coast erodes or where there is significant encroachment by the sea such as occurs in the case of a deliberate breach of sea defences so that it can keep pace with erosion/slippage, without further confirmation by the Secretary of State.

Coastal Margin

An area of land associated with the proposed trail will become coastal margin, including all land seawards of the trail down to mean low water.

Coastal margin is typically subject to new coastal access rights, though there are some obvious exceptions to this. The nature and limitations of the new rights, and the key types of land excepted from them, are explained in more detail in Chapter 2 of our Coastal Access Scheme [Ref 1]. Where there are already public or local rights to do other things, these are normally unaffected and will continue to exist in parallel to the new coastal access rights. The exception to this principle is any pre-existing open access rights under Part 1 of the Countryside and Rights of Way Act 2000 (CROW) over land falling within the coastal margin: the new coastal access rights will apply in place of these.

Where public access on foot already takes place on land within the margin without any legal right for people to use the land in this way, the new coastal access rights will secure this existing use legally. Access secured in this way is subject to various national restrictions. It remains open to the owner of the land, should they wish, to continue tolerating other types of established public use not provided for by coastal access rights.

Of particular relevance to this assessment is that the areas of saltmarsh and mudflat within the Thames Estuary and Marshes SPA and Ramsar site and the Benfleet and Southend Marshes SPA and Ramsar site are considered unsuitable for public access and will be excluded from the new coastal access rights at all times by direction under Section 25A of

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the Countryside and Rights of Way Act (2000), regardless of any other considerations. A map has been produced showing access restrictions for Tilbury to Southend and this can be found in the Overview section of the Tilbury to Southend-on-Sea Reports. As above, this will not affect other forms of established use, such as wildfowling.

It should be noted that while the above restrictions are not made on nature conservation grounds, they are important in reducing the potential for adverse effects on waterbirds and other sensitive SPA and Ramsar site features. Therefore, if in future there is a proposal to remove these restrictions from any areas along the stretch, further Habitats Regulations Assessment would be essential.

Promotion of the England Coast Path

The Coast Path will be promoted as part of the family of National Trails. On the ground, the path will be easy to follow, with distinctive signposting at key intersections and places people can join the route. Directional way markers incorporating the National Trail acorn symbol will be used to guide people along the route. The coastal margin will not normally be marked on the ground, except where signage is necessary to highlight dangers that may not be obvious to visitors, or to clarify the scope and/or extent of coastal access rights.

Maintenance of the England Coast Path

The access proposals provide for the permanent establishment of a path and associated infrastructure. The England Coast Path will be part of the National Trails family of routes, for which there are national quality standards. Delivery is by local partnerships and there is regular reporting and scrutiny of key performance indicators, including the condition of the trail.

Responding to future change

The legal framework that underpins coastal access allows for adaptation in light of future change. In such circumstances Natural England has powers to change the route of the trail and limit access rights over the coastal margin in ways that were not originally envisaged. These new powers can be used, as necessary, alongside informal management techniques and other measures to ensure that the integrity of the site is maintained in light of unforeseen future change.

Establishment of the trail

Establishment works to make the trail fit for use and prepare for opening will be carried out before the new public rights come into force on this stretch. Details of the works to be carried out and the estimated cost are provided in the access proposals. The cost of establishment works will be met by Natural England. Works on the ground to implement the proposals will be carried out by Essex County Council together with Thurrock and Southend-on-Sea

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Borough Councils, subject to any further necessary consents being obtained, including to undertake operations on a Site of Special Scientific Interest (SSSI). Natural England will provide further advice to the local authority carrying out the work as necessary.

In considering the HRA it is noted that the majority of the proposed route between Tilbury and Southend follows established Public Rights of Way (PRoW). Two short stretches of new path, at Coalhouse Fort and following the edge of Fobbing Creek and Parting Gut, will allow continuity of access. Both Holehaven Creek SSSI and Vange and Fobbing Marshes SSSI are functionally linked land supporting the SPA and Ramsar sites. Impacts on all SSSIs are covered in the Nature Conservation Assessment (NCA) published with this stretch. Based on our assessment and local knowledge, inclusion as part of the England Coast Path is not expected to significantly change the patterns of recreational use for this stretch of coast (see section D for more information).

PART B: Information about the European Site(s) which could be affected

B1. Brief description of the European Sites(s) and their Qualifying Features

Maps A, B and C of this report show the boundaries of the European sites described below in the vicinity of the Tilbury to Southend-on-Sea stretch.

Background information and geography

Thames Estuary and Marshes SPA and Ramsar site

The Thames Estuary and Marshes is located in the outer Thames Estuary on the south east coast of England which separates Kent and Essex. Although the majority of the site is located on the south bank of the estuary, from the western side of Cliffe Pools to Grain Tower in Kent, the site also covers a small part of the northern bank of the outer estuary in Essex between Coalhouse Point in East Tilbury to the most western part of the reclaimed land at Mucking Flats. The tidal Thames itself is recommended for consideration as a Marine Conservation Zone.

The site is predominantly characterised by extensive intertidal mudflats that are visible at low tide. The intertidal areas are bound mostly by banks and seawalls, occasionally featuring small beaches, such as those around the Isle of Grain and Cooling Marshes. There are important habitats that lie above the highest astronomical tide, such as flooded mineral works and large areas of grazing marsh, and birds may also make significant use of habitat outside of the SPA boundary, such as at Holehaven Creek SSSI and Vange & Fobbing Marshes SSSI. Where this occurs, it is described as 'functionally-linked land' and also considered in the NCA. There are habitat creation schemes (managed realignments) in the area as part of the London Gateway port development, which will provide new habitat. It is thought that birds move around and across the Thames Estuary between neighbouring SPAs.

The site supports one endangered plant species, the least lettuce, and at least 14 nationally scarce plants of wetland habitats. The site also supports more than 20 British Red Data Book invertebrates.

The SPA has a variety of habitat types, which are important feeding and roosting sites for the large populations of bird species here, including those passing through during the spring

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and autumn migration periods. A more detailed description of the designated species can be found in Part D.

Benfleet and Southend Marshes SPA and Ramsar

Benfleet and Southend Marshes SPA covers 2,250 ha along the north shore of the Thames Estuary from Canvey Island in the west to Shoebury Ness in the east. The site supports major concentrations of waterbirds over the winter and during spring and autumn passage, including internationally important numbers of dark-bellied brent geese and four species of wader. Much of the SPA comprises extensive intertidal flats lying off Southend's predominantly urban seafront. These flats are the key feeding habitat for the site's waterbirds. They range from sand and muddy sand in the east to soft mud in the west around Hadleigh Ray and Benfleet Creek, and include mussel beds, coarse and mixed sediments and, near Two Tree Island, extensive eelgrass beds. Areas of saltmarsh towards the western end of the SPA provide high tide roost sites but are vulnerable to erosion and disturbance. The Benfleet and Southend Marshes Ramsar site covers the same area as the SPA and includes two red book invertebrates (*Myopites bloti* (RDB3), *Lestes dryas* (RDB2)) in its features.

Foulness (Mid-Essex Coast Phase 5) SPA and Ramsar site

The Foulness (Mid-Essex Coast Phase 5) SPA (hereafter referred to as the Foulness SPA) lies immediately east of Benfleet and Southend Marshes SPA on the north side of the Thames Estuary mouth between Barge Pier, Shoebury Ness, in the south and the Rivers Roach and Crouch in the north. At almost 11,000 ha it is made up of extensive intertidal mudflats and sandflats (including one of the three largest continuous sand-silt flats in the UK) along with saltmarsh, beaches, grazing marshes, rough grass and scrubland. A very large proportion of the site (both seaward and landward of the flood defences) is covered by Ministry of Defence (MoD) byelaws that restrict access.

The diversity of high-quality coastal habitats present support major concentrations of waterbirds over the winter and during spring and autumn passage, including internationally important numbers of dark-bellied brent geese and five species of wader. There are also important breeding populations of avocet, ringed plover and three tern species, which mainly nest on areas of shell, shingle or sand. The overwintering and breeding waterbirds mentioned above (and those of the other SPAs along this stretch) also use functionally linked land beyond the SPA's boundaries for feeding or roosting.

The Foulness Ramsar site covers the same area as the SPA but this designation includes non-avian as well as avian qualifying features. The site's complex matrix of habitats supports a diverse range of plants and invertebrates, including two nationally rare and twenty-one nationally scarce plants and 71 nationally important invertebrates.

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This SPA/Ramsar site lies east of the Tilbury to Southend-on-Sea stretch of the Coast Path but is included in this HRA because its western boundary - at Barge Pier, Shoebury Ness - lies immediately south of the end of the stretch and abuts Benfleet and Southend Marshes SPA.

Outer Thames Estuary SPA

The Outer Thames Estuary SPA covers over 390,000 ha of coastal waters from north Kent to Norfolk and supports a large proportion of the red-throated diver population overwintering in the southern North Sea. It also provides important at-sea foraging areas for colonies of little and common terns breeding within its boundaries (predominantly at the offshore Scroby Sands sandbank) and in other SPAs nearby, with the closest to this stretch being the Foulness SPA. The site covers intertidal as well as subtidal waters. Its coastline includes shingle and sand beaches, low cliffs and mudflat-lined estuaries. The southern part overlaps extensively with the Foulness and the Crouch and Roach Estuaries SPAs; it extends up the north side of the Thames to Southend-on-Sea and includes the Roach Estuary, the Crouch Estuary upstream to near North Fambridge, and creeks in the southwest part of Foulness that connect with the Roach.

Essex Estuaries SAC

The SAC contains the best example of a coastal plain estuary system on the UK's North Sea coast. Covering an area of more than 46,000 ha, this relatively undeveloped estuary complex includes the major estuaries of the Colne, Blackwater, Crouch and Roach, as well as extensive open coast tidal flats at Foulness, Maplin and the Dengie.

The site protects a variety of intertidal and subtidal habitats that support many marine and estuarine species, including many of the waterbirds, plants and invertebrates that are features of overlapping SPAs and Ramsar sites. It covers extensive intertidal mudflats and sandflats that support a wide range of typical estuarine and marine communities and are key feeding habitats for many waterbirds. The SAC also contains a significant proportion of the country's saltmarsh resource. This saltmarsh ranges from pioneer to upper/transitional types and includes plant communities with restricted UK distributions, such as Mediterranean saltmarsh scrub and stands of small cordgrass *Spartina marina*. Saltmarshes are highly productive biologically, providing nutrients which support many other features. They also have an important physical role, acting as a sediment store to the estuary system as a whole and providing roosting sites for waterbirds at high tide.

A high proportion of the area within the Foulness SPA also lies within the SAC. The SPA and the SAC share the same landward boundaries in many places, where these run along a seabank or the borrow dyke behind it. But the SAC does not include areas of grazing marsh inland of the borrow dyke, while the SPAs generally do.

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Recreational disturbance Avoidance and Mitigation Strategy (RAMS)

RAMS is Essex's strategic, landscape-scale response to tackling increased visitor pressure on the coast, arising from new residential development. RAMS is funded by contributions from house builders and covers the Essex coastal European site areas. It has been set-up to develop a strategy to accommodate increasing recreational pressure resulting from housing growth in the area, whilst protecting sensitive features. The scheme is branded as Bird Aware - Essex Coast. Much of South Essex lies within the Thames Gateway, a Government priority for regeneration and economic development. There is more detail in Part D.

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Table 3 below provides a complete list of the qualifying features of the European sites which could be affected by the access proposals.

Table 3a- Avian Qualifying Features

Avian Qualifying Feature	Benfleet and Southend Marshes SPA	Benfleet and Southend Marshes Ramsar site	Outer Thames Estuary SPA
Dark-bellied brent goose <i>Branta bernicla</i> (non-breeding)	✓	✓	
A672 Dunlin <i>Calidris alpina</i> (non-breeding)	✓		
A141 Grey plover <i>Pluvialis squatarola</i> (non-breeding)	✓	✓	
A143 Knot <i>Calidris canutus</i> (non-breeding)	✓	✓	
A137 Ringed plover <i>Charadrius hiaticula</i> , (non-breeding)	✓		
Waterbird assemblage (non-breeding) ¹	✓	✓	
A001 Red-throated diver <i>Gavia stellata</i> (non-breeding)			✓
A193 Common tern <i>Sterna hirundo</i> (breeding)			✓
A195 Little tern <i>Sternula albifrons</i> (breeding)			✓

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Avian Qualifying feature	Thames Estuary and Marshes SPA	Thames Estuary and Marshes Ramsar site	Foulness Ramsar site	Foulness SPA
A132 Avocet <i>Recurvirostra avosetta</i> (non-breeding)	✓			
A132 Avocet <i>Recurvirostra avosetta</i> (breeding)				✓
A616 Black-tailed godwit <i>Limosa limosa islandica</i> (non-breeding)	✓	✓		
A672 Dunlin <i>Calidris alpina alpina</i> (non-breeding)	✓	✓		
A141 Grey plover <i>Pluvialis squatarola</i> (non-breeding)	✓	✓	✓	✓
A082 Hen harrier <i>Circus cyaneus</i> (non-breeding)	✓			✓
A143 Knot <i>Calidris canutus</i> (non-breeding)	✓	✓	✓	✓
A162 Redshank <i>Tringa totanus</i> (non-breeding)	✓	✓	✓	✓
A137 Ringed plover <i>Charadrius hiaticula</i> , (non-breeding)	✓	✓		
A137 Ringed plover <i>Charadrius hiaticula</i> , (breeding)				✓
A157 Bar-tailed godwit <i>Limosa lapponica</i> (non-breeding)			✓	✓
A130 Oystercatcher <i>Haematopus ostralegus</i> (non-breeding)			✓	✓
A046a Dark-bellied brent goose <i>Branta bernicla bernicla</i> (non-breeding)			✓	✓
A193 Common tern <i>Sterna hirundo</i> (breeding)				✓
A195 Little tern <i>Sternula albifrons</i> (breeding)				✓
A191 Sandwich tern <i>Sterna sandvicensis</i> (breeding)				✓
Waterbird assemblage (non-breeding) ¹	✓	✓	✓	✓

Notes:

¹ Bird species covered by the Ramsar Convention's Strategic Framework definition of 'waterbird' are included in SPA and Ramsar site waterbird assemblage features. 'Main component species' of an assemblage are those which regularly occur on the site in internationally or nationally important numbers or regularly exceed 2,000 individuals. The main component species are:

Thames Estuary and Marshes assemblage: brent goose, shelduck, shoveler, gadwall, wigeon, pochard, little grebe, little egret, coot, oystercatcher, avocet, lapwing, grey plover, curlew, bar-tailed godwit, turnstone, (ruff), sanderling, (green sandpiper), (greenshank).

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Benfleet and Southend Marshes assemblage: brent goose, little egret, oystercatcher, avocet, ringed plover, grey plover, knot, sanderling, dunlin, black-tailed godwit, bar-tailed godwit, (whimbrel), (greenshank), redshank, turnstone.

Foulness assemblage: brent goose, shelduck, wigeon, little egret, oystercatcher, avocet, golden plover, lapwing, knot, dunlin, black-tailed godwit, bar-tailed godwit, (whimbrel), curlew, (common sandpiper), (green sandpiper), (greenshank), redshank, black-headed gull.

Species in brackets are those with very low thresholds for national importance (<10 birds).

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Table 3b. Non-avian Qualifying Features

Non-Avian Qualifying Feature	Essex Estuaries SAC	Foulness Ramsar site 1	Thames Estuary and Marshes Ramsar site	Benfleet and Southend Marshes Ramsar site
H1110 Sandbanks which are slightly covered by sea water all the time (Subtidal sandbanks)	✓			
H1130 Estuaries	✓			
H1140 Mudflats and sandflats not covered by seawater at low tide (Intertidal mudflats and sandflats)	✓			
H1310 <i>Salicornia</i> and other annuals colonising mud and sand (Glasswort and other annuals colonising mud and sand)	✓	✓		
H1320 <i>Spartina</i> swards (<i>Spartinion maritimae</i>) (Cord-grass swards)	✓	✓		
H1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)	✓	✓		
H1420 Mediterranean and thermo-Atlantic halophilous scrubs (<i>Sarcocornetea fruticosi</i>) (Mediterranean saltmarsh scrub)	✓	✓		
Wetland plant assemblages ²		✓	✓	✓
Wetland invertebrate assemblages ³		✓	✓	
Scarce Invertebrates: <i>Myopites bloti</i> (RDB3), <i>Lestes dryas</i> (RDB2)				✓
Great crested newt <i>Triturus cristatus</i>				✓

Notes:

¹ Foulness Ramsar site qualifies under Ramsar criterion 1a (“extent and diversity of saltmarsh”) and 2b (“extensive saltmarsh habitat, with areas supporting full and representative sequences of saltmarsh plant communities covering the range of variation in Britain”). Therefore saltmarsh vegetation types that are qualifying features of the Essex Estuaries SAC (H1310, H1320, H1330 and H1420) are also taken to be qualifying features of Foulness Ramsar site.

² Nationally scarce vascular plant species, mainly of saltmarsh and brackish coastal habitats. The assemblages of the three Ramsar sites are not the same but have several species in common.

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3 Notable invertebrate species of saltmarsh and other coastal habitats, including scarce species with high habitat fidelity. The assemblages of the three Ramsar sites are not the same but have several species in common.

Table 4. Summary of geographical extents of European designated sites within this Coast Path stretch and its five constituent lengths and proposal reports

	TSE 1: Fort Road, Tilbury to The Manorway, Corringham	TSE 2: The Manorway, Corringham to Pitsea Hall Lane, Pitsea	TSE 3: Pitsea Hall Lane, Pitsea to Ferry Road, Benfleet	TSE 4: Canvey Island	TSE 5: Ferry Road, Benfleet to Barge Pier, Shoebury Ness
Thames Estuary & Marshes SPA	✓✓ (✓)	-	-	-	-
Thames Estuary & Marshes Ramsar site	✓✓	-	-	-	-
Benfleet & Southend Marshes SPA	-	(✓)	(✓)	✓✓ (✓)	✓ (✓)
Benfleet & Southend Marshes Ramsar site	-	(✓)	(✓)	✓✓ (✓)	✓
Outer Thames Estuary SPA	-	-	-	-	✓
Foulness SPA	-	-	-	-	✓
Foulness Ramsar site	-	-	-	-	✓

✓✓: >50% of length within or adjacent to the designated site.

✓: <50% of length within or adjacent to the designated site.

(✓): part of length adjacent to functionally linked land important for features of the designated site.

B2. European Site Conservation Objectives (including supplementary advice)

Natural England provides advice about the Conservation Objectives for European Sites in England in its role as the statutory nature conservation body. These Objectives (including any Supplementary Advice which may be available) are the necessary context for all HRAs.

The overarching Conservation Objectives for every European Site in England are to ensure that the integrity of each site is maintained or restored as appropriate, and that each site contributes to achieving the aims of the Habitats Regulations, by either maintaining or restoring (as appropriate):

- The extent and distribution of their qualifying natural habitats,
- The structure and function (including typical species) of their qualifying natural habitats,
- The supporting processes on which their qualifying natural habitats rely,
- The supporting processes on which the habitats of their qualifying features rely,
- The population of each of their qualifying features, and
- The distribution of their qualifying features within the site.

Where Conservation Objectives Supplementary Advice is available, which provides further detail about the features' structure, function and supporting processes mentioned above, the implications of the plan or project on the specific attributes and targets listed in the advice will be taken into account in this assessment.

In light of the European Sites which could be affected by the plan or project, this assessment will be informed by the following site specific Conservation Objectives including any available supplementary advice.

Benfleet and Southend Marshes SPA

[https://designatedsites.naturalengland.org.uk/SiteGeneralDetail.aspx?SiteCode=UK9009171&SiteName=Benfleet and Southend Marshes &countyCode=&responsiblePerson=&SeaArea=&IFCAArea=](https://designatedsites.naturalengland.org.uk/SiteGeneralDetail.aspx?SiteCode=UK9009171&SiteName=Benfleet%20and%20Southend%20Marshes&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=)

Outer Thames Estuary SPA

[https://designatedsites.naturalengland.org.uk/SiteGeneralDetail.aspx?SiteCode=UK9020309&SiteName=Outer Thames Estuary SPA&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=](https://designatedsites.naturalengland.org.uk/SiteGeneralDetail.aspx?SiteCode=UK9020309&SiteName=Outer%20Thames%20Estuary%20SPA&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=)

Thames Estuary and Marshes SPA

[https://designatedsites.naturalengland.org.uk/SiteGeneralDetail.aspx?SiteCode=UK9012021&SiteName=Thames Estuary and Marshes SPA&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=](https://designatedsites.naturalengland.org.uk/SiteGeneralDetail.aspx?SiteCode=UK9012021&SiteName=Thames%20Estuary%20and%20Marshes%20SPA&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=)

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Foulness SPA

<https://designatedsites.naturalengland.org.uk/SiteGeneralDetail.aspx?SiteCode=UK9009246&SiteName=Foulness&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=>

Essex Estuaries SAC:

<https://designatedsites.naturalengland.org.uk/Marine/MarineSiteDetail.aspx?SiteCode=UK0013690&SiteName=essex%20estuaries&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=>

For Ramsar sites, a decision has been made by Defra and Natural England not to produce Conservation Advice packages, instead focussing on the production of High Level Conservation Objectives. As the provisions on the Habitats Regulations relating to Habitat Regulations Assessments extend to Ramsar sites, Natural England considers the Conservation Advice packages for the overlapping European Marine Site designations to be, in most cases, sufficient to support the management of the Ramsar interests.

However, for the purposes of this assessment it is important to note that the qualifying features of the Thames Estuary and Marshes and Foulness Ramsar sites include assemblages of rare, vulnerable or endangered wetland plants and invertebrates that qualify under Ramsar criterion 2. These assemblages are not qualifying features of the equivalent SPA designations. Ramsar Information Sheets for each site, available on the JNCC website, list species in the assemblages and give other details of the designation.

The Ramsar Information Sheet for the Benfleet and Southend Ramsar site can be viewed at:

<http://archive.jncc.gov.uk/pdf/RIS/UK11006.pdf>

The Ramsar Information Sheet for the Thames Estuary and Marshes Ramsar site can be viewed at: <https://jncc.gov.uk/jncc-assets/RIS/UK11069.pdf>

The Ramsar Information Sheet for the Foulness Ramsar site can be viewed at:

<http://jncc.defra.gov.uk/pdf/RIS/UK11026.pdf>

PART C: Screening of the plan or project for appropriate assessment

C1. Is the plan or project either directly connected with or necessary to the conservation management of the European Site's qualifying features?

The Coastal Access Plan is not directly connected with or necessary to the management of the European sites for nature conservation listed in B1 above.

Conclusion:

As the plan or project is not either directly connected or necessary to the management of all of the European site(s)'s qualifying features, and/or contains non-conservation elements, further Habitats Regulations assessment is required.

C2. Is there a likelihood [or risk] of significant [adverse] effects ('LSE')?

This section details whether those constituent elements of the plan or project which are (a) not directly connected with or necessary to the management of the European Site(s) features and (b) could conceivably adversely affect a European site, would have a **likely significant effect**, either alone or in combination with other plans and projects, upon the European sites and which could undermine the achievement of the site's conservation objectives referred to in section B2.

In accordance with European case law, this HRA has considered an effect to be 'likely' if it 'cannot be excluded on the basis of objective information' and is 'significant' if it 'undermines the conservation objectives. In accordance with Defra guidance on the approach to be taken to this decision, in plain English, the test asks whether the plan or project 'may' have a significant effect (i.e., there is a risk or a possibility of such an effect).

This assessment of risk therefore takes into account the precautionary principle (where there is scientific doubt) and **excludes**, at this stage, any measures proposed in the submitted details of the plan/project that are specifically intended to avoid or reduce harmful effects on the European site(s).

Each of the project elements has been tested in view of the European Site Conservation Objectives and against each of the relevant European site qualifying features. An assessment of potential effects using best available evidence and information has been made.

C2.1 Risk of Significant Effects Alone

The first step is to consider whether any elements of the project are likely to have a significant effect upon a European site 'alone' (that is when considered in the context of the prevailing environmental conditions at the site but in isolation of the combined effects of any other 'plans and projects'). Such effects do not include those deemed to be so insignificant as to be trivial or inconsequential.

In this section, we assess risks to qualifying features, taking account of their sensitivity to coastal walking and other recreational activities associated with coastal access proposals, and in view of each site's Conservation Objectives.

For the purposes of this assessment, the qualifying features of the European Sites listed in B1 have been grouped as follows to streamline the process and avoid unnecessary repetition:

Table 5. Feature Groups

Feature Group	Qualifying feature (s)
Non-breeding waterbirds	Dark-bellied brent goose; dunlin; grey plover; knot; ringed plover; avocet; black-tailed godwit; bar-tailed godwit; oystercatcher; redshank; waterbird assemblages
Offshore waterbirds	Little tern (foraging); common tern (foraging); red-throated diver (non-breeding)
Breeding terns and waders	Common tern; little tern; Sandwich tern; avocet; ringed plover
Hen harrier	Hen harrier (non-breeding)
Coastal habitats	Sandbanks which are slightly covered by seawater all the time; estuaries; mudflats and sandflats not covered by seawater at low tide; <i>Salicornia</i> and other annuals colonising mud and sand; <i>Spartina</i> swards; Atlantic salt meadows; Mediterranean and thermo-Atlantic halophilous scrubs
Wetland plant and invertebrate assemblages	Wetland plant assemblages Wetland invertebrate assemblages

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Table 6. Assessment of likely significant effects alone

Feature	Relevant pressure	Sensitivity to coastal access proposals	Assessment of risk to site conservation objectives	LSE alone?
Non-breeding waterbirds	Disturbance of feeding or resting birds from recreational activities	Birds feeding or resting in the vicinity of the coastal path/margin may be disturbed by an increase in recreational activities including walking and walking with a dog.	The level of risk is higher where the access proposals are likely to bring people close to places on which large numbers of birds depend including high tide roost sites and important feeding areas.	Yes
Non-breeding waterbirds	Loss of supporting habitat through installation of access management infrastructure	The supporting habitats of the qualifying features may be permanently lost due to the installation of new access management infrastructure.	No appreciable risk. There is no additional access infrastructure proposed within any of the European sites along this stretch of coast path. All signage will use existing waymarkers. A short stretch of new access is proposed along Fobbing Creek and south of Parting Gut and three culverts here will be gated and fenced to prevent landward access from the trail. This area lies in the central part of the stretch, outside the European designations but functionally-linked with them as relevant bird species may use Fobbing Marshes as an additional feeding and roosting resource. This minor loss of potential supporting habitat is unlikely to have a significant impact on SPA / Ramsar bird features.	No
Non-breeding waterbirds	Disturbance resulting from construction works when installing new access management infrastructure	Waterbirds may be temporarily disturbed by the construction activities necessary to install items of access management infrastructure such as fences and gates, particularly if these require the use of noisy plant and machinery.	Localised risk. As described above the only new access management infrastructure with the potential to impact on non-breeding waterbirds is the fencing and gating of the culverts at Fobbing Marshes. The marshes and creeks here are not within a European site but may sometimes be used by	Yes

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			designated bird species as an additional feeding and roosting resource.	
Non-breeding waterbirds	Disturbance of breeding birds	Non-breeding waterbird species (that are wholly or largely resident) that breed within or near to the SPA in the vicinity of a coastal path may be disturbed, or nests may be trampled by recreational activities.	<p>The level of risk is higher at places where a breeding population of a species significantly contributes to the non-breeding population and where the access proposals are likely to place breeding birds at risk from recreational activities.</p> <p>Avocet breed at the RSPB's Vange Marsh reserve while redshank are known to breed in the wet grassland of Vange and Fobbing Marshes.</p>	Yes
Offshore waterbirds	Disturbance of foraging and resting waterbirds	Birds using waters near the shoreline in the vicinity of the Coast Path might be disturbed by land-based recreational activities including walking and walking with a dog.	<p>No appreciable risk.</p> <p>Terns primarily forage offshore, providing sufficient spatial separation between path users and birds to avoid any disturbance. The presence of people may occasionally discourage birds from feeding close to the shore but this is unlikely to compromise foraging activity.</p> <p>The great majority of red-throated divers wintering in the Outer Thames Estuary SPA both feed and rest in open water offshore, well beyond the range of disturbance from the Coast Path. At classification the SPA supported an estimated winter population of 6,446 divers (1989 to 2006/7 peak mean) and more recent surveys estimated 18,079 (2012/13 to 2017/18 peak mean). But numbers recorded within a few hundred metres of the shore during land-based WeBS counts are lower than this by several orders of magnitude with a maximum count for the Thames Estuary of 55 (2013/14 to 2017/18).</p> <p>In addition, this stretch creates</p>	No

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			no new coastal access along the shoreline.	
Breeding terns and waders	Disturbance of nesting, feeding or resting birds	Birds and their nests in the vicinity of the Coast Path may be disturbed by recreational activities including walking and walking with a dog.	<p>No appreciable risk.</p> <p>The features in this group relate solely to the Foulness SPA which has no direct overlap with this stretch. There is therefore no potential for nesting sites themselves to be directly impacted by our proposals.</p> <p>The only potential for impact would be if birds breeding within the Foulness SPA made significant use of land along this stretch for feeding or resting. Past and present nesting locations on Foulness for all five breeding bird features are well away from the publically accessible southwest edge of the SPA which is that adjacent to this stretch. It is therefore considered that the distances involved are sufficient to result in no appreciable risk to this feature group from our proposals.</p>	No
Hen harrier	Disturbance of feeding or resting birds	Birds hunting or roosting in the vicinity of the Coast Path may be disturbed by recreational activities including walking and walking with a dog.	<p>No appreciable risk.</p> <p>Non-breeding hen harriers are a feature of both the Thames Estuary and Foulness SPAs.</p> <p>At the western end of this stretch, the trail runs close to the only small part of the Thames Estuary SPA on the Essex side of the Thames. Records of hen harriers using this area are limited. The birds have large territories and are only likely to use seawall foldings for hunting when their main foraging areas are depleted. In addition, we predict a negligible change in levels of access along this part of the stretch as a result of our proposals.</p> <p>There are no known Hen</p>	No

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			<p>Harrier roosts along this stretch.</p> <p>Foulness is an extensive SPA of over 10,000ha, the far southwest boundary of which lies adjacent to the eastern end of this stretch, which is characterised by the busy, urban Southend Seafront.</p> <p>The distances involved and lack of suitable habitat at the nearest end of the stretch mean that there is negligible risk of interaction between our proposals and Foulness birds.</p>	
Coastal habitats	Trampling	Habitats may be damaged if levels of trampling increase as a result of the Coast Path designation.	<p>No appreciable risk.</p> <p>All habitats listed in this group are features of either the Essex Estuaries SAC and / or the Foulness Ramsar site both of which lie east of this stretch. There is no overlap between the designated site boundaries and either the Coast Path itself or the associated margin.</p>	No
Wetland plants and invertebrates	Regular trampling of sensitive vegetation or species	The associated habitats of the qualifying features may be damaged due to trampling where people regularly walk away from established paths.	<p>No appreciable risk. Wetland plant and invertebrate assemblages are features of both the Thames Estuary and Marshes and Foulness Ramsar sites.</p> <p>There is no direct interaction between this stretch (path or coastal margin) and the Foulness Ramsar site.</p> <p>Where the path does run adjacent or close to the Thames Estuary and Marshes Ramsar site it is principally aligned on top of the seawall on existing, surfaced routes and no new rights of access will be created over suitable supporting habitat with the coastal margin as it is unsafe for walkers.</p>	No

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Conclusion:

The plan or project alone is likely to have a significant effect on the following qualifying feature groups:

- non-breeding waterbirds:
 - disturbance from recreational activities
 - disturbance from construction works
 - disturbance of breeding birds

The plan or project alone is unlikely to have a significant effect on the following qualifying feature groups

- offshore birds
- breeding terns and waders
- hen harrier (non-breeding)
- coastal habitats
- wetland plant and invertebrate assemblages

C2.2 Risk of Significant Effects in-combination with the effects from other plans and projects

The need for further assessment of the risk of in-combination effects is considered here.

Natural England considers that it is the appreciable risks of effects (from a proposed plan or project) that are not themselves considered to be significant alone which must be further assessed to determine whether they could have a combined effect significant enough to require an appropriate assessment.

Step 1 – Are there any appreciable risks from the access proposals that have been identified in C2.1 as not significant alone?

Further to the risks identified as being significant alone (in C2.1), it is considered that there are no other residual and appreciable risks likely to arise from this project which have the potential to act in-combination with similar risks from other proposed plans or projects to also become significant. It has therefore been excluded, on the basis of objective information, that the project is likely to have a significant effect in-combination with other proposed plans or projects.

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Conclusion:

The plan or project, in combination with other plans and projects, is unlikely to have a significant effect on the following qualifying features of the European site (s):, offshore birds, breeding terns and waders, hen harrier (non-breeding), coastal habitats, wetland plant and invertebrate assemblages.

C3. Overall Screening Decision for the Plan/Project

On the basis of the details submitted, Natural England has considered the plan or project under Regulation 63(1)(a) of the Habitats Regulations and made an assessment of whether it will have a likely significant effect on a European site, either alone or in combination with other plans and projects.

In light of sections C1 and C2 of this assessment above, Natural England has concluded:

As the plan or project is likely to have significant effects (or *may* have significant effects) on some or all of the Qualifying Features of the European Site(s), 'alone', further appropriate assessment of the project 'alone' is required.

PART D: Appropriate Assessment and Conclusions on Site Integrity

D1. Scope of Appropriate Assessment

In light of the screening decision above in section C3, this section contains the Appropriate Assessment of the implications of the plan or project in view of the Conservation Objectives for the European Site(s) at risk.

The Sites and the Qualifying Feature for which significant effects (whether 'alone' or 'in combination') are likely or cannot be ruled out and which are initially relevant to this appropriate assessment are:

Table 7. Scope of Appropriate Assessment

Environmental Pressure	Qualifying Feature(s) affected	Risk to Conservation Objectives
Recreational disturbance to feeding or resting birds	Non-breeding waterbirds (avocet, black-tailed godwit, dunlin, grey plover, knot, redshank, ringed plover) waterbird assemblage	Repeated disturbance to foraging or resting birds during winter and on passage, following changes in recreational activities as a result of the access proposal, may lead to reduced fitness and reduction in population and/or contraction in the distribution of qualifying features within the site.
Construction disturbance to feeding or resting birds	Non-breeding waterbirds (avocet, black-tailed godwit, dunlin, grey plover, knot, redshank, ringed plover) waterbird assemblage	Undertaking works to install access management infrastructure disturbs birds causing temporary or enduring effects on their population and/or distribution within the site.
Disturbance to breeding birds where these make a significant contribution to the non-breeding population	Avocet (non-breeding) Redshank (non-breeding)	Repeated disturbance to breeding pairs of redshank and avocet during the breeding season following changes in recreational activities as a result of the access proposal, leads to nest abandonment and a consequent reduction in the non-breeding population.

D2. Contextual statement on the current status, influences, management and condition of the European Site and those qualifying features affected by the plan or project

Non-breeding birds

One of the factors we take into account when developing proposals for the alignment of the England Coast Path is the potential for disturbance to waterbirds, particularly when the birds are qualifying features of coastal SPAs and Ramsar sites. This is clearly an important consideration on this stretch of the Coast Path which runs close to the boundaries of the Thames Estuary and Marshes, and Benfleet and Southend Marshes SPAs to a large extent, both of which have non-breeding waterbird assemblages in addition to a number of other individual wader species as qualifying features, whilst the Foulness SPA (adjacent to the western end of the stretch) has additional non-breeding and breeding bird interest. The path occasionally crosses Ramsar sites:

- Through the Thames Estuary & Marshes Ramsar site at the Environment Agency's concrete flood defence barrier close to Mucking and the Thameside Nature Park.
- The path also transects the Benfleet & Southend Ramsar site following the sea wall close to Hadleigh Country Park, and crosses again onto Two Tree Island.

As can be seen from Table 3 there is a significant overlap in qualifying features of the respective SPA and Ramsar sites. While the conservation advice for the Thames Estuary and Marshes SPA gives some of its non-breeding bird features (including the waterbird assemblage) 'maintain' targets the majority are given a 'restore' target indicating that numbers have declined significantly since classification. Worst affected are ringed plover which have experienced a 73% decline (with a 5 year peak mean 1993/94-1997/98 of 1,324 down to 359 in 2011/12-2015/16) and redshank which have experienced an 81% decline (with a 5 year peak mean 1993/94-1997/98 of 3,251 down to 626 in 2011/12-2015/16). For the Benfleet and Southend Marshes SPA the picture is a little more balanced as three features have 'maintain targets' (dunlin, knot and waterbird assemblage) and three have 'restore' (dark-bellied brent geese, grey plover and ringed plover).

Many of the non-breeding waterbird features of the Benfleet and Southend Marshes SPA may be increasingly at risk of disturbance. Large blocks of saltmarsh within Canvey Point and Two Tree Island function as very important high tide roosts for a number of species. Evidence indicates that the outer coastal edge of these important high tide roosts have eroded since SSSI notification and are continuing to erode (Ref 6. Institute of Estuarine and Coastal Studies, 2011). The reduced seaward extent of saltmarsh leads to an increasingly landward location of suitable roosting habitat, which is increasingly vulnerable to disturbance. In addition there is existing public access to virtually all the sea walls around the site (Ref 7 English Nature (EN), 2001).

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Restricting disturbance at major high tide roosts is important, particularly if there are no suitable alternative roost sites nearby, because these roosts are used by large numbers of birds 'commuting' to and from much larger foraging areas. In addition to the outer coast saltmarsh areas, detailed studies for the black-tailed godwit project show high tide roosts along Holehaven Creek are important for this species (Ref 8).

Functionally-linked land (supporting habitat lying outside SPA boundaries) is important for several wader species including black-tailed godwit (at Holehaven Creek SSSI) and dark-bellied brent geese. Historically, most brent geese fed on eelgrass (*Zostera* spp.) green marine algae on intertidal mud and on saltmarsh plants. However, there has been a widespread decline in eelgrass (Foulness and Benfleet and Southend Marshes are now the only SPAs in Essex with extensive beds) and dark-bellied brent geese now appear to be largely dependent on winter wheat and barley, oil seed rape, grass fields and amenity grasslands. The Benfleet and Southend Marshes SPA include some grazing marsh and improved grassland for brent geese but winter cereal fields beyond its boundaries may also be important feeding areas, particularly in late winter when food resources in the intertidal zone are depleted (Ref 8).

Current levels of use

Current levels and patterns of public use can have an important influence on the potential effects of Coast Path alignment options on qualifying features, particularly in relation to bird disturbance. There are marked differences in public use within this stretch with low use away from visitor facilities. Visits are much higher in the summer months when the weather and holidays encourage day trips. As the over-wintering birds are not on site; the potential interaction between birds and the public is thus quite limited.

Report 1: Fort Road, Tilbury to The Manorway, Corringham

Along this section there are several attractions to draw the visitor. The route starts at the well-used Tilbury Ferry with a passenger service to Gravesend running Monday to Saturday throughout the day and all year round. Regular users tend to be residents or are working in Tilbury or Gravesend.

Tilbury Fort, an English Heritage property, and the adjacent Worlds End pub provide points of interest landward of the trail. These are both significantly below the height of the seawall. Tilbury Fort is open only at weekends over the winter period and Wednesday to Sunday from April to end October (2019). Visitors to the Fort may venture onto the seawall to enjoy the view of Gravesend though few go further.

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There is a second fort, Coalhouse Fort, further east along the coast. The forts are linked by a locally promoted Two Forts Way walk that takes in the tidally inundated path in front of the old power station (now the port of Tilbury 2): damage to the seawall (2019) has temporarily closed the right of way.

Coalhouse Fort is managed by the local authority, has landscaped gardens, car parks and facilities that serve the local community. Typically, visitors arrive by car, walk their dog on the landward circular paths surrounding the fort and return home. Educational events and summer-based community activities bring in more visitors. Annually there are in the region of 80,000 visits to the Fort, numbers rising from spring to peak in the summer holiday period.

Further along the coast Thurrock Thameside Nature Park, adjacent Local Nature Reserve (LNR) and RSPB reserve. These are not connected readily to the nearby Fort. Visitors can access signed trails as well as Public Rights of Way. Dog owners are requested to keep on leads to limit disturbance to birds through the nature reserve. Thameside Nature Park provides established visitor facilities and is a popular attraction with a car park, children's play area, café, shop and toilets and a number of promoted short walks. This section is relatively well used by walkers being located close to Stanford-le-Hope. Many users arrive by car, take refreshments, enjoy the views from the windows and return home. There are good views from the visitor centre over the marshes and their birdlife.

Overall, this section has some 'inland' visitor attractions, mainly enjoyed in the summer months but with little interconnectivity to draw users away or along the coast. Paths between these attractions are lightly used. There is no facilitated access to the river front or foreshore at these sites.

Report 2: The Manorway, Corringham to Pitsea Hall Lane, Pitsea

A combination of the unbridged Holehaven Creek and the presence of the London Gateway Port and oil and gas refineries, means that a significant inland route alignment is necessary on this section. This part of the proposed trail is aligned along a mixture of permissive bridleways, roadside verges, pavements and public footpaths. Fobbing Marshes forms part of an Essex Wildlife Trust reserve. It lies inland on the southern part of the western bank of Holehaven Creek and closer to the towns and villages. It is criss-crossed with rights of way and desire lines created by local resident dog walkers. The creek up to Pitsea is generally quiet – with this reserve, and an RSPB reserve at Vange Marshes on the northern part. There are no established visitor facilities on this section, although there are shops and a pub at nearby Corringham. There is also a railway station next to the proposed trail at Pitsea, and Wat Tyler Country Park, a popular visitor attraction with café and toilets lies 1.5km to the south of the end of this section.

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The parts of this section nearest to Corringham are reasonably well used but the cycleway alongside The Manorway and the public footpath past Oozedam to the tidal barrier are only lightly used. Much of the proposed trail on all of this section is reasonably well surfaced with a mixture of gravel and grass paths as well as pavement. Due to the inland nature of this section, some quite significant areas of grazing marsh will form part of the coastal margin. Current evidence suggests that the existing seawall and folding paths are not well used. Overall a quiet stretch, with some new access, but new users are likely to be those undertaking the onward journey, with no looping local paths for local users to significantly increase usage.

Report 3 – Pitsea Hall Lane, Pitsea to Ferry Road, Benfleet

Most of the land within this section is former or current landfill, as a result of which, access to the foreshore of the various creeks is currently very limited. Wat Tyler Country Park is the only substantial visitor facility and is extremely popular, providing a visitor centre, toilets, play area and other amenities; it is mainly accessed by car. The RSPB Bowers Marsh reserve provides several kilometres of trails around their Bowers Marsh reserve. Visitor numbers to this site are still quite small as it is quite a long walk to the site from the nearest residential areas and there are no visitor facilities beyond a small car park. RSPB have reported issues with some local dog walkers, again arriving by car. A dogs on leads policy is in place. A very large area of coastal margin will be created within this section as the ECP takes an inland route due to the presence of a large landfill site. However, it is anticipated that current access patterns within the margin will not be significantly changed by the establishment of the coast path and the majority of the intertidal areas will be inaccessible to walkers either through a S25A restriction or the presence of the operational landfill site.

Report 4: Canvey Island

There are existing Public Rights of Way (PRoWs) along or immediately behind the sea defences around almost the whole of Canvey Island. The three short sections where there are no PRoWs are well used by the public and treated as if they are PRoW, enabling a complete circuit of the Island. The eastern end is more populated, and has typical seaside type interests, a small funfair, amusements, and shops. The southern shore is very popular with visitors and dog walkers and there are a number of small beaches and one large beach at Thorney Bay. There are cafes, car parks and associated visitor facilities. West of Thorney Bay is a large caravan park and several chemical plants, beyond which few people seem to venture. The seawall PRoW beyond Roscommon Way, all the way round the western side of the island back to Canvey Road appears to be little used at present as there is little to attract people here.

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The England Coast Path is unlikely to add significantly to the numbers using this loop. It is a day walk of around 15 miles from the start to end at the same location, where there is no hotel for an overnight stay for those that may be continuing along the path.

Report 5. Ferry Road, Benfleet to Barge Pier, Shoebury Ness

This section covers the highly urbanised and heavily used seafront at Southend on Sea, largely along the promenade. By using links with local rail services it is possible to return to the start of a long linear walk using the train (e.g. Shoeburyness (at the end of this report) to historical Leigh on Sea (start of report)). Many visitors and the local community come for the seaside facilities. It is expected that ECP users will add little to this very well-used coastal stretch.

Housing growth and the Essex Recreational disturbance Avoidance and Mitigation Strategy (RAMS)

Bird Aware Essex Coast brand

The emerging Local Plans for Southend-on-Sea, Rochford District, Thurrock and several other Essex planning authorities covering areas on or close to the coast are at early stages of development. These plans include targets for new housing that would substantially increase the population living within easy reach of the coast over the next 20 years. Recognising that this population increase has the potential to adversely affect the county's internationally designated coastal sites (SPA, SAC and Ramsar sites) 11 Essex planning authorities have entered into partnership to develop and implement an Essex Coast Recreational disturbance Avoidance & Mitigation Strategy (Essex RAMS). This aims to deliver the mitigation necessary to avoid significant adverse effects from 'in-combination' impacts of the residential development that is anticipated across Essex; thus protecting SPAs, SACs and Ramsar sites on the Essex coast from adverse effects on site integrity. The RAMS identifies a detailed programme of strategic mitigation measures which will be funded by developer contributions from residential development schemes. All new residential developments within evidenced Zones of Influence (Zols) of the coastal sites and where there is a net increase in dwelling numbers are included. Agreed Zols based on visitor survey data for the sites considered in this HRA vary: 4.3 km Benfleet and Southend Marshes SPA, 8.1km Thames Marshes & Estuary, to 13 km Foulness SPA. Taken together, the 11 authorities are aiming to deliver approximately 80,000 new homes in the next 20 years according to growth set out in their current and emerging Local Plans. This will potentially result in around 190,000 new residents in their combined area (based on a 2.4 person per household average household occupancy) between 2018 and 2038 – the end of the current period of the Essex RAMS [Ref 5].

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Participating planning authorities are expected to adopt Supplementary Planning Documents in 2020 to deliver the Essex RAMS. In November 2017 Natural England provided written advice to them that until the implementation phase of the RAMS, an interim protocol should be followed to ensure consistency and fairness in securing strategic level mitigation for new housing developments within Zols. Recommended elements of this protocol include: (i) collection of appropriate funding for strategic mitigation measures, proportionate to the level of housing development; (ii) a delivery mechanism for these measures and their implementation prior to first occupation of the dwellings; and (iii) a policy in emerging Local Plans setting out how likely recreational disturbance impacts from new residential development will be mitigated, which should include a policy commitment to the production and implementation of the Essex RAMS. In August 2018 Natural England provided further interim advice, including information on revised Zols agreed by the RAMS Steering Group and, for larger scale residential developments falling within Zols, recommendations on appropriate and proportionate measures within the development site - such as high quality green infrastructure with provision for dog walking - to reduce recreational disturbance on European sites nearby.

D3. Assessment of potential adverse effects considering the plan or project 'alone'

This section considers the risks identified at the screening stage in section C and assesses whether adverse effects arising from these risks can be ruled out, having regard to the detailed design of proposals for coastal access.

In reviewing the ability of any incorporated measures to avoid harmful effects, Natural England has considered their likely effectiveness, reliability, timeliness, certainty and duration over the full lifetime of the plan or project. A precautionary view has been taken where there is doubt or uncertainty regarding these measures.

D3.1 Design of the access proposal to address possible risks – at a stretch level

The key nature conservation issue for this stretch of the Coast Path is the protection of non-breeding waterbirds, which occur all along the stretch during the winter and the spring and autumn migration periods. When considering the potential for increased disturbance to birds we focussed attention on: (i) parts of the stretch where we predict appreciable changes in levels of public use as a result of our proposals; and (ii) sensitive locations likely to hold concentrations of birds, such as high tide roost sites and important feeding areas, either within or outside SPA boundaries.

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To assess sensitive locations, we used BTO WeBS data [Ref 3], observations during site visits, and information compiled by Panter and Liley [Ref 4] or provided to us by landowners and site managers. To identify parts of the stretch where at least a moderate increase in levels of use appears to be likely we used our own observations, on-line mapping and aerial photography, Strava heatmaps, and information provided by the local access authority, site managers and landowners, or by Panter and Liley [Ref 4]. Based on this information, we predict only small increases in use above current baseline levels. Current baseline data shows less activity in the potentially most sensitive locations, i.e. around Mucking Marshes, Fobbing and Vange Marshes.

Any increase in levels of public use near areas where birds are feeding or resting may produce some increase in bird disturbance. This can vary from occasional, short-term, 'low cost' events affecting a few birds (for example increased alertness and a small reduction in feeding rates lasting a few minutes) to major disruption on a regular basis (such as large flocks abandoning a key roost site or feeding area and flying several kilometres to the nearest alternative site).

When assessing whether increases in bird disturbance at a particular location require changes to route alignment or other mitigation measures to ensure there is no adverse effect on site integrity, we have followed the principle that 'significant' disturbance - as defined by the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) and used in Natural England's supplementary advice on the conservation objectives for marine SPAs - must be avoided. The definition is: "Disturbance should be judged as significant if an action (alone or in combination with other effects) impacts on (water)birds in such a way as to be likely to cause impacts on populations of a species through either: (i) changed local distribution on a continuing basis; and/or (ii) changed local abundance on a sustained basis; and/or (iii) the reduction of ability of any significant group of birds to survive, breed, or rear their young."

The potential for bird disturbance is reduced on this stretch because nearly all the intertidal flats and saltmarshes in the coastal margin are unsuitable for public access on foot, so they will be excluded from new coastal access rights on grounds unrelated to nature conservation.

D3.2 Design of the access proposal to address possible risks – at a local level

In this part of the assessment we consider key locations along the coast between Tilbury Ferry and Barge Pier, Shoebury Ness where establishing the England Coast Path and associated coastal access rights might impact on Qualifying Features of a European site.

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We assess the possible risks at each location and explain how the detailed design of our proposals takes account of them.

The relationship between the locations referred to in this assessment and the corresponding Coastal Access Reports in which the access proposal is described is shown in the table below.

Table 8. Summary of key locations

Location	Main Species	Cross reference to Coastal Access Reports	Non-breeding waterbirds
Mucking Flats	SPA / Ramsar site Avocet, black-tailed godwit, dunlin, grey plover, ringed plover, knot	Report TSE 1/ route sections TSE- 1-S051 to TSE-1-S057 (Map TSE 1f, g)	✓
Vange Marshes & Fobbing Marshes	Functionally-linked land Avocet, common tern, ringed plover, redshank	Report TSE 2/ route sections TSE-2-S019 to TSE – 2- S039 FP (Maps 2c, d, e)	✓
Pitsea Marsh and Bowers Marsh	Functionally-linked land Black-tailed godwit	Report TSE 3/ route sections TSE-3-S010 to TSE-3-S012 (Map TSE 3b/3c)	✓
Holehaven Creek	Functionally-linked land Black-tailed godwit	Report TSE 2, 3, (TSE 4 Canvey Island bank)/ route section TSE-2-S014 – TSE-3-S013 (Map TSE 2c,d,e; 3c, d)	✓
Intertidal areas to the north and east of Canvey Island. (Benfleet Creek, Hadleigh Ray, Two Tree Island, Canvey Point, Leigh Beck Point, Leigh Marsh)	Dark-bellied brent goose, grey plover, knot, ringed plover, dunlin	Report TSE 5/ route section TSE-5-S003 to TSE-5-S037 (Map TSE 5b-e)	✓
Southend Seafront	Dark-bellied brent goose, dunlin, ringed plover	Report TSE 5/ route sections TSE -5-S043 to TSE-5-46 (Maps TSE 5h –k)	✓

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D3.2A Mucking Flats

Mucking Flats and Marshes comprise an extensive stretch of the Thames mudflats and saltmarsh, together with seawall grassland. The mudflats form the largest intertidal feeding area for wintering wildfowl and waders west of Canvey Island on the north bank of the Thames. Thurrock Thameside Nature Park, run by the Essex Wildlife Trust, sits on the adjacent restored landfill site. RSPB Stanford Wharf reserve abuts Mucking Flats.

I) Baseline Data

The extensive intertidal area of Mucking Flats supports a number of SPA species, but only makes up a comparatively small part of the overall Thames Estuary and Marshes SPA. The SPA section on the north bank of the Thames comprises approximately 300 ha of intertidal saltmarsh and mudflat running in a comparatively narrow strip from Coalhouse Point up to the western boundary of the London Gateway Port. The SPA on the south bank of the Thames covers over 4,000 ha of marshes and mudflats from Cliffe to the Isle of Grain.

The Essex part of this SPA is particularly important for black-tailed godwits which feed on a wide range of invertebrates on the intertidal. There is a high tide roost for this species at Mucking Flats with WeBS core counts indicating that around 14% of the SPA population may use the site. The species is doing well with WeBS data indicating increases over both the short-term (5 years) and long-term (25 years) within the Thames Estuary and Marshes SPA. There are several other species for which Mucking Flats are a stronghold on the Essex side of the Thames and these include avocet, dunlin, knot, grey plover and ringed plover.

There is a well walked route with benches on the banks to allow views over the countryside and for observing birds. Thurrock Thameside Nature Park, run by the Essex Wildlife Trust, sits on the adjacent restored Mucking landfill site. It is popular with visitors having a car park, visitor centre and walking trails, making it much more attractive than the Mucking Flats and Marshes themselves. Birdwatchers have good views of the birds over Mucking Flats including indoor viewing from the elevated visitor centre. RSPB Stanford Wharf reserve abuts Mucking Flats. Its intertidal habitat provides functionally-linked land for SPA birds.

II) Detailed design features of the access proposal

The trail runs inland of the SPA / Ramsar site boundary, in some places only just but in others, such as at Coalhouse Fort and Mucking Marshes, more significantly so. The majority of the trail will be on an existing public footpath which also serves as the promoted Thames Estuary Path. North of Coalhouse Fort the trail will be aligned along the concrete sea wall. The trail deviates well inland around the edge of Mucking Marshes part of which is a

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working landfill site and then returns seaward, past the Thurrock Thameside Nature Park and the RSPB Stanford Wharf reserve where it follows an existing right of way, close to the northern boundary on higher land.

A section S25A restriction will be applied on all the intertidal saltmarsh and mudflats which are hazardous and unsuitable to walk over.

III) Consideration of possible risks to qualifying features at this location in light of the access proposal

The birds here mainly use the intertidal and saltmarsh areas for foraging and resting. As coast path access is unlikely to result in a significant increase in users of the path and the S25A restriction will limit access to their preferred feeding and roosting areas, the risk to qualifying features is low.

D3.2B Vange & Fobbing Marshes

Vange and Fobbing Marshes lie on the alluvial flood plain of the lower river Thames to the east and north of the Holehaven Creek complex. The unimproved coastal grassland and associated dykes and creeks support an outstanding assemblage of plants. Following the route of the trail a walker would first reach Fobbing Marshes before proceeding further north to Vange Marshes. This area, while not covered by a European site designation, is considered to provide functionally-linked land used by SPA bird species.

I) Baseline situation

The Essex Wildlife Trust have a reserve at Fobbing Marshes and the RSPB one at Vange Marsh which is split into two sections – a larger southern section and a smaller northern one. At Vange Marshes protected bird species use the RSPB reserve all year round. Counts show the presence of wintering dunlin, redshank, grey plover, lapwing, black-tailed godwit, knot, avocet, brent goose, wigeon, shelduck and teal, and the presence of breeding avocet and common tern. The reserve already observes a dogs to leads policy.

While this area is served by several PRoWs and permissive routes it is relatively remote, with no visitor facilities, with the section running from Oozedam north to the Fobbing Horse Tidal Barrier requiring a walk of either 3.5km along a dual carriageway or 2.5km across the marshes to access.

II) Detailed design features of the access proposal

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The second short stretch of new access on the Tilbury to Southend-on-Sea stretch occurs in this section on land managed as Essex Wildlife Trust's Fobbing Marshes reserve. 1.5km of trail will be created along the folding behind the sea wall, connecting a longstanding PRoW with a recently diverted one which now runs along the edge of Vange Creek, again keeping to the folding to minimise bird disturbance. We propose to install fences and gates across culverts in the borrow dyke on the landward side of the trail to increase safety and define the path edge, encouraging users to keep to the path and restricting dogs over the Fobbing Marshes, which is not included in spreading room.

There is limited coastal margin in this area as the trail generally follows the creek edges closely. The intertidal areas are all restricted under S25A on safety grounds while the northern section of the RSPB Vange Marsh (which falls within the coastal margin) is covered by a year-round dogs to leads S26a restriction to complement existing management measures. Some small areas of grazing marsh and wetland will fall within the coastal margin as will a couple of arable fields. We cannot completely rule out the possibility that people will occasionally stray onto these areas, although it is anticipated from experience in similar situations elsewhere that the frequency of such occurrences will be low. The grazing marshes and wetland areas are generally well fenced and/or surrounded by wide, water-filled ditches which in the main act as very effective deterrents to access.

III) Consideration of possible risks to qualifying features at this location in light of the access proposal

As previously stated, this is a relatively remote part of the stretch, meaning that even the short section of new access is unlikely to result in a significant increase in the number of walkers. Fencing and restrictions mean that there will not be a change in the way that the EWT and RSPB reserves are managed. Aligning the trail along the folding of the seawall will avoid any additional visual disturbance to birds using the creeks and there will be no new rights of access created over the intertidal areas used by the birds for feeding and roosting.

This is the only key location for birds along the stretch where there is the potential for short-term construction disturbance from the installation of the gates and fencing across the culverts at Fobbing Marshes. Table 9 below summarises mitigation measures to reduce disturbance to birds during path construction works

Table 9. Establishment works - mitigation measures

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Site design	<ul style="list-style-type: none"> ▪ Operator to design access routes, storage areas and site facilities to minimise disturbance impacts. ▪ Operator to conduct operations out of sight of roosting and feeding areas where possible.
Timing of works	<ul style="list-style-type: none"> ▪ Local authority to plan schedule with Natural England to limit disturbance risk. ▪ Natural England to specify a period of low sensitivity at each construction site, based on likely departure and arrival dates of waterbird species that use it. ▪ At all other times, if the operator is working within 200 metres of, and visible to, a roost site, then work will stop during the 2 hours before and after high tide. ▪ Operator to limit construction activities to daylight hours at all times of year.
Method	<ul style="list-style-type: none"> ▪ Operator to use hand tools where practicable. ▪ Operator to avoid use of percussive machinery outside period of low sensitivity or avoid use of machinery during the 2 hours before and after high tide.

D3.2C Pitsea Marsh and Bowers Marshes

I) Baseline situation

Pitsea Marsh is a mosaic of habitats, including scrub, grassland reedbed and fen, open water and saltmarsh. Geologically, the site is split in two. The grazing marsh, dykes and reedbed lie on alluvial deposits, whilst the scrub, grassland and ponds are found primarily on London Clay. The reedbed in Pitsea Fleet is the largest known in South Essex. Part of Pitsea Marsh falls within the RSPB's Bowers Marshes reserve which may act as functionally-linked land for birds from the Benfleet and Southend Marshes SPA and Ramsar site.

II) Detailed design features of the access proposal

The presence of the operational Pitsea Landfill Site requires a significant inland diversion of the trail here which creates a very large area of coastal margin. The trail itself follows a footpath north of the railway line, before heading south-east on existing PRoWs and permissive paths across the corner of the RSPB reserve at Bowers Marsh. The reserve will be covered by an extensive year round dogs to leads restriction S26(3)(a) to complement

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existing management measures. Intertidal areas along Fobbing Creek, Vange Creek and East Haven Creek will be restricted under S25A on safety grounds.

III) Consideration of possible risks to qualifying features at this location in light of the access proposal

The route of the trail itself avoids any sensitive areas, passing north of the railway line and then skirting the north-east corner of the RSPB Bowers Marsh reserve. Although the inland route of the trail here creates a large area of margin the majority of this is restricted under either 25A or 26(3)(a). Due to the presence of the landfill site the only place that walkers are able to get down to the edge of the intertidal is at Wat Tyler Country Park, already a popular visitor destination. For these reasons we do not consider the proposals in this location pose a significant risk to the qualifying features.

D3.2D Holehaven Creek

The site consists of Holehaven Creek and parts of the connecting Vange Creek and East Haven Creek. The tidal creek system acts as the principal drain for the surrounding grazing marshes and forms a confluence at Holehaven with the River Thames. The site is linked geographically and functionally with the wider Thames Estuary. The creek, while not covered by a European site designation, is considered to provide functionally-linked land used by SPA bird species, particularly black-tailed godwit which occur here in internationally important numbers (Tidal Thames Habitat Action Plan, 2002). The creek provides prime conditions for black-tailed godwit, including an abundance of food in the mudflats (polychaete worms and bivalve molluscs), large areas of saltmarsh (e.g. Lower Horse Island) for high tide roosts and minimal levels of disturbance.

I) Baseline situation

There is limited access to the west side of lower Holehaven Creek due to the presence of various types of heavy industry. The east side of the creek is the western side of Canvey Island which has exiting PRowS close to the shore although these do not appear to be heavily used.

Information from the RSPB and Veolia Black-tailed godwit Monitoring Project identify the roosting and foraging areas for black-tailed godwit that favour this area. The population is present from August to April. Seven survey zones are monitored for the project, along Holehaven Creek itself. The usual peak count is between 3,000 and 4,500 recorded either in

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spring as numbers build prior to migration or autumn as birds rest at the creek on the return passage. The preferred roost sites are islands of saltmarsh in the centre of the creek.

II) Detailed design features of the access proposal

The intertidal areas along both banks of Holehaven Creek will be restricted under S25A for safety reasons. Around Canvey Island the trail will follow existing PRowWs and no significant increase in use is anticipated.

III) Consideration of possible risks to qualifying features at this location in light of the access proposal

Our proposals will result in little change to the access baseline on Canvey Island. The presence of the creek and the S25A restrictions mean that walkers will not be able to access the black-tailed godwits preferred roosting sites so their use of this area of key functionally linked land is unlikely to change.

D3.2E Intertidal areas north and east of Canvey Island

I) Baseline situation

To the north and east of Canvey Island are extensive areas of creek, saltmarsh and mudflat which support significant numbers of SPA birds. These areas include:

- Benfleet Creek, running between Canvey Island and the main Essex coast
- Hadleigh Ray, at the eastern end of Benfleet Creek
- Leigh Beck Point and Canvey Point, off the eastern tip of Canvey Island
- Two Tree Island
- Leigh Sands and Leigh Marsh – east of Two Tree Island

Dark-bellied brent geese roost in shallow, intertidal areas including brackish and freshwater grazing marshes, such as those around Two Tree Island and Canvey Point (Fuller, 2015 pers comm). Within areas of saltmarsh such as Benfleet Creek, Leigh Beck Point, Hadleigh Ray, the periphery of Two Tree Island, Canvey Point and Leigh marshland, dark-bellied brent geese feed on intertidal plants such as *Enteromorpha* species, seagrass *Zostera spp.* and some littoral plants

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Dunlin also roost at Canvey Point and Two Tree Island, feeding around the cockle beds and mudflats at Canvey Point, Leigh Marsh and Two Tree Island.

Grey plover prefer large extents of muddy, sandy and soft-sediment and are found on the saltmarsh, mudflats, cockle beds and grazing marsh at Benfleet Creek, Two Tree Island and around Canvey Point.

Knot feed on molluscs and depend on large expanses of grazing marsh and saltmarsh found at Benfleet Creek and Hadleigh Ray, as well as mudflats at Canvey Point, and mudflats, saltmarsh and grazing marsh at Leigh Marsh and Two Tree Island to feed and roost (Liley, 2011).

This section of the coast has very good existing access with PRowS and highways all the way around Canvey Island and along the mainland close to the shoreline. In particular the PRow between Benfleet and Leigh is very popular with walkers and cyclists. Two Tree Island is part country park and part nature reserve and has a good network of surfaced and unsurfaced paths. The island is extremely popular with visitors, especially dog walkers and bird watchers, all year round.

II) Detailed design features of the access proposal

The specific areas listed in the above section all fall under a wide S25A restriction as they are considered unsafe to walk across being intertidal habitat consisting of saltmarsh, mudflats or small creeks. The coast path follows existing public rights of way along the shoreline, taking in a loop around Two Tree Island.

III) Consideration of possible risks to qualifying features at this location in light of the access proposal

The negligible change as a result of our proposals coupled with the extent of the S25A restrictions in this area are considered sufficient to prevent a significant impact on the qualifying features at this location.

D3.2F Southend Seafront

I) Baseline situation

This section of the stretch is characterised by the conurbation of Southend-On-Sea and is extremely well-used and popular with tourists and locals for dog walking, running and

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general recreation. There are roads and pavements through “Old Leigh” and then a PRow (known locally as the Cinder Path) along the coastal defence to Chalkwell Station. East of Chalkwell Station there is a wide tarmac promenade all the way to the end of Ness Road, Shoebury, beyond which there is a stone aggregate path to Barge Pier.

East of Two Tree Island, an extensive area of intertidal mudflats run as far as Chalkwell before grading into the firmer, sandier Southend Flats. Much of the SPA here also falls within the Southend-On-Sea Foreshore Local Nature Reserve. There are existing information boards along the seafront explaining the importance of the area for wildlife and providing details of species which visitors may see. The site is heavily used by a wide variety of waterbirds, but SPA species regularly found here include dark-bellied brent geese (where monthly peak counts can exceed 1,000 birds), dunlin and ringed plover. Annual peak means for ringed plover in the Southend Seafront WeBS count sector are around 100-200 birds making up a significant proportion of the SPA total (the 5-year peak mean between 2012 and 2016 was 318 individuals).

II) Detailed design features of the access proposal

The trail in this section follows the already heavily used tarmac promenade. The mudflats from Two Tree Island to Chalkwell will be restricted under S25A on safety grounds. We are not proposing any restrictions on the firmer intertidal further along the seafront as increased use of the margin from our proposal will be negligible and any such restrictions would have no impact on existing patterns of use.

III) Consideration of possible risks to qualifying features at this location in light of the access proposal

As a result of the negligible level of change which will result from our proposals in this location, we consider that they are unlikely to significantly increase the risk of disturbance to the avian qualifying features.

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D3.3 Assessment of potentially adverse effects (taking account of any additional mitigation measures incorporated into the design of the access proposal) alone

Table 10. Assessment of adverse effect on site integrity alone

Risk to conservation objectives	Relevant design features of the access proposal	Can 'no adverse effect' on site integrity be ascertained? (Yes/No) Give reasons.	Residual effects?
Recreational disturbance to feeding or resting birds	<ul style="list-style-type: none"> ▪ All of this stretch is on existing public access of various types except for a 1.5km stretch adjacent to Fobbing Marshes. ▪ There will be year round dogs to leads restrictions at RSPB Vange Marsh and Bowers Marshes. ▪ Most of the intertidal mudflat and saltmarsh along the stretch is unsafe and unsuitable for walking so access will be excluded by direction. 	<p>Yes. Our proposals are designed to maintain important refuges and facilitate responsible recreation in ways that minimise disturbance to non-breeding waterbirds. Key roosts at Mucking Flats, Two Tree Island and Canvey Point will continue to function as important refuges in the SPA as there is a natural segregation with roosting and feeding birds since the majority of the intertidal mudflats they use are unsuitable for walking over. Coastal access rights will be excluded from these areas, thus formally clarifying the legal position on public access.</p> <p>Providing access to wildlife sites through carefully selected and promoted routes is an effective management technique for reducing disturbance pressure over a site. However, managing access in this way requires a co-ordinated approach between partners involved to be effective. The environmental conditions of the Thames Estuary and Marshes and Benfleet and Southend Marshes SPA and Ramsar sites are dynamic and influenced by a number of human activities. It is possible there are other plans and projects currently in development that could, in combination with the Coast Path, lead to adverse effects on the integrity of the site. In light</p>	Yes

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		of this uncertainty, and in order to ensure that the implementation of coastal access in this area doesn't lead to adverse effects on integrity in combination with other planned initiatives, we have carried out a further in-combination assessment below.	
Construction disturbance to feeding or resting birds	<ul style="list-style-type: none"> Table 9 in section D3.2 provides a summary of the mitigation measures to reduce the disturbance to birds, including scheduling works to limit disturbance risk. 	Yes. Providing the mitigation measures are implemented during the construction works any impacts from the works to birds should be minimised. The installation methods will be checked at the establishment stage and further assessment under the Habitat Regulations made, as necessary, prior to the works being carried out.	No
Disturbance to breeding birds where these make a significant contribution to the non-breeding population	<ul style="list-style-type: none"> All of this stretch is on existing public access of various types except for a 1.5km stretch adjacent to Fobbing Marshes where culverts will be fenced to prevent disturbance of birds using the grazing marshes behind. At Vange Marshes we are following a newly diverted PRow close to the creek edge and further away from breeding bird habitat. The main breeding areas along this stretch for birds which could contribute to designated overwintering populations are within RSPB reserves where a year round dogs to leads restriction will be in place to complement existing management. 	Yes. There is little information available on post-breeding movements of redshank and avocet within the SPA so for the purposes of this assessment it is assumed that all birds remain into the non-breeding season. However, expert judgement is that this is likely to be a highly precautionary assumption. To have a significant impact on the designated over-wintering population would require significant disturbance of enough breeding pairs to make up a significant proportion of this population. Given that the breeding hotspots for avocet and redshank are within reserves managed by environmental NGOs and our proposal will result in a negligible change to how these areas are accessed we do not consider that there will be an adverse effect on site integrity through this impact pathway.	No

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Conclusion:

The following risks to achieving the conservation objectives identified in D1 are effectively addressed by the proposals and no adverse effect on site integrity (taking into account any incorporated mitigation measures) can be concluded:

Disturbance to breeding birds where these make a significant contribution to the non-breeding population

Construction disturbance to feeding or resting birds

The following risks to achieving the conservation objectives identified in D1 are effectively addressed by the proposals and no adverse effect on site integrity (taking into account any incorporated mitigation measures) can be concluded, although there is some residual risk of insignificant impacts:

Recreational disturbance to feeding or resting birds

D4 Assessment of potentially adverse effects considering the project 'in-combination' with other plans and projects

The need for further assessment of the risk of in-combination effects is considered here.

Natural England considers that it is the appreciable effects (from a proposed plan or project) that are not themselves considered to be adverse alone which must be further assessed to determine whether they could have a combined effect significant enough to result in an adverse effect on site integrity.

Step 1 – Are there any appreciable risks from the access proposals that have been identified in D3.3 as not themselves considered to be adverse alone?

Natural England considers that in this case the potential for adverse effects from the plan or project has not been wholly avoided by the incorporated or additional mitigation measures outlined in section D3. It is therefore considered that there are residual and appreciable effects likely to arise from this project which have the potential to act in-combination with those from other proposed plans or projects. These are:

- Recreational disturbance to feeding or resting birds

Step 2 – Have any combinable risks been identified for other live plans or projects?

We have reviewed other plans or projects that we are aware of at the time of making this assessment and might also give rise to insignificant and combinable effects. In the Table below we identify those for which appreciable effects that are not considered by the relevant competent authority to be significant alone, but which could combine with effects of our access proposal that we would otherwise consider to be insignificant (it is not the purpose of in-combination assessment to consider the effects of other plans or projects that are thought to be significant in their own right).

Assessment of Coastal Access proposals under regulation 63 of the Habitats Regulations 2017 (as amended) ('Habitats Regulations Assessment')



Table 11: In-combination plans or projects

Competent Authority	Plan or project	Have any insignificant and combinable effects been identified?
Southend-on-Sea Borough Council Thurrock Borough Council Rochford District Council Castle Point Borough Council	Local Plan	No. The Essex Coast Recreational disturbance Avoidance & Mitigation Strategy (RAMS) has been developed that will be implemented over the planning period. The Essex Coast RAMS Supplementary Planning Document (SPD) is being consulted on (Feb 2020). It is designed to avoid effects of increased visitors and urbanisation which arise from additional housing near a European site. As a result, it was concluded that the planned allocation of new homes would not lead to an adverse effect on integrity, and no further residual impacts were identified.
Gravesham Borough Council/Highways England	Lower Thames Crossing	No. The proposals for the Lower Thames Crossing to construct a new road system includes a new crossing of the River Thames to the east of London and the existing Dartford Crossing and Queen Elizabeth II Bridge. The Proposed Development will connect the A2 east of Gravesend to the M25 in Essex. The proposal is not at a stage where an assessment of likely significant effects has been carried out.
Natural England	Implementation of coastal access from Grain to Woolwich	Yes. This stretch has been published and covers the Kent shore of the Thames Estuary. The Thames Estuary and Marshes SPA and Ramsar site is split across both sides of the Thames and birds may move from one side to the other. The HRA supporting the stretch identifies a residual disturbance impact on non-breeding waterbirds.
Natural England	Implementation of coastal access from Southend-On-Sea to Wallasea Island	No. This stretch has been published and picks up at the eastern end of Tilbury to Southend. No residual impacts affecting the Benfleet and Southend Marshes SPA and Ramsar site are identified.
Thurrock Borough Council	Thames Enterprise Park	No. The proposal for the Thames Enterprise Park is not at a stage where an assessment of likely significant effects has been carried out.
Secretary of State (Nationally Important Infrastructure Project)	Thurrock Flexible Generation Plant	No. The proposals for the Thurrock Flexible Generation Plant are not at a stage where an assessment of likely significant effects has been carried out

Assessment of Coastal Access proposals under regulation 63 of the Habitats Regulations 2017 (as amended) ('Habitats Regulations Assessment')



Step 3 – Would the combined effect of risks identified at Steps 1 and 2 be likely to have an adverse effect on site integrity?

In light of the conclusions of Steps 1 & 2, we have made an assessment of the risk of in-combination effects. The result of this risk assessment, taking account of each qualifying feature of each site and in view of each site's Conservation Objectives, are as follows:

Residual risk	In-combination effect	Assessment of risk to site conservation objectives	Potential adverse effect?
Disturbance of roosting and feeding birds	There is a possible risk of increased disturbance pressure on both sides of the Thames Estuary.	Both coast path stretches have worked to minimise the risk of additional disturbance to overwintering birds through choices in route alignment, restrictions over key roosting areas and other measures (including additional interpretation on the Kent shore in collaboration with Bird Wise). While it would be unreasonable to expect all measures to be 100% effective, hence the identification of residual risk, we do not consider that it is significant enough to result in an adverse effect on the integrity of the SPA / Ramsar site.	No.

Assessment of Coastal Access proposals under regulation 63 of the Habitats Regulations 2017 (as amended) ('Habitats Regulations Assessment')



D5. Conclusions on Site Integrity

Because the plan/project is not wholly directly connected with or necessary to the management of the European site and is likely to have a significant effect on that site (either alone or in combination with other plans or projects), Natural England carried out an Appropriate Assessment as required under Regulation 63 of the Habitats Regulations to ascertain whether or not it is possible to conclude that there would be no adverse effect on the integrity of a European Site(s).

Natural England has concluded that:

It can be ascertained, in view of site conservation objectives, that the access proposal (taking into account any incorporated avoidance and mitigation measures) will not have an adverse effect on the integrity of the Thames Estuary and Marshes SPA and Ramsar site, Benfleet and Southend Marshes SPA and Ramsar site, Foulness (Mid-Essex Coast Phase 5) Special Protection Area (SPA) and Ramsar Site, Essex Estuaries Special Area of Conservation (SAC) and the Outer Thames Estuary Special Protection Area (SPA) either alone or in combination with other plans and projects.

PART E: Permission decision with respect to European Sites

Natural England has a statutory duty under section 296 of the Marine and Coastal Access Act 2009 to improve access to the English coast. To fulfil this duty, Natural England is required to make proposals to the Secretary of State under section 51 of the National Parks and Access to the Countryside Act 1949. In making proposals, Natural England, as the relevant competent authority, is required to carry out a HRA under Regulation 63 of the Habitats Regulations.


We, Natural England, are satisfied that our proposals to improve access to the English coast between Tilbury and Southend are fully compatible with the relevant European site conservation objectives.

It is open to the Secretary of State to consider these proposals and make a decision about whether to approve them, with or without modifications. If the Secretary of State is minded to modify our proposals, further assessment under the Habitats Regulations may be needed before approval is given.

**Assessment of Coastal Access proposals under
regulation 63 of the Habitats Regulations 2017
(as amended) ('Habitats Regulations
Assessment')**



Certification

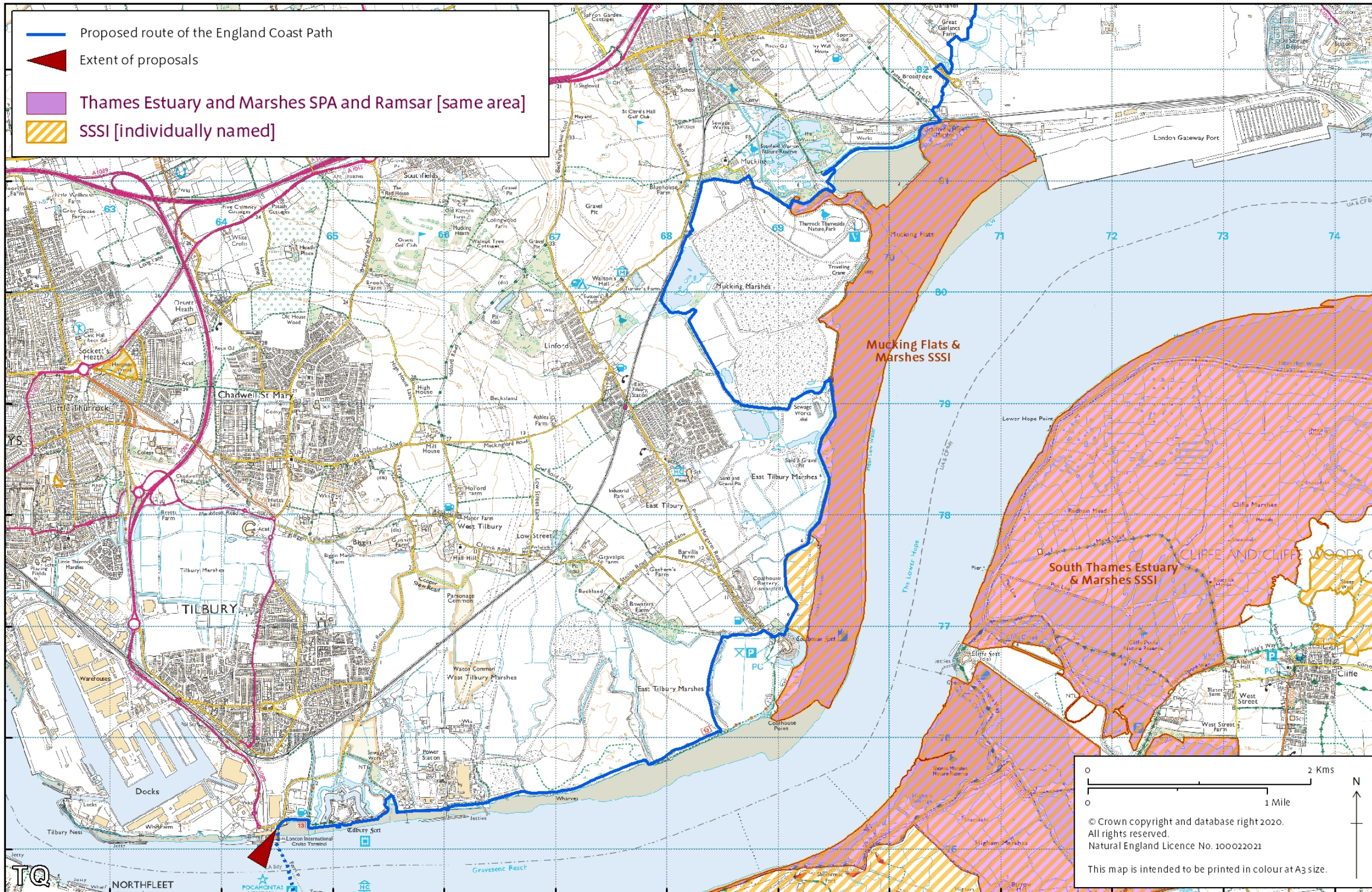
Assessment prepared and completed by:	Sally Harries, Lead Adviser	On behalf of the Coastal Access Programme Team
Date	19th February 2020	
HRA approved:	John Torlesse 	Senior officer with responsibility for protected sites
Date	20th February 2020	

Maps showing Environmental Designations as described in this report.



Coastal Access: Tilbury to Southend - Natural England's Proposals
 Coastal Access: Habitats Regulations Assessment

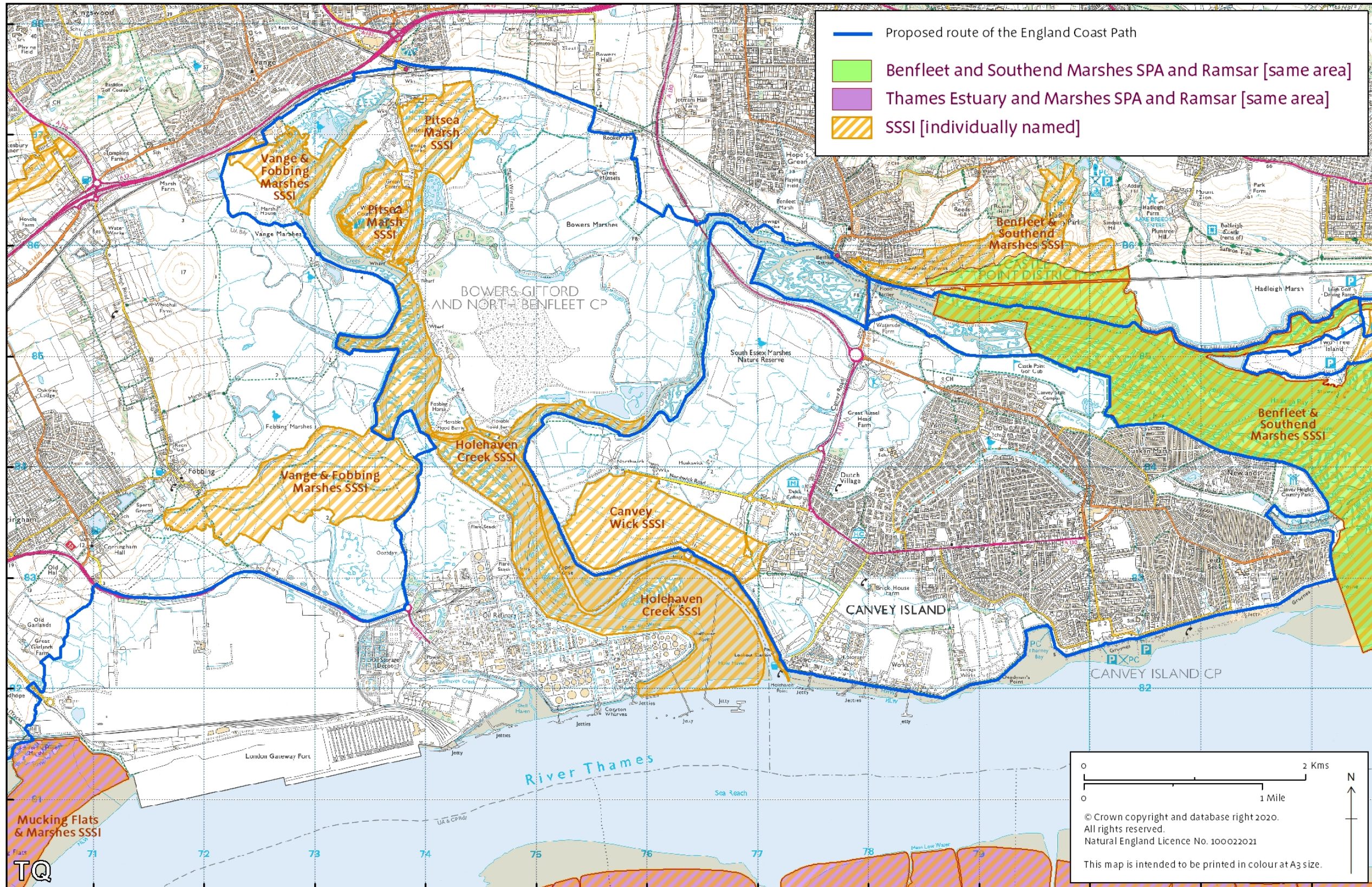
A. TSE western section - Key designations



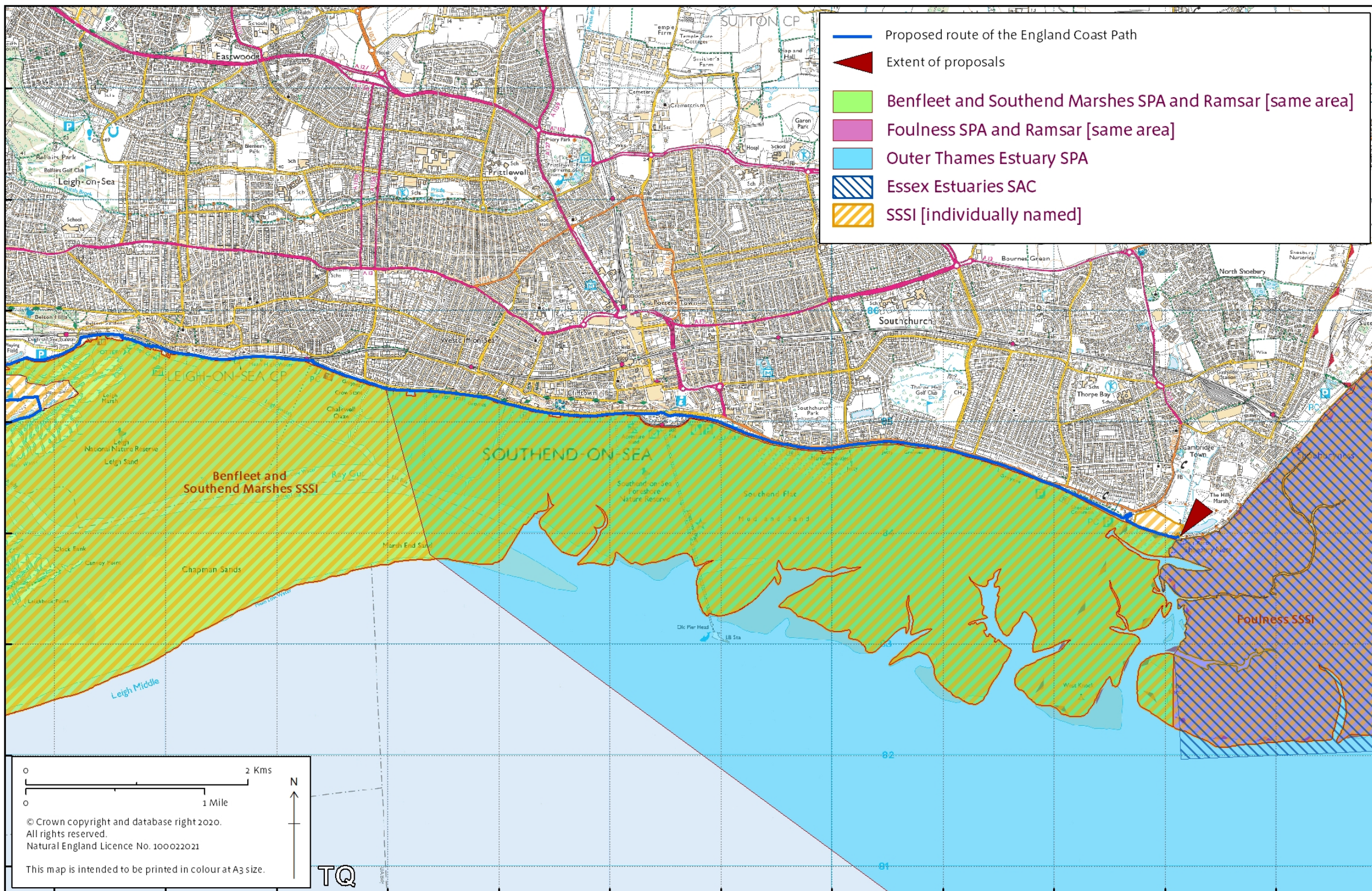
A. TSE western section - Key designations

B. TSE central section - Key designations

B. TSE central section - Key designations



C. TSE eastern section - Key designations



C. TSE eastern section - Key designations

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