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: APPRAISAL OF POSSIBLE ENVIRONMENTAL IMPACTS OF PROPOSALS FOR ENGLAND COAST PATH

The Wash: Sutton Bridge to Gibraltar Point

Date: January 2018

Contents and arrangement of this report

This report records the conclusions of Natural England's appraisal of any potential for environmental 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.

The report is arranged in the following sections:

1. Summary	*A summary of our conclusions, including key mitigation measures built into our proposals.*
2. Scope	*In this part of the document we define the geographic extent for the appraisal and the features that are included.*
3. Baseline conditions and ecological sensitivities	*In this part of the document we identify which features might be sensitive to changes in access, and rule out from further consideration those that are not.*
4. Potential for interaction	*In this part of the document we identify places where sensitive features are present and whether there could, or will not, be an interaction with proposed changes in access.*
5. Assessment of impact-risk and incorporated 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.*
6. Conclusions	*In this part of the document we record our formal conclusions, including those for our Habitats Regulations Assessment.*
7. 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.*

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/collections/england-coast-path-sutton-bridge-to-skegness

Contents

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' or ASFA.

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 assessment are certified by both the member of staff responsible for developing the access proposal and the person responsible for authorising its conclusions with respect to ecological impacts. This ensures appropriate separation of duties within Natural England.

1.2 Thanks

The development of our proposals has been informed by input from people with relevant expertise within Natural England and other key organisations. The proposals have been thoroughly considered before being finalised and our initial ideas were modified during an iterative design process. We are grateful to the RSPB, Lincolnshire Wildlife Trust, local Wetland Bird Survey volunteers and other organisations and local experts whose contributions and advice have helped to inform development of our proposals.

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 ASFA (Access and Sensitive Features Assessment) covers the coast between Sutton Bridge and Gibraltar Point, south of Skegness. The information has been subdivided to reflect sections of the proposed route that have broadly similar characteristics in terms of distribution of the species and habitat types and the current and future expected public access use:

Sutton Bridge to Boston Haven
Boston Haven to the Horseshoe, Wrangle
The Horseshoe, Wrangle to River Steeping

2.2 Designated sites

The whole area, from Sutton Bridge to Skegness is within several conservation designations;
The Wash SPA
The Wash & North Norfolk Coast SAC
The Wash Ramsar site
The Wash SSSI

2.3 Appraisal of surrounding areas

A separate assessment (available on the same website) has been undertaken for Gibraltar Point - designated a SPA, SAC, Ramsar Site, SSSI and NNR with different features – as this also forms part of the Sutton Bridge to Skegness stretch of the England Coast Path (ECP). An Access and Sensitive Features Appraisal has been completed for the stretch of Coast Path to the north of this area (Skegness to Mablethorpe). An Access and Sensitive Features Appraisal for Hunstanton to Sutton Bridge (to the immediate east) is currently underway.

2.4 Designated features

Habitat type/s	**Features** – of the designated sites listed in 2.2	**SPA**	**SAC**	**Ramsar**	**SSSI**
Coastal saltmarsh	Atlantic salt meadows		x	x	x
	Mediterranean and thermo-Atlantic halophilous shrubs		x	x	x
	Salicornia and other annuals colonising mud and sand		x	x	x
Littoral sediment	Mudflats and sandflats not covered by sea water at low tide		x	x	x
Sub littoral sands and gravels	Sandbanks which are slightly covered by seawater at all times		x	x	
Sabellaria spinulosa reefs	Biogenic reefs		x	x	
Large shallow inlets and bays	Large shallow inlets and bays		x	x	
	Harbour (common) seal (*Phoca vitulina*)		x	x	x
	Otter (*Lutra lutra*)		x		
Coastal vegetated shingle	Coastal vegetated shingle			x	x
Coastal saltmarsh, saline lagoons, coastal vegetated shingle and littoral sediment	Aggregations of non-breeding birds - internationally important populations of individual species: **Mandatory features – non-breeding waterbirds listed in the SPA & Ramsar citations:** Pink-footed Goose, Dark-bellied Brent Goose, Shelduck, Pintail, Oystercatcher, Grey Plover, Knot, Dunlin, Bar-tailed Godwit, Curlew $, Redshank, Turnstone $, Sanderling $.	x		x	
Coastal saltmarsh, saline lagoons, coastal vegetated shingle and littoral sediment	Aggregations of non-breeding Annex 1 birds: Bewick's Swan ^, Whooper Swan ^, Bar-tailed Godwit #	x		x	

Coastal saltmarsh, saline lagoons, coastal vegetated shingle and littoral sediment	Aggregations of non-breeding birds - >20,000 waterfowl The following species have been cited in Joint Nature Conservation Committee (JNCC) SPA Reviews and Wetland Bird Survey (WeBS) annual reports as contributing to the non-breeding species assemblage: Avocet+, Golden Plover #, Lapwing #, Ringed Plover # P, Black-tailed Godwit #, Bar-tailed Godwit #, Oystercatcher #, Grey Plover #, Dunlin #, Knot #, Sanderling # P, Curlew +, Whimbrel +P, Redshank #, Turnstone +, Little Grebe ^, Cormorant +, Whooper Swan ^, White-fronted Goose ^, Pink-footed Goose #, Dark-bellied Brent Goose #, Shelduck #, Pintail#, Wigeon ^, Teal +, Mallard +, Eider +, Common Scoter +, Black-headed Gull +, Lesser Black-backed Gull +, Herring Gull +, Great Black-backed Gull +, Gadwall, Goldeneye. ***SPA/ Ramsar***	x		x	x
Coastal saltmarsh	Aggregation of non-Annex 1 breeding birds: Redshank ***SPA*** exceptionally high densities of breeding Redshanks (Cvii(f)) ***SSSI***	x			

KEY: *() baseline population; $ baseline population no longer internationally significant due to higher qualifying thresholds in 2008; # international significance; + national significance; ^ local significance; P Passage population. Significance as cited in 2.4 has changed since designation for some species; the symbols in Section 3 reflect the most recent data available (Frost et al, 2017).*

The UK Conservation Status of birds as classified by Eaton et al. (2015) is shown in brackets as Green (G), Amber (A) or Red (R), ranging from species of least (G) to greatest (R) conservation concern. Details of the criteria used for classification are available on the British Trust for Ornithology website.

N.B. This Appraisal solely includes features of the designated sites listed in 2.2 which are present in the area under consideration, i.e. Sutton Bridge to Gibraltar Point. Additional designated features for The Wash

such as Coastal Vegetated Shingle and Saline Lagoons are considered in Appraisals for the relevant stretches of the Coast Path.

2.5 Other features about which concerns have been expressed

Feature	Conservation interest
Breeding Avocet	Avocet are found on saltmarsh pools locally and sometimes on wet inland fields so may be breeding close to the sea wall. Breeding avocet are sensitive to disturbance leading to increased nest trampling and predation and reduced breeding success.
Breeding Ringed Plover	Ringed Plover are known to breed at several locations on The Wash and breeding success could be adversely affected by recreational disturbance.
Other ground-nesting birds: Meadow Pipit (A), Skylark (R) and Reed Bunting (A)	Species which are not designated features of this site, including birds of moderate or high conservation concern nationally, are known to breed adjacent to the proposed route.
Little Egret (G)	Little Egret numbers have risen significantly on The Wash since designation of the SPA and depending on location may be adversely affected by disturbance.
Birds of prey: Hen harrier (R), Marsh harrier (A), Merlin (R) Barn Owl (G) and Small-eared owl (A)	Birds of prey are of considerable interest to visitors and depending on location may be subject to increased disturbance in areas where access increases.

3. Baseline conditions and ecological 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.

N.B. Mediterranean and thermo-Atlantic halophilous shrubs form an important element of coastal saltmarsh habitat on The Wash SSSI (e.g. at Gibraltar Point). However as this community is absent between Sutton Bridge and Gibraltar Point potential impacts are appraised in Access and Sensitive Features Appraisals for the relevant area.

3.1 Coastal saltmarsh

Composition of feature group - where applicable
Coastal saltmarsh: - Atlantic salt meadows - Salicornia and other annuals colonising mud and sand
Current conservation status and use of the site
Coastal saltmarsh within the site consists of a natural transition of vegetation types that are unparalleled in the UK for their extent and diversity and are amongst the most important in Europe. Historically, extensive areas of salt meadow in The Wash were lost due to land reclamation around the area. Since the last salt meadow reclamation in 1978, the area of salt meadow has increased in The Wash (Maddock, 2008). From 1982 to 2002 salt meadow increased from 2804ha to 3049ha (Royal Haskoning, 2006). Extensive stretches of short saltmarsh vegetation with unrestricted views provide important roosting habitat for large numbers of the SPA waterbird assemblage. Grazing within the site affects the floristic diversity of salt meadows, with ungrazed areas (e.g. on the North Norfolk coast) being more diverse than the extensive grazed areas of the northern Wash. Grazing of salt meadows, however, is important for creating breeding habitats for redshank *Tringa totanus* (Environment Agency, 2012) and feeding areas for wintering Dark-bellied Brent Goose *Branta bernicla bernicla* and Wigeon *Anas penelope* (Patterson and Burrows, 1998). The site is one of the best in the UK for pioneer saltmarsh and has the greatest extent (JNCC, 2014a); it also provides an important feeding area for the large numbers of wading birds that use the area during migration and overwinter (Austin et al., 2014).
Ecological sensitivities to changes in access
Saltmarsh is reasonably resilient, except where pressure is high and persistent; high use can lead to preferential erosion through surface abrasion due to trampling; and potential organic enrichment from dog faeces and urine. The more significant issue for public use of saltmarsh, however, is safety due to the nature of sediments, presence of creeks and the potential to be cut off by high tides. As saltmarsh will be excluded from spreading room the likely impact is minimal.

3.2 Littoral sediment

Composition of feature group - where applicable
N/A
Current conservation status and use of the site
The mudflats and sandflats habitat within the site is the second largest expanse of this habitat in the UK. There are about 18,000 ha of mud and sandflats representing over 6% of the UK total stretching almost unbroken between Gibraltar Point and Blakeney Harbour (JNCC), 2015). The invertebrate populations of the mudflats within The Wash and North Norfolk coast provide the foundation of a rich and diverse intertidal community. The invertebrate community provides an important food source for waterfowl, fish and other invertebrates, which are prey of higher species such as seals. The mussel and cockle beds found on the intertidal flats also support important commercial fisheries.
Ecological sensitivities to changes in access
Not relevant to the coastal path due to inaccessibility.

3.3 Sub littoral sands and gravels

Composition of feature group - where applicable
N/A
Current conservation status and use of the site
The site has one of the largest expanses of subtidal sandbanks within the UK and is characteristic of the wider seascape of the sheltered east coast (JNCC, 2013). Over 85 species of invertebrates colonise the sediment including 45 species of polychaete worms and 10 bivalve molluscs (Foster-Smith, 2000). The subtidal sandbanks also provide important nursery grounds for young commercial fish species, including Plaice *Pleuronectes platessa*, Cod *Gadus morhua* and Sole *Solea solea* (JNCC, 2013).
Ecological sensitivities to changes in access
Not relevant to the coastal path due to inaccessibility.

3.4 *Sabellaria spinulosa* reefs

Composition of feature group - where applicable
Biogenic reefs
Current conservation status and use of the site
As the site is comprised primarily of soft sediments, where reef is present it provides important habitat for both attached and mobile species.
Ecological sensitivities to changes in access
Unaffected by the Coast Path due to inaccessibility.

3.5 Large shallow inlets and bays

Composition of feature group - where applicable
N/A
Current conservation status and use of the site
The Wash is the largest embayment in the UK at over 64,000ha and represents the largest shallow inlet and bay feature on the English East Coast (JNCC, 2014b).
Ecological sensitivities to changes in access
Relevant sub-features of this feature are discussed individually.

3.6 Common (Harbour) seal

Composition of feature group - where applicable
N/A
Current conservation status and use of the site
Common seal feed offshore in the coastal waters and haul-out to rest on sandbanks at Blakeney Point and in The Wash. Seal numbers at haul-out sites vary throughout the year. In winter, seals appear to spend more time at sea; during the breeding season (late June – early July) they appear more dispersed and in smaller groups than during their moult. Throughout the annual moult, late July to early September, groups tend to be larger than at other times and the numbers at haul-out sites reach a maximum.
Ecological sensitivities to changes in access
Common seal is sensitive to disturbance by people and in particular dogs. Breeding seals exhibiting flight reactions could temporarily abandon their young, causing a more significant disturbance impact during the breeding season. (Duck et al, 2010). Moulting seals spend more time out of the water, and if they are scared into the water they may lose condition as a result of additional energetic costs. However, the

location of seals within The Wash means that there are unlikely to be interactions with people in relation to the coastal path.

As such there are no concerns in relation to the Coast Path due to the location of seals.

3.7 Otter

Composition of feature group - where applicable
N/A
Current conservation status and use of the site
This Annex II species is a qualifying feature for The Wash and North Norfolk Coast SAC. Otter populations within England are of particular importance in light of historic declines in numbers across western Europe (JNCC, 2014c). Within the UK The Wash and North Norfolk Coast is representative of good otter habitat and considered to support a significant presence (JNCC, 2011). Otters make use of a wide range of habitats including lakes, rivers, streams, marshes and coastal areas such as estuaries, many of which are present at the site.
Ecological sensitivities to changes in access
Otter can be sensitive to disturbance by people and in particular dogs. The degree to which they will be subject to visual disturbance will largely be a function of the proximity of the pressure to their holts and foraging grounds and it is expected that there is unlikely to be adverse disturbance of otter beyond distances of 200-250 m. The location of otter within The Wash and their behaviour means that there are unlikely to be interactions with people in relation to the coastal path. No concerns in relation to coastal path due to location of otter.

3.8 Bird species primarily found on marine habitats

Composition of feature group
Cormorant + (G), Common Scoter (R), Common Tern (A), Little Tern (A), Eider + (A)
Current conservation status and use of the site
Cormorant + (G) A current five year average of 424 Cormorant have been recorded overwintering on The Wash, which remains an important British site for this species. Numbers of Cormorant have increased here in the medium term, in line with wider trends. They feed by diving for fish from the surface on open water however they also come in shore regularly to perch and dry their wings. There has been a notable increase in Cormorant numbers inland in England since the 1980s. Cormorant do breed on coastal sites around Britain but do not currently nest on The Wash due to the habitat types present. **Common Scoter (R)** Common scoter is generally found offshore, where they dive for molluscs, crabs, snails and small fish (Ward and Gates, 2010). The citation gives a baseline population of 830 wintering common scoter. The

Wash is no longer a nationally significant site for this species as an average of 541 were recorded in recent years. However it is difficult to estimate numbers of this species accurately using land based monitoring (Ward and Gates, 2009).

Historic distribution in The Wash has been very localised (Wildfowl and Wetlands Trust Consulting, 2006) with core populations found around Boston Deeps between Long Sands and Wainfleet (Ward and Gates, 2009). Numbers generally peak in midwinter but are very sporadic and annual peak counts have occurred in July, perhaps indicating use of The Wash for moulting.

Common Tern (A) and Little Tern (A)

Common Tern and Little Tern are not typically present in winter, however during migrationary periods these species are primarily found in marine habitats. A five year average of 621 Common Tern and 84 Little Tern have been recorded on The Wash. They dive for small fish and feed on invertebrates and crustaceans, making use of the shallow, sheltered water in the estuary. Small breeding populations of both species were present on The Wash at designation, notably on the Eastern Wash, Outer Trial Bank and at Gibraltar Point. However site fidelity can be low, reflecting e.g. successional changes and disturbance (Lloyd et al, 2010) and Tern have largely been displaced by gulls at the Outer Trial Bank, in this case reflecting successional changes. No breeding tern have been recorded between Sutton Bridge and Gibraltar Point so potential impacts on breeding are appraised in Access and Sensitive Features Appraisals for the relevant area.

Eider + (A)

As a sea duck Eider is usually found on seacoasts where it feeds on molluscs and slow-moving crustaceans. They feed and rest on open water. Eiders are highly gregarious and can often be found in groups in inshore waters. The Wash is an important British site for this species, with a five year average of 1,619 Eider overwintering on The Wash SPA.

Ecological sensitivities to changes in access

These species spend most of their time on open water beyond the saltmarsh and mudflats adjacent to the proposed route. As such changes in coastal access onshore are unlikely to have any significant impact. Disturbance of e.g. feeding Tern is likely to be limited to high tides as these species tend to feed in open water, mud and sandflats beyond the saltmarsh. No specific roost sites have been reported in this stretch.

3.9 Bird species primarily found on sand and shingle habitats

Composition of feature group - where applicable

Turnstone + (A)

Current conservation status and use of the site

Turnstone + (A)

A five-year average of 867 Turnstone are present on The Wash (Frost et al., 2017). Baseline populations (980) are no longer regarded as internationally significant. The Wash population declined by 67%

between 1984/85 and 2009/10. The rate of decline has fallen in recent years however comparison of site and wider trends suggests this decline may be driven by site-specific pressures (Cook at al, 2013).

Locally Turnstone primarily forage across intertidal flats and beach strandlines and favour the eastern Wash. However large numbers have been recorded roosting at high tide on the shore immediately north of the River Witham. Some have also been observed foraging on the docksides of Port Sutton Bridge, as well as on adjacent fields, particularly on colder days around high tide (Ward and Gates, 2009). Turnstone are also known to feed along seawalls at other sites however they generally feed in the same locations each day and show winter site fidelity between years (Taylor and Marchant, 2011). Their use of open coast as well as estuaries nationally brings them into regular contact with human activities.

Ecological sensitivities to changes in access

Waders like Turnstone can be very sensitive to disturbance from recreational activity and especially dogs. As with overwintering birds generally the response to disturbance is highly variable between sites even within species and the same species may demonstrate different responses or exposure to disturbance at different times. Disturbance can lead to loss of fitness, and is particularly acute at times of high energetic demand (such as severe weather or during migration).

Turnstone favour sand and shingle habitat, which is mostly found on the eastern Wash or at some distance from the proposed route along this stretch. This will limit disturbance at most times. High spring tides are when wintering waders are most likely to experience disturbance (e.g. when roosting or feeding closer to the sea wall at the mouth of the River Witham) however most high tide times are unlikely to coincide with peak visitor usage. Turnstone do forage across a wider range of habitats so are likely to come into contact with some visitors but are also well placed to move to alternative feeding areas temporarily if disturbed. Turnstone feeding or roosting on shingle ridges at Wainfleet are most likely to experience a change in levels of disturbance due to their proximity to Gibraltar Point and additional access planned there.

3.10 Bird species primarily found on mudflats

Composition of feature group - where applicable

Knot # (A), Turnstone + (A)

Current conservation status and use of the site

Knot # (A)

The Wash is notable for supporting a large proportion of the total population of Canada/Greenland breeding Knot. WeBS surveys found a five-year average of 147,872 knot present between 2011/12 and 2015/16, significantly higher than baseline (75,000). WeBS data suggests The Wash supports more Knot during winter than any other British site.

Knot primarily forages across intertidal mudflats. At low tide greatest numbers have been recorded on the west side of The Wash at Friskney Flats and the Puff, with high numbers also recorded at Dawsmere at high tide (Ward and Gates, 2009). Up to 16,000 knot roost on the lagoon and reservoir at Freiston Shore annually (RSPB, 2017). Large flocks have also been noted using the lagoon at the Horseshoe (RSPB, Pers. Comm.). Knot frequently feed on the tide edge so may use zones adjacent to the proposed route around high tide.

Knot are thought to move readily in large numbers between major British estuaries, potentially tracking food availability. Population trends vary widely between UK sites and intensive mechanical shellfish removal on The Wash has been linked with a decline in knot between 1981/82 and 2002/03.

Turnstone + (A)

Please see 3.9 above. Turnstones are also commonly found foraging on the extensive mudflats of The Wash.

Ecological sensitivities to changes in access

Foraging on mudflats is unlikely to be affected by the proposed route in most areas since access is limited and intervening saltmarsh buffers the mudflats from disturbance. As with Turnstone, Knot are most likely to feed in proximity to the proposed route during high spring tides. However high tide times are unlikely to coincide with peak visitor usage.

Roosts are present in other habitats visible from or adjacent to the proposed route. Knot tend to roost together with Dunlin and Grey Plover in larger aggregations and known high tide roost sites for these and other waders have been identified in 3.13 below. However disturbance at dawn and dusk is likely to be limited as visitor numbers are typically low at these times for most of the year.

3.11 Bird species breeding on saltmarsh, grazing marsh or arable habitats

Composition of feature group - where applicable

Breeding Redshank (A), Breeding Lapwing (R)

Current conservation status and use of the site

Breeding Redshank (A)

Redshank are noted as a key constituent of the Aggregation of non-Annex 1 breeding birds in The Wash SPA. 'Exceptionally high densities of breeding Redshanks' are cited as features of The Wash SSSI. Whilst breeding populations were unquantified at citation these are "undoubtedly of national importance".

An estimated 45% of redshank in Britain breed on saltmarsh (Brindley et al. 1998). Both breeding and overwintering populations of Redshank are in decline at national scale. (Robinson et al, 2016). This includes an apparent decline in the density and numbers of breeding redshank in The Wash SSSI between 1985 and 2011. Densities of breeding pairs/ km2 declined by 23.64 % during this period, from an estimated 3330 breeding pairs in 1985 to 2353 breeding pairs in 2011 (Malpas and Smart, 2011). There is notable variation in trends at site level in this area, however Feather et al. (2016) note declines even on sites where providing suitable conditions for breeding Redshank is a priority.

Redshank nest at multiple locations between Sutton Bridge and Gibraltar Point; recent surveys confirm breeding sites at Gedney Drove End, Dawsmere, Kirton Marsh, Frampton Marsh and Freiston Shore, Wrangle and Friskney. (Feather et al, 2016; Natural England, 2017). Small numbers also nest adjacent to or on the sea bank between the pumping stations at Leverton and Benington (BTO, Pers. Comm.) and some Redshank may opt to nest on grazing marsh. The saltmarsh at Frampton has one of the highest densities of nesting redshanks in the country, with over 200 pairs nesting regularly and additional nests are likely along this stretch of proposed route (RSPB, Pers. Comm.). Nest locations are determined in part by saltmarsh height, with the majority of pairs nesting in the middle saltmarsh. Some Redshank also nest in the upper saltmarsh, close to the likely path route.

Breeding Lapwing (R)

The Wash is an important UK site for Lapwing, with 12,123 currently present on average over winter. They use a wide range of open habitats for foraging and favour open habitats like grassland for breeding. Up to several thousand Lapwing can be present at Frampton Marsh in winter (RSPB, 2017) but they tend to be dispersed over large areas (RSPB, Pers. Comm.). Lapwing breed almost exclusively on wet grassland in this area, at RSPB Frampton and RSPB Freiston Shore. In 2017 there were 44 pairs at Frampton Marsh (a 5-year mean of 47 pairs) and seven pairs at Freiston Shore (5-year mean 10 pairs)(RSPB, Pers. Comm.). Some areas of suitable habitat are present on the landward side of the proposed route (beyond the designated area). However nesting elsewhere is currently very sporadic or absent (RSPB, Pers. Comm.). Nesting on agricultural land is likely to be limited to fallow land or very open crops with bare ground.

Ecological sensitivities to changes in access

As a ground nesting species breeding Redshank are sensitive to disturbance which can lead to reduced breeding success, nest trampling and increased predation. Interruption of foraging and increased energy expenditure during other times of year also adversely affects Redshank when energy demands are high (e.g. during overwintering). (Feather et al, 2016). Redshank are particularly sensitive to disturbance by dogs (RSPB, Pers. Comm.) and on coastal marshes are often the first species to react to disturbance.

Impacts on the majority of breeding redshank are likely to be limited due to their preference for nesting within the middle saltmarsh, however this will vary along the route. Redshank nesting between Butterwick and Wainsfleet are more exposed in principle due to the relative proximity of available saltmarsh to the sea wall; however visitor numbers are likely to remain stable for the majority of this stretch as the proposed route between Butterwick and Wainfleet Harbour follows existing access.

Of the ground – nesting species described in citations for The Wash the Redshank are most likely to be impacted by any notable increases in disturbance as there are several aggregations of nest sites on the saltmarsh along this stretch of coast and populations are already declining. The national and international importance of The Wash as a Redshank breeding location demands that temporal and spatial interaction with visitors is assessed in detail, particularly where nesting takes place close to the sea wall.

Disturbance is likely to be greatest in areas like Wainfleet Sand where the saltmarsh available is relatively close to the sea wall and the Coast Path will establish additional access. Sites designed and managed for public access (e.g. Frampton Marsh, where Lapwing currently breed) and more isolated sites where access along the sea wall is already in place are less likely to be affected by the Coast Path.

3.12 Bird species regularly found on freshwater features and creeks

Composition of feature group - where applicable
Cormorant + (G), Gadwall (A), Mallard (A), Pintail + (A), Teal + (A)
Current conservation status and use of the site
Cormorant + (G) Please see 3.8 above. Cormorant also make use of features such as creeks, ditches and ponds in this area for foraging. **Gadwall (A)** The citation gives a baseline population for wintering Gadwall of 130 individuals. Gadwall typically roost in standing or slow-flowing sections of sheltered, open water however they are no longer present on The Wash in nationally important numbers. Just 71 Gadwall were recorded in the 2016 SPA review and it is likely that these feed and roost in the eastern Wash around historic core areas at Snettisham. **Mallard (A)** Numbers of over-wintering Mallard have declined since the non-breeding bird assemblage was designated, in line with regional and British trends. A five year average of 1,906 Mallard use The Wash as a whole and Mallard tend to roost and feed in close proximity where food sources allow this (Stroud et al, 2016). Mallard are usually present on small creeks close to the tidal edge and are sensitive to disturbance. However they tend to be dispersed and present in small numbers on this stretch (RSPB, Pers. Comm.). **Pintail + (A)** The citation gives a baseline population number for wintering pintail of 1,700 individuals and The Wash population has fluctuated significantly since – a five year average of 553 Pintail overwintered on The Wash between 2011/12 and 2015/16 and WeBS data suggests a 93% decline since classification. Their preferred roosting sites include sheltered open coastal waters of The Wash, with foraging pintail mostly located along intertidal flats to the south east of The Wash around the River Nene and Ouse. Pintail can be found foraging for plants and invertebrates between Gedney and Sutton Bridge, feeding on saltmarsh and mudflats. They also use features like creeks and ditches for foraging and roosting. **Teal + (A)** An average of 4,193 Teal use The Wash over winter, feeding on seeds and small invertebrates. Teal mostly feed at dusk, during the night and at dawn in shallow water. Most Teal in Britain occur on the coast, but they use a wide range of wetland habitats and have been recorded foraging in arable fields close to wetlands, especially if flooded (Stroud et al, 2016). The Wash is a nationally important site for Teal.
Ecological sensitivities to changes in access
Freshwater features along this stretch include the mouth of the Rivers Welland, Witham and Steeping, an extensive system of drainage ditches, seasonally flooded fields and small lagoons. These provide important foraging and roosting sites for the species above and vary in their proximity to the proposed route. Sensitivities to any changes in access associated with the proposed route therefore vary at local

scale. For example freshwater areas around Wainfleet are considered to be important refuges for wildfowl.

Because of the habitat preferences of these species they often form large, mixed-species groups and in addition Mallard may be found on any freshwater feature. There are drainage ditches in close proximity to the proposed route in many areas. Occasional disturbance to groups of birds using freshwater features is therefore likely, however deeper ditches actively discourage disturbance to the wider area by visitors and their dogs. Species such as Gadwall are only present in small numbers locally, Cormorant may also feed offshore if disturbed inland and Teal tend not to feed during the day. As such this group of species are unlikely to be significantly affected by the proposed route, particularly in in areas where access is already in place as levels of disturbance are liable to remain stable.

3.13 Bird species using a wide range of habitats

Composition of feature group - where applicable

Pink-footed Goose # (A), Dark-bellied Brent Goose # (A), White-fronted Goose (R), Shelduck # (A), Goldeneye (A), Wigeon (A), Whooper Swan (A), Bewick's Swan (A), Little Grebe (G), Avocet + (A), Bar-tailed Godwit# (A), Black-tailed Godwit # (R), Curlew + (R), Dunlin # (A), Redshank # (A), Sanderling # P (A), Whimbrel + P (R), Oystercatcher (A), Golden plover # (G), Grey plover # (A), Lapwing + (R), Ringed plover # P (R), Little Egret (G), Hen harrier (R), Marsh harrier (A), Merlin (R), Small-eared owl (A), Black-headed Gull # (A), Great black-backed Gull + (A), Herring Gull (A), Lesser Black-backed Gull + (A), Meadow Pipit (A), Skylark (R) and Reed Bunting (A).

Current conservation status and use of the site

Swans, Geese and Ducks:

Pink-footed Goose # (A)

This species are a major component of the Wash aggregation - WeBS data for 2011/12-2015/16 suggests a 5 year average of 32,416 birds overwinter in the SPA each year, with numbers peaking in midwinter. As at UK scale the Wash population has grown considerably since citation, when an average of 7,300 Pink-footed goose were recorded. They forage on agricultural land so are likely to be present not only within the designated area but also immediately landward of the sea wall. Their preferred roosting sites are on the east of The Wash but small roosts have developed around Holbeach and Wainfleet (Ward and Gates, 2009).

Dark-bellied Brent Goose # (A)

The Wash is currently one of the two most important UK sites for wintering Brent Goose. WeBS surveys indicate that a 5 year average of 16,554 Dark Bellied Brent Goose are present on The Wash, somewhat lower than the baseline at citation (17,000). This species arrives from September onward and typically departs from mid-March, however large numbers may be present as late as May (Taylor and Marchant, 2011).

They forage across intertidal flats, low-water channels and high saltmarsh areas (Ward and Gates, 2009) and venture inland to feed on winter cereals and pasture when other food sources become depleted.

(Taylor and Marchant, 2011). Preferred roost sites are adjacent to saltmarsh all around The Wash, however the south-west coast around Kirton is the core range for this species. (Ward and Gates, 2009).

Disturbance of wintering Brent Geese is more likely to result in a loss of feeding time during high tide when alternative feeding sites are limited and disturbance on land may be more likely, and of greater significance, at times when intertidal food resources are depleted (Owens, 1977).

The sward beneath the sea wall to the north of Butterwick car park is used by several hundred Dark Bellied Brent Geese at high tide, which gather there to feed and take flight on disturbance by walkers. (RSPB, Pers. Comm.). Pools adjacent to the sea bank south of Wainfleet Sand are commonly used by this species. They are also known to congregate at Wainfleet Harbour to roost, rest and preen.

White-fronted Goose (R)

White fronted geese forage on arable fields behind the sea wall but no longer use The Wash in significant numbers; WeBS data records a five year average of just 46 European white-fronted geese overwintering on The Wash and no Greenland White-fronted geese.

Shelduck # (A)

WeBS reports cite a 5 year average of 3,595 Shelduck on The Wash SPA, an important site for this species nationally and beyond. At citation the average overwintering population on The Wash was 16,000 and a 60% decline was recorded between 1984/85-2009/10. This rate of decline appears to have dropped in recent years however comparison of site trend with wider trends suggests this decline may be driven by site-specific pressures (Cook at al, 2013).

Local distribution is strongly correlated to the presence of their main prey species which are found along the muddy upper shores of The Wash and other areas where muddy sediment dominates, including Black Bouy Sand. At high tide aggregations of Shelduck have been reported between Holbeach and Terrington (Ward and Gates, 2009).

Goldeneye (A)

Goldeneyes roost on open water and their main food sources are aquatic and benthic invertebrates. The shallow tidal waters of The Wash SPA provide good feeding grounds for this diving species however Goldeneye are not present in nationally important numbers; 114 were recorded in the 2016 SPA review.

Wigeon ^ (A)

A five year average of 9,681 Wigeon are present in the SPA each winter. Wigeon forage on vegetation across the saltmarsh and on submerged food plants along the coast. They also roost on saltmarsh areas of The Wash, with highest counts at Wainfleet where up to 23% of the total population within The Wash SPA has been recorded (Ward and Gates, 2009). At high tide Wigeon move inland to harvested or planted arable fields. They are mostly found on the eastern Wash and between Butterwick and Freiston where creation of 66ha of intertidal habitat supports substantial numbers (Ward and Gates, 2009). Increasing numbers have recently been noted near Frampton Marsh and Freiston Shore and regularly fly over the proposed route however they do not appear to be using other sites adjacent to this (RSPB, Pers. Comm.).

At low tide significant numbers roost along intertidal creeks and on inner banks and sheltered open water in this area, notably at the western extent of Wainfleet Sands and south-west of Black Buoy Sand (Ward and Gates, 2009).

Whooper Swan (A) and Bewick's Swan (A)

WeBS data for 2011/12-15/16 suggests a 5-year average of 3 Bewick's swan, 64 whooper swan overwinter in The Wash as a whole.

68 Bewick's Swan (a subspecies of Tundra Swan) were recorded in the 2016 SPA review (Stroud et al., 2016). Bewick's swan typically winter on shallow freshwater lakes, marshes and slow moving waters adjacent to grassland liable to flood (Rees et al., 1997), (Rees, 1990). Both swan species feed on aquatic plants, grass and nearby agricultural fields.

Swans are potentially sensitive to disturbance by recreational activity and dogs. Small numbers sometimes use inland arable fields on the eastern side of The Wash but no significant aggregations have been noted in this area.

Grebes:

Little Grebe (G)

Grebe favour still or slow moving water with vegetation but can be found on estuaries and sheltered coasts during winter. They feed on small fish and aquatic invertebrates and small numbers are present on The Wash over winter-an average of 70 Little Grebe have been recorded over recent winters and populations are currently stable at SPA and national scale (Massimino et al., 2017). They make use of large ditches on The Wash as well as natural features.

Avocets:

Avocet+ (A)

An average of 649 wintering Avocet have been present on The Wash in recent years; populations are rising both at this SPA site and nationally. On The Wash Avocet are generally found in saltmarsh pools and can be seen close to the sea wall; they may also be found on wet inland fields. Breeding avocet are sensitive to disturbance leading to reduced breeding success, nest trampling and predation. (For example Avocets with chicks on The Wash have been highly agitated by observers 100-120 metres away). Around 40 pairs of Avocets breed in the lagoon at Freiston Marsh annually and additional nesting sites are present at Frampton Shore (RSPB, 2017). However public access is already in place at both sites and no additional nest sites have been reported on this stretch of the route (RSPB, Pers. Comm.).

Sandpipers and allies:

Bar-tailed Godwit # (A)

An average of 17,346 Bar-tailed godwit have been recorded on The Wash between 2011/12 and 2015/16, the largest overwintering population surveyed in the UK. The population using The Wash has grown significantly since baseline at designation (7,396) though movement between The Wash, Gibraltar Point SPA and neighbouring areas is frequently observed (Ross-Smith et al., 2011).

They primarily forage on mudflats and sandflats- low tide distribution includes the sandy mid and lower shore areas of the west Wash and its outer banks. Due to their preference for sandy sediments they are more common between Wainfleet and Gibraltar Point (RSPB, Pers. Comm.) however large groupings have also reported on Friskney Flats and Roger/Toft Sands (Ward and Gates, 2009). Preferred roosting sites include bare ground or short vegetation with unrestricted views beside the tide edge, saltmarsh pools and beaches (Ward and Gates, 2009). During tidal inundation of the saltmarsh, large roost

aggregations are widespread across recently harvested or planted arable fields adjacent to the SPA (Ward and Gates, 2009). Around 2000 bar tailed godwit roost in flooded fields adjacent to the sea bank to the north of Wrangle at high tide (BTO, Pers. Comm.).

Black-tailed Godwit # (R)

The citation gives a baseline population number 260 individuals and population has increased dramatically since to a current mean of 7,847 overwintering individuals.

Black-tailed godwit are mostly present between July and April annually. During the low-tide survey of 2002/03, Black-tailed Godwit were recorded in the Puff area (Yates et al., 2004) though higher numbers used the eastern Wash. Up to 5,000 Black-tailed Godwits overwinter in this part of The Wash and regularly roost on the reservoir at Freiston Shore (RSPB, 2017)

Black-tailed Godwit roost in areas with extensive stretches of bare ground or short vegetation with unrestricted views, foraging across intertidal mudflats and wet grassland (Ward and Gates, 2009).

Curlew + (R)

An average of 8,096 Curlew overwinter in The Wash, a long term increase of 34%. An average of 3,700 Curlew were using The Wash at designation. Nationally overwintering Curlew numbers have fallen in recent years (Frost et al. 2017) and British populations are important given declines internationally (Brown et al, 2015) making strongholds like The Wash increasingly significant.

Curlew forage across intertidal mudflats, wet grassland and arable fields. A 2002/03 survey found large numbers on Friskney Flats (Ward and Gates, 2009) and the north eastern Wash seems to be of increasing importance for this species (Ross-Smith et al., 2011). Preferred roosting sites include saltmarsh and large roost aggregations on all levels of the shore are widespread across almost all areas of The Wash at low tide (Ward and Gates, 2009). At high tide Curlew also use arable fields adjacent to the SPA. They are relatively sensitive to recreational disturbance, however response depends partly on prior experience at specific sites (Smit and Visser, 1993).

Dunlin # (A)

A five-year average of 23,630 Dunlin (mainly subspecies *Calidris alpina alpina)* are present on The Wash, making this one of their five most important UK sites. They forage across the extensive intertidal mudflats across the SPA and large numbers use Black Buoy Sand at low tide (Ward and Gates, 2009). Baseline population at designation averaged 29,000 Dunlin and populations are in decline nationally and locally, with a 46% decline recorded on The Wash between 1984/85 and 2009/10. Preferred roosting sites include bare ground, saltmarsh pools and short vegetation with unrestricted views at the seawater edge. Significant numbers roost at the mouth of the River Witham at high tide. Large roost aggregations have also been recorded on arable fields adjacent to The Wash SPA during tidal inundation of the saltmarsh (Ward and Gates, 2009).

Redshank # (A)

WeBS data lists a five year average of 5,664 overwintering Redshank on The Wash as a whole, somewhat higher than the baseline population (4,331). Populations nationally have declined since c.2001, though recent data suggests this may have slowed (Frost et al. 2017). Both breeding and overwintering populations of Redshank are in decline at national scale (Robinson et al, 2016) and Ward and Gates (2009) noted significant Redshank mortality in 1991 due to severe weather.

Core areas on the western Wash have been identified around Friskney and Wrangle Flats and Wainfleet Sand. Significant concentrations are found on the sandy west sides of intertidal creek mouths (Ward and Gates, 2009). The lagoon at The Horseshoe (created after a recent seawall breach) regularly supports high tide roosts of over 300 redshank during summer.

Roosting takes place on bare ground or short vegetation with unrestricted views at the saltwater edge or saltmarsh pools (Ward and Gates, 2009) like those adjacent to the sea bank at Wainfleet Sand. Redshank forage for a wide array of intertidal prey in these areas, particularly around small creeks and pools. The Wash is also a nationally important area for breeding Redshank (see 3.11).

Sanderling # P $ (A)

A five year average of 5,123 Sanderling now overwinter on The Wash, representing a substantial proportion of the British winter population and a notable increase on the baseline population (500). The core range of Sanderling occurs along the eastern shore of The Wash, reflecting their preference for roosts on sandy and shingle beaches. (Ward and Gates, 2009). At low tide, the majority of birds in this section can be found at Roger, Toft and Gat Sands. Sanderling primarily forages in small groups on the intertidal flats of The Wash SPA, spreading out along the outer banks. They also forage on the tide-line of the inner bank areas on both sides of The Wash.

Whimbrel + P (R)

Whimbrel usually pass through the UK in spring and autumn on their way from/to their wintering areas and northern breeding sites. This large wader uses estuarine sites to feed on the way, foraging for e.g. crabs, shrimps, molluscs and worms. An average of 331 Whimbrel are present across The Wash as a whole each winter.

<u>Oystercatchers:</u>

Oystercatcher # (A)

The Wash hosts one of the UK's five largest overwintering populations of Oystercatcher, with a 5 year average of 19,859 birds present between 2011/12 and 2015/16. An average of 24,000 were recorded at citation. The local population appears to be recovering following a decline of 33% between 84/85-09/10; comparison of site trend with wider trends suggests this decline may have been driven by site-specific pressures (Cook at al., 2013), most likely severe winters and intensive mechanical mussel and cockle removal on The Wash.

They are primarily found around the eastern estuary however large roosts are present on saltmarsh in this section (RSPB, Pers. Comm.). Large numbers of oystercatcher have been identified on the outer banks of Gat Sand and large numbers also feed on Roger and Toft Sands though at low tide they are likely to use the east of The Wash. At high tide around 300 oystercatchers currently roost on flooded fields adjacent to the sea bank north of Wrangle (BTO, Pers. Comm.) with over 1000 oystercatchers regularly roosting on the lagoon at The Horseshoe during summer high tides. This recently formed site offers high quality wader habitat and is currently subject to very low levels of disturbance. (RSPB, Pers. Comm.). Small numbers of Oystercatcher also nest adjacent to or on the sea bank between Leverton and Benington (BTO, Pers. Comm.)

Oystercatcher roosts on areas of bare ground, mudflats, saltmarsh pools and short vegetation, with unrestricted views at the seawater edge. During tidal inundation large aggregations also roost in adjacent arable fields (Ward and Gates, 2009).

Plovers:

Golden Plover # (G)

A five year average of 13,621 Golden plover overwinter on The Wash. The local population fluctuates significantly between years but mean totals have almost doubled since a baseline (7,980) was recorded. Nationally overwintering Golden plover numbers appear to be recovering following a sharp fall until c.2011 (Frost et al., 2017). Golden plover are present along much of this section. Several hundred currently forage in fields near the sea bank at Wrangle, alongside Curlew, oystercatchers and redshank. (BTO, Pers. Comm.). This species are particularly sensitive to disturbance (e.g. Finney et al, 2005) and are likely to use sites landward of the sea wall at high tide (RSPB, Pers. Comm.). However Golden plover also forage at night when disturbance is likely to be absent and no Golden plover currently breed along this stretch of the proposed route (RSPB, Pers. Comm.).

Grey Plover # (A)

A five year average of 8,676 Grey plover have been observed on The Wash, making this their most important UK site for overwintering in recent years. The local population is stable and has increased since baseline (5,500).

Grey plover is observed over the mid and lower shores of The Wash. They feed on undisturbed surface mud in small groups (Taylor and Marchant, 2011), mainly on the intertidal mudflats of the inner banks. In the western Wash they are particularly numerous on Friskney Flats and Roger or Toft Sand. 66ha of intertidal habitat created at Freiston in 2002, following the breach of the sea wall, now supports nationally important numbers of grey plover (Ward and Gates, 2009). Their preferred roost sites are on bare ground, beaches or short vegetation at the seawater edge or saltmarsh pools (Ward and Gates, 2009). At high tide they often roost in large parties at alongside Dunlin and Knot and have been noted roosting at the mouth of the River Witham (RSPB, Pers. Comm.) Up to 10,000 Grey Plover have also been recorded on fields near Wainfleet (Natural England, 2016).

Lapwing + (R)

The Wash is an important UK site for Lapwing, with 12,123 currently present on average over winter. They use a wide range of open habitats but tend to relocate from farmland to estuarine sites in cold weather to forage. Up to several thousand Lapwing can be present at Frampton Marsh in winter (RSPB, 2017) but they tend to be dispersed over large areas (RSPB, Pers. Comm.). Lapwing also forage by night when visitor disturbance is minimal.

Numbers of Lapwing over-wintering on The Wash SPA have decreased in the medium-term where this local population trend seems to be tracking regional and British trends. Winter numbers in coastal areas have decreased steeply at national scale since the 1990s (Frost et al. 2017). The increasing proportion of Lapwing supported by The Wash suggests this site may be increasingly important for this species nationally (Cook et al, 2013).

Ringed Plover # P (R)

A current average of 1,226 Ringed plover overwinter on The Wash. They feed on tidal mud and sandflats and fields and may also be found along creeks. They often roost in mixed species flocks with e.g. Lapwing. They favour shingle beaches, consequently the largest numbers are to be found on the eastern side of The Wash and further north around Gibraltar point. Nationally, wintering numbers have been in

decline since the late 1980s (Frost et al., 2017). Numbers on The Wash fluctuate but have decreased in the medium-term (Cook et al, 2013).

Breeding Ringed plover are usually restricted to beaches (though they occasionally breed on wet meadows) and nest on the upper beach, usually above mean high water. They are known to be adversely affected by recreational disturbance which leads to nest trampling, increased predation and reduced breeding success (Liley and Sutherland, 2007).

Breeding Ringed plover in this area are currently limited to the saline lagoon at Freiston Shore (RSPB, Pers. Comm.). Besides this nesting on The Wash is confined to Gibraltar Point and the eastern Wash (usually between Snettisham and Heacham).

Herons:

Little Egret (G)

This species is a recent arrival in the UK and as such is not featured in the SPA citation. It is now present as breeding species in the south of England and as a winter visitor to The Wash. Little Egret hunt for fish and use a range of coastal and inland habitats including farmland, grassland and intertidal areas. Numbers are increasing on The Wash and WeBS surveys record a five year average of 505 birds present over winter. An estimated 400-500 Little Egret now roost regularly at the mouth of the River Witham and may be sensitive to disturbance at dawn and dusk. However visitor numbers at these times are likely to be low and Little Egret are often found in populated areas, suggesting a degree of resilience to disturbance. They tend to favour trees and woods as roost sites and no other roosts have been noted on this stretch (RSPB, Pers. Comm.).

Birds of Prey:

Hen Harrier (R), Marsh Harrier (A), Merlin (R) Barn Owl (G) and Short-eared Owl (A)

These raptors hunt for small birds and mammals along the coast of The Wash. Hen Harrier, Marsh Harrier and Short-eared Owl may be found feeding and roosting on saltmarsh and grazing marsh. Marsh Harriers are a Schedule 1 breeding species and breed on the saltmarshes of The Wash, for example near the sea bank at the mouth of the River Welland. They could be adversely affected by increased disturbance from people and dogs. Hen Harriers nest on upland moors, using open lowland habitats like coastal marshes, fenland and farmland during winter. There have been substantial long term declines in Hen Harrier numbers nationally, and recent surveys suggest continued decline, particularly in England. (Wooton, in press). This species is not encountered often enough to estimate local population trends reliably, however 3-5 individuals have been recorded hunting along Wainfleet Sand and larger numbers have been sighted on the eastern Wash in previous years. Given their low numbers nationally this constitutes an important aggregation of the species. Short-eared owl have also been reported hunting over the western Wash. Larger numbers may be present over winter when some migrate here from mainland Europe. As they are a mostly diurnal species hunting may coincide with use of the Coast Path, however they can utilise a range of habitats and areas if disturbed. Short-eared owl roost communally but no roosts have been reported in this area. Barn Owl have been noted in the Dawsmere area (Natural England, 2017) but no roosts have been reported along this section of the proposed route. Merlin are present in other areas of The Wash SPA and often roost alongside Hen Harriers.

Gulls:

Black-headed Gull # (A)

Black-headed Gulls are common on The Wash, where a five year average of 23,244 individuals are present overwinter. Up to two-thirds of the birds wintering in the UK are thought to originate overseas (BTO, 2017) however they also breed across the UK, nesting on a wide range of wetlands both inland and along the coast (including man made habitats). They are an abundant and widely distributed species, reflecting in part their ability to feed on a wide range of materials, including invertebrates and plants. They have been recorded nesting along the coast of The Wash. As they nest in large aggregations large numbers of breeding Black-headed gull may be affected by disturbance in a nesting area.

Great Black-backed Gull + (A)

An average of 896 individuals use The Wash over winter, which remains a nationally important site for Great Black-backed Gull. They nest almost exclusively in coastal habitats however The Wash is not an important breeding site as they prefer well-vegetated rocky coastlines (Lloyd et al, 2010).

Herring Gull (R)

A five year average of 6,799 individuals have been recorded during winter on The Wash. Whilst it favors coastal areas the Herring Gull is also common inland and as a predator and a scavenger can adapt its habits to the food sources available. It may be found across a wide range of habitats on The Wash, though breeding colonies are restricted to the Outer Trial Bank.

Lesser Black-backed Gull + (A)

A five-year average of 1,249 individuals have been recorded over winter on The Wash, which is now a nationally important site for this species. Lesser Black-backed gulls are found within much of their breeding range all year and nest colonially, often with herring gull. Colonies are found on habitats including offshore islands, sand dunes and salt marshes (Lloyd et al, 2010) however on The Wash these are currently limited to the Outer Trial Bank, an artificial island immediately east of this stretch.

Passerines:

Meadow Pipit (A)

Meadow pipit use a range of habitats, typically wintering in lowland marshes and areas with unimproved grassland or stubble. They breed on a wide range of habitats, including features present on The Wash like salt marshes and rough grazing. They mostly feed and nest on the ground, eating insects and, when insects are scarce, seeds. Populations have been in decline nationally since the 1970s and numbers in lowland areas are typically higher over winter. This species does not form part of The Wash SPA assemblage but is a bird of conservation concern nationally (Eaton et al., 2015). Meadow Pipit are known to nest adjacent to the sea bank between Leverton and Benington but are likely to be breeding within suitable habitat along the proposed route.

Skylark (R)

Skylark are usually found on agricultural land as they favour open areas like grassland and arable fields. They may also be found on a range of habitat types nationally depending on season, including sand

dunes and even moorland and bog when breeding. Skylark primarily feed on seeds and plant shoots, but invertebrates are important for feeding their young. They nest in short vegetation on the ground. Populations have declined sharply since the 1970s, reflecting changes in agricultural practices. This species does not form part of The Wash SPA assemblage but is noted in Eaton et al. (2015) as a bird of high conservation concern nationally. Nesting Skylark have also been reported adjacent to the sea bank between Leverton and Benington but are likely to be breeding in all suitable habitat along the proposed route.

Reed Bunting (A)

Reed bunting are primarily found on farmland and wetlands. They nest and feed on or near the ground, eating insects, seeds and plants. They breed throughout the saltmarsh and ditch habitats adjacent to the proposed route of the Coast Path. Nationally their numbers have fallen by around 50% since the 1970s. This species does not form part of The Wash SPA assemblage but is classified as a bird of conservation concern at national scale (Eaton et al., 2015).

Ecological sensitivities to changes in access

The species in this group use a range of habitat types on The Wash at different times of the day, states of tide and/or seasons. As such they are likely to use habitats immediately adjacent to the proposed route (i.e. saltmarsh, grazing marsh and arable land) and may be present alongside or in sight of the proposed route for significant periods, particularly given the elevated position of the route along the sea wall in many areas.

Response to disturbance is highly variable between sites, seasons and even within species, which may demonstrate different responses or exposure at different times. As such sensitivities cannot be assessed only in terms of proximity or species.

For species which may occur in a range of habitats immediately adjacent to the proposed route the likelihood of recreational disturbance will be determined by temporal interactions with visitor use of the Coast Path, local distribution and geographic factors specific to particular areas (e.g. relative width of local saltmarsh or proximity to key access points). Potential for interaction is discussed for specific locations in Section 4. High spring tides are when many species are most likely to experience disturbance as the high water will push birds normally able to avoid proximity to human activity into a more vulnerable position (e.g. when roosting or feeding closer to the sea wall) and larger proportions of the species present will be affected at these times. Known high tide roost sites for waders like Redshank, Dunlin, Black Tailed and Bar Tailed Godwit and Curlew have been identified above. High tide times are unlikely to coincide with peak visitor usage but large numbers of birds may be disturbed by even low numbers of visitors, particularly those with dogs running into adjacent habitats.

The impact of disturbance will also depend on any habituation to existing access, the availability of alternative locations for roosting or feeding, energetic needs and the conservation status of each species. Disturbance is more likely to lead to loss of fitness at times of high energetic demand (like severe weather or active migration). The fields, saltmarsh and shingle ridges used for feeding and roosting at Wainfleet are most likely to experience a change in levels of disturbance due to their proximity to Gibraltar Point and the additional access planned here. These ridges are of particular importance during high tide. Birds in these areas are unlikely to be habituated to the presence of walkers and their dogs as the proposed route will increase access.

Species that forage across a range of habitats (e.g. Curlew, Sanderling, Golden plover) are not restricted to areas adjacent to the proposed route and may be able to move to alternative feeding areas

temporarily if disturbed. Some species (e.g. Golden Plover and Lapwing) are also able to feed at night, compensating for any foraging curtailed by disturbance. However herbivores like Wigeon need to spend long periods feeding to maintain their energy balance (Hockin et al., 1992).

Nesting birds are unable to adjust rapidly by changing location and disturbance may impact reproductive success as well as the fitness of individuals. Ringed Plover and Lapwing are solely breeding at Freiston Shore and Frampton currently (sites managed for conservation and access by RSPB) and due to preferential use of other areas Avocet are unlikely to breed on this stretch. However Marsh Harrier, Redshank, Oystercatcher, Meadow Pipit, Skylark and Reed Bunting are known to nest in proximity to the proposed route. Breeding birds along the sea wall are likely to have some resilience to disturbance in areas which are already walked or disturbed by agricultural use, however given the importance of The Wash for breeding Redshank (and the poor conservation status of Skylark) steps should be taken to minimise disturbance during breeding season, particularly by dogs. However given the importance of The Wash for breeding Redshank (and the poor conservation status of Skylark) steps should be taken to minimise disturbance during breeding season, particularly by dogs.

Dunlin, Grey plover and Knot tend to roost together in large aggregations as do many other waders and both Pink Footed and Dark Bellied Brent Goose also roost in large groups. As such disturbance at a regularly used roost location may affect large numbers of birds. Suitable roost sites may be limited and current roost sites may have been active for over a century.

Gulls feed and rest on a wide variety of habitats during the day and roost on beaches or on calm areas of water overnight. No breeding gull colonies are present along this stretch (RSPB, Pers. Comm.) and they are adaptable birds, able to adjust their behaviour to take advantage of available food and habitat. As such any change in disturbance associated with the proposed route is likely to have limited effect on Lesser Black-backed, Herring, Black-headed and Great Black-backed Gulls.

Of the raptors present foraging/roosting Hen Harriers and the schedule 1 breeding Marsh Harrier are of greatest conservation concern. Coastal raptor roost sites are present on this stretch and may attract visitors but most are far enough from the proposed route that disturbance is unlikely (RSPB, Pers. Comm.). The nest sites for Marsh Harrier may vary from year to year but if a nest site becomes known in close proximity to the path, protective steps may need to be taken.

Whilst Lapwing, Black-tailed Godwit, Curlew and Ringed Plover use a range of habitats besides those next to the proposed route these species are present in large numbers and all four are species of conservation concern nationally (Eaton et al, 2015). The Wash is also of international importance for many amber-listed species of conservation concern in this group (e.g. Redshank, Pink Footed and Dark Bellied Brent Goose, Bar Tailed Godwit, Grey and Golden Plover, Oystercatcher). As such the cumulative effect of any change in disturbance along the route must be taken into account in managing visitor access and behaviour.

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. Where we conclude there is potential for interaction between sensitive features and our proposals for England Coast Path at a particular location, in Part 5 of this document we consider the circumstances in more detail, including current access provision, how this will be affected by our coastal access proposals, and how use of the site for recreation might change as a consequence.

Our proposals for England Coast Path have two main components:

- Identification and physical establishment of a trail; and,
- Identification of an associated coastal margin.

Trail

A continuous walking trail – the England Coast Path National Trail - will be established by joining up existing coastal routes and creating new sections of path where necessary.

Coastal Margin

An area of land associated with the proposed trail will become coastal margin, including all land seawards of the trail down to mean low water. The full extent of the coastal margin (subject to a Section 25a restriction on public access where saltmarsh is deemed unsuitable for public access) along this section of coast is shown on maps D to G in the Overview of the main report.

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

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

Natural England has powers that mean that we can, where necessary, impose local restrictions or exclusions on the new coastal access rights on grounds set out in the legislation. Such restrictions or exclusions do not apply to public rights of way, or to other types of pre-existing access right other than CROW rights (see above).

Location and background

This stretch of the England Coast Path around the Lincolnshire side of The Wash has a relatively uniform appearance and landscape. The broad saltmarshes and mud or sand flats of The Wash estuary are bordered by substantial flood defence banks with a grass cover that is generally mown or grazed and where scrub establishment is restricted to aid maintenance. These often carry existing rights of way (footpath or bridleway) but there are gaps e.g. to the north of Freiston and particularly in the Wainfleet area. The coast has a remote character owing to much of the land being reclaimed in recent centuries, with even smaller villages generally absent from the first 2km inside the seabank (Gedney Drove End is one exception) and main roads positioned well inland. This area is instead given over predominantly to arable use, and particularly between Boston and Skegness grade 1 reclaimed silts are used for intensive production of brassica crops in addition to combinable crops and sugar beet. Away from main settlements the coast is only accessible by a network of very minor (frequently single track) country lanes.

The only larger settlements are Sutton Bridge and Boston which are both located 4-6km inland on tidal rivers, and the resort of Skegness which is situated on the coast (and is adjacent to Gibraltar Point SSSI/SAC/SPA) but is about 4km from the boundary of the Wash designated site.

Fig A. Map showing preferred route of coastal path (red) on SBS (Sutton Bridge to Skegness stretch) adjacent to the Wash SSSI (shaded brown) along almost it's entire course. Main vehicle access points (green dots) for public use outside urban areas are shown as these are points where visitor numbers will peak.

The map at Fig A above shows all points (green dots) outside of urban areas where it is possible for the public to access the Wash coastline by roads. These will be the points at which most visitors will access sections of the coastal path adjacent to the Wash designated site as the only other way would be to follow footpaths that connect inland, crossing farmland for considerable distances.

At all but three of the locations there is very limited parking capacity, ranging from a maximum of about 10 places down to lane ends where just a few cars could be parked on the verge. These access points have no other facilities or particular attractions and are unlikely to see a substantial increase in visitor numbers when the coastal path is opened. Although some of the seabank in the Fosdyke to Frampton area has bridlepath rights of way no higher rights will be created for the new trail.

The three sites with greater parking capacity and additional facilities or attractions on the Lincolnshire side of The Wash are promoted by the organisations that manage them for their wildlife interest. These are

Gibraltar Point (Lincs Wildlife Trust) and RSPB reserves at Frampton and Freiston. These draw comparatively large numbers of visitors to the rural portion of the coast and have the only car parks of significant size (both Gibraltar Point and Frampton have capacity for 40-50 cars when full).

In comparison to nearby stretches of coastline north of Skegness and in North Norfolk, the Lincolnshire Wash coast is less visited and disturbance is generally lower. The Wash and North Norfolk Coast European Marine Site has an incident recording programme. The report for 2014 and 2015 states that of all disturbance incidents recorded only 8% and 9% respectively were on the Wash coast (Norfolk and Lincolnshire combined).

4.1 Sutton Bridge to Boston Haven

Outline of changes in access
Almost entirely following existing rights of way along the seabank. There are some small gaps in the rights of way on the seabank which the ECP will connect, but these are already in use as most walkers assume the path continues along these.
Potential for interaction (or lack of it)
Minimal. There is already significant use close to the points where it is possible for the public to park. Other sections will remain only accessible to those willing to walk long distances. The broad expanses of saltmarsh that form the designated site will be remote from the route on their periphery, and will be covered by a section 25A restriction on public access on safety grounds (or excepted form coastal access rights where they are subject to military byelaws). This also applies to the RSPB reserve at Frampton where the majority of users are visitors to the reserve, rather than walking coastal rights of way. Marsh harriers have been known to nest close to parts of the route with existing rights of way in this section but in locations remote from car parking access points and therefore unlikely to see a significant increase in use when incorporated into the coastal path.

4.2 Boston Haven to the Horseshoe, Wrangle

Outline of changes in access
Although some existing footpaths along the seabank will be used on this section, the majority will be along parts of the outer seabank that currently have no access rights although there is a considerable level of unofficial use north of the Freiston - Butterwick RSPB car park and some of the seabank southwards from Freiston Shore already forms part of a walking trail around the RSPB reserve.
Potential for interaction (or lack of it)
Low to moderate. The route will be adjacent to designated saltmarsh and supporting habitats to landward through the RSPB reserve section and there is concern particularly about the level of

disturbance that may be caused to breeding waders by dogs that are not kept under control. There are some more accessible sections closer to car parks where this is already a concern. ECP will consider additional signage as part of the establishment works and will work with others responsible for these sites to see if advisory signs can be improved to achieve better dog control.

The broad expanses of saltmarsh (generally 300 – 700m width) and the sand or mudflats beyond them that form the designated site will be remote from the route on their periphery, and will be covered by a section 25A restriction on public access on safety grounds.

4.3 The Horseshoe, Wrangle to River Steeping crossing

Outline of changes in access
This section will use new access along the seabank which is not a right of way and where there is currently only a small amount of unofficial use close to the few access points for the public in cars (see map in introduction to this section). It is not currently possible for visitors to cross the River Steeping at the northern end of this section to access it.
Potential for interaction (or lack of it)
Moderate. The coastal path will be adjacent to designated saltmarshes in a section that currently sees few visitors owing to both lack of existing access rights and points accessible to the public in cars. Additional visitor numbers may affect breeding waders and wintering wildfowl close to the seawall where they are unaccustomed to visitor use, particularly on the relatively narrow saltmarsh section near to the River Steeping end where a crossing will be made available to the public for the first time. Waders that breed in the upper saltmarsh zone close to the seabank (chiefly redshank) could also be vulnerable to disturbance from uncontrolled dogs. A particular concern on this section is that high spring tides would force flocks of Dark-bellied Brent Geese, Curlew, Knot, Bar-tailed godwits and other species onto areas of saltmarsh closer to the seabank where they could then be disturbed by trail users. The area has become particularly important as a high tide roost due to its inaccessibility and undisturbed nature following closure of the RAF Wainfleet bombing range in 2010. Unauthorised access to the area is still discouraged because of the danger from unexploded ordnance on site and the MoD's Defence Infrastructure Organisation are installing extra signs to make this clear. Beyond the limits of the MoD danger area access to saltmarsh will be limited by a section 25A restriction on public access on safety grounds.

5. Assessment of impact-risk and incorporated 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.

Background

Evidence provided by the Wash Visitor Survey (Footprint Ecology, 2016) recorded the behaviour of 2791 visitors in May, September and November. The great majority (84%) of these were visiting on a short trip from home (rather than as a holiday destination) and approximately half were accompanied by dogs (less at the main reserve destinations where birdwatching/wildlife were cited as main reasons for visiting). Walking with or without dogs was the commonest reason cited for visiting - all other uses occurred at substantially lower levels. Existing rights of way are footpaths only, except in the Fosdyke and Frampton area where the seabank has bridlepath access for horseriders and cyclists. 89% of interviewees arrived by car, highlighting the significance of road access points. Average visit duration was about an hour or less, except at the main reserve sites, and median route length recorded varied between 1.7km and 5.2km. Therefore, most visitors to the smaller parking points will be unlikely to walk much beyond 2km from the parking point. Alternative sites that interviewees named that could have been visited were chiefly at other points along the Wash coast demonstrating the strong attraction exerted by coastal access.

The impact of the new access proposals is likely to be generally small on this section of the coast path as the number of access points is small, most are remote from centres of population and main roads and there are not the coastal features (e.g. beaches, variety of landscapes, historic towns) that have broad appeal for the public on other stretches of coast such as North Norfolk. The main attraction is for recreational walking, including dog exercising and for those with an interest in wildlife, particularly birdwatching, but facilities for other types of user are very limited. The Wash and North Norfolk European Marine Site Incident Recording Process Annual Report 2014 & 2015 details 240 and 251 incidents in these years respectively. Of these, 9.2% occurred on The Wash in 2014 and 8% in 2015.

Currently, only one section of the Lincolnshire Wash coast from Boston to Fosdyke Bridge forms part of a long distance trail – the MacMillan Way - a route promoted by the MacMillan Cancer Care charity as a route suggested for fundraisers, but with no official standing. Promotion is low key via the MacMillan website and waymarkers on route and does not appear to significantly increase the number of users. Being part of the ECP trail will have an effect on visitor numbers and to better estimate this the NE Coast Path team have installed a people counter on the stretch of Wash coastline that is more actively promoted as a trail for walkers – the Peter Scott Way. This is very similar in character to the Lincolnshire side of The Wash so will indicate the number of users that could be attracted to use new access. A one day spot survey at the western end of the Peter Scott Walk showed that most visitors plan to walk 2-5km with an upper maximum of 10km, so are not using the complete trail. Results for a typical 5 day period in August 2016 are shown in the graph below (Fig.B). The great majority of daytime hourly counts are seen to be less than 10 (representing 5 or less people as the one day spot survey showed most visitors to be returning by the same route, with slightly higher peaks in early afternoon. The few higher hourly counts correspond to weekends and a bank holiday.

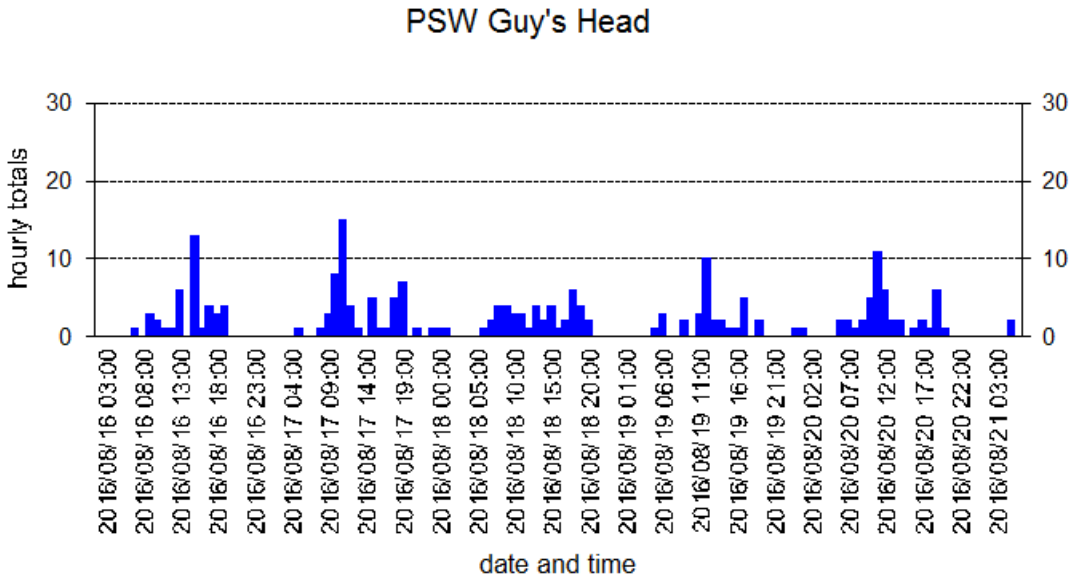


Fig.B Hourly count results for a 5 day period in August 2016 from an automated people counter located on the Peter Scott Way (PSW) near Guy's Head, Sutton Bridge, Lincs. See Appendix for further summary information from this counter

The new access will be very similar in character to the majority of Wash coastline that already has a right of access. Displacement from other sites is therefore unlikely to occur and the increased overall number of visitors should be set against the increased total length of coastal access that will become available.

The Local Plans for South East Lincolnshire and East Lindsey (see Reference list) project substantial increases in new housing but large developments will not be located within the coastal flood risk area within easy reach of the coastal path. In East Lindsey inland towns and larger villages are the preferred location for most housing development. Although likely to add to visitor numbers, this is significant as it means these new households will not be close enough to the coast for them to regularly use new access for daily dog walking etc., although they may add to numbers at peak times – particularly summer weekends and holiday periods.

5.1 Sutton Bridge to Boston Haven

5.1.1 Ecological sensitivity
Saltmarsh and mudflats supporting breeding waders and wintering waders and wildfowl.

5.1.2 Proposed improvements to accessibility
Only very minor improvements to accessibility are proposed on this section to bridge gaps in the existing rights of way network along the seabank, which most users are unaware of. Section 25a restrictions for public safety will cover all saltmarsh which is not excepted from coastal access rights, other than narrow transitional strips within river estuaries (Nene and Welland) so access will mostly be limited to the trail along seabanks.

5.1.3 Access assessment

Current situation	Predicted change
There are few easily accessible points on this section for the public by car. The Wash Visitor Survey (Footprint Ecology, 2016) report gives averaged hourly people counts for these which range from lower winter counts of 1.6 to 3.8 per hour to higher summer counts of 4.3 to 6.4. The highest levels tend to be in September.	There will be little change to the access available to the public on this stretch as almost the whole length is already public right of way. The only reason for an increase would be because the path is becoming part of the England Coast Path long distance trail that will attract some long distance walkers. It is reasonable to assume that use levels will be similar to the neighbouring section of seabank between Sutton Bridge and Kings Lynn which already forms the Peter Scott Walk. The Coastal Path team installed a counting device here in 2016 – see Annex for a summary of the results. This has shown that the number of visitors per day at even very accessible points no more than 1km from popular parking places is low. The recorded mean number of visitors was 17 for September 2016 and June 2017 falling to 13 in March 2017 and 8 in January 2017.

5.1.4 Possible adverse impacts

As the level of use is not expected to change significantly no adverse effects are expected.

5.1.5 Mitigation measures included in the access proposal to address any possible impacts

Signs at major access points will remind users to control dogs near cattle and to avoid disturbance to wildlife – particularly ground nesting birds and roosting waders and wildfowl. They will also remind users that coastal access rights do not extend to the open saltmarsh as these are restricted on safety grounds over the areas that are significant habitat for these species.

5.1.6 Conclusion

No likely significant effected anticipated.

The ECP proposals will complement and reinforce existing access management. This is because the trail is following existing access routes and there are coastal access restrictions in place to prevent access to much of the saltmarsh along the coastal margin. There will be a section 25A coastal access exclusion in place to prevent access to the coastal margin where it is deemed unsuitable for public access. 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 wetland birds 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 Boston Haven to the Horseshoe, Wrangle

5.2.1 Ecological sensitivity

Saltmarsh and mudflats supporting breeding waders and wintering waders and wildfowl. Supporting habitat (grazing marsh with lagoons or scrapes) landward of the seawall at RSPB Frampton and Freiston, and arable fields elsewhere that may be important for roosting and foraging, particularly by Brent Geese, Lapwing and Golden Plover.

5.2.2 Proposed improvements to accessibility

Although the majority of this section will use existing rights of way on the seabank, a significant length of about 8km from mouth of the Boston Haven north to the Horseshoe near Wrangle will use seabank that does not have official rights of way, although there is some permissive or customary use. Section 25a restrictions for public safety will cover all saltmarsh, other than narrow transitional strips within river estuaries (Welland and Boston Haven) so access will mostly be limited to the trail along seabanks.

5.2.3 Access assessment

Current situation	Predicted change
This section includes lengths close to some of the most popular car parks on the stretch which see high levels of use around them. The RSPB reserves at Frampton and Freiston have the largest car parks on the stretch with capacity for approximately 50 and 20 cars respectively. The smaller car park at the Pilgrim Fathers memorial at Fishtoft near Boston is also popular, but this is situated over 800m from the nearest point of the designated SSSI/SAC/SPA/Ramsar that can be reached on foot. The rest of this section is less accessible by car and the level of use is consequently lower, with very few users on the	The expected change on this section will vary depending on how close a point is to one of the main access points: • Close to main access points most users have either been attracted by the opportunity to see wildlife at the reserve centres of Frampton, Freiston and Kirton, or they are dog walkers living quite locally. These will continue to be the main users at these points and the change will not be significant. • Away from the main access points where the level of use is currently very low, the additional long distance trail users will have

section north of Freiston Shore walking more than 2km from the RSPB's car park.	a more significant effect on the level of use, but it will still be low in comparison to other stretches of coast. With the opening of the England Coast Path it can be expected that levels of use will increase to a similar level to those recorded for the Peter Scott Walk.

5.2.4 Possible adverse impacts

The increased level of use on the quieter sections between main car parks may result in some extra disturbance if dogs are not properly controlled and stray onto the edge of the saltmarsh next to the seabank.

5.2.5 Mitigation measures included in the access proposal to address any possible impacts

Signs at major access points will remind users to control dogs near cattle and to avoid disturbance to wildlife – particularly ground-nesting birds and roosting waders and wildfowl. They will also remind users that coastal access rights do not extend to the open saltmarsh. Natural England will work with RSPB to also consider whether improved signage might be used on the parts of this section where larger numbers of visitors are in close proximity to breeding areas for waders at the edge of saltmarsh (RSPB Frampton and Freiston reserves).

5.2.6 Conclusion

No likely significant effected anticipated.

The trail is following existing access along this section of coast, either along a public footpath, permissive paths or existing informal access. Sections that might be expected to experience relatively greater increases in visitor numbers are adjacent to RSPB nature reserves, which already have wardening and interpretation in place to influence visitor behaviour and minimise impacts on key species and habitats. ECP signage/information will serve to complement and reinforce these measures.

5.3 The Horseshoe, Wrangle to River Steeping crossing

5.3.1 Ecological sensitivity

Saltmarsh and mudflats supporting breeding waders and wintering waders and wildfowl. This section is particularly important for wildfowl and waders supporting good numbers of both, which are not accustomed to much disturbance as there is no official access along the seabank in this section.

5.3.2 Proposed improvements to accessibility
There are no official rights of way in existence on this section of the seabank so the coastal path will be introducing this for the first time, although some unofficial access does occur, mostly close to the few road access points. New access to the northern end of the section will also be created by opening up the footbridge across the River Steeping, allowing access from Gibraltar Point LWT Reserve.

5.3.3 Access assessment	
Current situation	**Predicted change**
The graph below (Fig. C) taken from the Wash Visitor Survey (Footprint Ecology, 2016) shows variation of visitor numbers between main access points around the Lincolnshire side of The Wash and also shows the variation of visitor numbers at different times of the year, with most sites being less frequented in winter. In relation to this section between Wrangle and the River Steeping the graph illustrates the low number of visitors to the only access points via minor lanes at Friskney and Wrangle. In contrast it can be seen that the highest number of visitors recorded on the Lincolnshire side of The Wash are at Gibraltar Point. Currently, there is no crossing point available to the public to reach the Wash coast from Gibraltar Point so the number of users is kept very low.	Most new coastal path access will be created in the Wainfleet area so there is potential for this to draw more visitors, but this stretch of coast is the least accessible. No new links or points of access will be created other than opening of a bridge from Gibraltar Point so there are unlikely to be a substantial numbers of new visitors accessing the path from other points. The coast path will for the first time make it possible to access the northern end of this section from Gibraltar Point which, as can be seen (Fig. C), has a much higher number of visitors, and where a new visitor centre was opened in Spring 2016 which incorporates a large café. This has increased visitor numbers to the centre itself but it is not clear that this has also increased numbers walking on the reserve. Gibraltar Point Car park data provided by the Lincolnshire Wildlife Trust shows totals for visitors to the main reserve car park. Totals from 2007 to 2015 have a median value of 170, 000 visitors annually (based on 2.8 persons per car). These are visitors to the whole reserve and there are many available route options for visitors to choose from on the site which include the visitor centre and café, bird hides overlooking specially created lagoons, extensive dunes and beaches. Therefore only a proportion of visitors would be attracted to follow the new coastal path route along/beside the seabank: it is reasonable to assume 10% might begin to walk the route and reach the footbridge over the River Steeping The storm surge of Autumn 2013 damaged the previous visitor centre and impacted overall visitor numbers to the site. The years 2007-13 up to this event had a mean annual total of 186,261 visitors to the reserve. Averaged equally over all days of the year this equals 510 reserve visitors per day. If visitors chose to walk the coastal path in the proportions assumed above this would represent 51 (10%) that would start to walk the section and perhaps reach the Steeping footbridge. With the variability

between seasons and weekends/weekdays recorded in the Wash Visitor Survey we could expect daily counts to vary with most falling within a range from 30 to 100, but reducing at points further beyond the footbridge to the south west.

Table A: Gibraltar Point annual visitor data – recorded car numbers 2007 to 2015 and estimated visitor numbers, assuming 2.8 visitors per car (Source: Lincs Wildlife Trust)

	Total cars	Visitor total (based on 2.8 per car)
2007	68128	190758
2008	68758	192522
2009	67824	189907
2010	66427	185996
2011	66902	187326
2012	64103	179488
2013	63511	177831
2014	55165	154462
2015	58377	163456

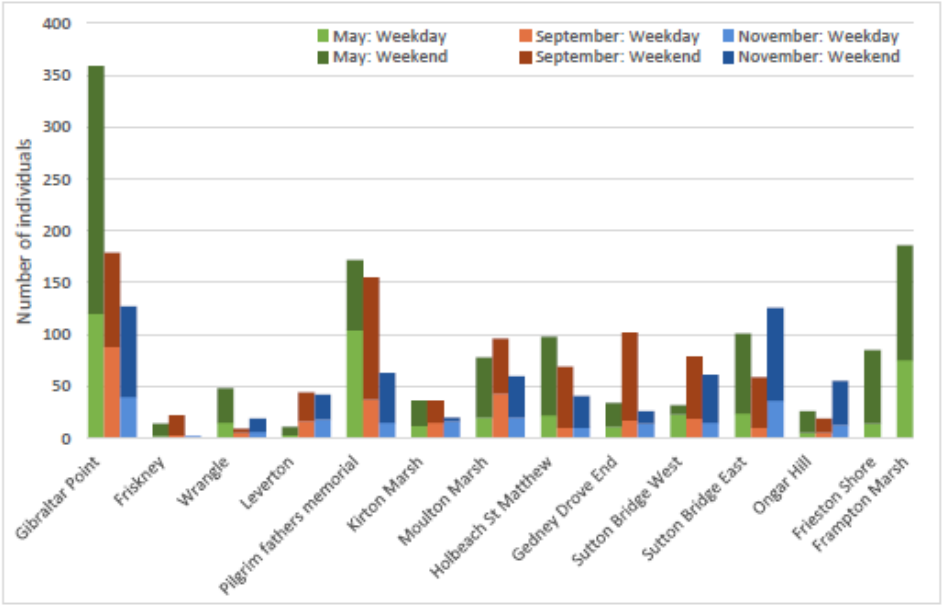


Fig. C The number of individuals recorded entering or leaving past survey points (Wash Visitor Survey, Footprint Ecology, 2016)

5.3.4 Possible adverse impacts

The first 1-2km west of the River Steeping could be particularly sensitive to any additional disturbance from new access because:

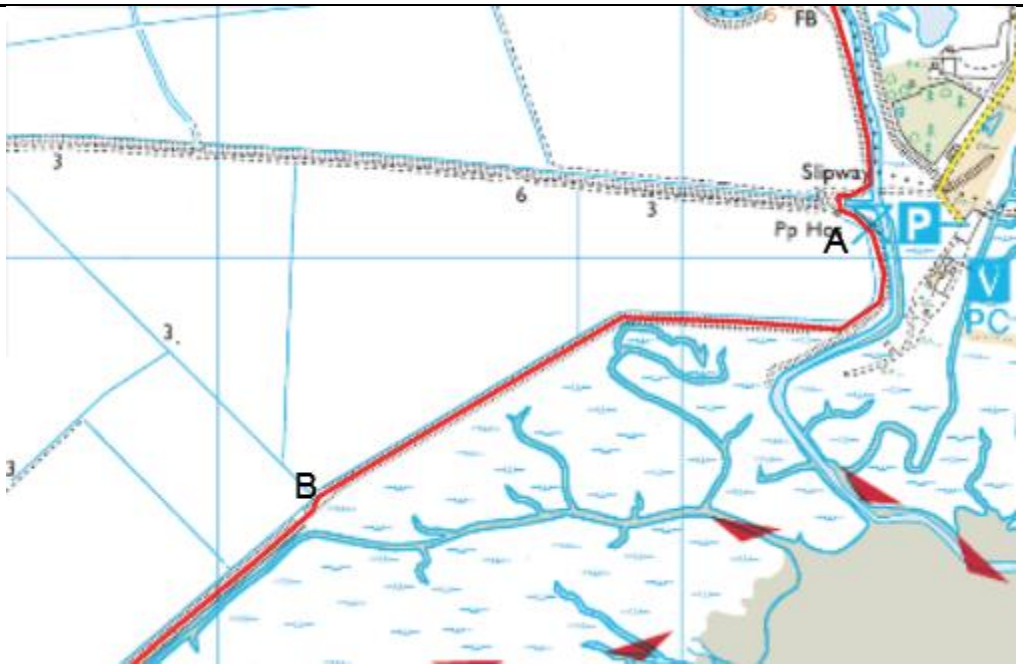
- It is currently difficult to access and has good numbers of breeding waders such as redshank that may occur quite close to the seabank as this is the part of the saltmarsh least likely to be covered by high tides
- The area is favoured by wintering Brent Geese, Curlew and Bar tailed Godwits
- Wintering harriers forage and roost generally in the area

The area of saltmarsh close to the seabank is known to be a refuge for waders and wildfowl, particularly during high spring tides that reach up to 7.0m above mean low water (during exceptionally high tides of more than 7.0m these areas can be covered and waders and wildfowl move to the lagoon and scrape areas within the Gibraltar Point reserve). Likelihood of disturbance would be particularly high at these times when sensitive bird species are forced close to the seabank where the coastal path will be. However, analysis of predicted tides over a 12 month period for Skegness demonstrates that very few high spring tides occur at times when the coastal path is likely to be in use. There are only 32 tides of 6.8m or more that occur either after 9am on a morning or before sunset in the afternoon. No tides of this height occur before sunset in the months of October to February (and only 2 in March).

5.3.5 Mitigation measures included in the access proposal to address any possible impacts

To reduce any likely disturbance to these birds a combination of the following **mitigation methods** will be proposed.

- Alignment of the trail to the rear of the seabank – the route would be waymarked and vegetation cut along a route at the rear base of the seabank between points A and B on the section of the trail shown below. The bank will then act as screening to prevent disturbance to species close to this section of the seabank which is likely to see higher numbers of users walking from Gibraltar Point and is known to be most used by the species sensitive to disturbance. Signs at either end and at intermediate points would request users to keep to the trail and not go to the top of the bank, explaining the reason for this to encourage good compliance. The bank is ungrazed and it is likely that people will generally follow a mown route where the alternative is walking in long rough vegetation over an uneven surface, but short lengths of temporary fencing can also be used to enforce this message at either end to ensure that people descend/ascend at the preferred points.
- Signs requesting dogs on leads at all times to avoid potential disturbance in the wader breeding season (April – June) and to passage and overwintering waders wildfowl (Sept – March). The next point at which there is public vehicular access is 6km along the coast, so almost all visitors to this sensitive section will be accessing the trail by crossing from the Gibraltar point nature reserve where there is a requirement to keep dogs on leads that is well observed (only 14% off lead source: Wash Visitor Survey, Footprint Ecology).



- Focal point (information board) close to point A. It is likely that many people will be satisfied with a short walk once they have crossed the River Steeping. The seabank is quite featureless for many miles going southwest from the Steeping and signage could help to indicate the distance before any facilities will be found and suggest a natural turning point for those on short walks. Many people may then make their own decision not to walk along the most sensitive saltmarsh section, but to explore the more varied options at Gibraltar Point instead.

Formal restrictions on coastal access rights will be used to support these mitigation measures as follows:

- Access will be excluded from the margin year round on the land shaded brown
- Accompanied dogs must be kept on short leads year round on the trail along the red dotted line shown below (Fig. D)

- If these measures are not sufficient to ensure good compliance with the access restriction, additional mitigation measures will be considered, which may include additional and more prominent signage or fencing at the edge of the trail for longer sections to further enforce the access boundary. A sensor will be installed for the opening of this section to provide information on levels of use which will help to inform choice of appropriate measures.

In addition to Natural England's proposed mitigation measures the Defence Infrastructure Organisation will increase the frequency of warning signs to meet the standard requirement for public access on their training areas. These are a strong deterrent to access on the saltmarsh as they warn of dangerous materials and unexploded ordnance.

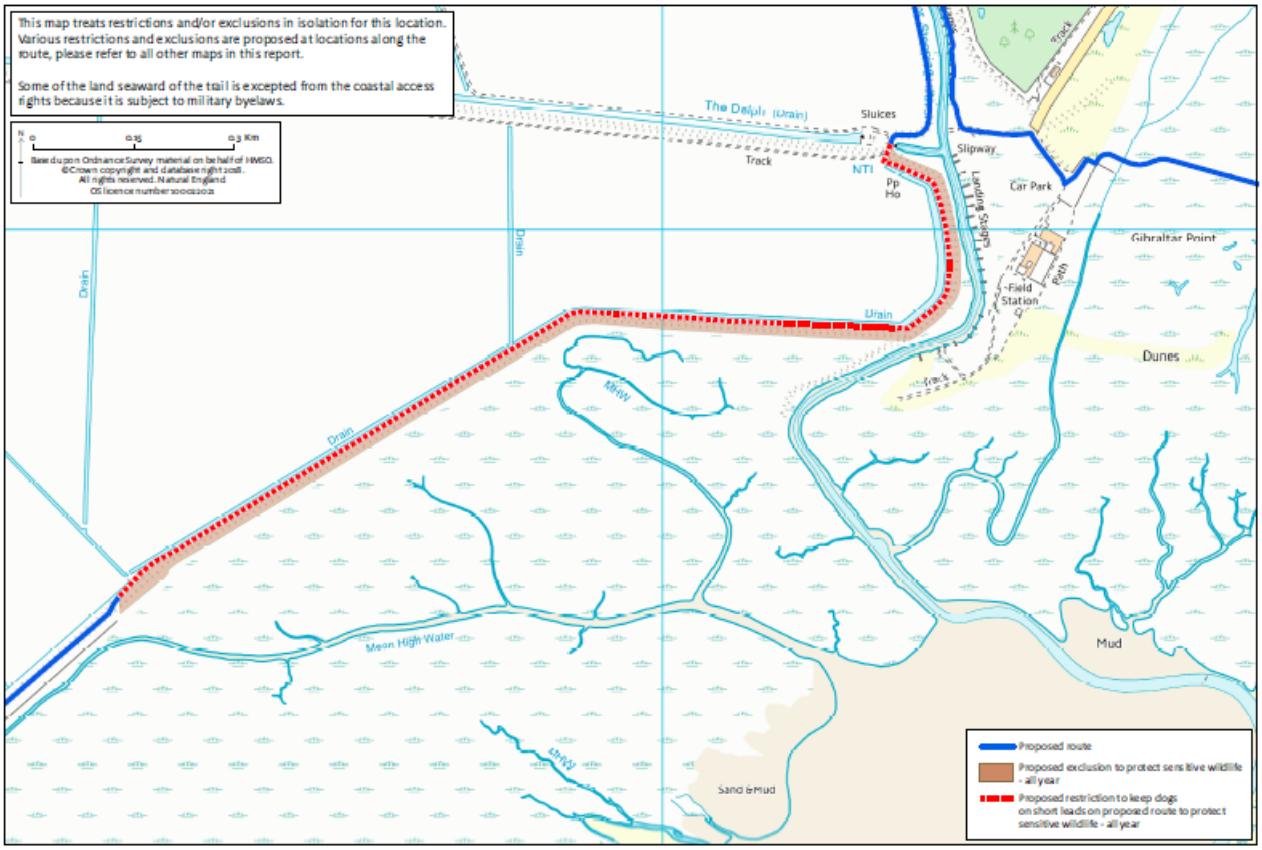


Fig D: Proposed direction to exclude access for nature conservation west of River Steeping

5.3.6 Conclusion

Aligning the proposed route behind the seabank for a short stretch will serve to minimise disturbance to the area of saltmarsh that is of greatest importance as a year-round high tide roost for large numbers of waders and wildfowl. Signage and interpretation will serve to reinforce this measure, therefore no likely significant effect can be concluded as a result of the changes in access through implementation of the ECP. Minimal predicted changes to visitor numbers along the stretch south and west of point B mean that no likely significant effect can also be concluded here.

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 Lincolnshire 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.

Lincolnshire 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 Lincolnshire 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:

Lincolnshire County Council will instigate the SSSI assent process by writing to us to confirm the timing of works and how operations to be undertaken in line with these conditions. Natural England will provide further ecological advice as necessary.

6.1.2 Implementation of mitigation measures

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

- Installation of information/advisory boards at either end of sections with particularly sensitive bird species

Measure	Implementation
Timing of works	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 Natural England lead adviser to avoid damage to the site or interest features and legally protected species.
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 Natural England lead adviser.
Biosecurity	Where necessary appropriate measures will be taken to prevent the transportation of invasive non-native species. Natural England lead adviser to advise as and when necessary

6.1.3 Local restrictions or exclusions

Where specific restrictions or exclusions have been included in the proposal, Natural England will give the necessary directions to give legal effect to these before the new public rights come into force.

6.2 Maintenance

The trail and associated infrastructure will be maintained by the relevant local authority in line with the national quality standards that apply to all National Trails. 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.

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

7.1.1 Population level effects

Feature - or feature group	**Conclusion**
Overwintering and breeding birds immediately west of the River Steeping	Birds within 1-2km west of the River Steeping are particularly vulnerable to disturbance due to the establishment of additional access here and its proximity to visitor attractions and facilities at Gibraltar Point. The access restrictions and mitigation proposed in 5.3.5 will minimise disturbance to the birds feeding, roosting and breeding in this area and visitor numbers approaching from Gibraltar Point will be monitored by way of a sensor. Changes to visitor numbers approaching from the south and west of this area are likely to be minimal. Compliance with way-marking and restrictions will be important to ensure visitors do not walk along top of the sea defence or allow dogs off the lead in the area indicated in Fig. D. If these measures are not sufficient to ensure good compliance additional mitigation will be considered, e.g. additional and more prominent signage or fencing at the edge of the trail for longer sections to further enforce the access boundary. On this basis no population level effects are expected.

7.1.2 In combination assessment – where applicable

7.1.2a Other qualifying plans or projects

Competent Authority	**Plan or project**	**Description**
East Lindsey District Council	Local Plan –submission version with amendments	This identifies the proposed development within the District including economic activity, housing, industrial land use and other district level economic priorities including recreation and tourism development. This plan includes its own Habitats Regulations Assessment (HRA) and strongly references the need for HRA when applicable.

		The proposed actions in the document will not lead to an in combination effect.
South East Lincolnshire Joint Strategic Planning Committee. (Boston Borough, South Holland District and Lincolnshire County Councils)	South East Lincolnshire Local Plan 2011-2036: Publication Version (March 2017)	This sets out planning policies to deliver growth in SE Lincolnshire, including proposed sites for 18,250 new houses, employment and shopping development and other areas identified for protection. HRA for this plan discounts all impacts except for a risk to The Wash and Gibraltar Point SPAs from recreational disturbance arising from new residential development. Visitor surveys suggest additional housing will drive a 10% increase in visits to the coast. Consequently the SE Lincolnshire Natural Environment Policy now states that: • all major housing proposals within 10km of The Wash and North Norfolk Coast European Marine Site (including Sustainable Urban Extensions in Boston, Spalding and Holbeach West) will be subject to project-level HRA to assess the impact of recreational pressure. • Suitable Alternative Natural Greenspace should be provided in tandem with new housing at Boston, Spalding and Holbeach West and other major sites if possible to provide alternative locations for daily leisure and dog walking, minimising pressure on The Wash. The Joint Committee will continue gathering evidence to inform future protection of European sites like The Wash, including monitoring of mitigation measures implemented. Most new tourism-related development will be located in existing settlements and developments beyond these will be small scale, linked to established rural enterprises and designed to ensure no adverse impacts on landscape or biodiversity. The proposed route will predominately follow existing access and there are no significant

		improvements planned to visitor parking or facilities. As such proposed actions in this Local Plan will not lead to an in combination effect.
Greater Lincolnshire Local Economic Partnership (GLLEP)	Lincolnshire Enterprise Partnership – Strategic Economic Plan 2016 including the draft coastal vision (2016)	This sets out local economic development opportunities including at the coast. This includes investment in visitor management, access and coastal and rural tourism development. The plan includes its own HRA and strongly references the need for HRA when applicable. The proposed actions in the document will not lead to an in combination effect.
Natural England	England Coast Path – Gibraltar Point- Skegness stretch (Published January 2017)	The Coast Path route immediately north of this stretch also lies adjacent to internationally important habitats (including areas of The Wash SPA and The Wash and North Norfolk Coast Marine SAC, Saltfleetby-Theddlethorpe to Gibraltar Point SAC; Gibraltar Point SPA and Gibraltar Point RAMSAR). These sites are used by populations of birds which overlap with those discussed in this ASFA and Gibraltar Point is a key access point to the northern end of the Sutton Bridge–Gibraltar Point stretch. The potential impact of the route on has been assessed in the ASFA for this stretch and concludes that the Coast Path proposal is unlikely to have a significant effect, either alone or in combination. Route alignment and management will minimise disturbance to designated features and access restrictions already in place for visitors and their pets will be complemented by additional Section 25A exclusions. As with this stretch the route will follow established paths where appropriate and is not expected to contribute significantly to visitor numbers.

		As such this section of the Coast Path will not lead to an in combination effect.*

*Initial proposals for the Coast Path route to the east of this stretch (Hunstanton to Sutton Bridge) are still being finalised at the time of carrying out this appraisal. These will include assessment of any in combination effects.

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	Non-significant effect – other plan or project	In combination conclusion
None known	None known	Actions proposed in the documents cited in 7.1.2a will not lead to an in combination effect.

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 Wash SPA The Wash & North Norfolk Coast SAC The Wash Ramsar site The Wash SSSI 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 Wash SPA The Wash & North Norfolk Coast SAC The Wash Ramsar site The Wash SSSI 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 - 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[1] - 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 [insert name of MCZ] that:

(Mark one box only with an X below)

	The access proposal (including any mitigation 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:

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

[1] 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.

	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

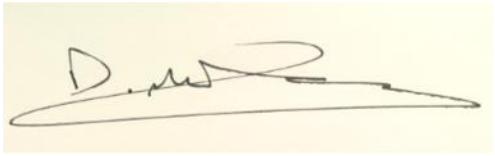
OR

	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: Darren Braine	Date: 19/01/2018

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 The Wash SPA/SAC/Ramsar/SSSI and NNR have been fully addressed.		
Name: Ian Butterfield	Signed: 	Date:23/1/18

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Annex

Peter Scott Walk - Guy's Head, Near Sutton Bridge
Summary of people counter results.

Background and Location

Natural England's Coast Path team needed to obtain evidence for recreational use on an existing section of public access adjacent to the Wash coast to demonstrate the levels of use that might be expected for similar sections to be opened as part of the new trail. One section of the Wash coastline is already designated as a long distance trail - the 16km Peter Scott Walk along the seabank from the mouth of the River Nene at Guy's Head to the River Ouse ferry crossing near King's Lynn. Previous research on visitor use of public access around the Wash (Wash Visitor Survey, Footprint Ecology, 2016) has shown that Guy's Head is one of the most popular access points so counts near this point should indicate the highest levels to be expected on new sections around the Wash.

Fig.1 Location of the equipment (large red dot) near Guy's Head, Sutton Bridge, Lincs.

In August 2016 a body heat sensor with connected datalogger was installed adjacent to the public bridleway along the top of the seabank at 980m from the nearest available public parking and access point from a minor highway at Guy's Head (east bank) near Sutton Bridge, Lincolnshire. The equipment was carefully concealed so that the public would not be aware of its presence. Although the right of way is a designated bridleway no horseriders or cyclists have been observed using the route on site visits, only walkers and dogs. There are no connecting rights of way that can be used to make a shorter circular walk so it has been assumed that users will generally be undertaking an out and back walk along the same route unless completing the entire walk. The sensor was located at a point where it is difficult to avoid passing within range of the sensor which will record each pass by a walker, therefore recording two passes for almost all visitors.
A spot survey of visitors was undertaken on one day in August and again in October 2016. This revealed that most people intended to walk 2-5 km with a maximum declared of 10km. This

supports the assumption that almost all visitors would be recorded twice per visit as no alternative right of way is available to complete walks of this distance. Slightly less than half of the groups were accompanied by dogs in August but the proportion was higher in October.
The four months selected below from the data collected represent times of particular concern for SPA feature birds on the adjacent Wash saltmarshes when visitor presence could affect bird behaviour: September (passage migrants), January (overwintering waders and wildfowl), March and May (breeding season).

Results from the datalogger – daily and hourly counts of visitors

Four selected months through the year showing daily counts: September, January, March, (May/June to be included) and two selected periods of 5 days showing hourly counts in August and March.

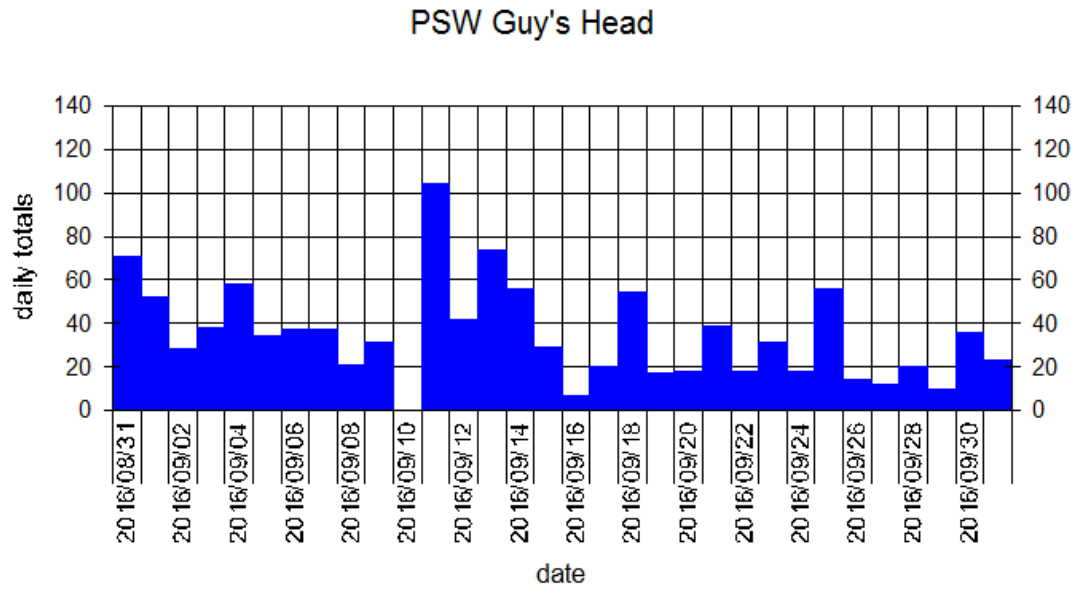

Fig.2 Daily total passes – September 2016

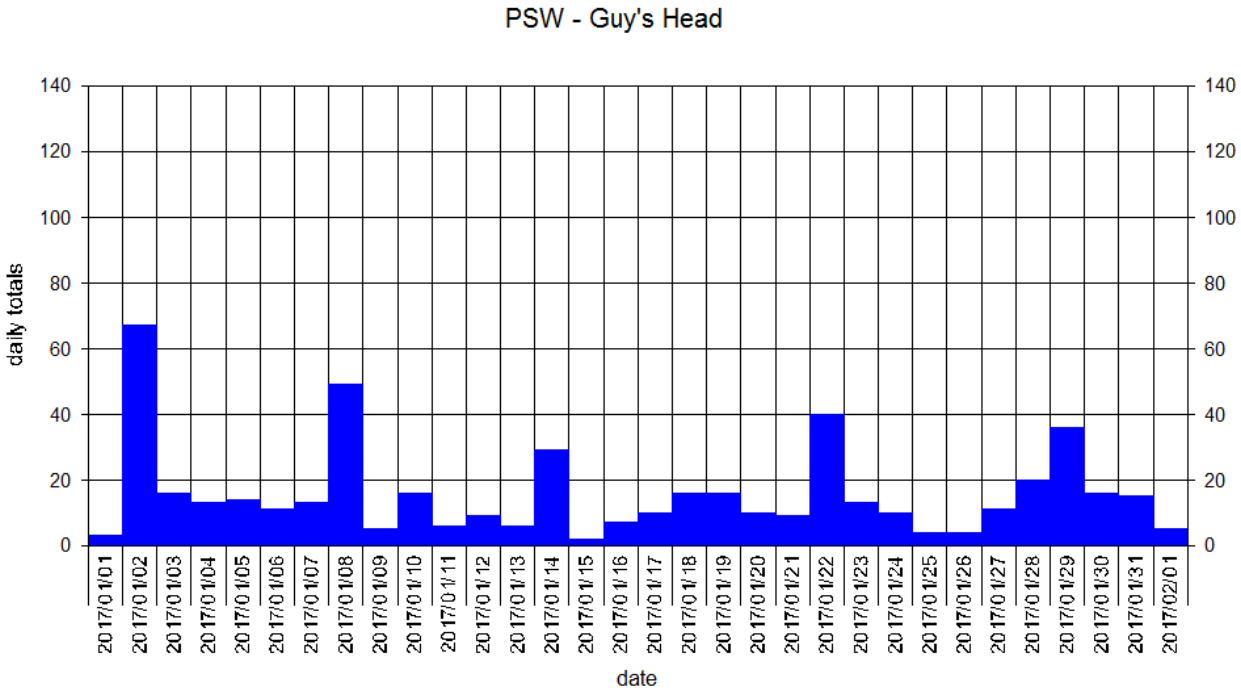

Fig.3 Daily total passes - January 2017

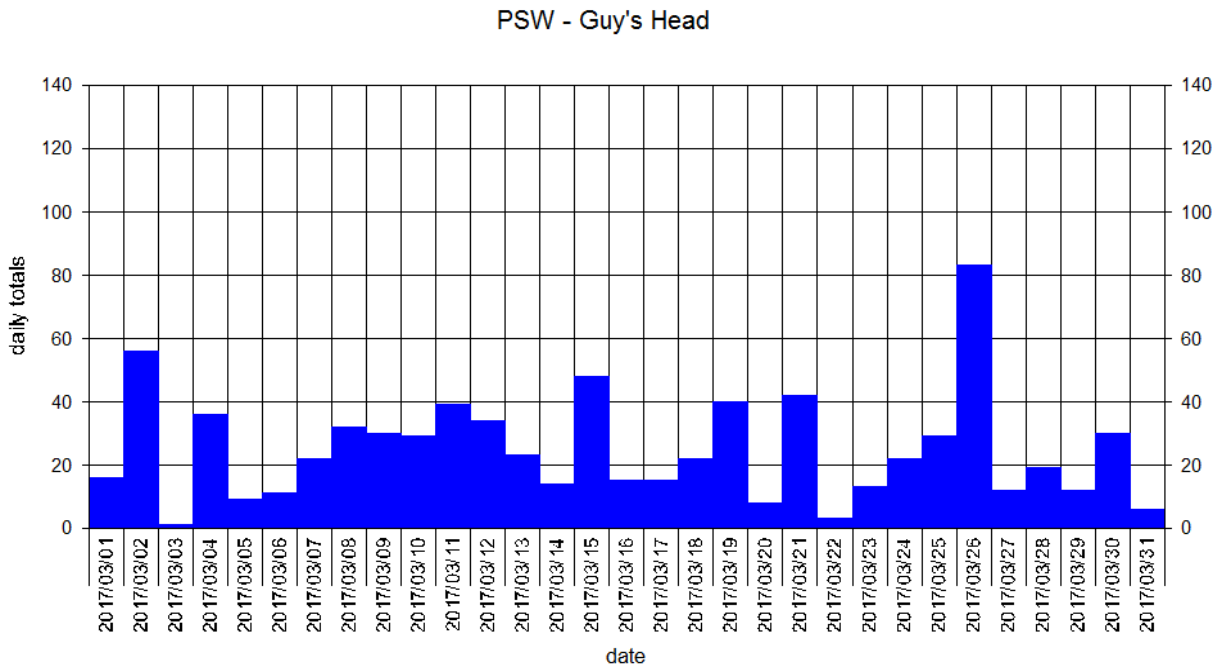

Fig.4 Daily total passes - March 2017

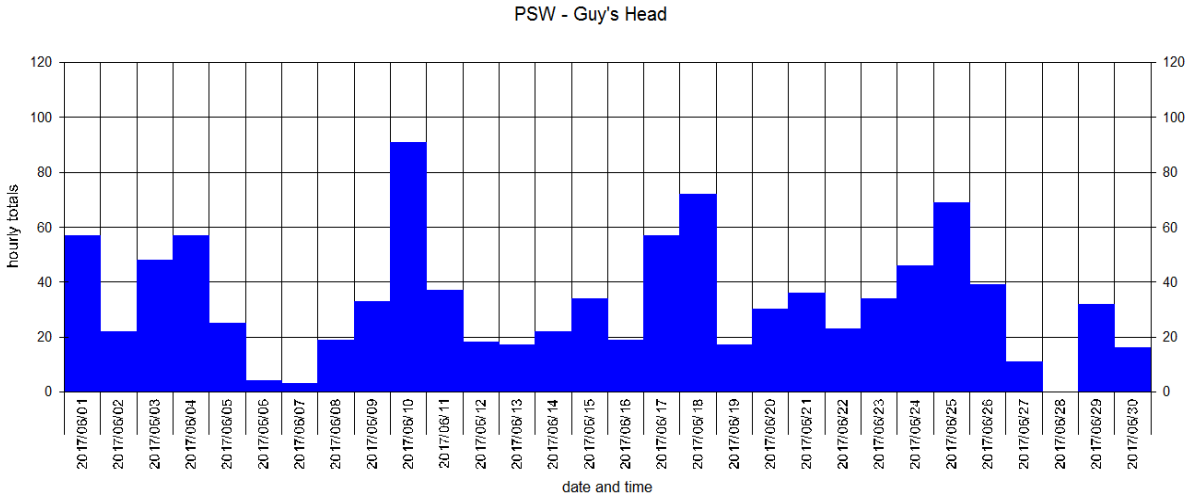

Fig.5 Daily total passes - June 2017

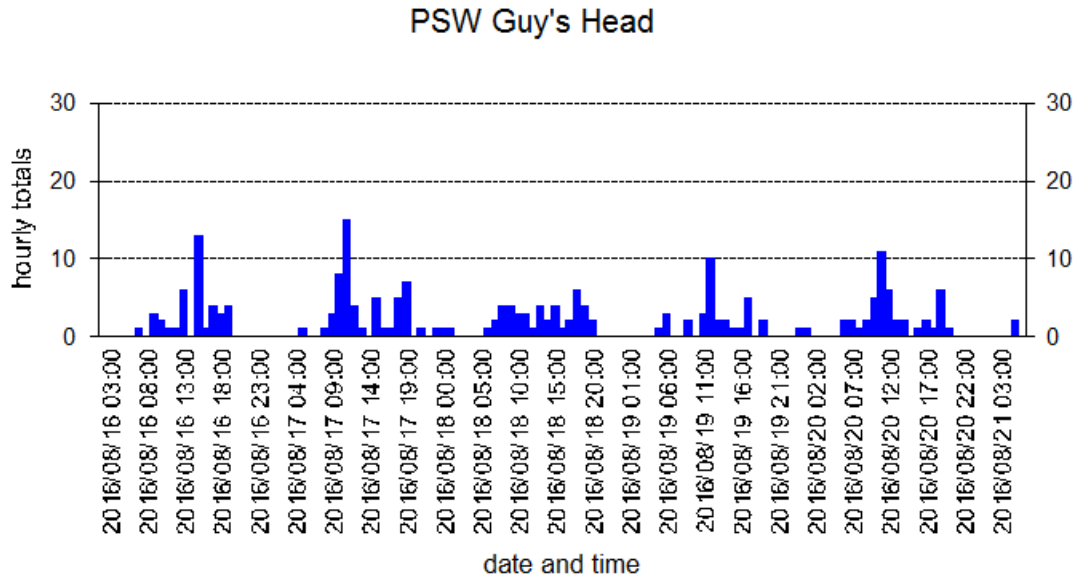

Fig.6 Total passes counted per hour - 5 days in August 2016

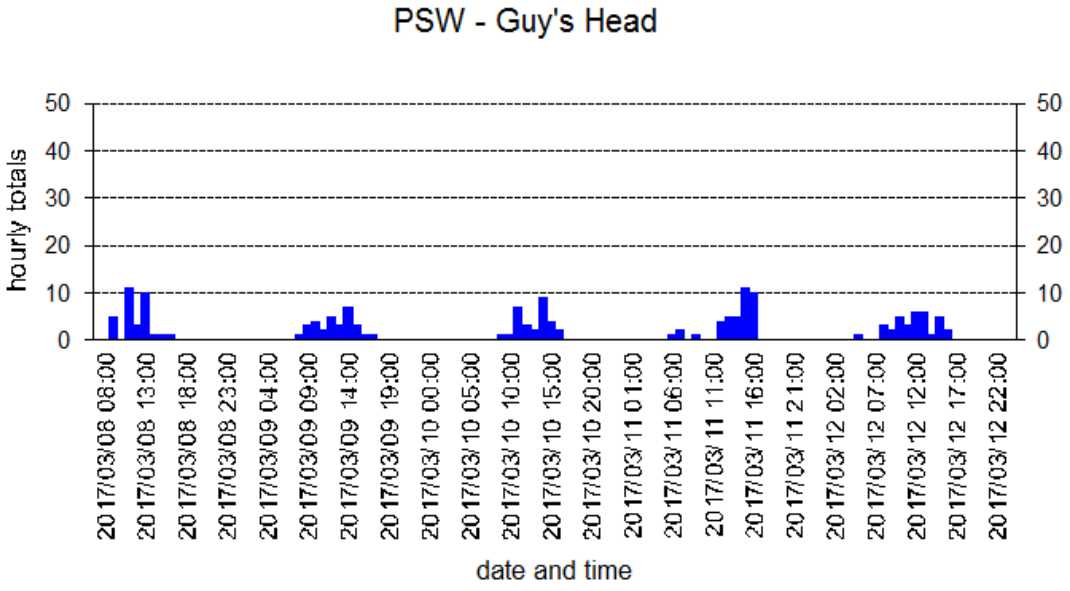

Fig.7 Total passes counted per hour - 5 days in March 2017

Summary

	September 2016	January 2017	March 2017	June 2017
Total passes for month	1011	496	771	988
Daily mean passes (number of visitors)	33.7 (17)	16.0 (8)	24.9 (13)	32.9 (17)
Modal class (equivalent visitor numbers)	31-40 (15-20 visitors)	0-10 and 11-20 equally (0 – 10 visitors)	11-20 (5-10 visitors)	31 – 40 (15-20 visitors)

- The monthly total of passes and daily mean are just over twice as high for September 2016 and June 17 as for January 2017. The corresponding figures for March 2017 are close to midway between these.
- Number of passes tends to peak at weekends but there is undoubtedly a weather influence too.
- Peak counts tend to occur between 10am and 4pm but are sometimes later in the day.