Access and Sensitive Features Appraisal

Coastal Access Programme

This document records the conclusions of Natural England's appraisal of any potential for ecological impacts from our proposals to establish the England Coast Path in the light of the requirements of the legislation affecting Natura 2000 sites, SSSIs, NNRs, protected species and Marine Conservation Zones.

Title – Mersea Island

Date – 28th June 2017

Contents

1. Our approach 2
2. Scope 3
3. Baseline conditions and environmental sensitivities 17
4. Potential for interaction 36
5. Assessment of any possible adverse impacts and mitigation measures 43
6. Establishing and maintaining the England Coast Path 73
7. Conclusions 78
8. Certification 88
9. References 89
10. Appendices 91

Table of Figures

Figure 1 - Four subsections of Mersea Island and key features 4
Figure 2 - The Strood and the Strood crossing to North of West Mersea 6
Figure 3 - West Mersea Town 7
Figure 4 - West Mersea to Mersea Stone 8
Figure 5 - Mersea Stone to the Strood 10
Figure 6 Rollback along West Mersea Beach 38
Figure 7 - Rollback along this section (Chapter 3) 40
Figure 8 - New Trail at between East Mersea Road and Colchester Road 45
Figure 9 - Delineation of the Section 25A exclusion at St Peter's Meadow – creek 52
Figure 10 - Western extent of Section 25A exclusion by Anglian Water Sewage Works 59
Figure 11 - Eastern extent of Section 25A exclusion on this subsection, south of Mersea Stone 60
Figure 12 - Delineation of the Section 25A exclusion – north of Cudmore Grove Country Park 67

This appraisal should be read alongside Natural England's related Coastal Access Report in which the access proposal is fully described and explained

https://www.gov.uk/government/publications/england-coast-path-on-mersea-island-comment-on-proposals

1. Our approach

Natural England's approach to protection of sensitive features under the Coastal Access Programme is set out in section 4.9 Coastal Access: Natural England's Approved Scheme 2013[1]. We call our internal processes to support this approach 'Access and Sensitive Features Appraisal' (ASFA) and this document is a record of our conclusions. The appraisal includes Habitats Regulation Assessment wherever relevant to the site in question.

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 proposals are 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 land owners 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 land owners or occupiers, conservation organisations or the local access authority. In these ways, nature conservation concerns are discussed early and constructive solutions identified.

The conclusions of our appraisal 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.

Where our proposals for the England Coast Path and associated Coastal Margin are relevant to a Natura 2000 site, this appraisal fulfils our duty under the Habitats Regulations 2010 to assess their potential implications in order to ensure no likely significant effect on the site. The formal conclusions relating to this are recorded in Part 7 of the document.

In this document, references to the 'route', 'trail' and 'coast path' are all referring to the proposed England Coast Path (ECP).

2. Scope

In this part of the document we define the geographic extent for the appraisal and features that are included. Note that this appraisal is concerned with ecological features; other possible sensitivities, including landscape and historic features, are discussed in our coastal access report.

2.1 Geographic extent

This stretch covers the full extent of Mersea Island, Essex, plus the causeway, known as The Strood, connecting the island to the mainland.

The Island lies between the Colne and Blackwater Estuaries. Its east side is adjacent to the Colne Estuary Site of Special Scientific Interest (SSSI), Special Protection Area (SPA) and Ramsar site. Its west side is adjacent to the Blackwater Estuary SSSI, SPA and Ramsar site. These designated sites include the intertidal zone, most of the island's seawalls and an area of grazing marsh inland of the flood defences at East Mersea. The Colne Estuary National Nature Reserve (NNR) includes extensive mudflats and some saltmarsh on the east side of the island. The Essex Estuaries Special Area of Conservation (SAC) and the Blackwater, Crouch, Roach and Colne Marine Conservation Zone (MCZ) run right around the island and include intertidal and subtidal areas.

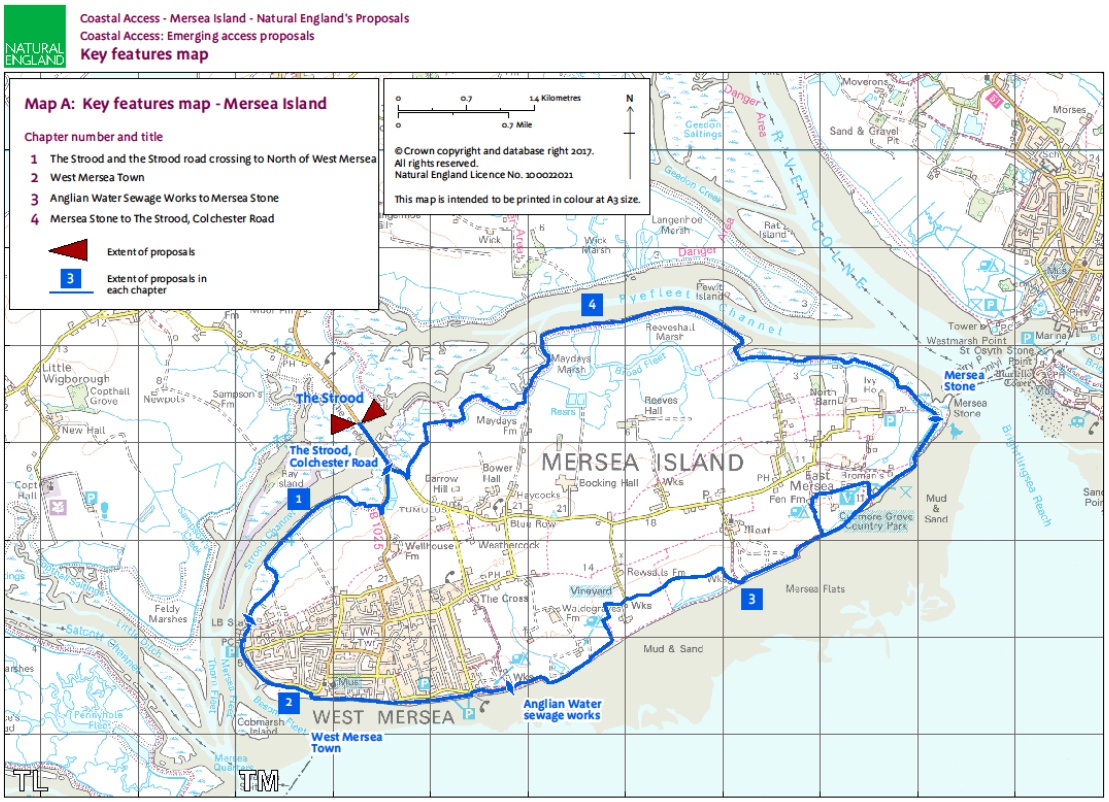
The Pyefleet and Strood channels on the northern side of the island are wide and muddy with a high tidal range, bound to the north and south by saltmarshes which are flooded at high tides. The eastern section at Cudmore Grove has a stretch of cliffs of geological importance, showing Thames deposits and fossil deposits.

There is active coastal erosion around the island – loss of saltmarsh along the northern shore and active loss of land along the southern shore. On the south side of the island, over 800m of seawall fronting low-lying grassland is no longer being maintained and is collapsing. It is likely to breach within the next few years, which will result in significant changes to the shoreline here.

At low tide large expanses of mud are exposed on all sides of the island.
The road link to the mainland is flooded at high tides as are the surrounding saltmarshes.

The stretch has been divided into 4 subsections for the purposes of this assessment, which reflect the chapters of the Report to the Secretary of State.

Figure 1 - Four subsections of Mersea Island and key features



2.1.1 The Strood and the Strood road crossing to north of West Mersea

The majority of this subsection of the trail is along seawall beside the Strood Channel, which is edged by saltmarsh and mudflat of varying width.

At the north-eastern and south-western ends the saltmarsh is broad and threaded with deep creeks that contain soft mud. The southern section contains Firs Chase Saltmarsh – a wide area of saltmarsh which is eroding from the southern end and has a labyrinth of creeks and channels which become deeper and wider to the north.

The middle section between the northern end of Firs Chase and Wellhouse Farm has active erosion and the saltmarsh narrows to a thin strip where there is coastal squeeze. The mud in the Strood channel is soft.

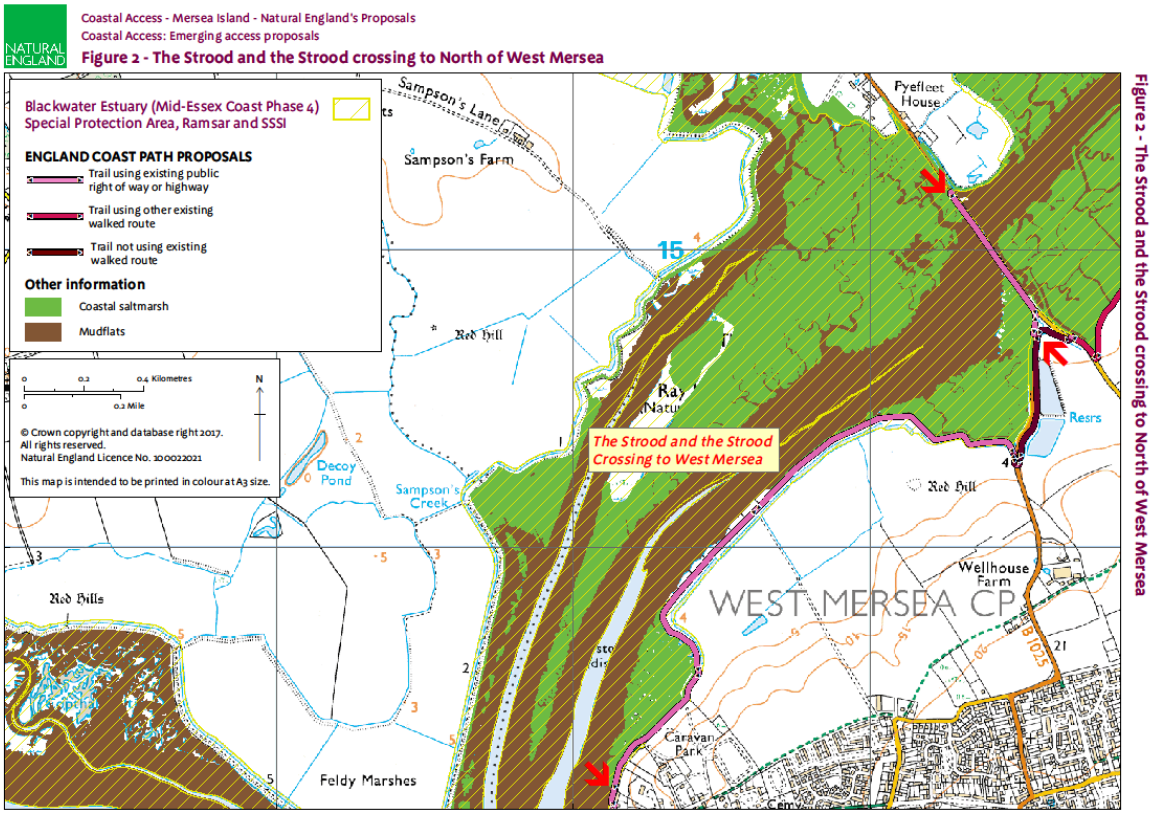
The Strood and Pyefleet Channels on either side of The Strood road crossing are bound to the north and the south by saltmarsh and mudflat.

The map below shows the extent of this subsection between the red arrows.

Note: Public Rights of Way (PROW) – can be one of four types;

- footpaths - for walking, running, mobility scooters or powered wheelchairs
- bridleways - for walking, horse riding, bicycles, mobility scooters or powered wheelchairs
- restricted byways - for any transport without a motor and mobility scooters or powered wheelchairs
- byways open to all traffic - for any kind of transport, including cars (but they are mainly used by walkers, cyclists and horse riders)

Figure 2 - The Strood and the Strood crossing to North of West Mersea



Note:

Appendix A – Maps A1, A2 and A3 show the designated sites for the whole island.

Blackwater Estuary SSSI, SPA & Ramsar site – **Yellow hashing** (These designations have the same inland boundaries, normally including the seawall and borrowdyke, and extend to Mean Low Water. The SAC shares the same landward boundary but also includes subtidal areas below Mean Low Water. The MCZ extends seaward from Mean High Water and also includes subtidal areas.)

2.1.2 West Mersea Town

This subsection includes all of the town of West Mersea. The subsection uses existing footpaths (PROWs), footways (pavements) and roads through the town. Seaward of the trail there are large open areas of beach and 'hard' mudflats. Some small areas of vegetated shingle exist on the beach at the eastern end in front of the beach huts. There are multiple access points including beaches, public slipways, and a pontoon, mudflats, saltmarsh and reed bed as well as a number of roads which lead to the beach.

The area known as St Peters Meadow is a small area of salt marsh adjoining the sand and shingle composed beach, known locally as 'Monkey Beach'. There is a raised area of amenity grassland at the inland edge of the site, adjacent to the road which has benches and provides good views of the estuary and local channels and islands.

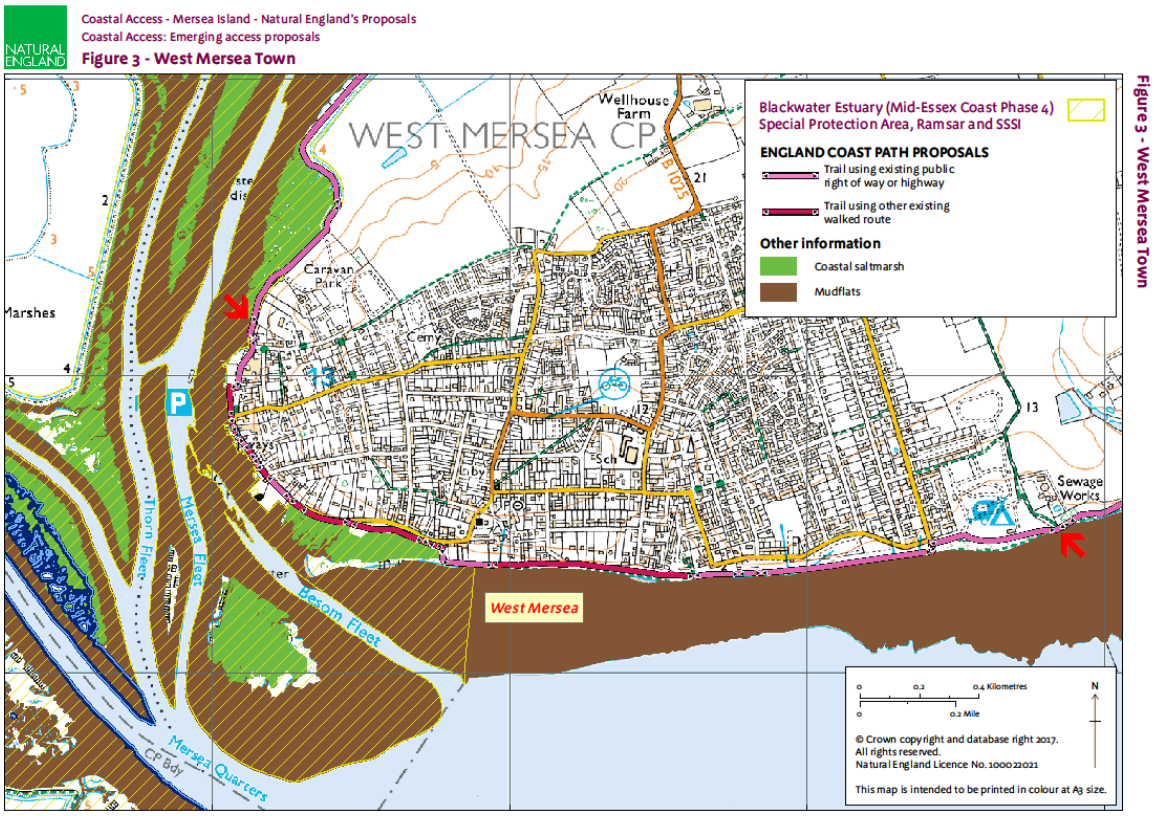
Views across Mersea Fleet and Bensom Fleet give uninterrupted vistas of saltmarsh, mudflat and open skies.

Village Greens, with full public access are found at;

- part of the mudflat known as the Stonehill Hard
- St Peter's Meadow saltmarsh and Monkey Beach
- part of the beach close to Dabchicks Sailing club

West Mersea has a unique character with a mixture of commercial and leisure premises ranging from commercial boatyards to sailing clubs and restaurants and bars. There are many private dwellings too ranging from houseboats, to historic cottages and substantial residences. There has traditionally been a comfortable and informal relationship between public access and the various commercial activities close to the shore. Some land parcels are not fenced, some partially delineated and others completely fenced.

Figure 3 - West Mersea Town



Note:

Appendix A – Maps A1, A2 and A3 show the designated sites for the whole island.

Blackwater Estuary SSSI, SPA & Ramsar site – **Yellow hashing** (These designations share the same inland boundaries to the landward edge of the mudflat and saltmarsh to a point 100m east of St Peter's Meadow, and extend seaward to Mean Low Water. The SAC shares the same landward boundary but includes subtidal areas and, below Mean Low Water only, extends further east in this section than the other designations. The MCZ extends seaward from Mean High Water.)

2.1.3 **West Mersea to Mersea Stone**

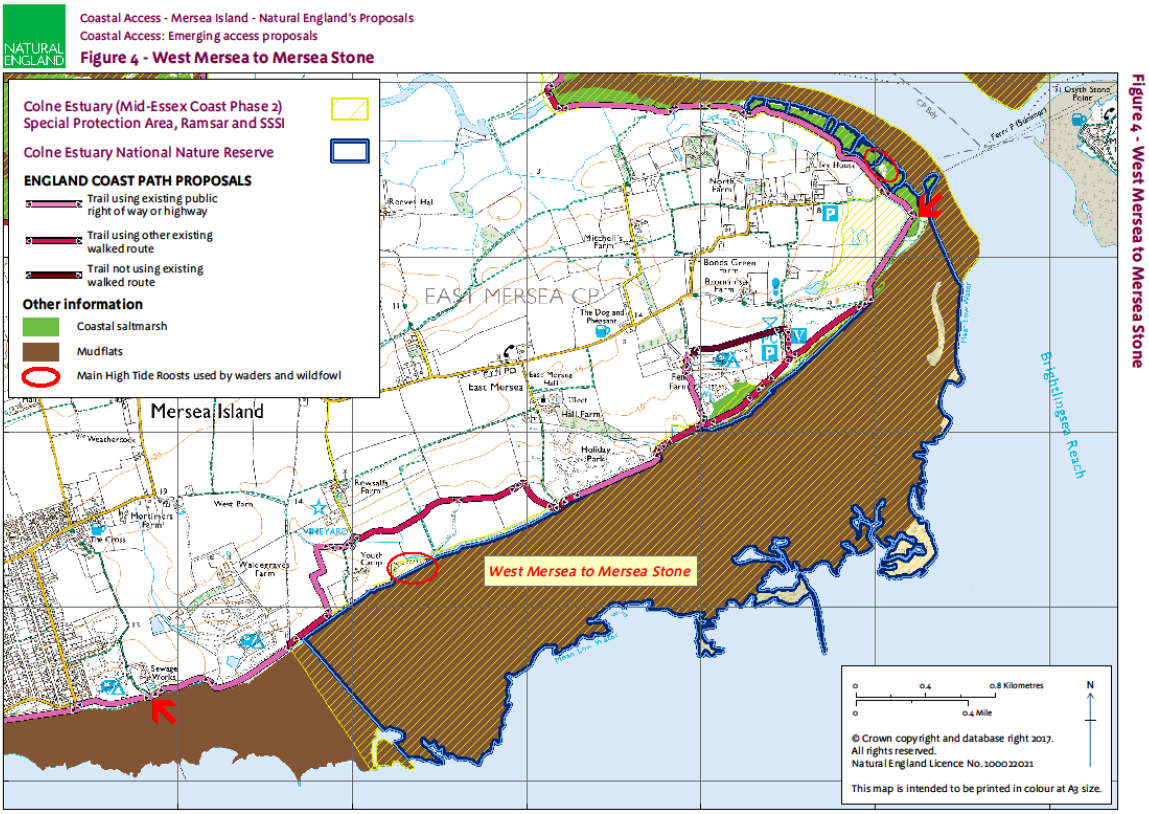
This subsection is defined by the coastal erosion processes at work. The coast has retreated significantly over the last 10 – 15 years, as indicated by the location of the existing PRoWs off shore from the beach. Both cliff erosion and seawall collapse are found in this stretch.

There are sandy beaches at the western end and cliffs at the eastern end. Active erosion is changing the coastline where the seawall is collapsing in the middle of this section. There are very extensive mudflats along the entire stretch – extending up to 1.2km out to sea at low tide at some locations. Sand bars develop at certain locations but are very changeable. High tide covers the mudflats and sand bars and on extreme high tide events the beach is fully inundated in several places.

The expanses of mudflat (with shingle) seaward of the trail on Mersea Flats form part of the Colne Estuary National Nature Reserve. Other habitats exist at Fen Farm – reed bed, shingle and saltmarsh; and at Cudmore Grove Country Park and Rewsalls Farm – Coastal and Floodplain Grazing Marsh.

This section ends at Mersea Stone, the shingle spit extending northwards from the eastern tip of the island. The spit itself forms part of the next section, 'Mersea Stone to the Strood'.

Figure 4 - West Mersea to Mersea Stone



Note:
Appendix A – Maps A1, A2 and A3 show the designated sites for the whole island.
Colne Estuary SSSI, SPA and Ramsar site – **Yellow hashing** (These designations share the same boundaries in this section. Their landward boundaries extend inland of the intertidal zone in places, including some seawall and borrow dyke and the cliffs and grazing marsh at Cudmore Grove. They extend seaward to Mean Low Water. The SAC does not include the borrow dyke and grazing marsh at Cudmore Grove but otherwise shares a landward boundary with the SSSI. It includes subtidal areas below Mean Low Water but west of the SSSI it does not include intertidal areas. The MCZ extends seaward from Mean High Water.)
Colne Estuary NNR - outlined in **dark blue**. (Its landward boundary is distinct from the other designations: to Mean High Water along the south side of the island but including the saltmarsh at Cudmore Grove.)

2.1.4 **Mersea Stone to The Strood**

The majority of this subsection is along seawall beside the Pyefleet Channel, which is edged by saltmarsh and mudflat of varying width. This section begins at the eastern tip of the island where the seawall meets Mersea Stone spit and creates a right angle. Mersea Stone spit itself is included in this subsection of the ECP. It is a mobile shingle spit that alters shape and location as a result of coastal processes. It is partly vegetated and most areas become inundated at extreme high tides.

At the eastern and western ends of this subsection the saltmarsh is broad and threaded with deep creeks. This narrows to a thin strip at the northern most part of the island where erosion has led to coastal squeeze.

Inland of the seawall the arable and grazing fields are low-lying and extend several hundred metres. The landscape is wide and open and there is a sense of space and isolation due to the absence of roads and housing.

Figure 5 - Mersea Stone to the Strood

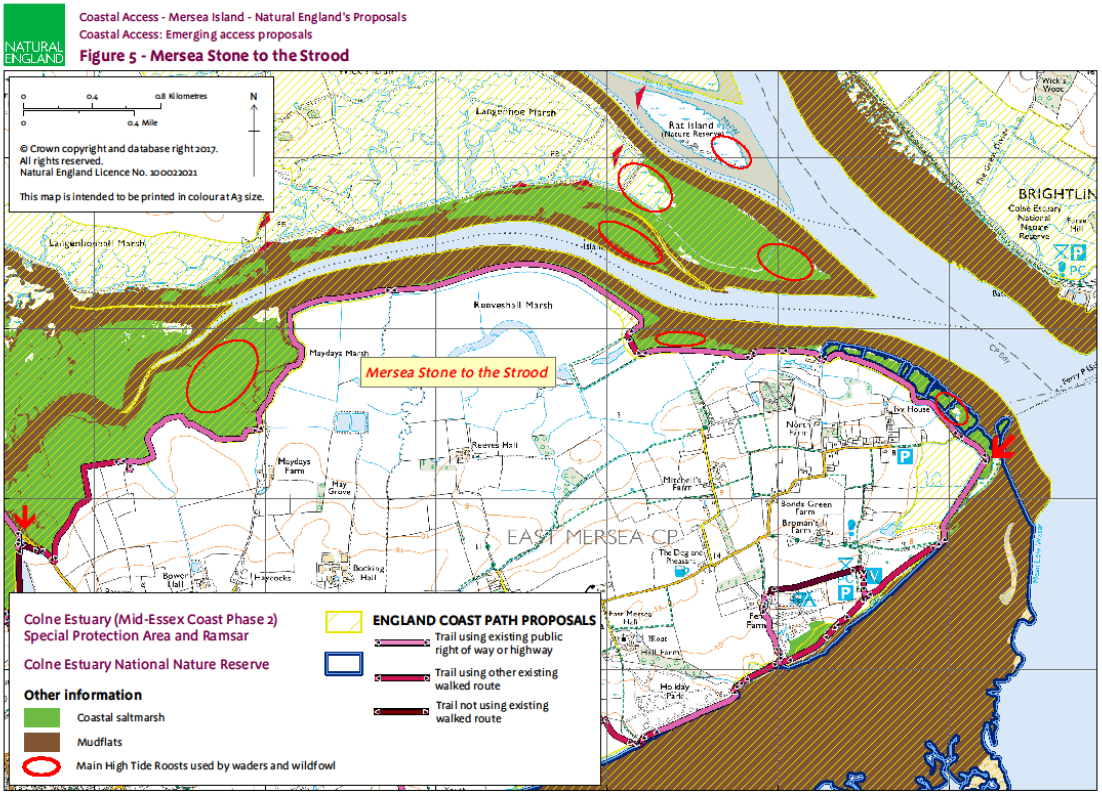


Figure 5 - Mersea Stone to the Strood

Note:

Appendix A – Maps A1, A2 and A3 show the designated sites for the whole island.

Colne Estuary SPA & Ramsar site – **Yellow hashing** (These designations share the same boundaries, extending from Mean Low Water landward over the seawall or borrowdyke and including the grazing marsh at Cudmore Grove. The Colne Estuary SSSI shares the same landward boundaries but includes subtidal areas of the estuary north of Mersea Stone. The SAC includes subtidal areas further south but does not include the grazing marsh at Cudmore Grove. The MCZ extends seaward from Mean High Water.)

Colne Estuary NNR - outlined in **dark blue**. (Its boundaries are distinct from the other designations, in this section only covering the Mersea Stone spit and the saltmarsh west to the oyster fishery slipway.)

2.2 Designated sites

The table below lists the designated sites that each subsection of this stretch of the England Coast Path runs through, or adjacent to.

	1. The Strood and the causeway to West Mersea	*2. West Mersea Town*	*3. West Mersea to Mersea Stone*	*4. Mersea Stone to The Strood*
Colne Estuary (Mid-Essex Coast Phase 2) SPA			✓	✓
Blackwater Estuary (Mid-Essex Coast Phase 4) SPA	✓	✓		
Colne Estuary SSSI			✓	✓
Blackwater Estuary SSSI	✓	✓		
Colne Estuary (Mid-Essex Coast Phase 2) Ramsar			✓	✓
Blackwater Estuary (Mid-Essex Coast Phase 4) Ramsar	✓	✓		
Essex Estuaries SAC	✓	✓	✓	✓
Colne Estuary NNR			✓	✓
Blackwater, Crouch, Roach and Colne Estuaries MCZ	✓	✓	✓	✓

2.3 Cross reference

Other stretches of the England Coast Path will be created in shared designated sites as follows. Some stretches are currently under development as detailed below.

Designated site	ECP stretch
Colne Estuary (Mid-Essex Coast Phase 2) SPA	Salcott – Jaywick (Started)
Blackwater Estuary (Mid-Essex Coast Phase 4) SPA	Salcott – Jaywick (Started) Maldon – Salcott (Published) Burnham on Crouch - Maldon (Started)
Colne Estuary SSSI	Salcott – Jaywick (Started)
Blackwater Estuary SSSI	Salcott – Jaywick (Started) Maldon – Salcott (Published) Burnham on Crouch - Maldon (Started)

Colne Estuary (Mid-Essex Coast Phase 2) Ramsar	Salcott – Jaywick (Started)
Blackwater Estuary (Mid-Essex Coast Phase 4) Ramsar	Salcott – Jaywick (Started) Maldon – Salcott (Published) Burnham on Crouch - Maldon (Started)
Essex Estuaries SAC	Salcott – Jaywick (Started) Maldon – Salcott (Published) Burnham on Crouch - Maldon (Started) Wallasea Island – Burnham on Crouch (Started) Southend - Wallasea Island (Not started)
Colne Estuary NNR	Salcott – Jaywick (Started)
Blackwater, Crouch, Roach and Colne Estuaries MCZ	Jaywick – Harwich (Started) Salcott – Jaywick (Started) Maldon – Salcott (Published) Burnham on Crouch - Maldon (Started) Wallasea Island – Burnham on Crouch (Started) Southend - Wallasea Island (Not started) Tilbury to Southend (Started)

2.4 Designated features

In the table below, all the qualifying features of the designated sites are listed, grouped under five broad headings: overwintering/passage birds; breeding birds; habitats, vegetation types and plant species; invertebrates; and geological/geomorphological features.

The English names used here for bird species are the British vernacular names as given in the British Ornithologists Union British List (BOU 2016). Appendix B gives British vernacular names and International Ornithological Congress (IOC) International English names for those species where the two differ.

		Designated Sites

Features – of the designated sites listed in 2.2		Colne Estuary SPA	Blackwater Estuary SPA	Essex Estuaries SAC	Colne Estuary Ramsar	Blackwater Estuary Ramsar	Colne Estuary SSSI	Blackwater Estuary SSSI	Blackwater, Crouch, Roach and Colne MCZ
OVERWINTERING/PASSAGE BIRDS									
A046a dark-bellied brent goose *Branta bernicla bernicla* (non-breeding)		✓	✓		✓	✓	✓	✓	
Shelduck *Tadorna tadorna* (non-breeding)								✓	
Gadwall *Anas strepera* (non-breeding)								✓	
Teal *Anas crecca* (non-breeding)								✓	
Goldeneye *Bucephala clangula* (non-breeding)								✓	
A141 grey plover *Pluvialis squatarola* (non-breeding)			✓			✓	✓	✓	
Ringed plover *Charadrius hiaticula* (non-breeding)							✓	✓	
A156 black-tailed godwit *Limosa limosa islandica* (non-breeding)			✓			✓	✓	✓	
Curlew *Numenius arquata* (non-breeding)								✓	
Sanderling *Calidris alba* (non-breeding)							✓		
A149 dunlin *Calidris alpina alpina* (non-breeding			✓			✓	✓	✓	
Spotted redshank *Tringa erythropus* (non-breeding)								✓	
A162 redshank *Tringa tetanus* (non-breeding)		✓			✓		✓	✓	
A082 hen harrier *Circus cyaneus* (non-breeding)		✓	✓						
Features – of the designated sites listed in 2.2 (continued..)		Colne Estuary SPA	Blackwater Estuary SPA	Essex Estuaries SAC	Colne Estuary Ramsar	Blackwater Estuary Ramsar	Colne Estuary SSSI	Blackwater Estuary SSSI	Blackwater, Crouch, Roach and Colne

Waterbird assemblage (non-breeding) for Colne Estuary [1]		✓			✓				
Waterbird assemblage (non-breeding) for Blackwater Estuary [2]			✓			✓			
BREEDING BIRDS									
A137 ringed plover *Charadrius hiaticula* (breeding)		✓	✓						
A195 little tern *Sterna albifrons* (breeding)		✓	✓				✓	✓	
A059 pochard *Aythya ferina* (breeding)		✓	✓					✓	
Bearded tit *Panurus biarmicus* (breeding)								✓	
HABITATS, VEGETATION TYPES AND PLANT SPECIES									
H1110 sandbanks which are slightly covered by seawater all the time; subtidal sandbanks				✓					
H1130 estuaries				✓					
H1140 mudflats and sandflats not covered by seawater at low tide; intertidal mudflats and sandflats				✓					
Intertidal mixed sediments									✓
H1310 *Salicornia* and other annuals colonising mud and sand; glasswort and other annuals colonising mud and sand				✓	✓	✓			
H1320 *Spartina* swards (*Spartinion maritimae*); cord-grass swards				✓					

[1] Main component species for Colne Estuary non-breeding waterbird assemblage: mute swan, brent goose, shelduck, teal, goldeneye, cormorant, little egret, avocet, ringed plover, golden plover, grey plover, lapwing, sanderling, dunlin, black-tailed godwit, curlew, redshank.

[2] Main component species for Blackwater Estuary non-breeding waterbird assemblage: brent goose, shelduck, wigeon, gadwall, teal, pintail, goldeneye, red-breasted merganser, cormorant, little egret, avocet, ringed plover, golden plover, grey plover, lapwing, knot, dunlin, ruff, black-tailed godwit, bar-tailed godwit, whimbrel, curlew, spotted redshank, greenshank, redshank, turnstone, black-headed gull.

Features – of the designated sites listed in 2.2 (continued…)		Colne Estuary SPA	Blackwater Estuary SPA	Essex Estuaries SAC	Colne Estuary Ramsar	Blackwater Estuary Ramsar	Colne Estuary SSSI	Blackwater Estuary SSSI	Blackwater, Crouch, Roach and Colne MCZ
H1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) including SM13 *Puccinellia maritima* saltmarsh community and SM14 *Halimione portulacoides* saltmarsh community				✓	✓	✓	✓ ✓	✓ ✓	
H1420 Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocometea fruticosi*); Mediterranean saltmarsh scrub				✓					
SD2 *Honkenya peploides – Cakile maritima* strandline community							✓	✓	
Lowland ditch systems								✓	
Vascular Plant Assemblages (VPAs) - nationally scarce species of saltmarsh and brackish coastal habitats					✓	✓	✓	✓	
INVERTEBRATES									
Invertebrate assemblages - of saltmarsh and other coastal habitats, including scarce species with high habitat fidelity					✓	✓	✓	✓	
Outstanding dragonfly assemblage							✓		
Native oyster (*Ostrea edulis*) beds									✓
Native oyster (*Ostrea edulis*)									✓
GEOLOGICAL/ GEOMORPHOLOGICAL									
EC - Quaternary of the Thames							✓		
EC – Mesozoic – Tertiary fish/ amphibians								✓	
IA - Saltmarsh morphology							✓		
Clacton cliffs and foreshore									✓

2.5 Other features about which concerns have been expressed

Feature	Conservation interest
Common seal *Phoca vitulina* and grey seal *Halichoerus grypus*	Small numbers of common seals and the occasional grey seal forage in the waters around Mersea Island and use haul-outs on the saltmarsh. Their use of the site and potential sensitivity to coastal access are considered in section 3.19.
Non-breeding waterbirds identified by the second SPA Review as potential qualifying features of the Colne Estuary or Blackwater Estuary SPAs.	The second SPA Review (Stroud et al. 2001) (based on data from the 1990s) identified the following species as potential qualifying features of the SPAs because their passage/overwintering populations had reached internationally important status since the SPAs were first designated: Colne Estuary SPA: avocet, golden plover. Blackwater Estuary SPA: avocet, golden plover, ringed plover, ruff. These species are already components of the designated non-breeding waterbird assemblages of the SPAs. Their use of the site and potential sensitivity to coastal access are considered as part of the feature group 'overwintering and passage waterbirds' (see section 3.1).
Hog's Fennel *Peucedanum officinale*	Hog's Fennel is a nationally scarce species and the host plant of the rare Fisher's Estuarine Moth *Gortyna borelii lunatana*. Hog's Fennel occurs naturally on seawalls at Hamford Water, Essex, and in recent years has been introduced at selected sites around the Blackwater and Colne estuaries as part of a project to conserve the moth. The species' distribution and potential sensitivity to changes in coastal access are considered as part of the feature 'vascular plant assemblages' (see section 3.14).

3. Baseline conditions and environmental sensitivities

In this part of the document we identify any of the features mentioned above that are potentially sensitive to changes in access, and rule out from further consideration those that are not.

3.1 Overwintering and passage waterbirds

Composition of feature group

Non-breeding dark-bellied brent goose, shelduck, gadwall, teal, goldeneye, grey plover, ringed plover, black-tailed godwit, curlew, sanderling, dunlin, spotted redshank, redshank; non-breeding waterbird assemblages of the Colne Estuary and the Blackwater Estuary.

This large feature group includes all the non-breeding (passage and overwintering) waterbird species that the Colne Estuary and the Blackwater Estuary support in internationally or nationally important numbers, listed in table 2.4 above as SPA, Ramsar or SSSI features. It also includes other non-breeding waterbirds occurring in numbers that are not nationally important, as these are components of the SPA and Ramsar site non-breeding waterbird assemblages of the two estuaries. The large majority of the species in this feature group are waders and wildfowl, though it also covers other waterbirds such as divers, grebes, herons and cormorant.

Current conservation status and use of the site

Most of the Mersea Island intertidal zone west of the Strood causeway falls within the Blackwater Estuary designated site (rather than the Colne Estuary) but for the purposes of the BTO Wetland Bird Survey (WeBS) all surveyed parts of the island are treated as a single count sector. Data from this sector are combined with other Colne Estuary sectors in BTO 'whole site' analyses. For this reason, the conservation status of non-breeding waterbirds in this stretch of the England Coast Path is considered mainly with reference to the Colne Estuary.

From the latest WeBS core count data available (Frost et al, 2016), annual peak monthly numbers of waterbirds in the Mersea Island count sector have fluctuated between about 8,000 and 12,700 in the last five winters for which data are available (2010/11 to 2014/15). These numbers represent around a quarter to a half of the annual peak monthly totals for the whole Colne Estuary, making Mersea Island a very significant part of the designated site for passage/overwintering waterbirds. Considered alone, over the 2010/11 to 2014/15 period Mersea Island has supported internationally important numbers of black-tailed godwit and nationally important numbers of dark-bellied brent goose, redshank and avocet during autumn/winter.

The most recent BTO WeBS Alerts analyses for the Colne Estuary assessed population trends for 12 overwintering waterbird species up to 2009/10 (Cook et al. 2013), including all 7 species present in internationally or nationally important numbers at the time of site classification/notification. Declines over the previous 5, 10 or 25 years, or since SPA classification, triggered Alerts for 8 species. For two - ringed

plover and grey plover - the declines do not mirror regional or national trends, suggesting site-specific factors are responsible. Comparing 5-year annual peak means just before SPA classification (1987/88 to 1991/92) with the most recent data (2010/11 to 2014/15) suggests that numbers of these two species on the Colne have declined by 56% and 18% respectively. Of the five other SPA/SSSI species, two (black-tailed godwit and redshank) have increased significantly over the same period. The remaining three (brent goose, dunlin, sanderling) have declined though there is no evidence from WeBS Alerts analyses of a site-specific cause.

The months when non-breeding waterbirds are present in large numbers varies with species. Brent geese arrive in Essex in October and nearly all have left by late March (Wood 2007). Several overwintering ducks and waders show a similar seasonal pattern but others - such as black-tailed godwit, redshank, and ringed plover - are also present in significant numbers in August, September and April. For the period 2010/11 to 2014/15, peak average monthly counts in the Mersea Island sector have occurred in autumn (August – October) rather than winter (November to March) for black-tailed godwit, redshank, avocet and little egret.

Many of the species in this feature group, including the large majority of the waders, feed mainly or exclusively on exposed intertidal sediments and saltmarsh at low tide and congregate to roost on higher areas of saltmarsh or shingle at high tide. As well as being sufficiently high, roost sites need to have low vegetation, good visibility all round, and be undisturbed. Maintaining the integrity of the main roost sites is particularly important because they are used by large numbers of birds 'commuting' to/from a much larger foraging area. Locations of the main roosts around Mersea Island are summarised by Panter & Liley (2016). Three are along the south side of the Pyefleet Channel between the Strood and Cudmore Grove Country Park, with others north of the channel or on mid-channel islands (see Figure 5). Several species also roost or feed on the grazing marsh at Cudmore Grove at high tide, while little egrets roost in trees here. On the west side of the island there is an important roost near Ray Island in the Strood Channel and birds also roost on the islands off West Mersea (see Figure 3). There is very little saltmarsh or other suitable roost habitat in the intertidal zone on the exposed south side of Mersea. Currently only one roost is identified here, on a raised sand/shingle area in front of the seawall south of Rewsalls Farm (see Figure 4). When the seawall east of this breaches it may provide additional roost sites nearby.

As well as the main group of 'intertidal feeding and intertidal roosting' species, it is worth identifying three smaller ecological groups of overwintering waterbirds:

1) 'Farmland feeders': Species that feed or roost on grassland or arable fields inland of seawalls, as well as in the intertidal zone. These include brent goose, wigeon, golden plover, lapwing and, to a lesser extent, curlew. On Mersea Island the wet grazing marsh at Cudmore Grove Country Park is an important area for these species. To a lesser extent they also use large fields further west at Reeveshall Marsh and elsewhere on the island.

2) 'Freshwater feeders': Species that feed and roost mainly on fresh or brackish water bodies inland of seawalls, rather than in the intertidal zone. These include mute swan, gadwall, shoveler and some other dabbling and diving ducks. There is relatively little freshwater habitat on Mersea Island, so this group forms a small proportion of the non-breeding waterbird assemblage here. Ponds, wide ditches and fleets at Cudmore Grove and Reeveshall Marsh provide the main areas of suitable habitat.

3) 'Diving waterbirds': foraging in intertidal areas at high tide and further offshore. These include: cormorant, red-breasted merganser, goldeneye, divers and grebes. Near Mersea Island, these species forage along the Pyefleet and Strood channels at high tide, as well as in the main channels of the Blackwater and the Colne, and off the south shore of the island.

The above groups have blurred boundaries (with some species being difficult to categorise) and they share characteristics in relation to disturbance to a significant extent. They are therefore not treated as separate 'feature groups' in this report. But they are worth noting because their different patterns of habitat use affect their sensitivity to land-based disturbance to some degree.

WeBS core count data are recorded monthly around high tide, so do not produce information on how overwintering waterbirds are distributed in the intertidal zone at low tide. This is provided by WeBS low tide count surveys carried out less frequently. There are no WeBS low tide count data for the Strood Channel but most of the rest of Mersea Island's intertidal zone was surveyed in 1994/95 and 2007/8. The latest low tide survey (Calbrade et al. 2008) shows high concentrations of several species along the Pyefleet Channel, with some spread evenly along it (knot, dunlin) and others concentrated mainly around the eastern end (brent goose, ringed plover, golden plover, lapwing). On the Mersea Flats birds occur at lower densities but because of the much wider intertidal zone (over 1 km) the flats are still an important feeding area.

Ecological sensitivities to changes in access

Overwintering and passage waterbirds are potentially very sensitive to changes in access. Activities causing disturbance anytime during the autumn or spring migration periods or over the winter can affect them by reducing their feeding rates and increasing their energy expenditure (Panter & Liley 2016). Disturbance in mid/late winter - when temperatures are low, day lengths short and food resources depleted - is probably more likely to contribute to mortality than at other times of year. But in autumn newly-arrived long-distance migrants with depleted fat reserves could also be susceptible. Disturbance in spring while migrants are feeding-up before leaving for their arctic breeding grounds may also be damaging because breeding success is linked to early arrival and the birds' condition on arrival (Owen & Black 1990).

Disturbance of the main roost sites is likely to be especially significant because of the large numbers and variety of birds using them. The birds' energy expenditure may be increased both directly (particularly if they are repeatedly flushed) and indirectly (if disturbance forces birds to roost further from their preferred feeding areas).

Disturbance distances vary widely depending on a variety of interacting factors including bird species, flock size, type of disturbance (for example birds often react more to dogs than to humans), sight lines, and the birds' previous experience at the location or elsewhere (for example, birds may be more wary in or near wildfowling areas). The disturbance distance for relatively tame species like turnstone at locations where they are habituated to walkers can be a few tens of metres. But in other circumstances it is not unusual for wildfowl and waders to take flight on seeing a walker on the skyline several hundred metres away.

On intertidal mudflats there is an increased likelihood of disturbance impact at locations where there is little or no saltmarsh separating a coast path, often along a seawall, from the feeding birds. Where low tide

exposes a wide swathe of intertidal mud, birds may only need to move relatively short distances away from the seawall to avoid disturbance. But if there is only a relatively narrow width of mudflat exposed - either because of the location or the state of the tide - then birds may have to move much further before resuming feeding, incurring higher costs in terms of reduced food intake, increased energy expenditure and temporarily unavailable food resource.

'Farmland feeding' species are generally more susceptible to land-based disturbance than those feeding and roosting more or less exclusively in the intertidal zone. But the Pyefleet and Strood Channels are quite narrow, so a relatively high proportion of their mudflats lie within 60 metres of the seawall and are particularly vulnerable to disturbance (Panter & Liley 2016). The eastern two of the three main high tide roosts along the Pyefleet Channel are also less than 100m from the seawall. Walkers or their dogs straying more than a few metres onto the saltmarsh would be likely to flush birds from these roosts.

'Diving waterbirds' are generally less susceptible to land-based disturbance. But when feeding up the Pyefleet and Strood Channels at high tide they are also likely to be close enough to the shoreline to be affected by significantly increased use of the trail or the coastal margin.

The Pyefleet and Strood channels are relatively sheltered compared to the south side of Mersea Island and the main channels of the Colne and Blackwater estuaries, so they are of particular importance for overwintering waterbirds during periods of severe winter weather, when the effects of disturbance on mortality are likely to be high.

3.2 Overwintering hen harrier

Current conservation status and use of the site

In Essex the hen harrier is a winter visitor and passage migrant. Numbers generally peak from November to February but individuals regularly occur from August to early May (Wood 2007). The large majority of Essex records are from coastal areas, where hen harriers hunt widely over saltmarshes, grazing marshes and open farmland. In winter they may roost communally at night, usually in undisturbed reed beds or other tall herbaceous vegetation.

Overwintering hen harriers in Essex have declined since the 1980s, when peak counts of 10 or more were recorded from some roosts (Wood 2007). Between 1987 and 1991, just before the five mid-Essex Coast SPAs were classified, they were estimated to support about 19 overwintering hen harriers in total, with the Colne and Blackwater estuaries holding about four each. In 2012, when a national survey of winter roosts was coordinated by the BTO, the highest count at an Essex roost was six. More recent roost counts suggest a further decline since then.

Mersea Island's saltmarshes and open farmland provide suitable hunting areas for hen harriers, particularly on the north side of the island. There are at least two known harrier roost sites on mainland parts of the Colne and Blackwater SPAs within a few kilometres of Mersea Island but apparently none on the island itself.

Ecological sensitivities to changes in access

Overwintering hen harriers are relatively shy birds but because they hunt over extensive areas and a variety of open habitats including farmland, they are only likely to be sensitive to changes in coastal access in specific circumstances. For example, the species could be affected if changes in access provided new public rights of way close to a previously inaccessible and undisturbed roost site or a particularly favoured hunting area.

3.3 Breeding ringed plover

Current conservation status and use of the site

In England, most ringed plovers nest on bare or sparsely vegetated sand or shingle around the coast. They have an extended breeding season which may last from late March to early September. Egg-laying normally starts in early April and there can be two or three broods (Snow & Perrins 1998), so flightless young may still be present in August, particularly if early nesting attempts fail. As a breeding species the ringed plover is a Species of European Conservation Concern. It is protected under the Wildlife and Countryside Act 1981 (as amended) against intentional killing and injuring; this includes damage, destruction or taking of a nest, eggs or young while it is in use or being built during the breeding season.

The species' British breeding population declined by about 37% between 1984 and 2007 (Balmer et al. 2013). In Essex, available evidence suggests a decline of about 50% - to 100-200 pairs - between the early 1980s and the early 2000s (Wood 2007). Between 1987 and 1991, shortly before the mid-Essex Coast SPAs were classified, the three SPAs with breeding ringed plover as an interest feature were estimated to support an average of 135 pairs in total. From records summarised in Essex Bird Reports for the same period, the Colne and Blackwater estuaries each held about 50 pairs at that time. There has been no recent survey of the breeding populations of these SPAs but records in Essex Bird Reports suggest that the number of pairs in the two estuaries combined has remained well below 50 in recent years, with Colne Point the only location regularly supporting more than ten pairs.

On Mersea Island the Mersea Stone spit is the largest area of suitable nesting habitat. There are smaller areas on the southern shoreline further west within the Colne Estuary SPA, and others at West Mersea within the Blackwater Estuary SPA. The last Essex breeding bird atlas (Dennis, 1996) shows three tetrads covering these areas with probable/confirmed breeding ringed plover between 1988 and 1994, and a further 16 tetrads with probable/confirmed breeding elsewhere on the Colne and Blackwater estuaries.

One or two pairs still attempt to nest at each of the two East Mersea locations in some years but their success rate is low (NNR and Country Park managers, pers. comm.).

Ecological sensitivities to changes in access

Breeding ringed plovers are very susceptible to disturbance because their nesting season largely coincides with the summer holiday period and their sand/shingle nesting habitat is very popular for seaside recreation. This is particularly true along the Essex coast, where sand and shingle are confined to quite short stretches, so are often heavily used by the public. Disturbance caused by increased access to nesting areas can result in trampling of eggs, nest desertion, and increased predation of eggs and young.

Not surprisingly, field studies have shown that levels of disturbance have a major impact on the species' breeding density at coastal sites (Liley & Sutherland 2007). The current high level of use by walkers and their dogs is probably a major reason for the erratic occurrence and low numbers of ringed plovers attempting to nest on the Mersea Stone spit and the smaller areas of suitable sand/shingle habitat elsewhere on Mersea Island. At Mersea Stone, pairs often make two or three nesting attempts in a season before rearing any young (Country Park Manager, pers. comm.).

At Cudmore Grove Country Park, low rope fencing around apparently occupied nests has been used recently to provide some protection from disturbance and trampling without significantly restricting visitors' access. Ringed plovers are opportunistic in their selection of suitable breeding sites so it may be worth exploring the possibility of developing this approach for other areas of suitable habitat on the island.

3.4 Breeding little tern

Current conservation status and use of the site

Little terns are ground nesters on bare or sparsely vegetated sand or shingle around the coast. In Essex, they generally arrive at their nesting areas from late April to early May (Wood 2007). Egg-laying begins from mid-May to early June and there can be up to three broods (Snow & Perrins 1998) so flightless young may still be present in August. Numbers of adults and young peak around July/early August in Essex, with most leaving for their West African wintering grounds by mid-September (Wood 2007).

Numbers of breeding pairs of little tern have declined by 27 per cent in the past 25 years. The last Essex breeding bird atlas (Dennis 1996) shows 10 tetrads with probable/confirmed breeding on the Colne and Blackwater estuaries between 1988 and 1994, including a cluster of four tetrads covering West Mersea, the Strood Channel and the Mersea Quarters. This area has been used erratically since the 1950s but in recent years nesting attempts have only been occasional, with odd pairs nesting on islands and shingle spits in the Mersea Quarters, as well as at other locations further up the Blackwater Estuary (Wood, S. 2007). There appears to be no evidence of little terns nesting on Mersea Island itself for several decades (Wood 2007, Essex Bird Reports, Country Park Manager, pers. comm.). Recent survey results collated by the Little Tern Project provide evidence of a continuing decline in numbers in the Blackwater and Colne estuary SPAs, with just 8 and 2 pairs estimated for 2014 and 2015 respectively, and no fledged young.

The little tern is currently identified as a species of conservation priority and has the highest level of legal protection for a UK bird species. The species is:

- Amber listed in Birds of Conservation Concern (2015 update – Eaton et al. 2015).
- Protected under Schedule 1 of the Wildlife & Countryside Act 1981 (as amended). Schedule 1 contains a list of birds for which all offences carry harsher penalties and for which the following extra protection applies. Under the legislation it is illegal to intentionally or recklessly disturb a Schedule 1 bird while it is building a nest or is in or near a nest containing eggs or young or intentionally or recklessly disturb dependent young while it is in use or being built during the breeding season.
- Listed in the EC Birds Directive - in Annex 1 and as a migratory species.

Ecological sensitivities to changes in access

Like ringed plovers, and for the same reasons, little terns are very sensitive to increased access to their nesting areas. But the small remnant population near West Mersea is largely protected from land-based disturbance because recent nesting attempts have been on islands in the Mersea Quarters, not on Mersea Island itself. Though little terns forage closer to their nest sites and nearer the shoreline than other tern species, it would probably take a large increase in land-based use of the Coastal Margin to disturb their foraging sufficiently to reduce breeding success. It appears that little terns have not bred on Mersea Island itself for several decades (Wood 2007, Essex Bird Reports, NNR and CP managers, pers. comm.). Therefore breeding little tern is ruled out from further consideration in this sensitive features appraisal.

Nevertheless, there is apparently suitable shingle/sand nesting habitat for little terns on the West Mersea foreshore and at East Mersea, and the current high level of recreational use of these areas is probably a major reason why little terns do not attempt to use them. As the species is opportunistic in its selection of breeding sites it may be worth exploring possibilities for managing access in some of these areas with land owners and the Little Tern Project.

3.5 Breeding pochard

Current conservation status and use of the site

Pochard nest in reeds, club-rush or other dense fringing or emergent vegetation by fresh or slightly brackish water bodies. Near the Essex coast, which holds a significant proportion of the county's breeding population, the species usually breeds in coastal grazing marshes with wide, well-vegetated fleets, ditches or ponds. The species is normally single brooded and in England nests from about late April to early July.

Nationally and within Essex, the breeding population increased through the 20th century. By the early 2000s, an estimated 60 - 70 pairs bred in Essex (Wood 2007), making this one of the most important

counties for the species. Since then there has been evidence of a national decline in breeding numbers and in the much larger overwintering population (Balmer et al. 2013). As a result, pochard has recently been added to the national Red List of Birds of Conservation Concern (2015 update - Eaton et al. 2015).

Between 1987 and 1991, just before the mid-Essex Coast SPAs were classified, the average breeding population of pochard within the Blackwater and Colne SPAs was estimated at 15 pairs. More recent records summarised in Essex Bird Reports suggest a combined total of around 30 pairs for the two SPAs, mainly due to the numbers breeding at Old Hall Marshes. There are records of regular nesting in smaller numbers at several other locations in both SPAs, including on Langenhoe Marshes just north of Mersea Island. On the island itself, suitable nesting habitat for pochard is rather limited but the occasional pair breeds at Cudmore Grove Country Park (Essex Bird Reports; Dennis 1996; Country Park Manager, pers. comm.) and broods of ducklings have occasionally been seen in borrow dykes elsewhere, including near West Mersea and at Reeveshall Marsh.

Ecological sensitivities to changes in access

There is relatively little suitable breeding habitat for pochard on Mersea Island and a significant proportion of what there is lies well inland and beyond the Coastal Margin. However, there is evidence of occasional pairs breeding near borrow dykes just behind seawalls at Cudmore Grove Country Park and elsewhere on the north side of the island. An increase in access to these borrow dykes, particularly by dogs, could reduce breeding success.

3.6 Breeding bearded tit

Current conservation status and use of the site

The bearded tit is a reed bed specialist at all times of year. In Essex, most breeding records come from the larger coastal reed beds, with Old Hall Marshes on the Blackwater Estuary being a stronghold for the species (Wood 2007). On Mersea Island there is little suitable breeding habitat. The latest Essex breeding bird atlas (Dennis 1996) shows a single tetrad on the island with probable/confirmed breeding during the 1988 - 1994 survey period. In this tetrad the main area of reed is over 300 metres inland of the seawall and well outside the Coastal Margin but the two pairs that bred used a small stand of sea club-rush close to the seawall (Country Park Manager, pers. comm.).

Ecological sensitivities to changes in access

Bearded tits usually nest and stay concealed in dense reed beds and are probably less prone to disturbance than many other bird species. Moreover, there is little suitable breeding habitat on Mersea Island and

much of what exists is unlikely to be affected by changes in coastal access because of its location well inland of the Coastal Margin. But as breeding has been recorded on the island close to a seawall, the possibility of an effect cannot be completely ruled out for sections of the Trail where there are stands of tall reed or club-rush close by.

3.7 Subtidal sandbanks

Current conservation status and use of the site

Sandbanks which are slightly covered by seawater all the time are widespread in the Essex Estuaries SAC below the low water mark. The feature definition covers banks, ridges or mounds of a range of sediment types from gravel to mud, usually within 20m of the sea surface. The marine communities they support vary with factors such as the coarseness of the sediment, the degree of exposure to waves and currents, and the salinity of surrounding waters.

Ecological sensitivities to changes in access

By definition, this feature is submerged at all states of the tide and so is inaccessible and outside the Coastal Margin. It is therefore ruled out from further consideration in this sensitive features appraisal.

3.8 Estuaries

Current conservation status and use of the site

An estuary is defined as the downstream part of a river valley, subject to the tide and extending from the limit of brackish water. The Essex Estuaries SAC is a typical, undeveloped, coastal plain estuarine system with associated open coast mudflats and sandbanks. The site comprises the major estuaries of the Colne, Blackwater, Crouch and Roach rivers and is important as an extensive area of contiguous estuarine habitat. The SAC feature H1130 Estuaries encompasses the interdependent mosaic of subtidal and intertidal habitats, which are closely associated with surrounding terrestrial habitats. Several of the component habitats - such as H1110 subtidal sandbanks, H1140 intertidal mudflats and sandflats, and H1330 Atlantic salt meadows - are Annex I habitat types and interest features of the Essex Estuaries SAC in their own right.

Ecological sensitivities to changes in access

The Estuaries SAC feature includes some intertidal habitat types that are potentially sensitive to land-based coastal access. However, these sensitive components are all interest features in their own right, and so are considered separately (see sections 3.7 and 3.9 to 3.12). All but one are interest features of the SAC. The exception is the SD2 strandline community (see section 3.12) which is a SSSI feature but not a SAC feature.

3.9 Intertidal sediments

Composition of feature group
H1140 mudflats and sandflats not covered by seawater at low tide; Intertidal mixed sediments.
Current conservation status and use of the site
The importance of intertidal mudflats and sandflats for waterbirds - as a feeding resource and as staging posts between feeding areas and high tide roosts - is considered separately in section 3.1 above. All around Mersea Island, mudflats and sandflats not covered by seawater at low tide make up those parts of the intertidal zone inundated with seawater too frequently to support saltmarsh vegetation. Their width varies from over a kilometre along much of the Mersea Flats to well under 100m in some other parts of the island's shoreline (see Figures 2 to 5). The distribution of sediment types varies around the island depending largely on the degree of exposure to wave action and currents. Around the north side of the island along the sheltered Pyefleet and Strood channels, fine silts predominate. Nearer the main channels of the Colne and Blackwater and along the exposed southern side of the island coarser sediments and firmer clay are more common. Intertidal mixed sediments are a specific habitat within this broad habitat feature and form a relatively small proportion of the total area of mudflats and sandflats. They consist of unsorted pebbles, gravels, sands and mud and may also include rocks and a few large boulders. Because of the mixture of sediment types they support diverse animal and plant communities. In the vicinity of Mersea Island intertidal mixed sediments generally occur in the lower parts of the intertidal zone in areas that are difficult and unsafe to access but there is an area mapped in the upper part of the intertidal zone near Waldegraves Farm, West Mersea. There is some use of the intertidal flats on the south side of the island for bait digging and the collection of Pacific oysters at low tide. Currently this activity is at a sufficiently low level not to cause significant harm to the nature conservation interest of the flats.
Ecological sensitivities to changes in access
Because they are easily disturbed, waterbirds feeding on intertidal mudflats and sandflats are more sensitive to changes in access than is the habitat itself. They are considered separately in section 3.1 above. Intertidal mudflats and sandflats are exposed and potentially accessible at low tide but around Mersea Island are relatively insensitive to changes in access. There are two main reasons for this. Firstly, they are less sensitive to trampling than saltmarsh and other vegetated intertidal habitats (considered below – see sections 3.10 to 3.12). Secondly, the type and distribution of sediments present makes access on foot to most areas difficult and potentially dangerous. Away from the landward edge, good local knowledge of access routes and tidal conditions is needed.

Intertidal mixed sediments are probably more vulnerable to physical disturbance such as bait-digging than the less diverse sediment types, and are likely to take longer to recover. However they generally occur away from the landward edge of the intertidal zone in areas that are difficult and unsafe to reach, so are unlikely to be affected by changes in access.

Along those parts of the south side of the island where the Trail runs close to the mean high water mark and immediately inland of mudflats or sandflats, an increase in coastal access could lead to some increase in trampling along the landward edge of the flats. But this is unlikely to cause any significant damage to the habitat for the reasons given above. A significant increase in bait-digging, shellfish-collecting or other operations that physically alter the habitat across larger areas or remove organisms might have significant effects but such activities go beyond changes in access. This feature group is therefore ruled out from further consideration in this sensitive features appraisal.

3.10 Herbaceous saltmarsh vegetation

Composition of feature group

H1310 Salicornia and other annuals colonising mud and sand; H1320 *Spartina* swards; H1330 Atlantic salt meadows, including SM13 *Puccinellia maritima* saltmarsh community and SM14 *Atriplex portulacoides* saltmarsh community.

Current conservation status and use of the site

Around Mersea Island, saltmarsh is mainly found along the Strood and Pyefleet channels. The largest area lies between the Strood causeway and Maydays Marsh about 2km to the east. The island's southern shoreline is generally too exposed to wave action for saltmarsh to develop, though there are small areas near the western and eastern ends, at St Peter's Meadow saltmarsh and Fen Farm respectively - in both cases protected behind sand/shingle ridges.

As in most other parts of the Essex coast, there has been a net loss of saltmarsh around Mersea Island over the last several decades as a result of 'coastal squeeze': sea-level rise is causing erosion but the saltmarsh cannot shift landward because of the presence of man-made flood defences. Estimates of net rates of loss differ between studies but from the most recent (Thomson et al. 2011), the extent of saltmarsh around Mersea Island declined from 106.6 ha to 103.0 ha between 1997 and 2008 - a net loss of about 0.3% per year. This estimate largely excludes 'internal' erosion due to the gradual widening of minor channels within the marsh, which is apparent in many areas.

The main saltmarsh types around Mersea Island, as elsewhere along the Essex coast, are National Vegetation Classification (NVC) communities SM13 and SM14 (Rodwell 2000), dominated by common saltmarsh grass *Puccinellia maritima* and sea-purslane *Atriplex portulacoides* respectively. These two communities, which often occur as mosaics, predominate across the low-mid and mid-upper saltmarsh

zones. The mid-upper zone, which in many places is confined to a relatively narrow strip near the seawall, has some areas of more species-rich variants such as SM13c – *P.maritima* saltmarsh with common sea lavender *Limonium vulgare* and thrift *Armeria maritima* – and small areas of rarer communities such as stands of golden samphire *Inula crithmoides* (SM26).

Pioneer saltmarsh communities dominated by *Salicornia* (glassworts) and other annuals are restricted to smaller areas, often along the slumped edges of creeks, partly because in many locations sediment is eroding rather than accreting. Another reason is that the fertile hybrid common cord-grass *Spartina anglica* is spreading steadily. This relatively recent arrival is a competitive saltmarsh pioneer and forms single-species stands on accreting sediment. These are not considered part of the SAC feature H1320 *Spartina* swards, which is restricted to stands of the native small cord-grass *S. maritima*, the introduced smooth cord-grass *S.alterniflora*, or their infertile hybrid Townsend's cord-grass *S. x townsendii*, all of which are rare.

Due to coastal squeeze, distinct driftline communities and transitions to terrestrial or freshwater habitats are also confined to quite small areas, usually close to the base of seawalls or on their seaward slopes. By far the commonest of these is NVC type SM24, a rather species-poor community dominated by sea couch grass *Elytrigia atherica*. Near Mersea Stone, St Peter's Meadow saltmarsh and Fen Farm, some less common and more species-rich driftline and transition communities occur where upper saltmarsh grades into sand/shingle, or where freshwater flows into the intertidal zone. Saltmarsh scrub (see section 3.11 below) also occurs in driftline and transition zones.

Ecological sensitivities to changes in access

Except for the driftline community dominated by sea couch (NVC type SM24) all the herbaceous saltmarsh communities mentioned above are sensitive to trampling. The effects include an increase in bare, poached mud and a shorter and less species-rich sward, often reverting towards pioneer annual species and invasive common cord-grass. The loss of vegetation cover may also exacerbate erosion.

Saltmarsh's ecological sensitivity to trampling is exacerbated because the more unusual and species-rich communities tend to occur in the more accessible parts of the intertidal zone: close to seawalls and on transitions to sand/shingle. These are also the communities most likely to include nationally scarce species (see section 3.14) and of particular value to invertebrates (see section 3.15).

Saltmarsh areas in the vicinity of Mersea Stone spit and St Peter's Meadow are quite heavily used by the public and show significant localised trampling damage. Other saltmarshes around the island do not but the strip of saltmarsh alongside the Reeveshall Marsh seawall shows similar damage caused by overgrazing.

3.11 Mediterranean saltmarsh scrub

Current conservation status and use of the site

As elsewhere around the Colne and Blackwater Estuaries, the saltmarsh scrub on Mersea island is dominated by nationally scarce shrubby sea-blite (*Suaeda vera*). Its distribution is limited to the highest parts of the intertidal zone, as a driftline/transitional saltmarsh community or on shingle or shell banks. The largest stand, covering about 0.7ha, is on the Mersea Stone spit at East Mersea, where it grades into adjacent herbaceous shingle, dune and saltmarsh vegetation. There is a smaller stand of roughly 0.4ha on the sand and shingle fronting the saltmarsh at St Peter's Meadow, West Mersea. A discontinuous band a few metres wide runs along the shingle ridge next to the Fen Farm saltmarsh. Elsewhere, smaller scattered patches and isolated bushes occur on the seaward slopes of seawalls or on adjacent areas of driftline saltmarsh.

Ecological sensitivities to changes in access

Saltmarsh scrub is probably less sensitive to trampling than herbaceous saltmarsh vegetation but is still vulnerable, particularly where paths are forced through it. The community's restriction to the highest parts of the intertidal zone and its association with transitions from mud to sand/shingle increases its vulnerability. Where stands of saltmarsh scrub lie between coastal paths or access points and the shingle beach or shell banks often favoured for recreational activities they are particularly vulnerable. Even when the scrub itself remains largely intact, trampling may degrade the plant community by damaging associated herbaceous species. On Mersea Island the two main stands are in locations heavily used by the public and both are dissected by many 'desire line' paths. This vegetation type is also at risk from accidental fires.

3.12 Sea sandwort – sea rocket SD2 strandline community

Current conservation status and use of the site

A community characterised by sea sandwort (*Honkenya peploides*) and sea rocket (*Cakile maritima*) (NVC type SD2) is found where shingle, shell and sand - rather than finer sediments – occur along the strandline. On Mersea Island the main areas are on and south of the Mersea Stone spit, and on the shingle and sand (Monkey Beach) fronting the St Peter's Meadow saltmarsh. Smaller patches also occur in a discontinuous band along the south side of the island between these locations. In many places this strandline community grades into small areas of dune vegetation on finer sand just inland. Coastal shingle and sand are relatively rare in Essex and on Mersea Island support several species that are rare or declining in the county, including marram grass (*Ammophila arenaria*), sand cat's-tail (*Phleum arenarium*), Babington's orache (*Atriplex glabriuscula*), frosted orache (*A.laciniata*), sea holly (*Eryngium maritimum*), yellow horned-poppy (*Glaucium flavum*), sea spurge (*Euphorbia paralias*) and Ray's knotgrass (*Polygonum oxyspermum*) (Tarpey & Heath 1990; Essex Botanical Society 2009).

Ecological sensitivities to changes in access

The plant communities of coastal shingle and sand are sensitive to trampling. On Mersea Island, as elsewhere, they are mainly concentrated in easily accessible areas with high levels of recreational use. In these areas the vegetation shows obvious signs of wear, particularly along public and 'desire line' footpaths, and there are patches of fire damage. The abundance and variety of shingle/sand indicator species is lower than on similar but less heavily used areas, such as Colne Point. When access is increased there may also be efforts to 'tidy up' by removing sand/shingle vegetation and strandline debris, seriously damaging both the plant community and its associated invertebrates (see section 3.15 below).

3.13 Lowland ditch systems

Current conservation status and use of the site

The lowland ditch systems of the Colne and Blackwater Estuaries include networks of freshwater to brackish ditches draining areas of grazing marsh and also brackish to strongly saline borrow dykes just behind seawalls that drain into the estuaries, usually through flap sluices. These ditches provide supporting habitats for unusual aquatic invertebrates and plants, waterbirds, and other notable wildlife such as water voles. On Mersea Island the ditch system is not very extensive: the only area of grazing marsh within the designated sites' boundaries is at Cudmore Grove, East Mersea, and there are no borrow dykes or other ditches along much of the island's southern coastline.

Ecological sensitivities to changes in access

Sensitivities to disturbance of waterbirds using grazing marshes and their associated ditch systems are considered above (see sections 3.1, 3.5 and 3.6). Those considerations aside, ditches and their other fauna and flora are unlikely to be sensitive to changes in access, particularly on Mersea Island because (i) the large majority of ditches are landward of the Trail and outside the Coastal Margin; and (ii) there is no public access onto the grazing marsh fields at Cudmore Grove Country Park, which are protected by fencing, signage and wardening. Therefore this feature is ruled out from further consideration in this sensitive features appraisal.

3.14 Vascular plant assemblages

Composition of feature group

Colne Estuary vascular plant assemblage (VPA); Blackwater Estuary vascular plant assemblage (VPA); hog's fennel (a recently introduced nationally scarce plant – see section 2.5 above).

The VPAs of the Colne and Blackwater estuaries overlap to a large extent. As given in the SSSI Favourable Condition Tables, each VPA has 16 species, of which 13 are common to both SSSIs. The species are listed below. They can be split into two broad groups: (i) species mainly found on saltmarsh or other intertidal habitats including the seaward slopes of seawalls (these species are underlined in the list below); (ii) species mainly found inland of the intertidal zone including the crest and landward slopes of seawalls.

Species listed in both VPAs: *Bupleurum tenuissimum* (slender hare's-ear); *Carex divisa* (divided sedge); *Hordeum marinum* (sea barley); *Inula crithmoides* (golden-samphire); *Limonium humile* (lax-flowered sea-lavender); *Puccinellia fasciculata* (Borrer's saltmarsh-grass); *Puccinelli rupestris* (stiff saltmarsh-grass); *Ruppia cirrhosa* (spiral tasselweed); *Sarcocornia perennis* (perennial glasswort); *Salicornia pusilla* (one-flowered glasswort); *Spartina maritima* (small cord-grass); *Suaeda vera* (shrubby sea-blite); *Trifolium squamosum* (sea clover).

Species only listed in the Colne Estuary VPA: *Frankenia laevis* (sea-heath); *Limonium binervosum* (rock sea-lavender); *Parapholis incurva* (curved hard-grass).

Species only listed in the Blackwater Estuary VPA: *Chenopodium botryodes* (saltmarsh goosefoot); *Lepidium latifolium* (dittander); *Zostera noltii* (dwarf eelgrass).

Of the five species not common to both VPAs, only dittander is known from Mersea Island.

Current conservation status and use of the site

Of the nationally scarce species listed above that are found on saltmarsh or other intertidal habitats, the following are known from Mersea Island: golden samphire, small cord-grass, perennial glasswort, one-flowered glasswort, lax-flowered sea-lavender and shrubby sea-blite (Tarpey & Heath 1990). These are all species largely confined to either mid-upper or driftline saltmarsh zones, often close to or on the seaward slopes of seawalls. With the exception of shrubby sea-blite, the current distributions of these species on Mersea Island are not accurately known, though the first three were recorded in 2015 (Abrehart Ecology 2016).

The majority of the nationally scarce species found inland of the intertidal zone require open brackish habitat on or behind the crest of the seawall but cannot tolerate regular inundation with seawater. Most are usually found on the folding between the seawall and the adjacent borrowdyke or on the crest or inland slope of the seawall, particularly where poaching by livestock, farm vehicles or walkers has created some muddy bare patches. Areas where there is some seepage of brackish water through the seawall or seasonal flooding from a brackish borrow dyke are especially suitable. The species concerned are: slender hare's-ear, sea clover, sea barley, curved hard-grass, stiff saltmarsh-grass, and Borrer's saltmarsh-grass. The remaining VPA species known from Mersea Island, which have different habitat requirements, are divided sedge, spiral tasselweed and dittander. The current distributions of these species on Mersea Island are not

accurately known but the latest plant atlas covering North East Essex (Tarpey & Heath 1990) gives records from the island for all but Borrer's saltmarsh grass and spiral tasselweed. Hog's fennel has recently been introduced at Cudmore Grove Country Park.

Ecological sensitivities to changes in access

Of the six saltmarsh species listed above, five are herbaceous plants likely to have a similar sensitivity to trampling as other herbaceous species of mid-upper and driftline saltmarsh (see section 3.10 above). Shrubby sea-blite is a woody perennial, the dominant species of Mediterranean saltmarsh scrub (see section 3.11) and less sensitive to trampling.

The six species of open brackish habitats listed above are significantly less sensitive to trampling than the saltmarsh species. In some situations they may benefit from light to moderate increases in poaching due to increased pedestrian access along seawalls or foldings. But they could suffer as a result of increased access in some specific situations, for example:

- They could be destroyed if a section of path along a seawall or folding is surfaced or engineering works are undertaken.
- Where the seawall or folding is currently grazed, if new public access provision makes it impossible to continue grazing then the change to a taller sward without poached areas is likely to be detrimental.

Dittander and hog's fennel also occur on and behind seawalls but normally in taller, less open swards. They are likely to be less tolerant to trampling, grazing and other disturbance than species of open brackish habitats, but more tolerant than the saltmarsh species. Divided sedge and spiral tasselweed are unlikely to be sensitive to changes in access. The first is a creeping perennial sedge usually found in brackish grazing marsh swards inland of borrow dykes. The second is a submerged aquatic of brackish ditches.

3.15 Invertebrate assemblages

Composition of feature group

Invertebrate assemblages (of saltmarsh and other coastal habitats including scarce species with high habitat fidelity) and Colne Estuary outstanding dragonfly (Odonata) assemblage.

Current conservation status and use of the site

he invertebrate assemblages of the Colne and Blackwater estuaries are similar. For both sites, the main Broad Assemblage Type (BAT) given in their SSSI Favourable Condition Tables is W53 'saltmarsh, estuary and mudflats' and the main Specific Assemblage Type (SAT) is W531 'saltmarsh & transitional brackish marsh'. Most of the species in these assemblages are beetles and flies, with smaller proportions of bugs, moths, spiders, crustaceans and other taxa (Drake et al. 2007). Species of other assemblage types associated with open water (BAT W21) and early successional mosaics (BAT F11) are also likely to be present, in areas of grazing marsh and vegetated sand/shingle respectively.

The Ramsar Site Information Sheets for the two estuaries list 38 British Red Data Book invertebrate species for the Colne and 16 for the Blackwater (of which 13 are shared with the Colne). The difference in RDB species numbers may just reflect differences in past survey effort but might be partly due to the larger areas of shingle and sand on the Colne (which are likely to have a distinct invertebrate fauna).

Habitats that are important for scarce coastal invertebrates (Kirby 2001) include:

- Mid-upper and driftline saltmarsh, especially where it is sheltered (for example behind a shingle spit), the vegetation is relatively species-rich and structurally complex and includes plants particularly important for invertebrates (such as sea wormwood, sea lavender, golden samphire, shrubby sea-blite and sea rush), and there are transitions to semi-natural freshwater or terrestrial habitats just inland.
- Vegetated sand or shingle, especially where there is a mixture of organic debris such as drift wood, leaf litter and seaweed along the strandline and, on higher ground, some patches of bare sand.
- Grazing marsh, especially where there are a good variety of shallow ditches and fleets with abundant emergent vegetation, at a range of successional stages and with a range of salinities from freshwater to brackish.
- Any habitat with abundant nectar sources, whether on saltmarsh, or on/inland of seawalls.

On the Colne Estuary, the outstanding dragonfly assemblage is associated with freshwater to brackish ditches, fleets and borrow dykes in areas of grazing marsh and also lakes and ponds in the old gravel workings at Essex Wildlife Trust's Fingringhoe Wick Nature Reserve.

Ecological sensitivities to changes in access

The value of coastal habitats for scarce invertebrates depends on the plant species they support and on their physical structure. Increased trampling of areas of upper saltmarsh or vegetated sand/shingle could damage the habitats' invertebrate communities but is unlikely to be severe or large-scale enough to produce significant effects except in unusual circumstances. For example, significant damage might be caused if a new PRoW was opened up - and became heavily used - across important areas of these habitats where there had been little or no previous access. Plans for the ECP on Mersea Island do not include any such proposal.

Other less direct effects of increased access might affect invertebrate communities significantly if they led to changes in the characteristics of important habitats on a large enough scale. For example, if increased recreational access led to demands to 'tidy up' sand/shingle areas by removing plants and organic strandline debris, or to allow vehicle access, that would damage the invertebrate and plant communities. Or if new access rights required changes to the way vegetation on and behind seawalls is managed - such as changes in grazing or cutting - that might also be damaging in some circumstances. Again, plans for the ECP on Mersea Island do not include such proposals. Therefore this feature group is ruled out from further consideration in this sensitive features appraisal.

3.16 Native oysters

Composition of feature group
Native oyster (*Ostrea edulis*); native oyster beds.
Current conservation status and use of the site
The native oyster is associated with highly productive estuarine and shallow coastal water habitats on firm bottoms of mud, rocks, muddy sand, muddy gravel with shells and hard silt. In exploited areas, suitable habitat is/has been created in the form of 'cultch' - broken shells and other hard substrata. Native oyster beds – comprising concentrations of oysters and dead shells – are normally found in around 2 to 5 m of water, coinciding with the species' preferred biological zones which include the lower intertidal and shallow subtidal. Within the MCZ, the species is found sporadically and management plans are under development to recover the native oyster beds feature. There are some records from quite high up the intertidal zone but these probably refer to individual oysters rather than oyster beds. In the Colne and Blackwater estuaries and elsewhere in the MCZ, non-native Pacific oysters (*Crassostrea gigas*) are increasing and are likely to compete with the native species for space and food.
Ecological sensitivities to changes in access
Native oysters need to be in an area where they are at the very least partially submerged regularly to survive. Their preferred habitat is within or seaward of the lower intertidal zone, often in areas that are difficult and unsafe to access on foot. This feature group is therefore unlikely to be sensitive to changes in land-based access and is ruled out from further consideration in this sensitive features appraisal.

3.17 Quaternary of the Thames

Current conservation status and use of the site
An area of the East Mersea clifftop and foreshore at Cudmore Grove Country Park are selected/identified under the Geological Conservation Review as belonging to the Quaternary of the Thames. The geology here consists of Palaeogene Oxford Clay overlain by Quaternary deposits of Thames-Medway fluvial origin visible both in the cliffs and the foreshore, and deposited during the Ipswichian interglacial some 120,000 years ago. Two areas of particular interest are the Restaurant Site, about 1.5 km southwest of Cudmore Grove which has produced fossil mammalian and invertebrate remains and the Hippopotamus Site (named after eponymous finds) which is between the Restaurant Site and the Cudmore Grove Channel.
Ecological sensitivities to changes in access
None - There should be no danger to the geological interest provided that natural processes are allowed to continue to operate and the coastal path allowed to rollback.

3.18 Other geological and geomorphological features

Composition of feature group
Mesozoic – Tertiary fish/amphibians; Saltmarsh morphology; Clacton cliffs and foreshore
Current conservation status and use of the site
These interest features are restricted to the following specific locations: Mesozoic – Tertiary fish/amphibians: Blackwater Estuary SSSI, 'soft rock' coastline on the east bank of Lawling Creek, near Maylandsea. Saltmarsh morphology: Colne Estuary SSSI, saltmarshes on the east side of the main channel of the Colne, south and east from Point Clear and including Colne Point. Clacton cliffs and foreshore: a separate geological SSSI over 7 km east of Mersea Island but within the Blackwater, Crouch, Roach and Colne Estuaries MCZ.
Ecological sensitivities to changes in access
None of these features occur on or near Mersea Island so they are ruled out from further consideration in this sensitive features appraisal.

3.19 Seals

Composition of feature group
Common seal *Phoca vitulina* and grey seal *Halichoerus grypus*
Current conservation status and use of the site
Small numbers of common seals and the occasional grey seal forage in the waters around Mersea Island. They use haul-outs on saltmarsh adjacent to the Pyefleet Channel. Common and grey seals are protected in UK waters by the Offshore Marine Conservation (Natural Habitats, & c.) Regulations 2007, Conservation of Habitats and Species Regulations 2010, Wildlife and Countryside Act 1981 and the Conservation of Seals Act 1970.
Ecological sensitivities to changes in access
Seals foraging offshore are unlikely to be sensitive to changes in land-based coastal access but changes that allow people closer to their haul-outs are likely to cause disturbance.

4. Potential for interaction

In this part of the document we identify places where sensitive features are present *and* there could, or will not, be an interaction with proposed changes in access.

4.1 The Strood and the Strood crossing to West Mersea

Outline of changes in access

This section is the shortest on Mersea Island but one of the most popular.

This section of the route uses existing PRoW for the majority of the section and will create new access in the north to create a new walked line off the Colchester Road where fast moving traffic Is currently a safety concern.

There is a junction between the circular Mersea Island Coast Path and the subsection that crosses the Strood causeway to join the Salcott to Jaywick stretch of the England Coast Path. The route uses the pavement alongside the road as far as the join with that stretch.

New formal access will be created in the following situations;

- At Wellhouse Farm to provide a safe route from one section of the seawall leading south to West Mersea and the access point onto the seawall leading east along the north of the island.

Approximately 150m of Public Footpath at Firs Chase Saltmarsh will have surface improvements to encourage walkers to use the path rather than stray onto the saltmarsh where trampling may occur.

<u>Seaward spreading room</u>
The saltmarsh from the Strood crossing to the southern end of Firs Chase is considered unsuitable for access. Where there is broader saltmarsh it is threaded with deep creeks and soft mud and where the seawall is fringed by a narrow eroding strip of saltmarsh the seaward slope is slippery and leads down to steeply eroding saltmarsh or directly onto soft mud.

The northern end of this section of saltmarsh is threaded with deep, soft mud creeks which fill quickly on a rising tide and therefore are unsuitable for public access as they represent a hazard to members of the public unfamiliar with the terrain, although used by wildfowlers who draw on experience when venturing onto the marsh.

A Section 25A exclusion will therefore be applied to all saltmarsh and mudflat.

Potential for interaction (or lack of it)

In this section the Trail route passes immediately adjacent to or through designated sites, where they extend over the seawall to the borrow dyke or across the top of the seawall, from the point where the PRoW meets Colchester Road at the northern end by the Strood crossing.

The MCZ extends seaward from seaward from Mean High Water for all of this subsection.
There is a potential for interaction with sensitive features. This is assessed in section 5.1.

4.2 West Mersea Town

Outline of changes in access

This section of the route uses PRoW and highway for the majority of the section.

There is no new walked route being created, however the proposals will formalise some well used informal routes. There will be modest trail improvements such as signage, way marking and interpretation boards.

The trail uses public rights of way and footways as far as St Peter's Meadow from where it follows existing walked lines and PRoWs on the beach.

The proposed route from Monkey Beach to Seaview Caravan Parks follows the PRoW on the beach for most of the beach sections, creating new access slightly higher up the beach where high tides may cover the existing PRoW.

New formal access will be created in the following situations;

- where the existing PRoW on the beach is frequently inundated at high tide and a new access route is created above the mean high water (MHW) line
- where existing, informal walked routes are formalised
- where the pavement through the town is privately owned

Seaward spreading room

The creation of Coastal Margin (new access) will encompass fishing sheds, oyster fishermen's sheds, boatyards, a dock, and sailing clubs and restaurants. The area comprises Village Greens, a public pontoon, restaurants and car parks. It is heavily used already and the public can judge areas more suitable for access easily from the existing access patterns. Some of these land types are excepted and will not have access.

The saltmarsh and mudflats containing historic oyster pits and jetties, commercial premises and dwellings will all be excluded using section 25A. This exclusion will continue along the section from its start beyond the saltmarsh where house boats are moored, to the creek dividing St Peter's Meadow saltmarsh. However areas that are designated as Village Green will not be excluded from the Coastal Margin and remain accessible to the public.

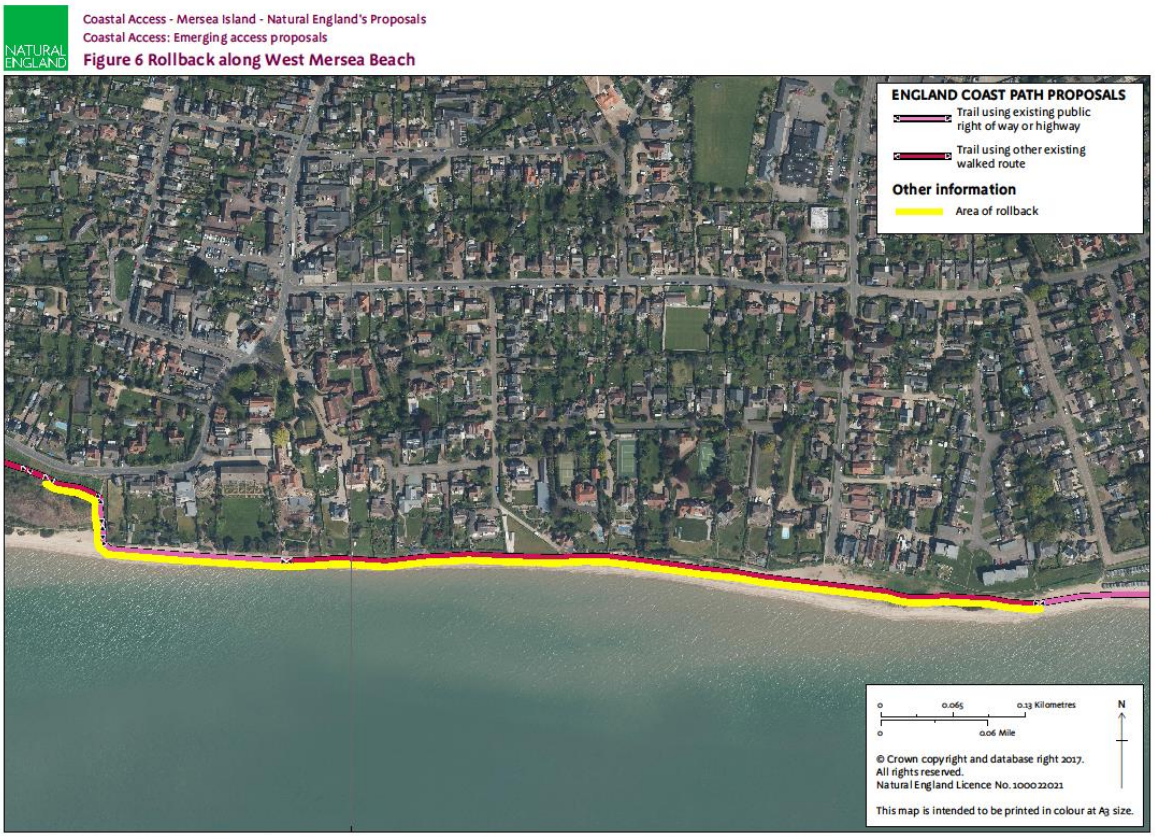
(If Section 25A were not used to excluded access to the salt marsh and mudflats adjoining historic oyster pits and jetties, an alternative form of exclusion, to protect these features on the grounds of their heritage value and/or to exclude the public on the grounds of safety would be necessary.)

Some land types and land use activities will be excluded – such as the dock yard and the pontoon by default.

The oyster fishermen and commercial boatyards have requested Section 24 Land Management directions to enable them to operate safely and unhindered. Therefore a Section 24 exclusion will apply to the Oyster Sheds on Coast Road and Section 24 outline direction will apply to Peter Clarks Boatyard to restrict access at certain times when hazardous operations take place.

Where the route passes along the footway (pavement) or road adjacent to an excluded or restricted land type, path width will be dictated by the lie of the land. If there is a land boundary within 2m of the centre line of the path this will limit the width of the path.

Figure 6 Rollback along West Mersea Beach



Potential for interaction (or lack of it)

Part of this section (from the start of the section at Coast Road to the Kings Hard, east of Monkey Beach) is adjacent to or passes through designated sites (see Figure 3) and there is a potential for interaction with some sensitive features.

The trail passes through designated sites at St Peters Meadow. West and seaward of this section, saltmarsh and mudflats are concurrently designated as SSSI, SPA, SAC and Ramsar up to the edge of the road or docks. The MCZ extends seaward from seaward from Mean High Water for all of this subsection. This is assessed in section 5.2

At the eastern end of this section from 100 m east of St Peter's Meadow saltmarsh, (King's Hard) the only designated site lying close to the Trail route is the MCZ, the features of which are not considered sensitive to land-based access (see section 3).

4.3 West Mersea to Mersea Stone

Outline of changes in access

A number of walked lines, formal and informal, already exist along this stretch.

The proposed route for the England Coast Path is along the existing PRoW on the seawall and beach for much of this section, and formalises other walked lines in between.

Rollback

The entire subsection will have rollback proposed due to the dynamic nature of the coast and the rates of erosion seen along this subsection (see map below).

New access

New access is created as follows;

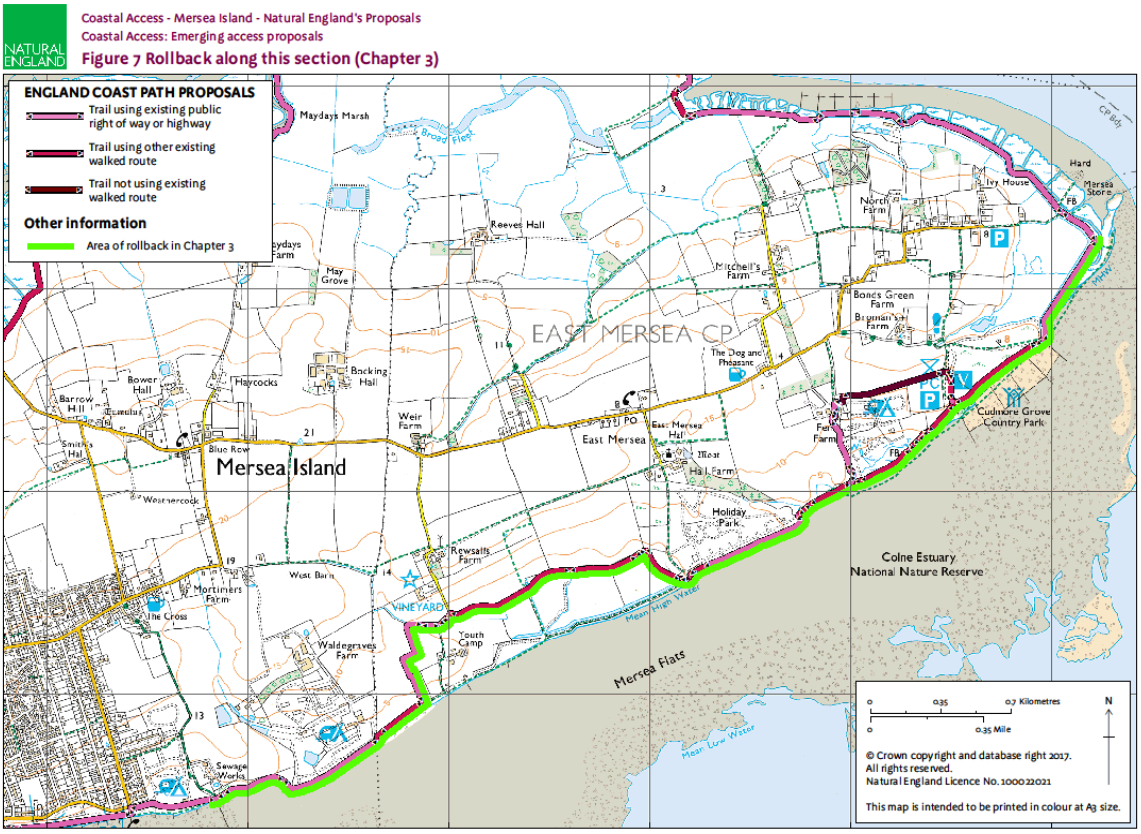
- Inland of the low cliffs between Waldegraves Caravan Park and the Youth Camp, along a field edge.
- From Rewsalls Lane to the western edge of Coopers Beach caravan park, inland of the collapsing seawall . The new trail uses an existing track passing along the northern edge of grazing fields, crossing a number of ditches and joins the new bund west of Coopers beach which it follows southwards back towards the shore.
- Between Coopers Beach Caravan Park past Fen Farm to the tarmac'd path at Cudmore Grove Country Park. The path will pass higher up the beach than the existing PRoW in several places, then through the 'Dog Walking Field' at Away Resorts onto the cliffs at Cudmore Grove. As a result the new route will cross areas of vegetated shingle and sand.

The Youth Camp will be excluded using a Section 24 exclusion, for land management purposes.

Rollback

Rollback will be proposed along this entire subsection to Mersea Stone spit at Cudmore Grove Country Park.

Figure 7 - Rollback along this section (Chapter 3)



Optional Alternative Route

At Fen Farm the route will cross a small creek which drains the 'fen' (an area of saltmarsh and reed bed behind a shingle ridge). The shingle and beach shape are very dynamic and the creek alters location frequently. At very high tide events it may be too wide to step over and too deep to step across.

There are concerns about the use of this route at high tide because:
Due to the dynamic nature of the coastal processes the profile of beach and location of the channel change frequently making it too deep to cross at some high tides.
There are nature conservation concerns about the reed bed, shingle and saltmarsh habitat on the seaward side of the two caravan parks as people may walk further up the beach at high tide. (See Section 5.3)

There is currently no existing public access through the two caravan sites, which are operated for the exclusive enjoyment of their customers (other than the North-south Public Right of way on the western side of Fen Farm which is screened from the main site). NE concluded that a route through the caravan parks would adversely impact on the two businesses.

It was therefore considered appropriate to secure an Optional Alternative Route around the landward side of these two caravan sites. Walkers can use the north-south PRoW on the western side of Fen Farm Caravan Park, walk through the landward edge of the Away resorts and enter Cudmore Grove at a new entrance point before returning to the cliff top to pick up the coast path again.

The coast path follows the beach south of Fen Farm – although not on the line of the PRoW which is now

some way out to sea. New access will be created across the 'dog walking field' of Away Resorts Caravan Park and on to the cliffs at Cudmore Grove. Spreading room will only be created seaward of this strip.

Cudmore Grove Country Park is a well-managed site belonging to Essex County Council. It is a popular visitor destination for walkers, families, and naturalists alike and a number of events take place there throughout the year. The public has access to much of the Country Park but is not allowed onto the grazing marsh fields, to prevent disturbance to waterbirds. The route will formalise an existing walked line along the top of the cliffs at the western end of the park and follow the existing PROW through the eastern part (which falls with designated areas). By siting the route on the cliff top rollback can be triggered by future changes to the shoreline.

Seaward of the trail is mostly beach and mudflat. The mudflat is flooded at high tide as far as the seawall in most places.

Seaward spreading room

The mud on the mudflats contains shingle in places making it more accessible than in other parts of the island. However it contains pockets of softer, sticky mud, where channels are covered and bait diggers pits have been filled in. The top layer of softer mud has been eroded over recent years to expose the heavier London Clays.

Section 25A exclusion on mudflats

The mudflat has been assessed and will be excluded using Section 25A on the grounds of its unsuitability for access from the Anglian Water sewage works, just east of West Mersea town (see maps in Section 5), where mud and gravel presence ends to Mersea Stone.

Potential for interaction (or lack of it)

In the west (where new access is proposed between the Youth Camp and Cooper's Beach to avoid an eroding seawall) the route runs more than 200m inland of designated site boundaries (see Figure 4), though some of the land beyond those boundaries is suitable supporting habitat for some waterbirds.

From Cooper's Beach Caravan Park east to Mersea Stone the route runs for most of its length adjacent to or through designated sites where they extend onto seawalls or other land inland of Mean High Water. There is a potential for interaction with several sensitive features. This is assessed in section 5.3.

4.4 Mersea Stone to The Strood

Outline of changes in access
This stretch will use existing public rights of way for the majority of the subsection and secures new access for a 900m section where a former permissive footpath (rights ended October 2016) will be replaced by new access on the seawall that divides the saltmarsh from the arable fields. This will create continuity with the rest of this section. A new, clearly visible, access point from East Mersea Road onto/off the seawall will be created, which will reduce the numbers of walkers accessing the private saltmarsh to the north of this point. There will be modest trail improvements such as scrub clearance, resurfacing, signage, way marking and interpretation boards. The coastal margin seaward of the trail, composed of saltmarsh and mudflat, will be excluded using a Section 25A Direction due to its unsuitability. It varies in width along this section and has different uses. The broad saltmarsh to the west close to the Strood causeway is used by wildfowlers. It is flooded at high tide and is dissected by a complex network of deep creeks with soft mud. The saltmarsh at Reeveshall Farm is used for grazing. At the eastern end the saltmarsh is part of the NNR and is not grazed or used for any other activities.
Potential for interaction (or lack of it)
For the entire length of this section the route passes immediately adjacent to or through designated sites where they extend over the seawall to the borrow dyke or across the top of the seawall. There is also valuable supporting habitat for bird features inland of the route. There is a potential for interaction with several sensitive features. This is assessed in section 5.4.

5. Assessment of any possible adverse impacts and mitigation measures

In this part of the document we look in more detail at sections of coast where there could be an interaction between the access proposal and sensitive features. We discuss possible risks to sensitive features and explain how these have shaped the design of our proposals and/or led to the inclusion of specific mitigation measures. For the Access Assessments below (see sections 5.1.3, 5.2.3, 5.3.3 and 5.4.3) we use a standardised scoring system to predict changes in levels of use of the trail and the adjacent coastal margin.

Access predictions

As part of our considerations about possible risks to sensitive features, we need to understand how patterns and levels of public access locally might be affected by our proposals. An overview of our approach to assessing patterns and levels of public access is described in our Coastal Access Scheme[1] (see Figure 16 on page 46) and we use this approach where there might be a need for intervention to manage access to a site.

There are several factors that can influence the pattern and level of use of a site by the public. Proximity and convenience to a place where people live, or stay whilst on holiday, is often the dominant factor, although it is not influenced by our proposals. Where new or significantly improved opportunities for access are created as a result of our proposals, it is an important consideration. Other factors we consider are availability of parking and other facilities for visitors, and features of the location that might be attractive to visitors, such as a view point or sandy beach.

In carrying out our assessment of current and possible changes in use of the site, we make use of available local sources of evidence, including the findings from previous visitor surveys or counts where these exist, as well as information from local tourism businesses. We seek advice from site managers and local experts with knowledge of access in the area. We also take account of the views of the landowner and local groups or people that know the site e.g. Wildfowling Group, user groups. As part of developing our proposals for England Coast Path we undertake a detailed site survey including assessing existing physical features that are relevant to the assessment, such as the presence of paths or barriers to access.

Where there is a potential interaction between a sensitive feature and our access proposals, we make a more in-depth assessment of patterns and levels of access and how they might be affected by our proposals. The main way that our proposals can influence visits to a particular location is through improving the quality and range of access opportunities available for the public. We identify entry points to a site and consider how use of our proposed route for Coast Path and access within the associated Coastal Margin might be affected. We consider use by local people and visitors from further afield. The local evidence gathered informs the assessment and where possible, quantitative information is used e.g. the capacity of nearby parking. We also make use of information from studies of visitor behaviour at comparable locations elsewhere, for example concerning the profile of users and duration of visits. Advice from experts in managing public access is used in the process to complete the assessment of how we expect the pattern and level of access to be affected by our proposals. Our conclusions are fully explained and incorporated into the assessment of possible risk to sensitive features.

5.1 The Strood and the Strood Crossing to West Mersea

5.1.1 Environmental sensitivity

The saltmarsh is most extensive at the northern and southern ends of this subsection. In the north it provides roost sites at high tide for overwintering and passage wildfowl and waders. At low tide the exposed mud provides substantial feeding habitat for wading birds. A further consideration is the role of saltmarsh as a buffer between the exposed mud and the existing footpath following the sea wall, helping to reduce disturbance levels for wintering wildfowl and waders when feeding on exposed mud.

The sensitive features or feature groups listed below occur close enough to this section of the route to have the potential to be adversely affected by it. The nature of each feature's sensitivity is indicated in brackets, as are particular locations within the section or times of year when the feature is sensitive. If no location or time of year is shown then the feature is potentially sensitive all year and all along the section. More information on the status of these features and their sensitivities is given in section 3 above. The relevant subsection number for each feature is shown.

3.1 Overwintering and passage waterbirds (disturbance caused by the presence of people, and particularly walkers with dogs, in/near feeding and roosting areas, which include all habitats seaward of the Trail and, for some species, grazing marsh and arable fields inland of it; August to March/April, sensitivity heightened in core winter period November to February).

3.2 Overwintering hen harrier (disturbance in hunting areas both sides of the Trail; September to March).

3.5 Breeding pochard (disturbance at borrow dyke reed/club-rush nesting areas; April to July).

3.9 Herbaceous saltmarsh vegetation (trampling).

3.13 Vascular plant assemblages (trampling - saltmarsh species are sensitive, most of those found on or inland of the seawall crest less so; surfacing or engineering works to improve the Trail – species growing on the seawall).

5.1.2 Proposed improvements to accessibility

Footpath improvements

Along this section of the coast, our proposed alignment for the England Coast Path mainly follows existing coastal paths.

The existing path will, where necessary, be upgraded and will be maintained to National Trail quality standards, specifically:

- Structures are always safe, comfortable, easy and convenient to use
- Surfaces are in good condition and appropriate to the geology and soils over which the trail passes
- The route is easy to follow with consistent, accurate, unobtrusive way marking and destination signage
- Consistent high quality design, style and use of materials to suit the character of the local landscape with historical features maintained where possible
- Readily passable routes free from undergrowth and overhanging vegetation

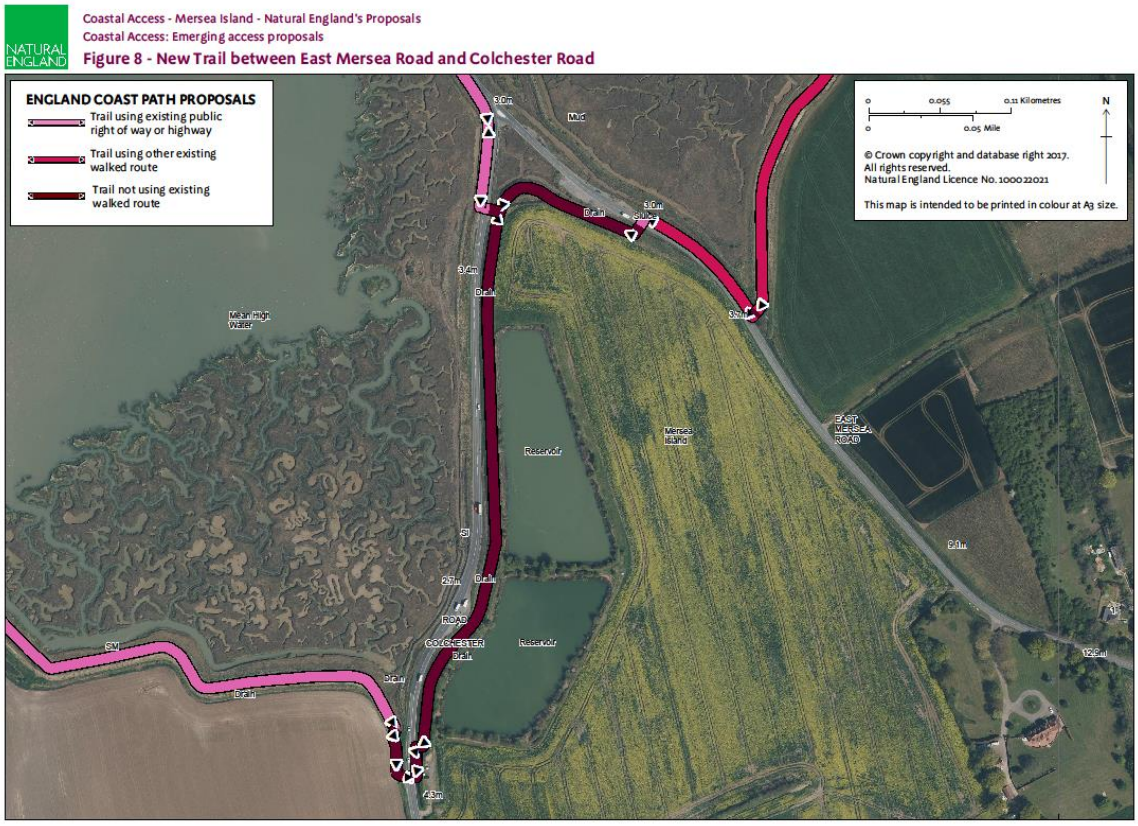
As part of establishing the England Coast Path, a 150m length of path at Firs Chase will be resurfaced to provide a firmer and better drained surface.

In addition, we propose that a short new section of path should be created at Wellhouse Farm to provide a safe off-road path and clear crossing point over the main road between the Mersea Island and mainland.

New Trail

New access rights will be created on the land between East Mersea Road and Colchester Road close to the Strood crossing thus joining the seawalls east and west of the Strood causeway. The route will use the raised bank at south of these roads to walk around the arable field to a suitable point location to cross the road and access the Strood crossing to join the Salcott to Jaywick stretch of the England Coast Path. The new route will also connect this stretch to the stretch in Chapter 4 of the Coastal Access Report (Mersea Stone to the Strood) via a safe off-road path and provide clear crossing points across the busy roads.

Figure 8 - New Trail at between East Mersea Road and Colchester Road



Landward spreading room

Where the route passes along the beach the landward spreading will be to the default areas of beach, and will be

- The 2m default at Wellhouse Farm where new access is created.
- The top of the seawall at Wellhouse Farm seawall
- To borrow dyke at Brick House Farm
- To the ditch and/or hedge at Firs Chase
- Width of path (to the garden wall) past Coast Road Cottage

Seaward spreading room

All land seaward of the trail will have Coastal Access Rights, by default, unless it is excepted or a restriction or exclusion is applied.

Section 25A exclusions

Section 25A exclusions will be applied to all saltmarsh and mudflat on this section.

Other restrictions and exclusions

No other restrictions or exclusions have been requested or agreed on this section.

Roll- back - none on this subsection

5.1.3 **Access assessment – Section 1 – The Strood and the Strood crossing to West Mersea**

Current situation	**Predicted change**
Good existing access The main access on to this stretch is on pavements and seawalls as far as the town of West Mersea where one circular route is available using an existing PRoW north of Firs Chase caravan park. Access from the northern end is available from the road close to a small layby for 2 -3 vehicles, on Colchester Road. This is a very popular stretch for walkers – especially dog walkers from the town of West Mersea. Local use accounts for the majority of visits to this section of the path. Colchester Borough Council found that the majority of users (70%) interviewed at The Strood lived on Mersea Island and had travelled less than 5miles to make their visit. Public transport onto the island is limited and the majority of visitors from further afield will arrive by car and park in and around the town of West Mersea, at Cudmore Grove or the caravan parks on the south coast offering public parking. Local residents (from Coast Road Cottages north of Dabchicks Sailing club) report up to 200 walkers a	**Medium increase in levels of use on the Trail** The area is a visitor destination all year round with a strong seasonal increase in visitor numbers during the summer months. Overall, we predict there could be a medium increase in the level of use of this section of the coast path as a result of our proposals. The reasons for this are: We have proposed several improvements to the existing path, including better signage, improvements to the surface and drainage of the PRoW on Firs Chase saltmarsh and a new off-road route east of Colchester Road. These improvements will make the route more attractive and convenient for local users. Round the Island Walk is promoted by local and nationally by walking and tourism websites. In addition, we expect there will be a small increase in the number of walkers attracted to use the path that have travelled from further afield. Most will be infrequent visitors to the area, undertaking longer walks, sometimes following the England Coast Path National Trail for several days or weeks. The majority

day pass by their homes on Coast Road at peak times of the year in the summer. People access the sandy areas of the beach and may use the saltmarsh at Firs Chase when it is dry (observed during site visits and noted by local residents). Activities undertaken on this section are walking, birdwatching photography, dog walking and running. Some cyclists also cycle on the Public Footpath, illegally. The PRoW at Firs Chase Saltmarsh is muddy, slippery and uneven when wet and many walkers leave the path to walk on the saltmarsh close to the path. There is little to attract a walker off the seawall down steep slippery slopes into mud. Mersea Island is a popular destination for staying visitors. Most of the visitor accommodation is along the southern side of the island in caravan parks and holiday lets. At its height during the summer, based on the available visitor accommodation, it is estimated that the influx of visitors more than doubles the local resident population of 7,000. This means there is a strong seasonal fluctuation in access levels between the summer holiday period and other times of year. Colchester Borough Council Emerging Local Plan states that the Borough's population has grown by 15.6% between 2001 and 2014 Some launching of canoes and small craft takes place at Firs Chase by caravan park residents.	will stick to the waymarked path and be guided by instructions given in on-site signage and information. **Negligible change in levels and patterns of use within the coastal margin** The majority of the Coastal Margin along this section of coast comprises mudflats and the saltmarsh at the northern and southern ends of this subsection. We have proposed that no new access rights are created over these areas on the grounds that they are unsuitable for public access. Note that use of the saltmarsh by permission of the owner of the caravan site at Firs Chase will be unaffected by the proposed exclusion. Improvements to the path surface at Firs Chase will reduce the current tendency for informal diversions to develop over the saltmarsh. Landwards of the trail, the Coastal Margin will only include small areas of land between the path and borrow dyke or adjacent field margin where agreed with the landowner. This means that the extent of spreading room along this section of the route will be limited to small areas on either side of the trail. These areas are already easily accessed from the existing path, however; there may be a small increase in use, for example by walkers stopping to rest on the small beach at the southern end of this section or in the folding north of Firs Chase saltmarsh.

5.1.4 **Possible risks to sensitive features**

In this section we consider details of the access proposal and the predicted change in use described in sections 5.1.2 and 5.1.3, in order to assess the likelihood of possible adverse impacts on the sensitive features or feature groups.

Several points explained in those sections reduce the potential for adverse impacts along this part of the route. These are:

A. Our proposed alignment for the England Coast Path mainly follows existing PRoWs, where there has been access for many years.
B. The salt marsh and mud flat along this subsection is difficult to walk on and is not attractive for recreational purposes.
C. No new access rights will be created over the saltmarsh and mudflats seaward of the Trail. Access to this part of the Coastal Margin will be excluded and new signs will be installed at key access points advising people about the dangers of accessing these areas.
D. In the northern and southern parts of this subsection the proposed trail is separated from the intertidal mud by areas of saltmarsh at least 50m wide. This separation reduces the risk that people using the trail will disturb wintering wildfowl and waders feeding on the exposed mud. (However in the central part of this subsection there is little or no saltmarsh between the trail and the intertidal mud.)
E. The path will be easy to follow and maintained to a high standard, thereby reducing the current tendency for localised informal diversions to develop over the saltmarsh at Firs Chase.
F. The landward Margin will only include land between the path and borrow dyke or adjacent field margin, where agreed with the landowner.
G. The current rules about dogs on public rights of way are unchanged. In places where the new coastal access rights apply, there is a new requirement that dogs must be under effective control.

The points above reduce the potential for adverse impacts on several different sensitive features, as summarised in the list of features below (which repeats summary points about their sensitivity for ease of reference):

3.1 Overwintering and passage waterbirds A, B, C, D, F, G (disturbance in/near feeding and roosting areas, which include all habitats seaward of the Trail and, for some species, grazing marsh and arable fields inland of it; August to March/April, sensitivity heightened in core winter period November to February).

3.2 Overwintering hen harrier A, B, C, F, G (disturbance in hunting areas both sides of the Trail; September to March).

3.5 Breeding pochard A, F, G (disturbance at borrow dyke reed/club-rush nesting areas; April to July).

3.9 Herbaceous saltmarsh vegetation A, B, C, E (trampling).

3.13 Vascular plant assemblages A, B, C, E (trampling - saltmarsh species are sensitive, most of those found on or inland of the seawall crest less so.)

Taking account of points A to G above, we consider that the risk of significant negative impacts in this subsection is very low. The only area of uncertainty is whether the predicted increase in use of the trail here may slightly increase disturbance to overwintering and passage waterbirds using the relatively narrow area of saltmarsh and mudflat along the Strood Channel. This is more likely in the central part of the

subsection – where there is little or no saltmarsh separating the trail from the mudflats – or if people or their dogs go into areas seawards of the trail. But given that the area of intertidal habitat involved represents a very small proportion of the total in the Blackwater Estuary designated site, that the trail follows an existing PRoW, and that the access improvements described above will help to keep walkers on the trail itself, we do not consider that additional mitigation is needed. However, we are proposing enhancement measures (see section 5.1.6) that should further reduce any risk of adverse impacts. ; due to there being some uncertainty about the consequences of possible disturbance further measures are proposed Mitigation measures for this are described in section 5.1.5.

Uncontrolled dogs may disturb overwintering and passage wildfowl and waders (August to March/April) on the mudflats. Some people from the caravan site will use the saltmarsh at Firs Chase where extensive saltmarsh acts as a buffer between the existing footpath and wading birds feeding on the mud at low tide. This is access by permission of the landowner and can't be regulated by S25A. The route will follow the existing PROW where it passes close to the mudflats. Therefore the legal controls with regards to dogs on the Public Footpath remains unchanged – 'dogs must be under control or on leads'.

It is worth noting that while Section 25A exclusions are applied where the Coastal Margin is not suitable for access, rather than on nature conservation grounds, these exclusions are important in reducing the potential for adverse impacts on non-breeding waterbirds and other sensitive features in this section of the route. If in the future there is a proposal to remove or relax the Section 25A exclusions, then an appraisal of the effects of those changes on sensitive features would be essential.

5.1.5	**Any mitigation measures included in the access proposal and how they address the possible risks**

Whilst no measures are considered necessary to mitigate against the impact of the England Coast Path in this subsection, enhancement measures are proposed (see section 5.1.6).

5.1.6	**Conclusion**

Our proposed alignment for the trail follows an existing coastal path which is already a well-known and popular route, used by both locals and visitors to the area, and access rights onto sensitive habitats in the coastal margin are not increased by our proposal. Moreover, the access improvements and enhancement measures proposed will improve the management of the route. We conclude that it is unlikely there will be any significant adverse effects on sensitive features resulting from our proposals. Where necessary, the access arrangements we have proposed can be adjusted in the light of unforeseen changes that arise in the future.

<u>Enhancement measures</u>

The following measures are in addition to those already built in to our proposals and described above.

People are not always aware of how their behaviour (or that of their dogs) causes disturbance and therefore we propose to install new signage at Firs Chase that explains about the value of the site for nature conservation and how people can help to protect it.

Note that as described above, signage advising people about the dangers of accessing areas of salt marsh

and mud flat will be installed at the main access points to the trail, including at the northern end of this section of the route.
A roundel will be placed on the finger posts close to the Colchester Road advising walkers to keep off the saltmarsh and mudflats.

There is some uncertainty about how people will behave when using the coast path and whether this could have an impact on use of the foreshore by birds. For the reasons described above, we expect that our proposals will reduce this risk. However; because the risk relates to European site qualifying features, we consider it further in Section 7.1 of this document.

5.2 West Mersea Town

5.2.1 Environmental sensitivity

The sensitive features or feature groups listed below occur close enough to this section of the route to have the potential to be adversely impacted. The nature of each feature's sensitivity is indicated in brackets, as are particular locations within the section or times of year when the feature is sensitive. If no location or time of year is shown then the feature is potentially sensitive all year and all along the section. More information on the status of these features and their sensitivities is given in section 3 above. The relevant subsection number for each feature is shown.

3.1 Overwintering and passage waterbirds (disturbance in/near feeding and roosting areas, which include all habitats seaward of the Trail; August to March/April, sensitivity heightened in core winter period November to February).

3.9 Herbaceous saltmarsh vegetation (trampling; St Peter's Meadow saltmarsh).

3.10 Mediterranean saltmarsh scrub (trampling; St Peter's Meadow saltmarsh and shingle).

3.11 Strandline community (trampling; Monkey Beach seaward of St Peter's Meadow saltmarsh).

3.13 Vascular plant assemblages (trampling - saltmarsh species are sensitive, most of those found on or inland of the seawall crest less so; mainly limited to St Peter's Meadow saltmarsh and saltmarsh scrub).

St Peters Meadow is a small area of salt marsh covering less than a hectare and is subject to some trampling despite being wet under-foot. A survey transect carried out in 2015 (Abrehart Ecology 2016) found four nationally scarce species: golden samphire, perennial glasswort, small cord-grass & shrubby sea-blite. A boardwalk that pre-dates the Coast path crosses the saltmarsh at St Peters Meadow and terminates at Monkey Beach.

The shingle beach flora at Monkey Beach is currently considered to be in unfavourable condition due to trampling by visitors, in addition some marked tracks across the saltmarsh are visible where people have chosen not to use the boardwalk

5.2.2 **Proposed improvements to accessibility**

Along this section of the coast, our proposed alignment for the England Coast Path mainly follows existing Public Rights Of Way.

The existing path will, where necessary, be upgraded and maintained to National Trail quality standards, specifically;

- Structures area always safe, comfortable, easy and convenient to use
- Surface are in good condition and appropriate to hr geology and soils over which the trail passes
- The route is easy to follow, accurate, unobtrusive way marking and destination signage
- Consistent high quality design, style and use of materials to suit the local character of the local landscape with historical features maintained where possible
- Readily passable routes free from undergrowth and overhanging vegetation

<u>New Trail</u>

Some lengths of new trail are created;

- At St Peter's Meadow existing informal walked lines on the raised grassy area are formalised.
- Some walked lines on the privately owned pavements of West Mersea are formalised
- On the beach in West Mersea the ECP route will follow the PROW for large stretches of the beach but departs from this in places in order to create a route above the Mean High Water mark that will be accessible for longer periods of time and not be inundated by high tides.

<u>Landward spreading room</u>

Where the route passes along the beach all areas of beach landward of the trail will be included in spreading room by default

However these areas are already informally accessed at all times.

Where the route passes along the footway or road through the town there will be no landward spreading room beyond the default width of the trail, (2m from the centre of the path). For consistency the mapped width of the path will be the same whether there is a footway or not.

<u>Seaward spreading room</u>

The popular area known as St Peter's Meadow in West Mersea town has been accessed over many years – even for cricket games – and a is popular part of the town's cultural heritage. The levels and patterns of access are unlikely to be changed under the ECP proposals the change of legal status to include coastal access. However, an opportunity does present itself to raise awareness of the value of the site and propose some enhancements to that way the site is accessed that will protect it in the longer term.

All land seaward of the trail will have Coastal Access Rights, by default, unless it is excepted or a restriction or exclusion is applied.

<u>Section 25A exclusions</u>

The mudflats and saltmarsh along the town's seafront will be excluded from the start of this subsection to the creek at St Peter's Meadow.

However, all areas of the village green on saltmarsh or mudflat will not be restricted and will have Coastal Access Rights.

Figure 9 - Delineation of the Section 25A exclusion at St Peter's Meadow – creek

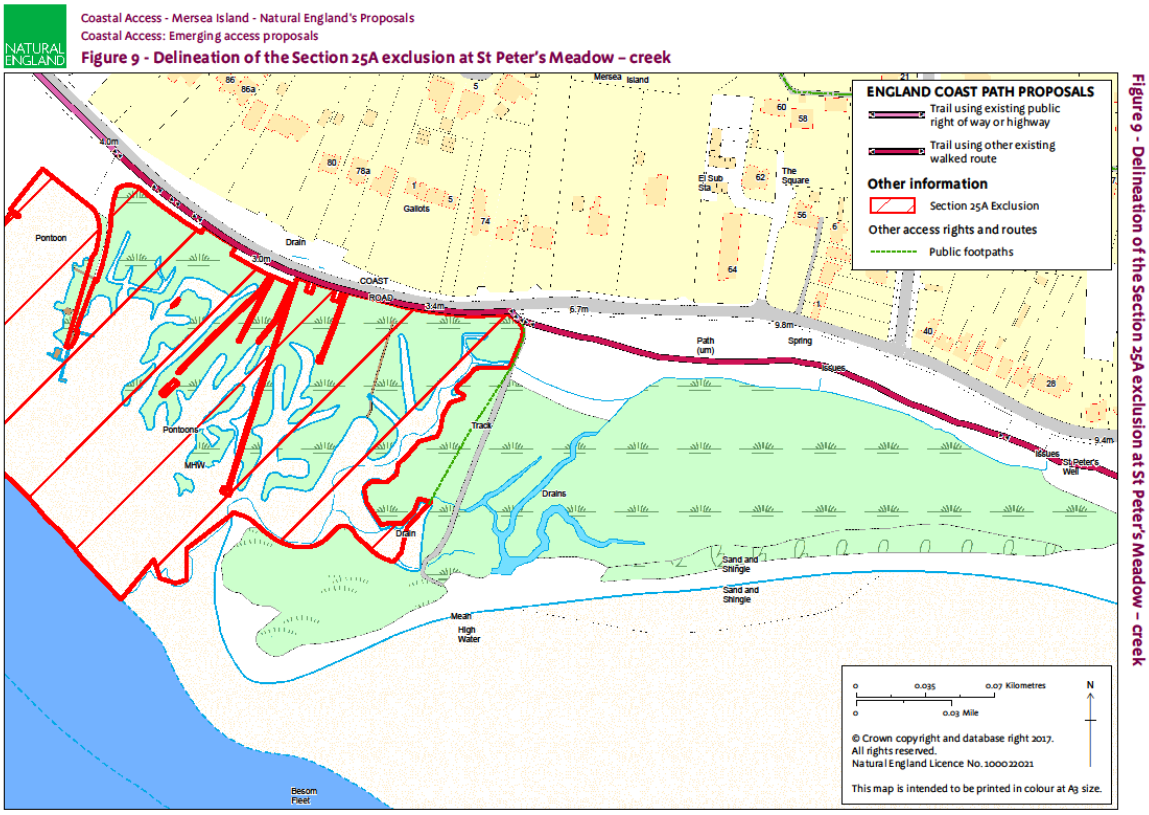


Figure 9 - Delineation of the Section 25A exclusion at St Peter's Meadow – creek

Other restrictions and exclusions

A boat yard operator and oyster fishery have requested Section 24A Land Management restrictions. We propose a Direction to exclude access at the oyster sheds and pools on Coast Road and an Outline Direction to allow boatyard operators to ask people to leave during certain times for boatyards at two locations on Coast Road.

Excepted land - commercial buildings and their curtilage; houseboats and their jetties; and the dock yard (West Mersea Marine) are excepted.

Roll- back - roll- back will be applied to the stretch of beach between St Peter's Meadow and Broomhills Road.

5.2.3 **Access assessment – Section 2 – West Mersea Town**	
Current situation	**Predicted change**
Good existing access There is good access to this entire stretch as it passes through the town of West Mersea and along a public beach. There are a number of public car parks available in the town (although these quickly become full at peak times) and many establishments also have their own customer parking. The margin can be accessed from the trail which passes along the pavements and roads of West Mersea. West Mersea is a popular destination for tourists and outdoor enthusiasts. There are several restaurants and bars, boat yards and sailing clubs which attract a wide variety of people. This stretch of the route comprises a 3.5 km stretch of beach, an existing walked line on a village green and footways / road through the town of West Mersea. Activities taking place on this stretch include visitors using the beach, walkers, birdwatchers, photographers, runners, windsurfers, dog walkers, sailors and canoeists amongst others. The beach seaward of the trail has been accessible for many years. The beach has many beach huts and is used year round. St Peter's Meadow and Monkey Beach (saltmarsh, shingle beach and green space) are part of the village green and are currently fully accessible. A boardwalk was built some 10 years ago to reduce the impact of trampling on the saltmarsh. The levels and patterns of access are unlikely to be changed under the ECP proposals. However, an opportunity does present itself to raise awareness of the value of the site and propose some enhancements to that way the site is accessed that will protect it in the longer term.	**Small increase in levels of use on the Trail** Since West Mersea town is already a popular destination for visitors, we do not expect that our proposals will make a noticeable difference to the overall visitor numbers. In places we propose to improve signage and way marking of the coast path through the town and this may lead to some small scale change in patterns of use as people walking along the shore and through the town will be more likely to follow the route we have suggested than other existing paths. **No increase in levels of use on the Margin for the stretch as a whole.** There is no reason to believe there will be any noticeable change in access levels or patterns to the town beach or foreshore as a result of our proposals. No new access rights will be created to the mudflat and saltmarsh west of St Peter's Meadow and we do not expect there will be any change in use of this area. Access to St Peter's Meadow will be unaffected by our proposals. See the Report for full details of restrictions and exclusions.

In order to enhance the management of the site, we propose that Interpretation signs are placed to at access points to the saltmarsh to discourage trampling at locations away from the boardwalk and through the saltmarsh vegetation. The boat yards, car parks, pontoon, slipways and Stonehill hard (Village Green) are accessed daily by boat launches, fishermen and tourists. The Village Green at the Dabchicks Sailing Club has also been accessible for many years. The mudflats are flooded at high tide. Despite being relatively hard mud in places there is little appeal to walkers to venture out to the water's edge as the mud is sticky and there are areas of soft mud/sand. Visits may take place at any time however there is a large seasonal fluctuation with large numbers of visitors in the summer. There are a number of popular events through the summer that bring several thousand visitors to the town. There is a trend of increasing tourist numbers on Mersea Island and visitor numbers in the summer are said to double the local resident population of 7,000. Most of the visitor accommodation is along the southern side of the island in caravan parks and holiday lets.	

5.2.4 **Possible risks to sensitive features**
In this section we consider details of the access proposal and the predicted change in use described in sections 5.2.2 and 5.2.3, in order to assess the likelihood of possible adverse impacts on the sensitive features or feature groups. Several points explained in those sections reduce the potential for significant adverse impacts along this part of the route. These are: A. West Mersea town is a popular visitor destination and our proposals are unlikely to make a noticeable difference to levels and patterns of access. B. The alignment we have proposed utilises existing pavements and other walked routes through the town and along the shore. C. No new access rights will be created over most of the saltmarsh and mudflats seaward of the Trail. Access to these parts of the Coastal Margin will be excluded and new signs will be installed at key access points advising people about the dangers of accessing these areas. The exception to this is at St Peter's Meadow which is a village green.

D. Some visitor management measures are in place at St Peter's Meadow including a boardwalk and interpretation.
E. The area known as Stonehill Hard adjacent to West Mersea town is used by boat owners and fishermen who may walk out to moored craft at low tide. The existing base-line level of disturbance on this part of the foreshore is therefore quite high, so it is not used by large numbers of waterbirds.

The points above reduce the potential for adverse impacts on sensitive features, as summarised in the list of features below (which repeats summary points about their sensitivity for ease of reference):

3.1 Overwintering and passage waterbirds: A, B, C, E (disturbance in/near feeding and roosting areas, which include all habitats seaward of the Trail; August to March/April, sensitivity heightened in core winter period November to February).

3.9 Herbaceous saltmarsh vegetation: A, B, C, D (trampling; St Peter's Meadow).

3.10 Mediterranean saltmarsh scrub: A, B (trampling; St Peter's Meadow saltmarsh and shingle).

3.11 Strandline community: A, B (trampling; St Peter's Meadow area).

3.13 Vascular plant assemblages: A, B, C, D (trampling - saltmarsh species are sensitive, most of those found on or inland of the seawall crest less so; mainly limited to St Peter's Meadow saltmarsh and saltmarsh scrub).

Taking account of points A to E above, we consider that the risk of significant adverse impacts in this subsection is low. However we consider that specific mitigation measures are needed at St Peter's Meadow (east of the area where Section 25A exclusions will be applied) to reduce the risk of any further damage to saltmarsh, strandline vegetation and Mediterranean saltmarsh scrub, due to the predicted small increase in levels of use. These measures are set out in section 5.2.5.

Intertidal areas fronting West Mersea town are relatively disturbed and are not used by many waterbirds. The risk of our proposals increasing disturbance to waterbirds is therefore lower here than elsewhere along the Mersea Island shoreline. Nevertheless, as part of proposed enhancement measures (see section 5.2.6) we will include signage requesting that dogs are kept under control to reduce disturbance to birds feeding on exposed mud at low tide.

It is worth noting that while Section 25A exclusions are applied where the Coastal Margin is not suitable for access, rather than on nature conservation grounds, these exclusions are important in reducing the potential for adverse impacts on non-breeding waterbirds and other sensitive features in this section of the route. If in the future there is a proposal to remove or relax the Section 25A exclusions, then an appraisal of the effects of those changes on sensitive features would be essential.

5.2.5 Any mitigation measures included in the access proposal and how they address the possible risks

New interpretation panels will be placed at the eastern end of St Peter's Meadow and at the landward end of the boardwalk explaining the value of the natural habitat and asking people to keep to the path as an informal management measure. This will reduce the risk of an increase in localised trampling damage to the vegetation in this heavily used part of the coastal margin where access is unrestricted.

5.2.6 **Conclusion**

The beach and foreshore beside West Mersea are already well used by local people and visitors to the town, and promotion of the coast path here is likely to increase usage of the walked route slightly. Our proposed alignment for the trail makes use of existing pavements and other walked routes along the shore, where possible. The extent of the associated access rights within the coastal margin is in keeping with the already established use along this section of the coast. And our proposal includes signage to mitigate localised trampling damage to vegetation at St Peter's Meadow. The new signage will encourage responsible behaviour, raise awareness of sensitive features and should help to reduce impacts on them. Taking all these points into account we conclude that it is very unlikely there will be any significant effects on sensitive features resulting from the ECP proposals. Where necessary, the access arrangements we have proposed can be adjusted in the light of unforeseen changes that arise in the future.

Enhancement measures

The signs that are planned as mitigation will also contain additional messages to enhance the management of the site. They will request that dogs are restrained under close control or on a lead to prevent disturbance of birds feeding on exposed mud at low tide.

The village green at St Peter's Meadow is a popular local amenity area. There is existing access management, including a board walk, to help conserve the saltmarsh vegetation. Further measures would be beneficial to help restore and enhance the shingle vegetation on the spit at Monkey Beach and reduce trampling of the saltmarsh. Temporary rope fencing has been suggested as a further enhancement to allow vegetation in the raised shingle areas to recover. Natural England is supportive of these suggestions and has begun discussions with the town council as to how these plans might be taken forward help conserve the shingle vegetation at Monkey Beach which, in turn, will help protect the saltmarsh itself from erosion.

5.3 West Mersea to Mersea Stone

5.3.1 **Environmental sensitivity**

The extensive intertidal mudflats seaward of the Trail along much of this section (see Figure 4) are important feeding and resting areas for passage and overwintering waterbirds. In the 1993/94 winter, birds using the Mersea Flats at low tide were counted and the numbers compared with totals for the whole of the Colne Estuary at the time. The flats held 80% of the knot and golden plover on the whole estuary, 70% of the cormorants, over 40% of the bar-tailed godwit and sanderling, and over 20% of four other wader species (Ecosurveys Ltd 1994, cited in Black 2012).

Around low tide, the width of the exposed flats allows birds to feed undisturbed by people and dogs walking along the beach. But at some states of the tide only a relatively narrow width of mud is above water, so birds must feed closer to the beach and are vulnerable to disturbance. This risk is increased because there is no saltmarsh between the Trail and the flats, and in places the mud is firm enough for people and dogs to walk out some distance. There is only one known high tide roost adjacent to the flats: on a raised area of sand/shingle near the Youth Camp.

The grazing marsh at Cudmore Grove Country Park supports concentrations of farmland feeding waterfowl including brent geese and wigeon and smaller numbers of other wildfowl. It is also an important high tide roost area. In contrast, the grazing marsh between Cooper's Beach and the Youth Camp (outside the designated site boundaries) has been ungrazed for several years and is now tall, rank grassland unsuitable for brent geese and most other farmland feeding waterbirds.

For about 800m - between Cooper's Beach caravan park and the western boundary of Cudmore Grove Country Park - the Trail runs along a strip of shingle and sand with strandline and saltmarsh scrub communities and some areas suitable for breeding ringed plover. East and west of this stretch, similar habitat occurs off the Trail but within the Coastal Margin. The soft, fossiliferous cliffs at Cudmore Grove (Quaternary of the Thames feature) lie just seaward of the Trail.

The sensitive features or feature groups listed below occur close enough to this section of the route to have the potential to be adversely affected. The nature of each feature's sensitivity is indicated in brackets, as are particular locations within the section or times of year when the feature is sensitive. If no location or time of year is shown then the feature is potentially sensitive all year and all along the section. More information on the status of these features and their sensitivities is given in section 3 above. The relevant subsection number for each feature is shown.

3.1 Overwintering and passage waterbirds (disturbance in/near feeding and roosting areas, which include all habitats seaward of the Trail and, for some species, grazing marsh and arable fields inland of it; August to March/April, sensitivity heightened in core winter period November to February).

3.3 Breeding ringed plover (disturbance at shingle/sand nesting areas; small areas of suitable habitat at Fen Farm, near the Youth Camp and possibly further west; April to August).

3.5 Breeding pochard (disturbance at borrow dyke reed/club-rush nesting areas; Cudmore Grove only; April to July).

3.9 Herbaceous saltmarsh vegetation (trampling; relatively small areas at Cudmore Grove and Fen Farm).

3.10 Mediterranean saltmarsh scrub (trampling; mainly at Cudmore Grove and Fen Farm).

3.11 Strandline community (trampling; narrow discontinuous band, particularly from Mersea Stone to Coopers Beach).

3.13 Vascular plant assemblages (trampling - saltmarsh species are sensitive, most of those found on or inland of the seawall crest less so).

5.3.2 **Proposed improvements to accessibility**

Along this section of the coast, our proposed alignment for the England Coast Path mainly follows existing Public Rights Of Way.

The existing path will, where necessary, be upgraded and maintained to National Trail quality standards, specifically;

- Structures area always safe, comfortable, easy and convenient to use
- Surface are in good condition and appropriate to hr geology and soils over which the trail passes
- The route is easy to follow, accurate, unobtrusive way marking and destination signage
- Consistent high quality design, style and use of materials to suit the local character of the local

landscape with historical features maintained where possible

- Readily passable routes free from undergrowth and overhanging vegetation

New Trail

The existing coast path between the Youth Camp facility and Coopers Beach Caravan Park has been closed following the severe erosion of the sea wall. We propose to create a new section of trail at Rewsalls Farm – this route is further described below and in our Coastal Access Report.

A shorter section of trail, which is currently used informally, will also be formalised between Waldegraves Caravan Park and the Youth Camp facility along a field edge.

Along the beach stretches of this section of Mersea Island the route will follow PRoW where possible, sometimes along the beach and will occasionally be aligned further inland than the existing PRoW (where it is frequently inundated) thus creating a new formal walked line.

Optional Alternative Route (OAR)

An Route inland of two caravans sites will be created for use when the beach is inundated at Fen Farm (see section 5.3.3)

- New advisory and directional signs will be placed at the following locations describing the OAR available at times of high tide, emphasising the request for people to avoid walking on the shingle, saltmarsh and reed habitats at Fen Farm if the tide is too high to allow access on the beach. on the beach at Fen Farm where the north-south footpath joins the beach. (This sign will also carry interpretation and site management information that will mitigate against any impacts (see 5.3.5 below).
- within Fen Farm Caravan Park where the north–south footpath joins their access road,
- on the north side of the Away Resorts access road opposite the tennis courts
- at the point where the OAR passes through the hedge behind the caravans at the north of the site
- at Cudmore Grove Country Park at the location where the OAR enters through the hedge on the west of the site.

Landward spreading room

Essex County Council has agreed that all the currently accessible areas of Cudmore Grove Country Park will be included in the landward spreading room. This does not include the grazing marsh fields where there is currently no access.

At other locations the landward spreading room will be;

- 2m width from the centre of the new trail on the grazing marshes at Essex County Council Youth Camp and Coopers Beach
- 2m width from the centre of the trail (access strips at Coopers Beach and Away Resorts)
- to the top of the seawall – for caravan parks where the trail passes along the seawall
- to the landward edge of the beach, by default, if the trail passes across the beach (Waldegraves, Coopers beach (east) and Fen Farm)

Seaward spreading room

All land seaward of the trail will have Coastal Access Rights, by default, unless it is excepted or a restriction or exclusion is applied.

Section 25A exclusions

The mudflat has been assessed and will be excluded using Section 25A on the grounds of its unsuitability for access, from the Anglian Water sewage works just east of West Mersea town (where there is a change of surface from mud and gravel to mud) to Mersea Stone.

Although The mud on the southern side of the island is firmer than on the northern side and contains shingle making it potentially more accessible than in other parts of the island, the firmness is very variable and the mud is not appealing to walkers as it contains pockets of softer, sticky mud, and is inundated rapidly on a rising tide. Tidal water rises through the sand and mud as well as flowing inland across the surface and people may not be aware of deep pools forming closer to the shore.

Figure 10 - Western extent of Section 25A exclusion by Anglian Water Sewage Works

Figure 11 - Eastern extent of Section 25A exclusion on this subsection, south of Mersea Stone

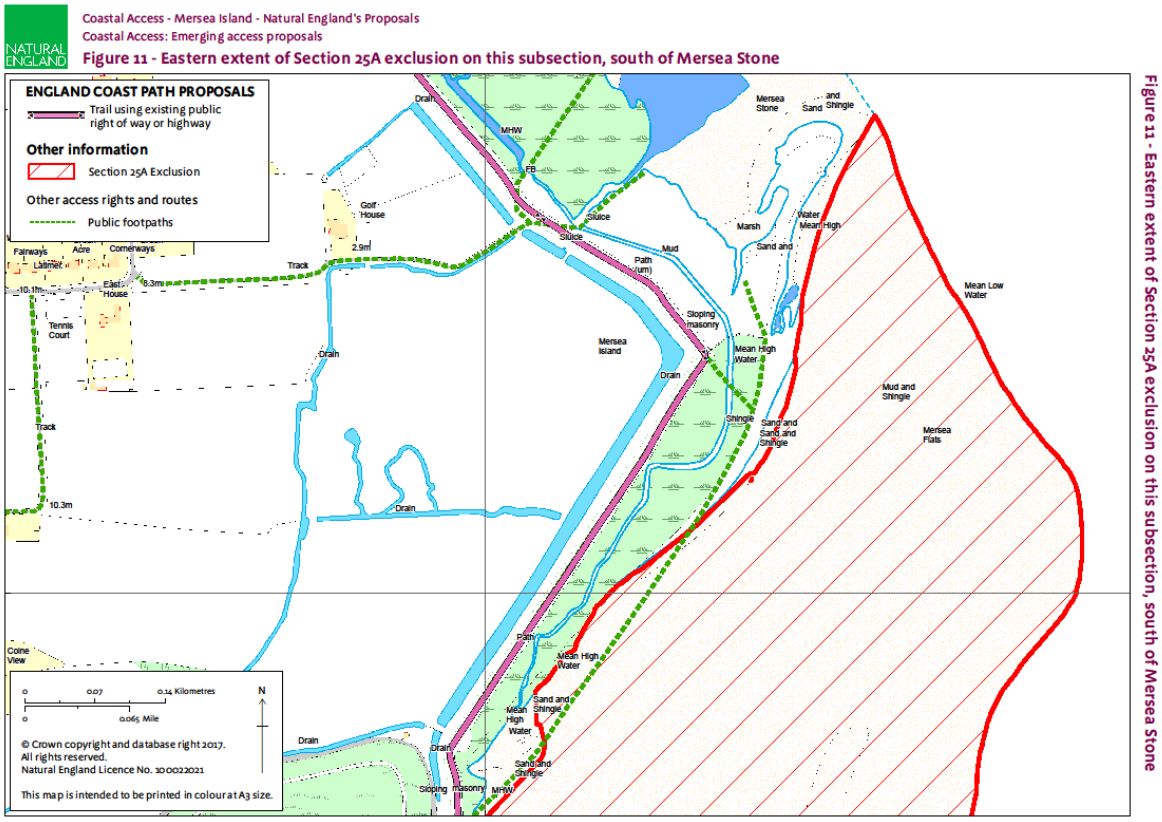


Figure 11 - Eastern extent of Section 25A exclusion on this subsection, south of Mersea Stone

Other restrictions and exclusions

A Section 24 Land Management exclusion will be applied to the Youth Camp.

Excepted land

Caravan parks are excepted from Coastal Access where they fall seaward of the trail.

Rollback sections

Rollback will apply to this entire subsection of the route from the Sewage works to Mersea Stone.

5.3.3 Access assessment – Section 3 – West Mersea to Mersea Stone	
Current situation	**Predicted change**
Good existing access over two thirds of the route. New access will be created for the remainder in response to changes to the coastline as a result of erosion. The main access points for this section are Public Rights of Way joining at the Anglian Water Sewage Works, the Youth Camp, Rewsalls Farm, Coopers Beach, and Fen Farm and Cudmore Grove Country Park at the eastern edge of this section. In addition, there is direct access to the foreshore from the various caravan parks along the coast. There are existing Public Rights of Way (PRoW) along all of this stretch, along the beach and seawall which are well used by walkers, connecting the various caravan parks to West Mersea town and Cudmore Grove Country Park. A section of the seawall at Rewsalls Farm is eroding and the associated public right of way along the top of the sea wall has been closed and fenced off for safety reasons. However some use of this route continues to be made illegally by walkers, cyclists and horse riders. The current official diversion follows existing public rights of way some 650m inland on higher ground. An informal route has been created closer to the shore along the landward edge of grazing marshes and through a broken fence at the Coopers Beach caravan park. Exact numbers of walkers on each route are not known but local residents and businesses report seeing people, cyclists and horse riders on all three routes. For the England Coast Path, we propose to establish a new formal route at Rewsalls Farm some 200m inland of the seawall through grazing meadows to provide a more direct route. The	**Large changes in the levels of use on the Trail result from localised change on the ground where a new route, which has previously had no formal public access, is created inland of the seawall at Rewsalls Farm. Whilst the new section will result in large numbers walking that particular segment, change of usage on the whole subsection is considered to be small.** Better signage and upgrading of the existing paths, a new route for walkers (2 km), and public curiosity with regards to the eroding seawall and the changing landscape may lead to an increase in the use of the new trail sections between Rewsalls Farm and Coopers Beach Holiday Park. . The established Public Right of Way (PRoW) along the beach and (open sections of) seawall is well used and little change in use is expected. Where possible, walkers tend to use the higher parts of the beach, especially at high tide where the PRoW is below the high water line or crosses mudflats (due to long term erosion of the coast). The Coast Path will define a new formal walked line higher up the beach. This may not result in much change in usage, however, as the current observed behaviour is to walk as high up the beach as possible at high tide. From Rewsalls Farm to Coopers Beach Holiday Park a 2km stretch of new trail will be created comprised of 650m existing PRoW, 30m highway/footway, 250m on the seawall/bund of the caravan park and 1km on grazing meadows. This significant improvement to access will provide a new more direct route for walkers who wish to stay as close to the shore line as possible and those seeking a direct route between Cudmore Grove Country Park, the various holiday parks and West Mersea town on the southern side of Mersea Island. This will result in increased walkers on the grazing marsh.

seawall is not being maintained and is expected to collapse in the coming months or years. The new route is on the landward edge of the field which is anticipated to be a safe route. A number of attractions and caravan sites along this section contribute to higher walker numbers on this stretch, particularly in the summer months. Many of the caravan sites have a long (11 month) season, with greatest occupancy numbers in the summer months. Activities undertaken on this section are walking, birdwatching photography, dog walking, running and bait digging. Some cyclists and horse riders use the Public Footpath illegally, as mentioned above. The mudflats are flooded at high tide, and form part of the National Nature Reserve. Despite being relatively hard mud in places there is little appeal to walkers to venture out to the water's edge as the mud is sticky and there are areas of soft mud/sand where bait diggers have back-filled holes. This said, small groups (1 -2 people) of bait diggers are regularly seen on the mudflats – usually some way out. There is a strong seasonal pattern of visits to Mersea Island, and visitor numbers in the summer are said to double the local resident population of 7,000. Most of the visitor accommodation is along the southern side of the island in caravan parks and holiday lets and the route and beach are well used by people accessing West Mersea and Cudmore Grove from these sites.	An Optional Alternative Route will be created on the landward side of the Fen Farm and Away Resorts caravan parks, (using some existing public rights of way and a new access route through the landward side of the Away Resorts caravan park). This OAR will be available at times when the high tide prevents walkers from walking on main ECP trail along the beach in front of (seaward) of the caravan sites, saltmarsh and reedbed habitat. Use of this route will be higher when visitor numbers to the area are higher - in the summer months and when winter storms reshape the beach and at times of exceptional high tides. **No increase in levels of use on the Margin – whilst the level of change in the walked route on the ground is significant there will be limited change to the total number of walkers. The location of the new walked section further inland and application of Sections 25A on mudflats will result in no or small increase in the usage of the margin along this sub-stretch.** The grazing marsh seaward of the proposed route of the trail from Rewsalls Farm to Coopers Beach Holiday Park will become part of the coastal margin and subject to coastal access rights. This may encourage some people to access this area, however these fields are under threat from the eroding seawall and may, in time, be less attractive to use as spreading room as the sea begins to encroach. The seawall is no longer managed and will, over time, collapse resulting in overtopping of the seawall, significant movement of debris and a more obvious danger to walkers. This situation will be monitored to ensure, that should the route become unsafe, rollback can be applied. Current usage of the mudflats by experienced bait diggers and occasional dog walkers is unlikely to be affected by our proposals.

5.3.4 **Possible risks to sensitive features**

In this section we consider details of the access proposal and the predicted change in use described in sections 5.3.2 and 5.3.3, in order to assess the likelihood of possible adverse impacts on the sensitive features or feature groups. Several points explained in those sections reduce the potential for significant adverse impacts along this part of the route. These are:

A. Between Cooper's Beach Caravan Park and Mersea Stone (the most ecologically sensitive part of this section and currently heavily used) only a small increase in levels of use is predicted.
B. There will be no change to the current access restrictions on the grazing marsh fields at Cudmore Grove Country Park.
C. Where the trail lies within or close to designated site boundaries it runs on or very close to existing PRoWs where there has been access for many years. (However, where the Trail will be aligned slightly further inland than the existing PRoW to take account of erosion along the exposed shoreline, this modification may increase damage to sensitive features associated with sand/shingle.)
D. The stretch of new Trail between the Youth Camp and Cooper's Beach Caravan Park (necessary to avoid the eroding seawall) runs well inland of designated site boundaries. (On both sides of the Trail here there is supporting habitat for some farmland and freshwater feeding waterbirds but the area does not support large numbers.)
E. The extensive mudflats seaward of the Trail are unsuitable for access and will have a Section 25A exclusion applied.
F. The landward Margin does not include the area of saltmarsh and reed bed at Fen Farm. (However, by default, it does include sand and shingle above the high water mark and inland of the Trail here, so sensitive features associated with that habitat may be affected.)
G. The current rules about dogs on public rights of way are unchanged. In places where the new coastal access rights apply, there is a new requirement that dogs must be under effective control.

The points above reduce the potential for adverse impacts on several different sensitive features, as summarised in the list of features below (which repeats summary points about their sensitivity for ease of reference):

3.1 Overwintering and passage waterbirds: A, B, C, D, E, G (disturbance in/near feeding and roosting areas, which include all habitats seaward of the Trail and, for some species, grazing marsh and arable fields inland of it; August to March/April, sensitivity heightened in core winter period November to February).

3.3 Breeding ringed plover: A, G (disturbance at shingle/sand nesting areas; small areas of suitable habitat at Fen Farm, near the Youth Camp and possibly further west; April to August).

3.5 Breeding pochard; A, B, C, G (disturbance at borrow dyke reed/club-rush nesting areas; Cudmore Grove only; April to July).

3.9 Herbaceous saltmarsh vegetation: A, F (trampling; relatively small areas at Cudmore Grove and Fen Farm).

3.10 Mediterranean saltmarsh scrub: A (trampling; mainly at Cudmore Grove and Fen Farm).

3.11 Strandline community: A (trampling; narrow discontinuous band, particularly from Coopers Beach to Mersea Stone).

3.13 Vascular plant assemblages: A (trampling - saltmarsh species are sensitive, most of those found on or inland of the seawall crest less so).

Taking account of points A to G above, the risk of significant adverse impacts in this subsection is low. However we consider that specific mitigation measures are needed between Coopers Beach and Cudmore Grove in order to reduce the risk of small increases in damage to strandline vegetation and Mediterranean saltmarsh scrub, and in disturbance to breeding ringed plover. These possible effects could result from the predicted small increase in footfall in this area and from the formalisation of the trail further up the beach, within the vegetated zone. Mitigation measures are described in section 5.3.5.

It is worth noting that while Section 25A exclusions are applied where the Coastal Margin is not suitable for access, rather than on nature conservation grounds, these exclusions are important in reducing the potential for adverse impacts on non-breeding waterbirds and other sensitive features in this section of the route. If in the future there is a proposal to remove or relax the Section 25A exclusions, then an appraisal of the effects of those changes on sensitive features would be essential.

Once the seawall between Coopers Beach and the Youth Camp breaches, about 20 ha of what is currently low-lying rough grassland behind it will become part of the intertidal zone. When this is likely to happen and how the habitat in that area develops is difficult to predict accurately but its value for waterbirds and other coastal wetland fauna and flora is likely to increase. Depending on how this situation develops additional access management measures may be beneficial and the arrangements we have proposed can be adjusted should this prove necessary.

5.3.5 Any mitigation measures included in the access proposal and how they address the possible risks

The following mitigation measures are in addition to those already built in to our proposals and described above.

Where possible, the signs listed below will carry messages relating to both feature sensitivities and route options and the unsuitability of saltmarsh.

1. A new interpretation panel will be erected at the point where walkers leave Coopers Beach Holiday Park at its eastern end and reach the beach to the east.
2. A new interpretation panel will be placed at the point where the north-south PRoW on the western side of Fen Farm Caravan Park reaches the shore.
3. A new interpretation panel will be erected at the southern end of the hedge dividing Away Resorts ‘dog walking field’ from the rest of the site, at the point where it meets the shore, where the route leaves the beach east of Fen Farm and climbs onto the low cliffs.

These signs will inform visitors of the value of the natural habitat, request visitors to avoid walking on the vegetated shingle / sand when the tide conditions allow, and request them to keep dogs under control when feeding birds are close to the beach. They will also describe the Section 25A exclusions on the saltmarsh and mudflats and advise them to keep to the trail. Where appropriate the boards will include information about route options and ask walkers to respect any temporary rope fencing that might be put in place from time to time to protect ringed plover nest sites (see enhancement measures below).

We consider this signage to be sufficient mitigation because the areas of vegetated sand/shingle in this subsection are relatively small. Larger areas of higher quality are present on the east side of the Colne Estuary at Colne Point.

5.3.6 **Conclusion**

This subsection includes a new route between Rewsalls Farm and Coopers Beach Holiday Park. However this new access runs inland, outside designated site boundaries and away from sensitive habitats close to the shoreline. Elsewhere the trail follows existing coastal paths or walked lines near the shore which are already well-known and popular. Promotion of the trail is predicted to only increase usage slightly in these more sensitive areas and new signage is proposed to mitigate for the possible slight increase in footfall. The signs will encourage responsible behaviour, raise awareness of sensitive features and should help to reduce impacts on them. Taking these points into account we conclude that it is unlikely there will be any significant adverse effects on sensitive features resulting from the ECP proposals. Where necessary, the access arrangements we have proposed can be adjusted in the light of unforeseen changes that arise in the future.

Enhancement measures

The existing high level of public use on the beach at Fen Farm may be detrimental to ringed plovers nesting successfully. However, this level of public use is part of the base-line condition of the site. The proposed Trail along the adjacent beach is only predicted to increase usage here by a small amount, and the area of suitable nesting habitat is small (only sufficient for one or two pairs). Much of it is outside of the area of landward spreading room and the beach is dynamic and changeable at this location.

Therefore low rope fencing is not seen as required mitigation for the effect of the Trail here. However the method has already been tried at nearby locations and Natural England will discuss the possibilities for developing this approach with the landowner. Any signs placed close to this location for mitigation or directional purposes will also ask the public to respect the low rope fencing at times when it is used.

Similarly, a new interpretation panel will be placed above the beach access ramp, on the cliffs in Cudmore Grove Country Park. This will explain the geological interest of the SSSI cliffs, the S25A restriction and dangers of the mudflats, and include a request for dogs to be kept under control when birds are feeding on the mudflats near the shoreline.

5.4 Mersea Stone to The Strood

5.4.1 **Environmental sensitivity**

Between Mersea Stone and the Strood the route runs along the top of seawalls beside the Pyefleet Channel (see Figure 5). The adjacent saltmarsh and mudflat are important roosting and feeding areas for passage and overwintering waterbirds at all states of the tide. Just inland of the trail, open farmland with arable fields, grazing marsh, ditches and a fleet provide supporting habitat for farmland and freshwater feeding waterbirds and other sensitive bird features. At the eastern end of this section the Mersea Stone spit supports additional sensitive plant and bird features associated with sand and shingle, while landward there is an important area of grazing marsh at Cudmore Grove Country Park.

The sensitive features or feature groups listed below occur close enough to this section of the route to have the potential to be adversely affected by it. The nature of each feature's sensitivity is indicated in brackets,

as are particular locations within the section or times of year when the feature is sensitive. If no location or time of year is shown then the feature is potentially sensitive all year and all along the section. More information on the status of these features and their sensitivities is given in section 3 above. The relevant subsection number for each feature is shown.

3.1 Overwintering and passage waterbirds (disturbance in/near feeding and roosting areas, which include all habitats seaward of the route and, for some species, grazing marsh and arable fields inland of it; August to March/April, sensitivity heightened in core winter period November to February).

3.2 Overwintering hen harrier (disturbance in hunting areas both sides of the route; September to March).

3.3 Breeding ringed plover (disturbance at shingle/sand nesting areas; Mersea Stone shingle spit only; April to August).

3.5 Breeding pochard (disturbance at borrow dyke reed/club-rush nesting areas; April to July).

3.6 Breeding bearded tit (disturbance at borrow dyke reed/club-rush nesting areas; April to August).

3.9 Herbaceous saltmarsh vegetation (trampling).

3.10 Mediterranean saltmarsh scrub (trampling; mainly on Mersea Stone spit).

3.11 Strandline community (trampling; Mersea Stone spit only).

3.13 Vascular plant assemblages (trampling - saltmarsh species are sensitive, most of those found on or inland of the seawall crest less so; surfacing or engineering works to improve the surface of the route – species growing on the seawall).

3.18 Seals (disturbance near haul-outs on salt marsh; western third of section).

5.4.2 **Proposed improvements to accessibility**

Footpath improvements

Along this section of the coast, our proposed alignment for the England Coast Path mainly follows existing Public Rights Of Way.

The existing path will, where necessary, be upgraded and maintained to National Trail quality standards, specifically;

- Structures area always safe, comfortable, easy and convenient to use
- Surface are in good condition and appropriate to hr geology and soils over which the trail passes
- The route is easy to follow, accurate, unobtrusive way marking and destination signage
- Consistent high quality design, style and use of materials to suit the local character of the local landscape with historical features maintained where possible
- Readily passable routes free from undergrowth and overhanging vegetation

As part of the establishment of the Trail new access will be created on 900m of seawall (part of which has been recently repaired creating a new surface) at the western end of this subsection. This will create a new walked line overlooking the saltmarsh close to the Strood road crossing and formally replace both the relict Public Right of Way on the historic (damaged) seawall, which is likely to be extinguished by Essex County Council and the existing permissive footpath on the field.

New access will also be created on the raised bund south of East Mersea Road to create an off-route route to join the trail section in Chapter one on the same raised bund east of Colchester Road. The new route will connect seawalls east and west of the Strood without walking on the road.

Landward spreading room

The landward slope of the seawall, by default, forms part of the landward spreading room. However, it is considered that that the landward slope provides little benefit to people's enjoyment of the trail and in some cases is unsuitable for access. Natural England has therefor used its discretion to align the landward boundary along the top edge of the seawall.

Additional landward spreading room is agreed with the landowner as follows;

- to the borrow dyke from Mersea Stone to Reeveshall Marsh
- to the borrowdyke at Maydays Farm
- will be to the top of the seawall/bank where there are arable fields and no borrowdyke (western end)

Seaward spreading room

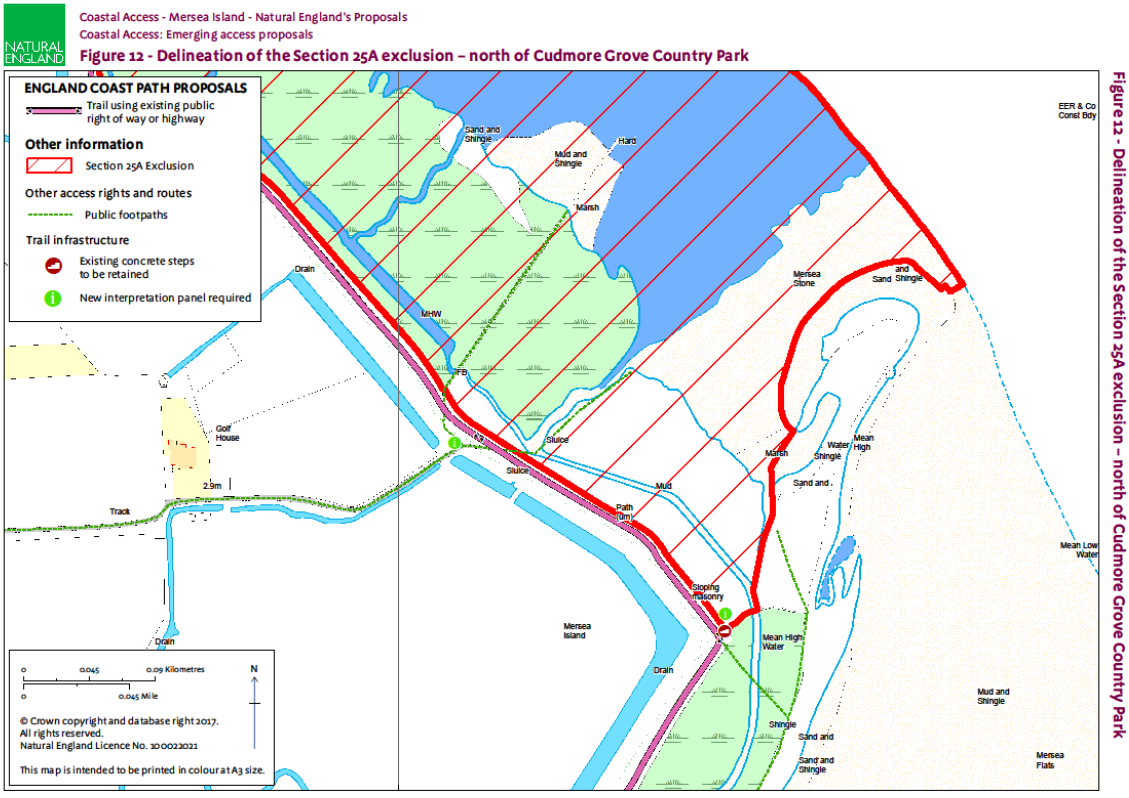
All land seaward of the route will have Coastal Access Rights, by default, unless it is excepted or a restriction or exclusion is applied.

Section 25A exclusions

Natural England has concluded that the salt marsh and mud flats along this section are unsuitable for public access and will be excluded under Section 25A.

At Cudmore Grove Country Park, there is currently access via steps onto Mersea Stone shingle spit to reach the Brightlingsea-Mersea Island seasonal ferry. A delineation between the areas considered suitable and unsuitable for access has been defined with the local authority (see figure 12 below) and a Section 25A exclusion will be applied to saltmarsh and mudflat north of the country park, in keeping with the rest of this section.

Figure 12 - Delineation of the Section 25A exclusion – north of Cudmore Grove Country Park



Other restrictions and exclusions

We propose an Outline Section 24 Direction to allow the oyster fishery operators to ask people to leave during certain times.

Excepted land

The oyster growing pond at the oyster fishery falls within the coastal margin and is excepted.

Rollback

No Roll- back is proposed on this subsection.

5.4.3 **Access assessment – Section 4 – Mersea Stone to the Strood**	
Current situation	**Predicted change**
Good existing access There is an existing public footpath along most of the seawall. The main access point for visitors to this part of the coast is from the car park at Cudmore Grove Country Park, which has over 27,000 visitors per annum (Country Park Manager, pers. comm.). There are no adjoining footpaths at the western end of this subsection however two other PRoWs join the seawall – one at Reeveshall Marsh at the end of Shop Lane and one at Golf House at the eastern end of the island. There are limited opportunities for circular walks in this part of the island other than at the eastern end, close to the Country Park. This section is the least used on Mersea Island and few walkers are seen on this stretch. In my experience surveying this section of the route, I have not seen more than 2 people on any given day (weekdays). Having asked those I have met they have also said only a couple of people are seen on a daily basis. This section is part of the 'Round Mersea Island Walk' for which there is some local promotion. Occasionally small groups will undertake a 'Round	**Small increase in levels of use on the Trail** The established path along the seawall is mostly in good condition and is well signposted. It is clear to follow. A short section of route (currently permissive footpath on a field edge) will be re-located on the sea wall. This section creates a solution to the gap created on the existing (but not used) PRoW, at the seaward edge of the marsh, which is no longer useable due to erosion of the old seawall. It is expected there will be a small increase in the number of people using the coastal path, due to it becoming a National Trail. The section of path from Mersea Stone to the Strood is likely to remain the least visited on Mersea, as the long (6km) un-interrupted linear walk will only appeal to a limited number of long distance walkers. Circular walks are available at the eastern end of this section, close to the Cudmore Grove Country Park. This is already one of the major attractions on the island and our access proposals are unlikely to make a noticeable difference to visitor numbers here. There are also aspirations locally to increase the profile of Mersea Island as a tourist destination. There is promotion of the island through a number of local and regional websites (Visit Mersea Island, Visit Essex, the Long Distance Walkers Association)

Mersea walk', especially at weekends. Also groups of soldiers from the local garrison are also occasionally seen undertaking a 'round the island' exercise. Activities under taken on this section are walking, birdwatching photography, dog walking some cycling (which is causing a nuisance to some landowners) and running. Very few people detour from the path. The saltmarsh (and associated mudflats) are flooded at high tide and threaded with deep creeks, making them unattractive to walkers. There are wildfowling activities on the broad saltmarsh at the western end close to the Strood and occasional samphire picking (with the land owner's permission). There is a strong seasonal pattern of visits to Mersea Island, and visitor numbers in the summer are said to double the local resident population of 7,000. Most of the visitor accommodation is along the southern side of the island in caravan parks and holiday lets and so has little or no impact on the north of the island.	and local councils which may lead to some further growth in visitor numbers. There is also widescale promotion by the caravan parks themselves, most of which have either extended their open season and /or increased the number of caravan/cabins units on the site in recent years. However, these factors are not likely to significantly alter the current level and pattern of use of the path and foreshore on the north of the island above or beyond the expected local growth in tourism. **No increase in levels of use on the Margin, except at the eastern end of the section (Mersea Stone spit) where there may be a small increase.** Along most of this section the seawall is adjacent to the saltmarsh which varies from broad and deeply incised by tidal creeks to narrow eroding and non-existent, all of which is considered unsuitable for access and will have Section 25A exclusions. Similarly the mud is soft and considered unsuitable for access and will also have a Section 25A exclusion. Only the Mersea Stone shingle spit, which is already heavily used by the public, will not have a section 25A exclusion since it is the access point for the Mersea Island to Brightlingsea ferry. The Park management does, from time to time, erect low rope fencing to protect nest sites. National restrictions for the Coastal Margin would apply however.

5.4.4 **Possible risks to sensitive features**
In this section we consider details of the access proposal and the predicted change in use described in section 5.4.2 and 5.4.3, in order to assess the likelihood of possible adverse impacts on the sensitive features or feature groups. Several points explained in those sections reduce the potential for significant adverse impacts along this part of the route. These are: A. Only a small increase in levels of use is predicted in this subsection. B. For most of this subsection our proposed alignment for the Coast Path follows existing PRoWs along the seawall, where there has been access for many years. A few hundred metres of new

PRoW is proposed at the western end of but this effectively replaces a previous permissive footpath. The new PRoW will be on rather than behind the seawall but disturbance to waterbirds here is unlikely because there is 200m or more of saltmarsh between the seawall and adjacent mudflats.

C. Except for a small area close to the Mersea Stone spit, all the saltmarsh and mudflats seaward of the trail are unsuitable for access so a Section 25A exclusion is proposed for them.

D. The landward Margin will extend no further than the adjacent field boundary or the seaward bank of the adjacent borrow dyke.

E. The current rules about dogs on public rights of way are unchanged. In places where the new coastal access rights apply, there is a new requirement that dogs must be under effective control. In the central Reeveshall Marsh part of this subsection, where the seawall is grazed, several signs are proposed requiring dogs to be kept under close control to prevent harm to livestock. These will also reduce the risk of disturbance to birds using habitats either side of the trail.

Each of the points above reduces the potential for adverse impacts on several different sensitive features, as summarised in the list of features below (which repeats summary points about their sensitivity for ease of reference):

3.1 Overwintering and passage waterbirds: A, B, C, D, E (disturbance in/near feeding and roosting areas, which include all habitats seaward of the route and, for some species, grazing marsh and arable fields inland of it; August to March/April, sensitivity heightened in core winter period November to February).

3.2 Overwintering hen harrier: A, B, C, D, E (disturbance in hunting areas both sides of the route; September to March).

3.3 Breeding ringed plover: A (disturbance at shingle/sand nesting areas; Mersea Stone spit only; April to August).

3.5 Breeding pochard: A, D, E (disturbance at borrow dyke reed/club-rush nesting areas; April to July).

3.6 Breeding bearded tit: A, D, E (disturbance at borrow dyke reed/club-rush nesting areas; April to August).

3.9 Herbaceous saltmarsh vegetation: A, B, C (trampling).

3.10 Mediterranean saltmarsh scrub: A, B (trampling; mainly on Mersea Stone spit).

3.11 Strandline plant community: A (trampling; Mersea Stone spit only).

3.13 Vascular plant assemblages: A, B, C, D (trampling - saltmarsh species are sensitive, most of those found on or inland of the seawall crest less so; surfacing or engineering works to improve the surface of the route – species growing on the seawall).

3.18 Seals: A, B, C (disturbance near haul-outs on saltmarsh; western third of section).

Taking account of points A to E above, the risk of significant negative impacts in this subsection is low. However we consider that specific mitigation measures are needed at the Mersea Stone spit, where Section 25A exclusions are not proposed. Here a small increase in the already high level of use of the Coastal Margin may produce equivalent small increases in damage to herbaceous saltmarsh vegetation, Mediterranean saltmarsh scrub and strandline vegetation, and in disturbance to breeding ringed plover. Mitigation measures for these possible effects are described in section 5.4.5.

It is worth noting that while Section 25A exclusions are applied where the Coastal Margin is not suitable for access, rather than on nature conservation grounds, these restrictions are important in reducing the

potential for adverse impacts on non-breeding waterbirds and other sensitive features in this section of the route. If in the future there is a proposal to remove or relax the Section 25A exclusion, then an appraisal of the effects of those changes on sensitive features would be essential.

5.4.5 Any mitigation measures included in the access proposal and how they address the possible risks

The following mitigation measures are in addition to those already built in to our proposals and described above.

1. The enhancement low rope fencing is not something we are proposing as mitigation. It is something that is happening already and NE supports the site manager (ECC) doing it, (with or without the presence of ECP). To my mind we have to describe it in those terms and state that we support that activity even more in the light of the ECP which is mitigated against by the signage that we are proposing, (otherwise it does sound like mitigation). I think we need to be clear that we are not requiring it or planning to do it ourselves (even as enhancement). We have not included anything in the in the budget for it and will be working with the site manager to support his work.

2. A new interpretation panel will be erected on the seawall at Mersea Stone where the steps lead down onto the spit. This will inform visitors of the value of the natural habitat and the potential impacts of trampling on the vegetation and of disturbance on breeding and overwintering waterbirds. It will also describe the Section 25A exclusion on the saltmarsh to the north-west and advise visitors how to enjoy the route and the associated coastal margin without harming waterbirds and other sensitive species and habitats or putting themselves at risk. It will include a request to summer visitors to walk below the driftline when possible, or to follow a set route above this, to reduce possible impacts on breeding ringed plover and sensitive vegetation.
   Signage will be placed at the access point from East Road, where the track passing Golf House joins the Country Park, close to the seawall, explaining the Section 25A exclusion and advising people not to access the saltmarsh and mudflats, asking them to keep dogs under control near nesting birds and to keep out of any temporarily fenced-off areas.

5.4.6 Conclusion

Our proposed alignment for the trail largely follows a well-known coastal path along the seawall and access rights onto sensitive habitats in the coastal margin are not increased by our proposal. The coastal margin at Mersea Stone spit is already heavily used by the public but new signage is proposed to mitigate any slight increase in effects on sensitive features that might result there from promotion of the trail. The new signs will encourage responsible behaviour, raise awareness of sensitive features and should help to reduce impacts on them. We conclude that it is unlikely there will be any significant adverse effects on sensitive features resulting from the ECP proposals. Where necessary, the access arrangements we have proposed can be adjusted in the light of unforeseen changes that arise in the future.

<u>Enhancement measures</u>

<u>Temporary low rope fencing to reduce disturbance to nesting ringed plover</u>

The existing high level of public use of the Mersea Stone spit is probably the main reason why ringed plovers do not nest in this area every year, and why nesting attempts often fail. However, this level of use is part of the base-line condition of the site. The proposed Trail along the adjacent seawall is only predicted to increase usage here by a small amount. Therefore low rope fencing is not seen as mandatory mitigation for

the effect of the Coast Path here. However the method has already been tried at this location successfully and Natural England will discuss the possibilities for developing this approach with Essex County Council, who manage the site.

Other signage to enhance the visitor experience

A new interpretation panel will be erected at the (historic) access point, onto the seawall (old PRoW) off East Mersea Road close to the Strood. It will inform visitors of the Section 25A exclusion on the saltmarsh and advise them to keep to the route. It will explain the heritage features (saltern) and mention that access to the site is with the landowner's permission only. It will also explain the value of the natural habitat, the potential impacts of trampling on the vegetation and of disturbance on overwintering birds.

6. Establishing and maintaining the England Coast Path

In this part of the document we describe how the access proposal would be implemented and arrangements for ongoing management and maintenance once coastal access rights are in place.
Note that before the access proposal can be taken forward, the coastal access report must first be considered by the Secretary of State in light of any representations, any objections from affected owners or occupiers and the Appointed Person's recommendations as to how any objections should be determined.

6.1 Establishment

6.1.1 Works on the ground

Once approval for a coastal access report is received from the Secretary of State, works can be carried out on the ground to make the trail fit for use and prepare for opening. In this case, works on the ground would be carried out by Essex County Council.

An estimate of the total cost of works needed to establish the trail is given in our coastal access report for the stretch. The cost of establishment works will be met by Natural England. Essex County Council is responsible for ensuring they take appropriate steps to protect sensitive features whilst works on the ground are carried out, in line with any recommendations or conditions agreed in advance.

We have held preliminary discussions with Essex County Council about the works required and believe that it is feasible for them to be carried out without adverse effect on the designated sites considered in this appraisal providing that works affecting designated sites are informed and agreed in discussion with the relevant Natural England responsible officer (RO) as set out below.

The presence of legally protected species is an important consideration where works involve the destruction of existing physical features or the construction or maintenance of new or existing features where legally protected species are known or suspected to be present. Where legally protected species including breeding birds are known or suspected to be present all works should include appropriate mitigation in line with legislative guidelines

- European Protected Species are those species of plant and animal listed in Annex IV to EC Directive 92/43/EEC ('the Habitats Directive). For a complete list of European Protected Species in England & Wales refer to Schedules 2, 4 and 5 of the Conservation of Habitats & Species Regulations 2010

- Wild birds are protected under the Wildlife and Countryside Act 1981, as amended, against intentional killing and injuring. This includes damage, destruction or taking of a nest, eggs or young while it is in use or being built during the breeding season March to August inclusive. The timing of any works on habitats that may support birds, particularly those breeding, should take this into account.

- In addition to the protection afforded to all bird species; those listed on Schedule 1 of the Wildlife & Countryside Act 1981 receive additional protection against disturbance. This includes the intentional or reckless disturbance of birds and their young whilst they are at, on, or near an "active" nest.

- Plants and animals included on Schedules 5 & 8 of the Wildlife and Countryside Act 1981(as amended) are protected from killing and injuring and protection may also apply to their place of shelter

- Badgers and their setts are protected under the Protection of Badgers Act 1992. Any works that may have a detrimental effect on these setts.

- Activities that affect these species may require a licence from Natural England's licensing department and advice should be sought on any works that might affect them.

List of works

- 8 New interpretation panels at key locations (for mitigation and enhancement purposes)
- 560 metres of Footpath repairs
- 1 Steps
- 5 sleeper bridges
- New way markers and finger posts as necessary.

Timing of works	Works should be timed to prevent or reduce disturbance of wintering wildfowl and waders. Severe winter weather restrictions will apply to works likely to disturb wintering wildfowl and waders. Where works are likely to affect breeding birds the works should be timed to avoid the breeding season for the majority of species March to August inclusive
Use of heavy Machinery	Access routes for heavy plant and machinery should be discussed and agreed with the RO to avoid damage to the site or interest features and legally protected species. Screening of plant and machinery to prevent visual and noise disturbance of wintering wildfowl and waders should be considered where necessary in discussion with the RO
Presence of Protected Species	Where legally protected species are known or suspected to be present all works should include appropriate mitigation in line with legislative guidelines. Some species are afforded extra levels of protection and a licence may be required. Advice as to the presence of legally protected species should be sought from the RO.

Storage of Plant and Materials	Mitigation in preparation for the use of heavy machinery to prevent damage to sensitive site features. Measures may include screening of heavy machinery.
Pollution prevention and control	Pollution prevention and control measures must be agreed with the RO and the Environment Agency.
Biosecurity	Where necessary appropriate measures will be taken to prevent the transportation of invasive non-native species. RO to advise as and when necessary

Essex County Council will prepare a Biodiversity Mitigation Method Statement (BMMS) for establishment works to avoid or mitigate impacts on habitats and species. They will instigate the SSSI assent process by writing to Natural England to confirm the timing of works and how operations will be undertaken in line with these conditions. Natural England will provide further ecological advice as necessary.

6.1.1 Implementation of mitigation measures

The mitigation measures described in Part 5 of this document (5.1.5 5.2.5 etc.) will be implemented as follows:

Measure	Implementation
6.1.1.1 **The Strood and the Strood road crossing to West Mersea**	
(Enhancement) Interpretation Panel at Firs Chase	Fixtures and posts for signage will be set in place with minimum disturbance using hand tools.
6.1.1.2 **West Mersea Town**	
(Enhancement) Interpretation Panel at Coast Road Car Park, West Mersea	Fixtures and posts for signage will be set in place with minimum disturbance using hand tools.
2 x Mitigation Signage at St Peter's Meadow Saltmarsh	Fixtures and posts for signage will be set in place with minimum disturbance using hand tools.
6.1.1.3 **West Mersea to Mersea Stone**	
Mitigation Interpretation panels at the eastern end of the Coopers Beach seawall	Fixtures and posts for signage will be set in place with minimum disturbance using hand tools.

Mitigation Interpretation sign /OAR sign at Fen Farm, where north-south PROW joins the beach	Fixtures and posts for signage will be set in place with minimum disturbance using hand tools.
Mitigation Interpretation sign /OAR sign at Away Resorts where the ECP leaves the beach and moves onto the low cliffs	Fixtures and posts for signage will be set in place with minimum disturbance using hand tools.
(Enhancement) Interpretation sign at the top of the ramp at Cudmore Grove Cliffs	Fixtures and posts for signage will be set in place with minimum disturbance using hand tools.
(Enhancement) Interpretation panel at the boundary between Away Resorts and Cudmore Grove Country Park regarding the OAR	Fixtures and posts for signage will be set in place with minimum disturbance using hand tools.
6.1.1.4 Mersea Stone to The Strood	
Mitigation Interpretation panel at Mersea Stone on the pathway adjacent to the steps to Mersea Stone	Fixtures and posts for signage will be set in place with minimum disturbance using hand tools.
Mitigation Interpretation panel at the end of the track past Gold House	Fixtures and posts for signage will be set in place with minimum disturbance using hand tools.
(Enhancement) Interpretation sign at the Saltern east of the Strood crossing	Fixtures and posts for signage will be set in place with minimum disturbance using hand tools.

6.1.2 Local restrictions or exclusions

Where specific restrictions or exclusions have been included in the proposal and are approved by the Secretary of State, Natural England will give the necessary directions before public rights come into force to make the rights subject to those restrictions or exclusions.

6.2 Maintenance

Where there is a need for ongoing maintenance of any special measures proposed, this will become part of longer term arrangements for upkeep of the trail. An overall estimate of the ongoing cost of maintaining stretches of the England Coast Path is given in the relevant part of our report for the stretch.

6.3 Monitoring

Monitoring of the protected site will continue through established programmes including our common standards monitoring protocols. The access authority will be responsible for ongoing monitoring of trail condition. Natural England will be tracking general trends, including in the number of people using the path, as part of our evaluation of the coastal access programme nationally.

Prior to opening the new trail, checks will be made that establishment works, including any special mitigation measures required at this stage, have been implemented. Once the Coast Path is open, there will be regular ongoing monitoring of the condition of the trail and its associated infrastructure. Any reports of anti-social behaviour by trail users will usually be dealt with by a trail manager in the first instance.
Monitoring of the protected site will continue through established programmes including our common standards monitoring protocols. Issues concerning achievement of conservation objectives for a site will usually investigated through these arrangements. In the event that public access may be a contributing factor to any problems, coastal access provisions may need to be modified as part of the management response.
Natural England will be tracking general trends in pattern and level of use of the Coast Path as part of our evaluation of the coastal access programme nationally and this information will supplement and provide context to local monitoring.

6.4 Future changes

The access proposals in this document are designed to ensure appropriate protection of sensitive features, taking account of any mitigation measures that are included. The coast is a dynamic environment and we have taken account of changes predicted by the Environment Agency as a result of coastal erosion or other geomorphological processes in the design of the access proposals. Should it be necessary in the future to identify a new alignment for the trail in line with 'roll back' proposals in the stretch report, due care will be taken at that stage to minimise any potential impacts of this change on sensitive features. The same will be true if any unforeseen other changes arise in the future that may require a variation of the access arrangements described in these proposals, following due procedures.

7. Conclusions

7.1 Overall conclusion – Natura 2000/Ramsar sites

This section presents conclusions on the effects of the Mersea Island stretch of the England Coast Path proposal on the interest features of the following Natura 2000 and Ramsar sites: Colne Estuary SPA, Colne Estuary Ramsar site, Blackwater Estuary SPA, Blackwater Estuary Ramsar site and Essex Estuaries SAC.

7.1.1 Likelihood of significant effects alone on sensitive features

From the information presented above in Parts 3 to 5 of this appraisal document, Natural England concludes that, when considered alone, the proposal for this stretch of the Coast Path is not likely to cause a significant adverse effect on any SPA, SAC or Ramsar site interest features. This conclusion takes account of the modifications made to our proposal to avoid or reduce the risk of effects and described in Part 5. However, the Conservation of Habitats and Species Regulations 2010 (as amended) also require an assessment of the effects of a proposal on Natura 2000 and Ramsar sites when considered in combination with the effects of other 'live' plans or projects.

For each SPA, SAC or Ramsar site interest feature, the table below gives our conclusion as to whether or not the proposal for this stretch of the Coast Path could possibly cause an adverse effect. Where effects cannot be ruled out they are further considered as part of the in-combination assessment (7.1.2).

It is worth noting that (i) all the effects listed in the table are assessed as non-significant for the reasons given in Part 5; (ii) some of them are not addressed by specific mitigation measures in the proposal, because they are judged to be too small to require that and too diffuse for specific measures to be effective. They are nevertheless considered in the in-combination assessment.

The subsections of the route that might be affected are given numerical codes in the table as follows: 1: The Strood and the Strood crossing to North of West Mersea; 2: West Mersea Town; 3: West Mersea to Mersea Stone; 4: Mersea Stone to the Strood.

There is overlap between the Colne and Blackwater estuaries, both in their SPA features and Ramsar site features. There is also overlap between features of the SAC and the two Ramsar sites. The reader is referred to the relevant parts of section 3 for more details on features/feature groups.

Feature - or feature group	**Conclusion**
Overwintering and passage waterbirds feature group, (SPA & Ramsar site feature group – see section 3.1) Includes for the Colne SPA: A046a dark-bellied brent goose (non-breeding); A162 redshank (non-breeding); waterbird assemblage (non-breeding). Includes for the Blackwater SPA: A046a dark-bellied brent goose (non-breeding); A141 grey plover (non-breeding); A156 black-tailed godwit (non-breeding); A149 dunlin (non-breeding); waterbird assemblage (non-breeding).	The following non-significant effect associated with the access proposal needs to be further considered alongside possible non-significant effects from other live plans or projects: **possible small increase in disturbance to feeding or roosting waterbirds. Route sections affected: 1, 2, 3, 4.**
A082 hen harrier (non-breeding) (SPA feature – see section 3.2)	The following non-significant effect associated with the access proposal needs to be further considered alongside possible non-significant effects from other live plans or projects**: possible small increase in disturbance of hunting areas. Route sections affected: 1, 4.**
A137 ringed plover (breeding) (SPA feature – see section 3.3)	The following non-significant effect associated with the access proposal needs to be further considered alongside possible non-significant effects from other live plans or projects: **possible small increase in disturbance in shingle/sand breeding areas. Route sections affected: 3, 4.**
A195 little tern (breeding) (SPA feature – see section 3.4)	No possible adverse effects from the access proposal (taking into account any proposed mitigation measures) have been identified, as the species does not breed on Mersea Island.
A059 pochard (breeding) (SPA feature – see section 3.5)	The following non-significant effect associated with the access proposal needs to be further considered alongside possible non-significant effects from other live plans or projects: **possible small increase in disturbance of borrow dyke breeding habitat. Route sections affected: 1, 4.**
H1110 subtidal sandbanks (SAC feature – see section 3.7)	No possible adverse effects from the access proposal (taking into account any proposed mitigation measures) have been identified.
H1130 estuaries (SAC feature – see section 3.8)	No possible adverse effects from the access proposal (taking into account any proposed mitigation measures) have been identified.
H1140 intertidal mudflats and sandflats (SAC feature – see section 3.9)	No possible adverse effects from the access proposal (taking into account any proposed mitigation measures) have been identified.
Herbaceous saltmarsh vegetation feature group, including: H1310 glasswort and other annuals	The following non-significant effect associated with the access proposal needs to be further considered alongside possible non-significant effects from other live plans or projects: **possible small**

colonising mud and sand; H1320 cord-grass swards; H1330 Atlantic salt meadows. (SAC and Ramsar site feature group – see section 3.10)	**increase in trampling damage in the limited areas of saltmarsh where Section 25A restrictions will not apply. Route sections affected: 2, 3, 4.**
H1420 Mediterranean saltmarsh scrub (SAC feature – see section 3.11)	The following non-significant effect associated with the access proposal needs to be further considered alongside possible non-significant effects from other live plans or projects: **possible small increase in trampling damage. Route sections affected: 2, 3, 4.**
Vascular plant assemblage (Ramsar site feature – see section 3.14)	The following non-significant effect associated with the access proposal need to be further considered alongside possible non-significant effects from other live plans or projects: **possible small increase in trampling damage to nationally scarce saltmarsh species in the limited areas of saltmarsh where Section 25A restrictions will not apply. Route sections affected: 2, 3, 4.**
Invertebrate assemblage (Ramsar site feature – see section 3.15)	No possible adverse effects from the access proposal (taking into account any proposed mitigation measures) have been identified.

7.1.2 Likelihood of significant effects in combination on sensitive features

7.1.2a Other qualifying plans or projects

Competent Authority
Natural England
Plan or project
England Coast Path – Maldon to Salcott stretch (Blackwater Estuary)
Description
The Coastal Access Report and the Access and Sensitive Features Appraisal (ASFA) have been published for this stretch, which runs along the north side of the Blackwater Estuary. In this stretch the trail follows existing public footpaths along seawalls. Nearly all the saltmarsh and mudflat in the coastal margin is unsuitable for access, so section 25A restrictions are proposed. Mitigation against possible effects on sensitive features forms part of the proposal and includes section 26 exclusions on two shingle spits during the summer to prevent trampling damage and disturbance to nesting birds. Only a small increase in use of the trail is predicted and no change to the current de facto levels of use of the margin. No possible adverse effects of the proposal on SPA, SAC or Ramsar features are identified in the ASFA.

Competent Authority
Colchester Borough Council
Plan or project
Planning application 162442 - Change of use of land to site 67 static holiday caravans together with associated landscaping. Cosways Holiday Park, Fen Lane, East Mersea, Colchester, CO5 8UB.
Description
The development site is a grass field between the holiday park and Cudmore Grove Country Park about 80 m inland of the Colne Estuary SPA/Ramsar site boundary. This holiday park is open all year. Natural England has provided statutory advice on the application to the local planning authority. It is due for determination in June 2017. Our advice to the planning authority on this proposal is that, to avoid a likely significant effect on SPA, SAC or Ramsar site features, a combination of temporary fencing and signage is needed to reduce disturbance effects, with the details and responsibilities for these to be agreed and secured as part of a planning condition.

Competent Authority
Colchester Borough Council
Plan or project
Planning application 162825 - Construction of a flood defence bund where the existing sea wall has been abandoned. The borrow pit used to win the soil to build the bund is to be flooded and used as a training lake for sailing and canoeing. Mersea Outdoors, Rewsalls Lane, East Mersea, Colchester, CO5 8SX
Description
The development site is adjacent to the Colne Estuary SPA/Ramsar site boundary, on low-lying grassland east of the ECC Mersea Outdoors facility. It is within the coastal margin and just inland of the existing seawall, which is no longer being maintained. Natural England has provided statutory advice on the application to the local planning authority. It is due for determination in June 2017. Our advice to the planning authority on this proposal is that, to avoid any likely significant effect on SPA, SAC or Ramsar features, the following avoidance/mitigation measures need to be secured as part of a planning condition or obligation: no construction during December – February, all works to be contained landward of the top of the seawall, and post-construction access restricted to visitors at the seawall side of the boating lake (these measures to reduce disturbance to an adjacent high tide roost and sand/shingle area just seaward of the seawall). Subject to these conditions it is considered that the creation of the lake could benefit SPA waterbirds by providing additional supporting habitat just outside the SPA boundary.

Competent Authority
Colchester Borough Council, Tendring District Council, Braintree District Council
Plan or project
North Essex Authorities (NEAs) emerging Local Plans, comprising: North Essex Authorities Shared Strategic Part 1 for Local Plans, Colchester Part 2 Local Plan (2013 – 2033), Tendring Part 2 Local Plan (2013 – 2033), Braintree Part 2 Local Plan (2016 – 2033).
Description
The emerging local plans of the three North Essex authorities (NEAs) are considered together because: (i) these authorities are collaborating to produce a shared Strategic Part 1 plan for their combined areas; this covers 10 strategic policies, including one for each of three proposed Garden Communities of 2,500 homes each; (ii) Based largely on visitor survey data collected by Colchester Borough Council, the authorities use Zones of Influence (ZoIs) of 24km when assessing the impacts of their plans on the Colne Estuary SPA/Ramsar site and the Essex Estuaries SAC. These ZoIs bring all three Garden Communities and all the other housing allocations proposed for Colchester, Tendring and the southern half of Braintree into scope for Habitat Regulations Assessment (HRA) of effects on these Natura 2000 sites. Taken together, the shared Strategic Part 1 plan and the three Part 2 plans aim to deliver about 43,765 new homes over the plan period, including 18,400 in Colchester Borough. The three HRA screening reports for the Part 2 plans and the HRA report for the shared Strategic Part 1 for Local Plans (referred to below as the HRA report) all conclude that the housing allocations proposed are likely to cause significant recreational disturbance impacts to the Essex Estuaries SAC, the Colne Estuary SPA/Ramsar site and (for Colchester and Braintree) the Blackwater Estuary SPA/Ramsar site. As used in the HRA report, the term 'recreational impacts' includes disturbance to SPA/Ramsar waterbirds and also trampling and other recreation-related damage to SAC and Ramsar site habitats. The HRA report includes screening of the Part 1 and Part 2 plans' effects in combination, and a more detailed Appropriate Assessment which considers the avoidance and mitigation measures necessary to ensure the plans have no adverse effect on the integrity of any Natura 2000 sites. The report concludes that, for the plans' effects on the Colne Estuary SPA/Ramsar site, the Blackwater Estuary SPA/Ramsar site and the Essex Estuaries SAC, the most pragmatic way to deliver the required avoidance/mitigation measures is to develop and implement an integrated Recreation Avoidance and Mitigation Strategy (RAMS) covering all three sites. The report recommends the RAMS is developed jointly by the three NEAs in close collaboration with Natural England and other regulatory bodies. To address recreational impacts, the report recommends the RAMS includes: provision of alternative open space and green infrastructure, ongoing visitor monitoring, and a variety of site management measures (such as fencing, screening, hides, wardening, interpretation boards, route signage, seasonal changes to routes, promotion of codes of conduct for user groups, and habitat management and enhancement). The report recognises the particular need to work closely with Natural England as the England Coast Path project is implemented in the vicinity. The consultation on the Preferred Options for the Colchester Part 2 Local Plan (September 2016) includes two allocations on Mersea Island (for 200 and 150 dwellings) both on the eastern edge of West Mersea.

At the time of carrying out this appraisal, Natural England is not aware of any other qualifying plans or projects that need to be considered.

7.1.2b Possible in combination effects

Non-significant effect – access proposal
Possible small increases in disturbance to SPA/Ramsar birds. Applies to: overwintering and passage waterbirds feature group; overwintering hen harrier; breeding ringed plover; breeding pochard. Overwintering hen harrier and breeding pochard are least likely to be affected by our proposals because of the distribution of their supporting habitats on Mersea Island.
Non-significant effect – other plan or project
Possible small increases in disturbance to SPA/Ramsar birds: • Planning application 162442 - Change of use of land to site 67 static holiday caravans. • Planning application 162825 - Construction of a flood defence bund and creation of a lake for recreational boating. North Essex Authorities (NEAs) emerging Local Plans
In combination conclusion
We do not consider it likely that there will be a significant effect in combination for the following reasons: 1) Re the two planning applications: Natural England's advice includes recommendations for planning conditions to mitigate disturbance impacts to overwintering waterbirds and breeding ringed plover. Provided this mitigation is secured the likelihood of any significant in-combination effects is very low. 2) Re application 162825: The boating lake proposed in this application may provide supporting habitat for SPA waterbirds. 3) Re the two Mersea Island allocations in the emerging Colchester Local Plan: Whilst a c11% population increase as a result of these specific developments is not insignificant, the parts of the SPA / Ramsar within walking distance of these allocations are not particularly sensitive to disturbance, and in our view the predicted increase in usage of these areas – as a result of the ECP – is not likely to be significant. New residents of these allocations who drive to the SPA / Ramsar are addressed via the diffuse recreational assessment as part of the RAMS strategy, described below. Natural England will provide further advice on possible impacts and appropriate mitigation as necessary. 4) Re the wider effects of the NEAs' emerging Local Plans: In the HRAs of their Part 1 and Part 2 plans, the three NEAs have concluded that the plans (i) are, in the absence of mitigation, likely to cause significant effects on the Colne Estuary SPA/Ramsar site, the Blackwater Estuary SPA/Ramsar site and the Essex Estuaries SAC as a result of increased recreational disturbance, and (ii) must incorporate a package of avoidance and mitigation measures to ensure they have no effects on the integrity of these or other Natura 2000 sites. Their HRA report on the Part 1 plan proposes

an integrated Recreation Avoidance and Mitigation Strategy (RAMS) covering the three sites and developed jointly by the three NEAs in collaboration with Natural England and other bodies. The HRA report outlines elements of the RAMS but the details have not been developed yet. Those details will very largely determine the nature and scale of any residual disturbance effects of the local plans. A detailed in-combination assessment of those as-yet-undefined residual effects is therefore impossible at this stage. But it is appropriate to consider the question: Will the proposed Mersea Island stretch of the Coast Path have any effects (negative or positive) on the NEAs' ability to develop and implement an effective RAMS? We conclude that negative effects can be ruled out because this stretch of the Coast Path does not provide new access to any sensitive, previously inaccessible areas and it includes mitigation for possible localised disturbance effects elsewhere. From the information presented in earlier parts of this appraisal document, the possible residual disturbance effects on this stretch, taking the mitigation into account, are assessed as well below 'significant effect' level. In addition, the coastal access arrangements that we have proposed can, where necessary, be adjusted in the light of future unforeseen circumstances.

In several respects the Coast Path project is likely to make it easier for the NEAs to develop an effective RAMS; for example by providing a carefully aligned, well maintained walking route around the coast with good signage and interpretation panels, by collating information and raising awareness on possible disturbance effects and locations where disturbance may be an issue, and by liaising with land owners and other stakeholders.

Co-ordination between those managing the Coast Path and those delivering the RAMS will be beneficial and will be achieved through ongoing liaison between Natural England and the local authorities concerned.

Nevertheless, as a promoted national route, the ECP can be expected to result in an increase in usage of existing PRoW (and consequent small non-significant associated disturbance) when compared to the existing and projected baseline population, accounting for the life of the NEA Plans. Bearing in mind that these Plans will be subject to Examination in order to ascertain that they will not have an adverse effect on European site integrity (subject to the anticipated RAMS), it is regarded that any residual effect after RAMS has been applied is not likely to be significant in-combination with the predicted increase in usage arising from the ECP project.

Non-significant effect – access proposal

Possible small increases in trampling damage to saltmarsh vegetation. Applies to: herbaceous saltmarsh vegetation feature group (including glasswort and other annuals colonising mud and sand, cord-grass swards, Atlantic salt meadows); Mediterranean saltmarsh scrub; vascular plant assemblage (saltmarsh species only).

Scarce saltmarsh species and communities mainly found near the top of the intertidal zone are more likely to be affected than others.

Non-significant effect – other plan or project

Possible small increases in trampling damage to saltmarsh vegetation:

- Planning application 162442 - Change of use of land to site 67 static holiday caravans.

North Essex Authorities emerging Local Plans.

In combination conclusion

We do not consider it likely that there will be a significant effect in combination for the following reasons:

1) Re planning application 162442: The points made above in relation to bird disturbance effects are relevant. In addition the saltmarsh immediately south of the site will be covered by a Section 25A restriction.

2) Re the two Mersea Island allocations in the emerging Colchester Local Plan: The points made above in relation to bird disturbance effects are relevant. These allocations are about 1 km from the nearest areas of saltmarsh and over 2 km from the saltmarsh at St Peter's Meadow village green, where a Section 25A restriction is not appropriate but signage to mitigate effects of any increase in use is proposed.

3) Re the wider effects of the NEAs' emerging Local Plans:

The points made above in relation to bird disturbance effects are relevant. In general we would expect significant in-combination effects to be less likely for trampling damage than for bird disturbance, because it cannot result from increased visitor numbers near but not within the designated site boundary.

Nevertheless, as a promoted national route, the ECP can be expected to result in an increase in usage of existing PRoW (and consequent small non-significant associated disturbance) when compared to the existing and projected baseline population, accounting for the life of the NEA Plans. Bearing in mind that these Plans will be subject to Examination in order to ascertain that they will not have an adverse effect on European site integrity (subject to the anticipated RAMS), it is regarded that any residual effect after RAMS has been applied is not likely to be significant in-combination with the predicted increase in usage arising from the ECP project.

7.1.3 Overall screening decision

Mark with an X as appropriate

X	**No likely significant effect** - as the new access proposal is unlikely to have a significant effect on the Colne Estuary SPA, the Colne Estuary Ramsar Site, the Blackwater Estuary SPA, the Blackwater Estuary Ramsar Site and the Essex Estuaries SAC, either alone or in combination with other plans or projects, (taking into account any proposed mitigation measures) no further Habitats Regulations assessment is required;
	OR
	Likely significant effect - as the new access proposal is likely to have a significant effect on the Colne Estuary SPA, the Colne Estuary Ramsar Site, the Blackwater Estuary SPA, the Blackwater Estuary Ramsar Site and the Essex Estuaries SAC, either alone or in combination with other plans or projects (despite any proposed mitigation measures), appropriate assessment is required to consider whether the new access proposal may proceed.

7.2 Overall conclusion – Colne Estuary SSSI and Blackwater Estuary SSSI

In the light of this appraisal, Natural England has concluded that the new access proposal:
(Mark one box only with an X below)

X	**complies** with Natural England's duty to further the conservation and enhancement of the notified features of the SSSI, consistent with the proper exercise of its functions[3] - and accordingly the new access proposal may proceed as finally specified in this template
	OR
	would not comply with the duty referred to in (a) – and accordingly permission/ authorisation/ assent should not be given for the new access proposal in the form finally specified in this template, for the following reasons:

Reasons (where second box is ticked):

7.3 Overall conclusion: Marine Conservation Zone

In respect of any duties that may arise under section 125 of the Marine and Coastal Access Act 2009, Natural England has concluded for the Blackwater, Crouch, Roach and Colne Estuaries Marine Conservation Zone that:

(Mark one box only with an X below)

X	The access proposal (including any special measures specified in this appraisal) is the one that, consistently with the proper exercise of its functions under section 296 of the same Act, is least likely to hinder the achievement of the conservation objectives for the Marine Conservation Zone - and accordingly may proceed
	OR
	The above test is not met, and accordingly the access proposal should not be taken forward in this form, for the following reasons:

Reasons (where second box is ticked):

[3] The reference in 7.2 above to Natural England's functions includes its balanced general purposes for access, nature conservation and landscape under the NERC Act 2006, any specific statutory duties it may have to deliver specific improvements to public access, and the access-related policies and priorities it periodically agrees with Defra.

7.4 Overall conclusion - National Nature Reserve

In the light of this appraisal, Natural England has concluded that the new access proposal:
(Mark one box only with an X below)

X	**will not compromise** the management of the National Nature Reserve for its conservation purpose of preserving features of special interest in the area

OR

	would compromise the management of the National Nature Reserve for its conservation purpose of preserving features of special interest in the area - and accordingly the new access proposal should not proceed in the form finally specified in this template, for the following reasons:

Reasons (where second box is ticked):

7.5 Other features about which concerns have been expressed

In the light of this appraisal, Natural England has concluded that:
(Mark one box only with an X below)

X	the appropriate balance has been struck by the new access proposal between NE's conservation and access objectives, duties and purposes - and accordingly the new access proposal should proceed as finally specified in this template

OR

	the appropriate balance referred to above has not been struck – and accordingly the new access proposal should not proceed in the form finally specified in this template, for the following reasons:

Reasons (where second box is ticked):

8. Certification

8.1 Certification – access proposal

I agree with the conclusions of this appraisal and am satisfied that the final access proposal, incorporating any mitigation measures, is the least restrictive option necessary to ensure appropriate protection of sensitive features.		
Signed: 	Name: James Lamb, Senior Adviser	Date: 28.06.2017

8.2 Certification – ecological impacts

I agree with the conclusions of this appraisal and am satisfied that potential environmental impacts of the access proposal on **Colne Estuary SPA, Ramsar site and SSSI**, **Blackwater Estuary SPA, Ramsar site and SSSI, Essex Estuaries SAC, Blackwater, Crouch, Roach and Colne Marine Conservation Zone and Colne Estuary National Nature Reserve** have been fully addressed.		
Name: 	Signed: Nicola Orchard, Senior Protected Sites Officer	Date: 28.06.2017

9. References

Abrehart Ecology. 2016. *Essex Estuaries SAC: Saltmarsh quality monitoring along permanent vegetation transects*. Report by Abrehart Ecology for Natural England.

Black, I. 2012. Colne Estuary NNR East Mersea Flats Management Plan 2013 -2018. *Unpublished Natural England NNR management plan.*

Balmer, D.E., Gillings, S., Caffrey, B.J., Swann, R.L., Downie, I.S. & Fuller, R.J. 2013. *Bird Atlas 2007-11: the breeding and wintering birds of Britain and Ireland*. BTO Books, Thetford.

British Ornithologists' Union. 2016. The British List, Dec 2016 update. https://www.bou.org.uk/wp-content/uploads/2016/12/British-List-12-Dec-2016.pdf

Calbrade, N.A., Musgrove, A.J. & Rehfisch, M.M., 2008. *Colne Estuary Low Tide Counts 2007/08.* BTO Research Report 505. BTO, Thetford.

Cook, A.S.C.P., Barimore, C., Holt, C.A., Read, W.J. & Austin, G.E. 2013. *Wetland Bird Survey Alerts 2009/2010: Changes in numbers of wintering waterbirds in the Constituent Countries of the United Kingdom, Special Protection Areas (SPAs) and Sites of Special Scientific Interest (SSSIs)*. BTO Research Report 641. BTO, Thetford.
http://www.bto.org/volunteer-surveys/webs/publications/webs-annual-report

Dennis, M.K. 1996. *Tetrad Atlas of the Breeding Birds of Essex*. The Essex Birdwatching Society.

Drake, C.M., Lott, D.A., Alexander, K.N.A., & Webb, J. 2007. *Surveying terrestrial and freshwater invertebrates for conservation evaluation*. Natural England Research Report NERR005.
http://publications.naturalengland.org.uk/publication/36002

Eaton, M., Aebischer, N., Brown, A., Hearn, R., Lock, L., Musgrove, A., Noble, D., Stroud, D., & Gregory, R. 2015. Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. *British Birds*, 108, 708–746.

Essex Birdwatching Society. The Essex Bird Report – annual reports, latest available is for 2013.

Essex Botanical Society. 2009. List of Scarce Essex Plants, updated March 2009.
www.kenadams.org.uk/esb/essex_scarce.htm

Frost, T.M., Austin, G.E., Calbrade, N.A., Holt, C.A., Mellan, H.J., Hearn, R.D., Stroud, D.A., Wotton, S.R. & Balmer, D.E. 2016. *Waterbirds in the UK 2014/15: The Wetland Bird Survey*. BTO/RSPB/JNCC. Thetford.
http://www.bto.org/volunteer-surveys/webs/publications/webs-annual-report

Kirby, P. 2001. *Habitat Management for Invertebrates: a Practical Handbook*. RSPB, Sandy, Beds.

Liley, D. & Sutherland, W.J. 2007. Predicting the population consequences of human disturbance for Ringed Plovers *Charadrius hiaticula*: a game theory approach. *Ibis*, 149, 82-94.

Natural England. 2013. Coastal Access Natural England's Approved Scheme 2013. Published by Natural England Catalogue Code: NE446

http://publications.naturalengland.org.uk/publication/5327964912746496?category=50007

Owen, M., & Black, J.M. 1990. *Waterfowl Ecology*. Blackie, Glasgow & London.

Panter, C., & Liley, D. 2016. *Distribution of key bird species and access infrastructure along the Essex Coast Special Protection Areas (SPAs)*. Unpublished report by Footprint Ecology for Natural England.

Rodwell, J.S. (ed.) 2000. *British plant communities. Volume 5. Maritime communities and vegetation of open habitats*. Cambridge University Press, Cambridge.

Snow, D.W., & Perrins, C.M. 1998. *The Birds of the Western Palearctic, Concise Edition. Volume 1, Non-Passerines*. Oxford University Press, Oxford.

Stroud, D.A., Chambers, D., Cook, S., Buxton, N., Fraser, B., Clement, P., Lewis, P., McLean, I., Baker, H., & Whitehead, S. (eds). 2001. *The UK SPA network: its scope and content. JNCC, Peterborough*. http://jncc.defra.gov.uk/page-1412

Tarpey, T., & Heath, J. 1990. *Wild Flowers of North East Essex*. Colchester Natural History Society, Colchester.

Thomson, S., Reid, C., & Boyes, S. 2011. *Essex Coastal SSSIs: Assessment of Changes in Extent of Saltmarsh Over the Period 1997 to 2008*. Report by Institute of Estuarine and Coastal Studies (IECS), University of Hull, for Natural England.

Wood, S. 2007. *The Birds of Essex*. Christopher Helm, London.

North Colchester Growth Area, Northern Growth Area Urban Expansion Plan
http://www.colchester.gov.uk/CHttpHandler.ashx?id=7757&p=0

Also:

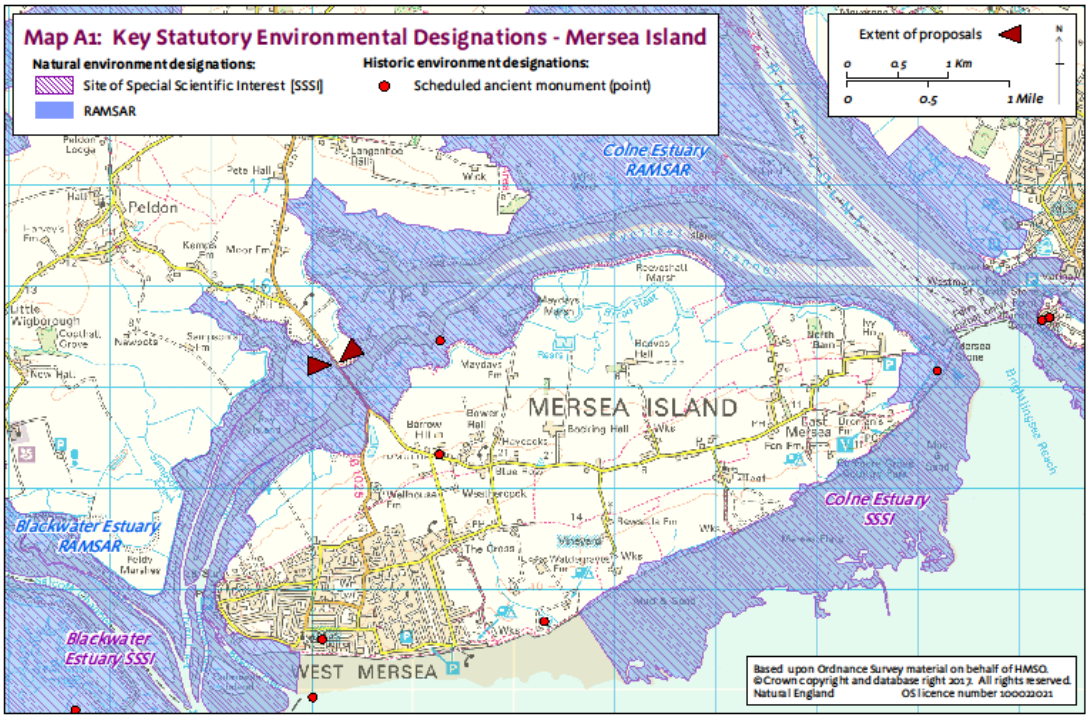
Colchester Borough Council Strategic Plan 2015-2018 http://www.colchester.gov.uk/strategicplan

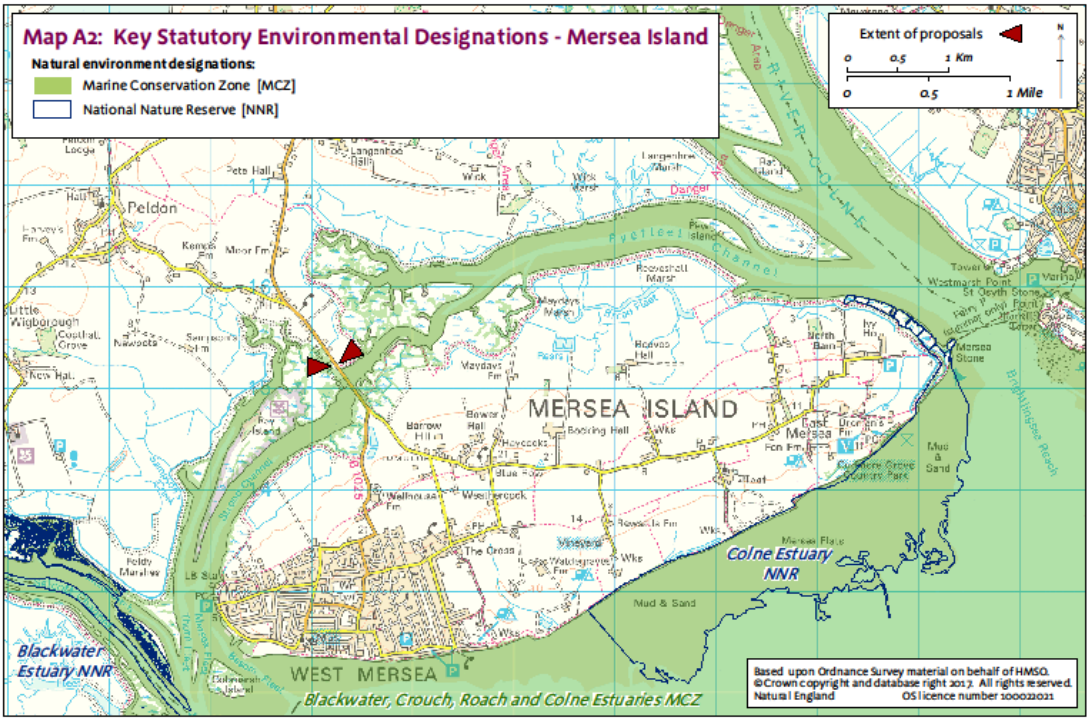
Colchester Borough Council Local Plan (Draft)
http://www.colchester.gov.uk/CHttpHandler.ashx?id=23478&p=0

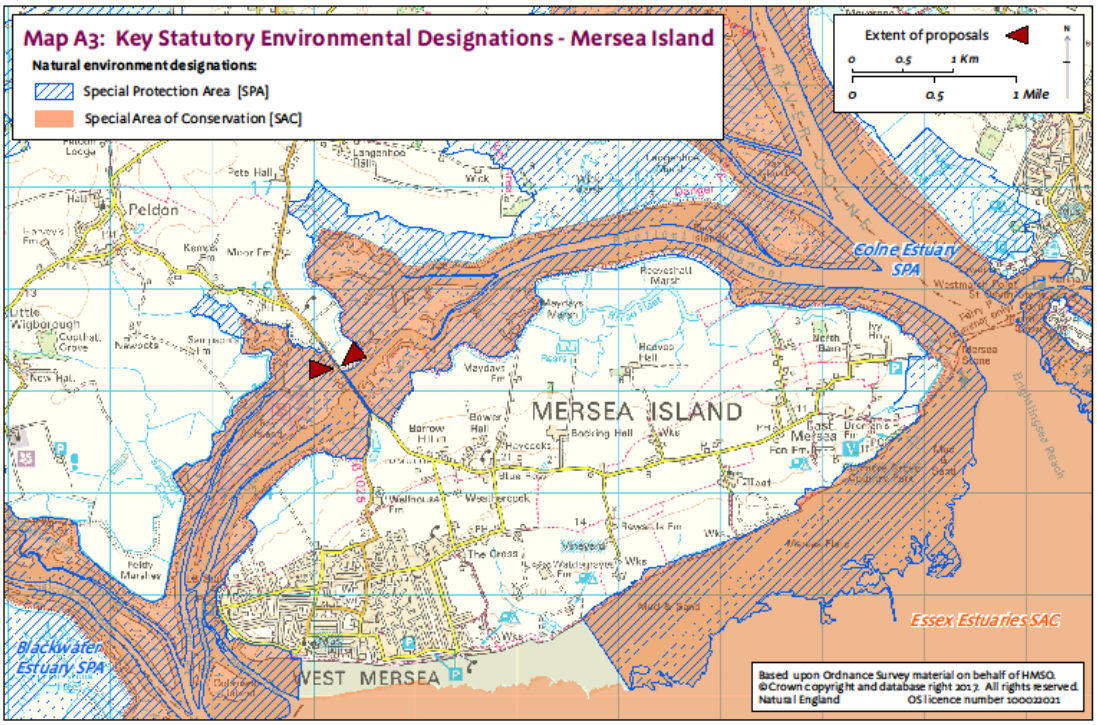
Habitat Regulations Assessment Survey and Monitoring, Year 3 Interim Report, November 2012
https://www.tendringdc.gov.uk/sites/default/files/documents/planning/planning%20policy/Year%203%20HRA%20Interim%20Final%20Report%20November%202012.pdf

10. Appendices

Appendix A – maps showing the designated sites on Mersea Island Island






Map A3: Key Statutory Environmental Designations - Mersea Island
Natural environment designations:
Special Protection Area [SPA]
Special Area of Conservation [SAC]
Extent of proposals
0 0.5 1 Km
0 0.5 1 Mile
N
Peldon
MERSEA ISLAND
WEST MERSEA
Colne Estuary SPA
Essex Estuaries SAC
Blackwater Estuary SPA
Based upon Ordnance Survey material on behalf of HMSO.
©Crown copyright and database right 2013. All rights reserved.
Natural England OS licence number 100022021

Appendix B – Bird species mentioned in the text for which the IOC International English name differs from the British vernacular name

British vernacular name	IOC International English name	Scientific name
Brent goose	Brant goose	*Branta bernicla*
Shelduck	Common shelduck	*Tadorna tadorna*
Wigeon	Eurasian wigeon	*Anas penelope*
Teal	Eurasian teal	*Anas crecca*
Pintail	Northern pintail	*Anas acuta*
Shoveler	Northern shoveler	*Anas clypeata*
Pochard	Common pochard	*Aythya ferina*
Goldeneye	Common goldeneye	*Bucephala clangula*
Cormorant	Great cormorant	*Phalacrocorax carbo*
Avocet	Pied avocet	*Recurvirostra avosetta*
Oystercatcher	Eurasian oystercatcher	*Haematopus ostralegus*
Golden plover	European golden plover	*Pluvialis apricaria*
Lapwing	Northern lapwing	*Vanellus vanellus*
Ringed plover	Common ringed plover	*Charadrius hiaticula*
Curlew	Eurasian curlew	*Numenius arquata*
Turnstone	Ruddy turnstone	*Arenaria interpres*
Knot	Red knot	*Calidris canuta*
Greenshank	Common greenshank	*Tringa nebularia*
Redshank	Common redshank	*Tringa tetanus*
Bearded tit	Bearded reedling	*Panurus biarmicus*

Source: BOU 2016.