

**Essex and South Suffolk Shoreline Management
Plan 2**
Statement of Case for Imperative Reasons of Overriding Public
Interest (IROPI)

Environment Agency

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1 INTRODUCTION

The Environment Agency is the lead authority for the second Essex and South Suffolk Shoreline Management Plan (SMP2). During the development of the SMP2 a Habitat Regulations Assessment (HRA) was undertaken to take into account the requirements of Article 6(3) of the Habitats Directive¹. It was not possible to conclude that the SMP2 would not lead to adverse effects on the integrity of the following sites of international nature conservation importance:

- Essex Estuaries Special Area of Conservation (SAC)²;
- Stour and Orwell Estuaries Special Protection Area (SPA)³/Ramsar site⁴;
- Hamford Water SPA/Ramsar site;
- Colne Estuary SPA/Ramsar site*;
- Blackwater Estuary SPA/Ramsar site*;
- Dengie SPA/Ramsar site*;
- Crouch and Roach Estuaries SPA/Ramsar site*;
- Foulness SPA/Ramsar site*; and
- Benfleet and Southend Marshes SPA/Ramsar site.

It should be noted that the five SPA/Ramsar sites marked with an asterisk in the above list are all part of the wider Mid-Essex Coast SPA/Ramsar site. It was agreed with Natural England that losses of habitat within these five component areas could be mitigated through equivalent gains in other components. On this basis, the HRA also considered the overall effect of the SMP2 policies within the wider Mid-Essex Coast SPA/Ramsar site. As for the component sites, it was not possible to conclude that the SMP2 would not lead to adverse effects. The location of the sites is shown in Figure 1.

Under the Habitats Directive, and in accordance with the precautionary principle, if the HRA is unable to conclude that there will not be an adverse effect on integrity, despite the consideration and adoption of any available avoidance measures, then where appropriate and there being no alternative solutions a Statement of Case for Imperative Reasons of Overriding Public Interest (IROPI) must be submitted to, and agreed by, the Secretary of State for Environment, Food and Rural Affairs before the SMP2 can progress.

The Statement of Case for IROPI provides the evidence that no feasible alternatives exist and that the chosen SMP2 policies are necessary. Where projects are allowed to proceed on this basis, compensatory measures must be secured to ensure that the overall coherence of the Natura 2000 network⁵ and Ramsar sites are maintained.

¹ Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora.

² Special Areas of Conservation (SAC) are designated under the Habitats Directive.

³ Special Protection Areas (SPA) are designated under the Birds Directive (Council Directives 79/409 and 2009/147 on the conservation of wild birds)

⁴ Ramsar sites are listed under the Ramsar Convention (The Convention on Wetlands of International Importance especially as Waterfowl Habitat).

⁵ SPAs, potential SPAs, SACs, candidate SACs and Sites of Community Importance (SCI).

The purpose of this Statement of Case for IROPI report is to:

- Introduce the background and context to the Essex and South Suffolk SMP2 in relation to the overall HRA;
- Provide the key conclusions of the HRA;
- Outline the need to undertake the Statement of Case for IROPI;
- Consider alternative options and the reasons for their rejection;
- Describe the IROPI for the pursuit of the SMP2;
- Provide information on the compensatory habitat measures proposed; and,
- Describe the cumulative effects of the SMP2 on the international sites.



Figure 1 International sites considered within the SMP2 Statement of Case

2 BACKGROUND AND CONTEXT TO THE ESSEX AND SOUTH SUFFOLK SMP2

2.1 Background to the Essex and South Suffolk SMP2

The Essex and South Suffolk SMP2 provides a large-scale assessment of the risks associated with coastal evolution along this stretch of coastline (from Landguard Point in Suffolk to Southend on Sea in Essex). SMPs are non-statutory assessments which aim to bring about reduced risks to the social, economic, natural and historic environment, while providing sustainable shoreline management over the next century, by using a range of methods which reflect both national and local priorities, to (Defra, 2006a):

- Reduce the threat of flooding and erosion to people and their property; and,
- Benefit the environment, society and the economy as far as possible, in line with the Government's sustainable development principles.

The first generation of SMPs was produced for the coastline of England and Wales in the late 1990s, based on sediment cell boundaries. These related to the movement of sand and shingle along the coast and, in most cases, the boundaries of the cells were set at locations where the net 'along shore' movement of sand and shingle changed direction. The current program of SMPs, SMP2s reflects the availability of new information about coastal processes, new considerations (for instance regarding site designations) and reduced uncertainty about climate change.

The most appropriate option for shoreline management will depend on the section of coastline in question and on technical, environmental, social and economic considerations. The four policy options available for shoreline management in the second generation SMPs are presented in **Table 2.1**.

Table 2.1 Management policies used in SMP2 development

SMP2 option	Description of option
Hold the line (HtL)	Hold the existing defence line by maintaining or changing the standard of protection. This policy will cover those situations where work or operations are carried out in front of the existing defences (such as beach recharge, rebuilding the toe of a structure, building offshore breakwaters and so on), to improve or maintain the standard of protection provided by the existing defence line. This policy incorporates others which involve operations to the back of existing defences (such as building secondary floodwalls) where they form an essential part of maintaining the current coastal defence system.
Advance the line (AtL)	Advance the existing defence line by building new defences on the seaward side of the original defences. Using this policy should be limited to those policy units where significant land reclamation is considered.
Managed realignment (MR)	Allowing the shoreline to move backwards or forwards, with management to control or limit movement (such as reducing erosion or building new defences on the landward side of the original defences).
No active intervention (NAI)	No further investment in coastal defences or operations.

Within the development of an SMP, an epoch (time period) based approach is used for planning purposes. The three epochs considered with SMP2s (short-, medium- and long-term) broadly correspond to time periods of 0 – 20 years, 20 – 50 years and 50 – 100 years respectively.

The HRA for this SMP2, and hence this Statement of Case, considers epoch 1 in detail. However, there is great uncertainty about habitat losses and gains during epochs 2 and 3. This is partly because of our limited understanding of the likely rates of sea level rise beyond 2025, but also because managed realignment policies within the SMP2 will be subject to detailed development at design stage, and the areas of grazing marsh and associated habitats that will be lost will not be known until then. Loss of grazing marsh and wetland habitats within the SPA/Ramsar sites are likely to cause adverse effects on qualifying species, but the extent to which loss of features such as ditches and potential wildfowl grazing habitats (including arable land) outside the SPA/Ramsar sites is unknown at this stage.

For the purposes of policy selection within the SMP2 boundary the area was initially split into ten Management Units (A-J). The location of these Management Units is shown in Figure 1. In turn, these units were divided into a series of coastal cells, each representing a discrete spatial area for policy application.

There are a number of Natura 2000 and Ramsar sites potentially affected by the Essex and South Suffolk SMP2 (Figure 2), and the implications of different policy options were carefully considered for each of them. However, it proved impossible to identify policies that would have no adverse consequences in all instances. This Statement of Case sets out the reasons why this is the case.

The proposed Essex and South Suffolk SMP2 has the potential to adversely affect the site integrity of nine sites of international nature conservation importance. All of the Management Units (MUs) contain such sites. The selected policies for each of these MUs that are identified as possibly leading to an adverse effect on site integrity are listed in **Tables 2.2 to 2.5**. MUs are presented from north to south, and grouped according to which international site(s) they are expected to affect.

Within the tables, the following abbreviations are used:

- HtL – Hold the Line;
- AtL – Advance the Line;
- MR1 – Managed Realignment – Allow local and limited intervention;
- MR2 – Managed Realignment - Breach of frontline defence after building landward defence; and
- NAI – No Active Intervention.

Stour and Orwell Estuary SPA/Ramsar site

Table 2.1 Management Unit A1 to A11

Policy Unit		Policy Plan ⁶			Explanation
		2025	2055	2105	
A2	Trimley Marshes	HtL	MR2	HtL	The current line will be held in epoch 1. Managed realignment by breach of the existing defence while continuing flood defence to Felixstowe Port.
A3a	Loom Pit Lake	HtL	MR2	NAI	The current line will be held in epoch 1. In epoch 2, managed realignment by breach of the existing defence. No defence needed after that. The currently undefended section will remain undefended.
A3b	Levington Creek	HtL	HtL	HtL	The current line will be held throughout all epochs.
A4a	Northern Orwell East	MR1	MR1	MR1	Local intervention to limit erosion risk to features is acceptable if the impact on natural estuary evolution is minimised.
A8a	Shotley Marshes west	MR2	HtL	HtL	Managed realignment by breach of the existing defence while continuing flood defence to Shotley Marshes to the south. The new line will be held throughout epoch 2 and 3.
A8b	Shotley Marshes east	HtL	MR2	HtL	The current line will be held in epoch 1. In epoch 2, managed realignment by breach of the existing defence while continuing flood defence to the marina and all dwellings and roads. The new line will be held in epoch 3.
A9a,d,f	Northern Stour flood defences	HtL	HtL	HtL	The current line will be held throughout all epochs.
A10a,c,e	Southern Stour flood defences	HtL+	HtL+	HtL+	The current line will be held throughout all epochs. The standard of protection at Manningtree will be maintained or upgraded.

Hamford Water SPA/Ramsar site

Table 2.3 Management Unit B1 to B5

Policy Unit		Policy Plan			Explanation
		2025	2055	2105	
B1	South Dovercourt	HtL+	HtL+	HtL+	The current line will be held throughout all epochs. The standard of protection will be maintained or upgraded.
B2	Little Oakley	HtL	MR2	HtL	The current line will be held in epoch 1. Managed realignment by breach of the existing defence while continuing flood defence to the dwellings, communities, roads and infrastructure south of Dovercourt and the sewage works. It is possible that the realignment would occur in epoch as part of the Bathside Bay project.
B3	Oakley Creek to Kirkby-le-Soken	HtL	HtL	HtL	The current line will be held throughout all epochs
B3a	Horsey Island	HtL	HtL	MR2	The current line will be held throughout the first two epochs. Managed realignment by breach of the existing defence while continuing flood defence to the south west half of the island to take place in epoch 3.

⁶ A plus sign (+) after the policy in this and the following tables indicates that a preliminary cost: benefit analysis has indicated that the current level of protection can be maintained or even increased into the future, even accounting for sea level rise. However, the absence of such a sign does not necessarily indicate that it cannot.

B4a	Kirkby-le-Soken to Coles Creek	MR2	HtL	HtL	Managed realignment by breach of the existing defence while continuing flood defence to Kirby-le-Soken.
B4b	Coles Creek to the Martello Tower	HtL	HtL	HtL	The current line will be held throughout all epochs.
B5	Walton Channel	HtL+	HtL+	MR2+	The current line will be held throughout the first two epochs. Managed realignment by breach of the existing defence while continuing flood defence to all dwellings, the sewage works, and the caravan park. The standard of protection will be maintained or upgraded.

Colne Estuary SPA/Ramsar site

Table 2.4 Management Units C4, D1-D8 and E1-E4

Policy Unit		Policy Plan			Explanation
		2025	2055	2105	
C4	Seawick, Jaywick and St Osyth Marsh	HtL	HtL	MR2/ HtL	The current line will be held in epoch 1 and 2. In epoch 3 there is a dual policy of either managed realignment or hold the line, depending on further work as part of the Local Development Framework.
D1a	Stone Point	HtL	HtL	HtL	The existing line, currently undefended, will be held throughout all epochs.
D1b	Point Clear to St. Osyth Creek	HtL	MR2	HtL	The current line will be held in epoch 1. Managed realignment by breach of the existing defence while continuing flood defence to the dwellings, roads and caravan park. The currently undefended section will remain undefended.
D2	Along the southern bank of Flag Creek	HtL	HtL	MR2	The current line will be held in epoch 1 and 2. In epoch 3, managed realignment by breach of the existing defence while continuing flood defence to the dwellings and road. Due to the environmental, landscape and historic importance of the area, future SMPs should review the feasibility and the implementation of the realignment policy for this PDZ>
D3	Flag Creek to northern bank at Brightlingsea	HtL	MR2	HtL	The current line will be held in epoch 1. Managed realignment by breach of the existing defence while continuing flood defence to the dwellings and road.
D4	Brightlingsea	HtL	HtL	HtL	The current line will be held throughout all epochs.
D5	Westmarsh Point to where the frontage meets the B1029	HtL	MR2	HtL	The current line will be held in epoch 1. Managed realignment by breach of the existing defence while continuing flood defence to the dwellings, road and the freshwater habitats.
D6a	South of Wivenhoe	HtL	HtL	HtL	The, currently undefended line, will be held throughout all epochs.
D6b	B1029 to Wivenhoe	HtL	MR2	HtL	The current line will be held in epoch 1. Managed realignment by breach of the existing defence, while continuing flood defence to the railway line.
D8a	Inner Colne west bank	HtL	MR2	NAI	The current line will be held in epoch 1. Managed realignment by breach of the existing defence. No defence needed after that, although this should be reviewed in further SMP reviews.
D8b	Fingringhoe and Langenhoe	HtL	HtL	HtL	The current line will be held throughout all epochs. The currently undefended sections will remain undefended.
D8c	Langenhoe Hall Marsh	HtL	HtL	HtL	The current line will be held throughout all epochs

E1	Mersea Island Landward Frontage	HtL	HtL	HtL	The current line will be held throughout all epochs
E2	Seward frontage between North Barn and West Mersea	HtL	MR2	HtL	The current (undefended) line will be held in epoch 1. Managed realignment by breach of the existing defence while continuing defence to the dwellings, roads and sewage works.
E4a	North Mersea (Strood Channel)	HtL+	MR2+	HtL+	The current line will be held in epoch 1. Managed realignment by breach of the existing defence while continuing defence to the dwellings and roads. The standard of protection will be maintained or upgraded.
E4b	Pyefleet inner Channel	HtL	HtL	HtL	The current line will be held throughout all epochs

Blackwater Estuary SPA/Ramsar site

Table 2.5 Management Units E3-4, and F1-15

Policy Unit		Policy Plan			
		2025	2055	2105	Explanation
E3	West Mersea	HtL+	HtL+	HtL+	The current line will be held throughout all epochs
E4a	North Mersea (Strood Channel)	HtL	MR2+	HtL	The current line will be held in epoch 1. Managed realignment by breach of the existing defence while continuing defence to the dwellings and roads. The standard of protection will be maintained or upgraded.
F1	Strood to Salcott-cum-Virley	HtL	HtL	HtL	The current line will be held throughout all epochs
F2	Salcott Creek	HtL	HtL	HtL	The current line will be held throughout all epochs
F3	South bank of the Salcott Channel to Tollesbury Fleet	HtL	HtL	MR2	The current line will be held in epochs 1 and 2. Managed realignment by breach of the existing defence while continuing defence to the dwellings, roads and sewage works. This policy should be reviewed in future SMPs.
F4	Tollesbury	HtL	HtL	HtL	The current line will be held throughout all epochs
F5	Tollesbury Wick Marshes to Goldhanger	HtL	HtL	MR2	The current line will be held in epochs 1 and 2. Managed realignment by breach of the existing defence while continuing defence to the dwellings, roads and sewage works. This policy should be reviewed in future SMPs.
F6	Goldhanger to Heybridge	HtL+	HtL+	HtL+	The current line will be held throughout all epochs. The standard of protection will be maintained or upgraded.
F7	Heybridge Basin	HtL+	HtL+	HtL+	The current line will be held throughout all epochs. The standard of protection will be maintained or upgraded.
F9a	South Maldon	HtL+	HtL+	HtL+	The current line will be held throughout all epochs. The standard of protection will be maintained or upgraded.
F9b	Northey Island	HtL	HtL	HtL	The current line will be held throughout all epochs.
F10	Maylandsea	HtL+	HtL+	HtL+	The current line will be held throughout all epochs. The standard of protection will be maintained or upgraded.
F11a	Mayland Creek west	HtL	HtL	HtL	The current line will be held throughout all epochs.
F11c	Mayland Creek east	HtL	HtL	HtL	The current line will be held throughout all epochs.
F12	Steeple	HtL	HtL	MR2	The current line will be held in epochs 1 and 2. Managed realignment by breach of the existing defence while continuing defence to the dwellings, roads and sewage works.
F13	St Lawrence	HtL+	HtL+	HtL+	The current line will be held throughout all epochs. The standard of protection will be maintained or upgraded.

F14	St Lawrence to Bradwell on Sea	HtL+	MR2+	HtL+	The current line will be held in epoch 1. In epoch 2, managed realignment by breach of the existing defence while continuing flood defence to the dwellings, roads and Leisure Park. The standard of protection of any new/remaining defence will be maintained or upgraded.
F15	Bradwell Creek	HtL	HtL	HtL	The current line will be held throughout all epochs. The standard of protection will be maintained or upgraded.

Dengie SPA/Ramsar site

Table 2.6 Management Unit G1 to G3

Policy Unit		Policy Plan			Explanation
		2025	2055	2105	
G1	Bradwell-on-Sea	HtL	HtL	HtL	The current line will be held throughout all epochs. The defence is under pressure but there are overriding constraints for realignment.
G2	Bradwell Marshes	HtL	HtL	HtL	The current line will be held throughout all epochs.
G3	Dengie Marshes	HtL	HtL	HtL	The current line will be held throughout all epochs. The defence is partly under pressure but there are overriding constraints for realignment.

Crouch and Roach Estuary SPA/Ramsar site

Table 2.7 Management Units G3, and H1 to H16

Policy Unit		Policy Plan			Explanation
		2025	2055	2105	
G3	Dengie Marshes	HtL	HtL	HtL	The current line will be held throughout all epochs. The defence is partly under pressure but there are overriding constraints for realignment.
H1	Burnham on Crouch	HtL	HtL	HtL	The current line will be held throughout all epochs
H2a	From Burnham on Crouch to Bridgemarsh	HtL	MR2	HtL	The current line will be held in epoch 1. Managed realignment by breach of the existing defence while continuing defence to all dwellings and the railway line. The currently undefended section at The Cliff will remain undefended.
H2b	Bridge Marsh to North Fambridge	HtL	HtL	MR2	The current line will be held in epochs 1 and 2. Managed realignment by breach of the existing defence while continuing defence to the dwellings, roads and sewage works. Note that the alignment of the new defence is under discussion.
H3	North Fambridge and South Woodham Ferrers	HtL	HtL	HtL	The current line will be held throughout all epochs.
H4	South Woodham Ferrers, Battlesbridge and Hullbridge	HtL+	HtL+	HtL+	The current line will be held throughout all epochs. The standard of protection will be maintained or upgraded.
H5	Eastwards of Brandy Hole	HtL+	HtL+	HtL+	The current line will be held throughout all epochs. The standard of protection will be maintained or upgraded. The currently undefended sections will remain undefended.
H6	Landward of Brandy Hole Reach	HtL	HtL	HtL	The current line will be held throughout all epochs.

H7	South Fambridge	HtL	HtL	HtL	The current line will be held throughout all epochs.
H8a	South bank of Longpole, Shortpole and Raypitts Reaches (Canewdon West)	HtL	HtL	HtL	The current line will be held throughout all epochs. The defence is under pressure but there are overriding constraints for realignment.
H8b	Canewdon	HtL	MR2	HtL	The current line will be held in epoch 1. Managed realignment by breach of the existing defence while continuing defence to dwellings.
H11a	Paglesham Churchyard	HtL	MR2	HtL	The current line will be held in epoch 1. Managed realignment by breach of the existing defence while continuing defence to the dwellings and infrastructure.
H11b	Paglesham Eastend	HtL	MR2	HtL	The current line will be held in epoch 1. In epoch 2, realigned defences will be required to protect the community of Paglesham Eastend ahead of any managed realignment (by breach of the existing defence while continuing flood defence to the dwellings and infrastructure).
H12	Stambridge	HtL	HtL	HtL	The current line will be held throughout all epochs.
H13	Rochford	HtL+	HtL+	HtL+	The current line will be held throughout all epochs. The standard of protection will be maintained or upgraded.
H14	Barling Marsh	HtL+	HtL+	HtL+	The current line will be held throughout all epochs. The defence is under pressure but there are overriding constraints for realignment. The standard of protection will be maintained or upgraded.
H15	Little Wakering	HtL+	HtL+	HtL+	The current line will be held throughout all epochs. The standard of protection will be maintained or upgraded.
H16	Great Wakering	HtL+	HtL+	HtL+	The current line will be held throughout all epochs. The standard of protection will be maintained or upgraded.

Foulness SPA/Ramsar site

Table 2.8 Management Units I1a to I1c

Policy Unit		Policy Plan			
		2025	2055	2105	Explanation
I1a	Foulness	HtL	HtL	HtL	The current line will be held throughout all epochs. The defence is under pressure but there are overriding constraints for realignment.
I1b	Potton	HtL	HtL	HtL	The current line will be held throughout all epochs. The defence is under pressure but there are overriding constraints for realignment.
I1c	Rushley	HtL	HtL	MR2	The current line will be held in epochs 1 and 2. Managed realignment by breach of the existing defence, followed by no active intervention.

Mid-Essex Coast SPA/Ramsar site

The wider Mid-Essex Coast SPA/Ramsar site incorporates five discrete SPA/Ramsar sites. These are the Colne Estuary SPA/Ramsar site, the Blackwater Estuary SPA/Ramsar site, the Dengie SPA/Ramsar site, the Crouch and Roach Estuary SPA/Ramsar site, and the Foulness SPA/Ramsar site. Hence the wider site is affected in the same way by all the Policy Units listed in tables 2.4 to 2.8.

Essex Estuaries SAC

The area covered by the Essex Estuaries SAC is effectively the intertidal part of the area covered by the wider Mid-Essex Coast SPA/Ramsar site. The policies affecting the Essex Estuaries SAC are as in tables 2.4 to 2.8. However, only the coastal squeeze elements apply to the SAC. Managed realignments are assumed not to affect the SAC.

As shown in **Table 2.1** the shoreline management policies considered are those defined by Defra and as such, at this strategic level, there is no scope to assess other potential policy options.

2.2 Key Conclusions of the HRA

The HRA (**Appendix 1**) concluded that the Essex and South Suffolk SMP2 has the potential to have an adverse effect on the integrity of the following internationally designated sites:

- Essex Estuaries SAC
- Stour and Orwell Estuaries SPA/Ramsar site;
- Hamford Water SPA/Ramsar site;
- Colne Estuary SPA/Ramsar site;
- Blackwater Estuary SPA/Ramsar site;
- Dengie SPA/Ramsar site;
- Crouch and Roach Estuaries SPA/Ramsar site;
- Foulness SPA and Ramsar site; and,
- Benfleet and Southend Marshes SPA/Ramsar site;

The key issues identified within the HRA relating to SMP policy are:

- Loss of intertidal habitat through coastal squeeze;
- Loss of coastal grazing marsh and associated habitats within designated sites due to managed realignment policies;
- Loss of other freshwater or terrestrial habitats outside designated sites that may also be used by qualifying species;
- The importance of the interaction between estuaries and coastal habitat;
- The requirement for the maintenance of habitat for bird species; and,
- The requirement for a Statement of Case for IROPI.

Within the HRA and the development of SMP policy, some of the issues above were addressed to ensure that an adverse effect was avoided. However, the predicted loss of saltmarsh could not be prevented in all instances and a number of the defences fronting coastal grazing marsh were assessed as not sustainable. The HRA was therefore unable to conclude no adverse effect on the integrity of the above sites.

However, it was agreed with Natural England that because of the interrelationship between some of the estuary SPA and Ramsar sites on the Essex coast, gains and losses of habitats

should be considered across their combined areas. This decision was underpinned by the amalgamation of the Colne Estuary, Blackwater Estuary, Dengie, Crouch and Roach Estuaries and Foulness SPAs into a single Mid-Essex Coast SPA/Ramsar site. The JNCC website explains that this very large SPA would be designated in five phases that would be classified separately. This approach was adopted because although these estuaries are recognised as being a single entity ecologically, their sheer size made the classification process too complex. A similar approach has been adopted for the Mid-Essex Coast Ramsar site.

The HRA concluded that, taking account of the gains and losses of habitats within the Mid-Essex Coast SPA and Ramsar site as a whole, some of the impacts would be mitigated through actions elsewhere (i.e. through creation of new habitats elsewhere within the wider site). Overall, however, there would still be adverse effect on integrity. Chapter 11 of this Statement of Case considers how mitigation measures (i.e. within the site) reduce the compensation requirements (measures beyond the site boundaries).

2.3 In-combination assessment

A wide range of plans and projects in the South Suffolk and Essex coastal area were considered for their potential to have in-combination effects with the SMP2 on the Natura 2000 and Ramsar sites under consideration. The details are provided in Section 8 of the HRA (Appendix 1). No adverse in-combination effects were identified.

2.4 Assumptions of the Statement of Case for IROPI

Key assumptions which have been made in the HRA are that:

- All other competent authorities will perform their duties; and,
- The Regional Habitat Creation Programme (RHCP) will deliver the compensatory habitat in advance of loss and to the satisfaction of Natural England.

It is also recognised that there is incomplete knowledge regarding the response of coastal systems (particularly rates of sediment deposition and sediment movements) to sea level rise over the full lifetime of the plan.

The Essex Coast and Estuaries Coastal Habitat Management Plan (CHaMP) (Cottle, Pethick and Dalton, 2002) has been a key document in the development of the SMP2 and the HRA. However, since the completion of the CHaMP in 2002 revised figures for sea level rise have been published (Defra, 2006b). Additionally the SMP2 process provided the opportunity to reconsider various management options along the coast. Therefore whilst the CHaMP remains useful reference in the appraisal of policy and alternatives, its findings may not be universally consistent with current thinking.

2.5 Quantification of Compensatory Habitat Requirements

The HRA has estimated future changes in the extent of intertidal habitats in epoch 1 based on the measured rate of loss/gain over the last two decades. This is considered to be a reasonable approach since the rate of sea level rise is not expected to increase dramatically before 2025. However, the predicted rate of increase in sea level rise through epochs 2 and

3 makes this assumption unsound for the period beyond 2025, and for this reason the HRA concluded that rate of loss of intertidal habitats beyond 2025 could not be identified with any certainty. On the precautionary principle, it is assumed that there would be some loss of intertidal habitat in all management units where the policy is hold the line in epochs 2 and 3. The loss of saltmarsh will be monitored by the Environment Agency and Natural England, and the results of this monitoring will be used to inform the extent of habitat creation. A ratio of 1:1 for the area of habitat replacement has been agreed at national level for habitats lost due to coastal squeeze. For other habitats, in discussions with Natural England to specify compensatory requirements, due regard will be given to the need for a multiplier of habitat quantity to ensure that functionality across the network is maintained. Within this assessment a 1:1 Ratio for habitat replacement has been assumed.



**Habitats Directive
Information to the Secretary of State/National Assembly for Wales
according to Regulations 62(5) and 64(2) of the Habitats Regulations**

Purpose: This document provides a framework and proforma for the provision of information to the Secretary of State/Welsh Ministers for cases of Overriding Public Interest under the Habitats Regulations.

Scope: This document provides a format for Environment Agency staff to use when providing information to the Secretary of State/Welsh Ministers over cases of OPI under the Habitats Directive.

A: ADMINISTRATION

B: SITE DETAILS

C: SUMMARY OF THE PLAN OR PROJECT HAVING AN EFFECT ON THE SITE

D: SUMMARY OF THE ASSESSMENT OF THE NEGATIVE EFFECTS ON THE SITE

E: MODIFICATIONS CONSIDERED

F: ALTERNATIVE SOLUTIONS CONSIDERED

G: IMPERATIVE REASONS

H: COMPENSATION MEASURES

I: SUPPORTING DOCUMENTATION

A: Administration details

Date: December 2011

Plan/Project Reference: Essex and South Suffolk SMP 2

Contact person: Ian Cappitt - National Environmental Assessment Service (NEAS)

Address: Environment Agency, Kingfisher House, Goldhay Way, Orton Goldhay, Peterborough, PE2 5ZR

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B: Site details

Name of European site affected: Essex Estuaries SAC

This site is: a designated Special Area of Conservation (SAC)
 a candidate SAC under the Habitats Directive
 a classified Special Protection Area (SPA)
 a proposed SPA under the Birds Directive
 a Ramsar hosting a priority habitat/species
 a Site of Community Importance (SCI)

C: Summary of the plan or project having an effect on the site

Introduction

During the development of this SMP2, implications for internationally designated sites which may be affected (**Figure 1**) have been considered through an assessment under the Habitats Directive. This process concluded that there is the potential for adverse effects on the integrity of the Essex Estuaries SAC.

The Essex Estuaries SAC includes the intertidal habitats in the Colne, Blackwater, and Crouch and Roach estuaries, as well as the extensive tidal flats of the Dengie and Foulness peninsulas. However, it excludes Hamford water and the Stour and Orwell Estuaries. The preferred policies that are anticipated to have an adverse effect on the Essex Estuaries SAC are as set out in tables 2.4 to 2.8. These are policies within units C4, D1 - D6, D8, E1 - E4, F1 - F7, F9 - F15, G1 - G3, H1 - H8, H11 - H16, and I1.

In summary, the policies over a large part of the SAC are to hold the line to continue to protect property, infrastructure and large areas of agricultural land. However, the policy is to undertake managed realignment at Wallasea Island (within the Crouch and Roach estuary) to create additional intertidal habitats within epoch 1 adjacent to the SAC. Additional managed realignments are incorporated in policies in other areas adjacent to the SAC in epochs 2 and 3.

This chapter presents the Statement of Case for the Essex Estuaries SAC.

Designated features of the Essex Estuaries SAC

This SAC is one of the largest for intertidal habitat in the UK. Large areas of saltmarsh have been lost due to coastal squeeze over recent decades, but several medium to large managed realignment projects have been completed in the area since 1995.

The Annex 1 habitats that are a primary reason for the designation of the SAC are:

- Estuaries
- Mudflats and sandflats not covered by the sea at low water
- *Salicornia* and other annuals colonising mud and sand
- *Spartina* swards
- Atlantic salt meadows (*Glauco-Puccinallietalia maritimae*)
- Mediterranean and thermo-Atlantic *halophilous* scrubs (*Sarcocornetea fruticosi*).

Annex 1 habitats that are present as a qualifying feature, but are not a primary reason for site selection:

- Sandbanks that are slightly covered by sea water all the time.

It should be noted that the area covered by this SAC (Figure 1) overlaps substantially with the Mid-Essex Coast SPA and Ramsar site (considered in Chapter 11).

D: Summary of the assessment of the negative effects on the site

Based on the historic rate of loss, the HRA estimated that 50 ha of saltmarsh would be lost from the Essex Estuaries SAC during epoch 1 as a result of coastal squeeze due to hold the line policies in the SMP2. The loss during epochs 2 and 3 is not known, but is expected to be greater.

It is anticipated that more than 50 ha of new intertidal habitat will be created in epoch 1 through managed realignment policies in this SMP2 (see section H below), with larger areas being created in epochs 2 and 3. This will partially offset the expected loss of saltmarsh. However, the areas of new habitat that will be created are outside the SAC boundary, and therefore it is not possible to conclude no adverse effect.

Full details of the HRA for this SAC are provided in Appendix 1. The features that would be adversely affected are:

- *Salicornia* and other annuals colonising mud and sand
- *Spartina* swards
- Atlantic salt meadows (*Glauco-Puccinallietalia maritimae*)
- Mediterranean and thermo-Atlantic *halophilous* scrubs (*Sarcocornetea fruticosi*).

E: Modifications or restrictions considered

Shoreline Management Plans set high-level policy, and as such variations to reduce or eliminate adverse effects are not considered at this stage. However, opportunities to incorporate modifications or restrictions (e.g. design of breaches in managed realignment sites) will be considered at the detailed design stage for each project that may affect the site. Detailed HRA at a strategy/project level will be carried out and project-specific mitigation will be prescribed as part of these. Such measures will seek to reduce the magnitude of the impact on the SAC, but cannot avoid the overall adverse effect.

Monitoring regimes are in place through both Natural England and the Environment Agency to assess the actual loss of saltmarsh. The results will feed into an iterative process to ensure that the appropriate amount of intertidal habitat will be created in advance of losses.

F: Alternative Solutions considered

The policy options considered are described in Chapter 2. A key objective in the appraisal of the options was to try and find a solution with no significant effect on Natura 2000 sites.

The option to advance the line was rejected at an early stage as it would have resulted in additional loss of SAC intertidal habitats.

The option to hold the line in all areas would have been more damaging as it would have resulted in a greater loss of SAC intertidal habitats due to coastal squeeze, and would have been increasingly difficult as a result of rising sea levels. In general, HtL policies have been implemented to protect people and property. In some locations, however, the presence of significant amounts of waste materials within sea defences has led to a hold the line policy being adopted to prevent damage to the SAC. Where this is the case, the policy is HtL subject to further investigations.

Managed realignment policies would primarily create new intertidal habitats adjacent to, but outside the boundaries of the SAC. There is a minor exception to this where the SAC boundary is immediately behind the defence, as it is in some locations. Where this is the case, managed realignment creates some new intertidal habitat within the SAC, although the majority of it will still be outside.

Hence, the managed realignment policies within the SMP allow for small amounts of mitigation, but are primarily included to provide compensation for all adverse effects.

In view of the expected loss of intertidal habitats from the SAC due to rising sea levels, there were no coastal management options that would have no adverse effect. The least damaging option, which includes a combination of HtL and MR policies, has therefore been adopted.

G: Imperative reasons of Overriding Public Interest

SMPs identify coastal management policies to enable effective use of this fund to reduce risks to life and property in a strategic way. The Flood Risk Management Operating Authorities (including the Environment Agency and coastal local authorities) seek to maximise the benefits to human health and safety that can be achieved with the available funding, and SMPs play a very important role in this process. With sea level rise and increased coastal storminess, it is forecast that flood risk and erosion will increase, resulting in increased risk to life and properties within the SMP2 area. Without the SMP, risk to life and property would not be properly managed.

In partnership with Natural England, we have identified the least damaging alternative to manage this coastline and its designated habitats over the next 100 years.

There are imperative reasons of overriding public interest for implementing this SMP2, notwithstanding the assessment of adverse effect on site integrity. The reasons are:

- The need to address a serious risk to human health and public safety (uncontrolled flood and erosion risks to large residential populations);
- Failure to implement the SMP2 policies would have unacceptable social and/or economic consequences (loss of economic infrastructure, commercial property and community areas) through coastal flood and erosion damage;
- The SMP2 as a whole is the least damaging option for the designated sites and will help them to adjust to sea level rise. This SMP therefore also has beneficial consequences of primary importance for the environment.

Beneficial consequences of primary importance for the environment

The proposed policies are the least damaging for the SAC. They incorporate managed realignment to compensate for intertidal habitats that will inevitably be lost from within the SAC, and are required to maintain the coherence of the Natura 2000 complex.

Human health and public safety

Coastal flooding and erosion that would result from failure of defences within the SAC poses risks to more than 42,000 residential and commercial properties (in communities at Point Clear, Brightlingsea, Wivenhoe, Rowhedge, St Lawrence, Mayland/Maylandsea, Maldon, West Mersea, Burnham-on-Crouch, South Woodham Ferrers, Battlesbridge, Hullbridge and Great Wakering), the nuclear power station at Bradwell, military training areas at Wick and Langenhoe Marshes and Foulness, key infrastructure such as roads and railway lines to Walton-on-the-Naze and Burnham on Crouch) and more than 76,000 hectares of agricultural land. With sea level rise we forecast increased risks of flooding and erosion resulting and increased risk to life and properties.

This SMP coordinates the management of these risks to ensure that the social, environmental and economic impacts of coastal flooding and erosion are managed in the best way over the long term. Without the plan, coastal engineering in the area may be uncoordinated, ineffective and miss opportunities to manage the coastal environment in the most balanced and positive way so as to ensure risks to human health and public safety are addressed.

H: Compensatory measures

We currently estimate that the policies set out in the SMP2 will require creation of 50 ha of new intertidal habitat to compensate for losses within the Essex Estuaries SAC in epoch 1. Losses in epochs 2 and 3 are un-quantified at this stage, but are expected to be greater.

In epoch 1 there is a 155 ha managed realignment in PDZ H10 (Wallasea Island). This project has already started, and is being taken forward by the RSPB on the Environment Agency's behalf. 77 ha will be allocated against historic loss of saltmarsh in the SAC, leaving 78 ha as compensation for the losses in epoch 1. The RSPB has outline approval for additional large areas of intertidal habitat creation at the same site, which may also be available as compensation for losses during epoch 1 if monitoring shows it is required.

There are additional managed realignment policies adjacent to the SAC in the following policy units which will be taken forward in epochs 2 and 3 to provide additional compensation as demonstrated by monitoring:

- C4 St. Osyth Marsh (epoch 3);
- D1b Point Clear to St Osyth Creek (epoch 2);
- D2 south bank of Flag Creek (epoch 3);
- D3 north bank of Flag Creek to Brightlingsea (epoch 2);
- D5 Westmarsh point to the B1029 (epoch 2);
- D6b B1029 to Wivenhoe (epoch 2);
- D8a Inner Colne west bank (epoch 2);
- E2 seaward frontage of Mersea Island (epoch 2);
- E4a North Mersea (Strood Channel) (epoch 2);
- F3 south bank of Salcott Channel to Tollesbury Fleet (epoch 3);
- F5 Tollesbury Wick Marshes to Goldhanger (epoch 3);
- F12 Steeple (epoch 3);
- F14 St Lawrence to Bradwell-on-Sea (epoch 2);
- H2a Burnham on Crouch to Bridgemarsh (epoch 2);
- H2b Bridgemarsh to North Fambridge (epoch 3);
- H8b Canewdon (epoch 2);
- H11a Paglesham Churchend (epoch 2);
- H11b Paglesham Eastend (epoch 2);
- I1c Rushley Island (epoch 3)

Compensation habitats will be provided in advance of losses through the Environment Agency Anglian RHCP.

I: Supporting Documentation

Appendix 1 – Essex and South Suffolk SMP2 Habitats Regulation Assessment
Appendix 2 – Essex and South Suffolk SMP2



Environment
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Amgylchedd

Habitats Directive

Information to the Secretary of State/National Assembly for Wales according to Regulations 62(5) and 64(2) of the Habitats Regulations

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G: IMPERATIVE REASONS

H: COMPENSATION MEASURES

I: SUPPORTING DOCUMENTATION

A: Administration details

Date: December 2011

Plan/Project Reference: Essex and South Suffolk SMP 2

Contact person: Ian Cappitt - National Environmental Assessment Service (NEAS)

Address: Environment Agency, Kingfisher House, Goldhay Way, Orton Goldhay, Peterborough, PE2 5ZR

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B: Site details

Name of European site affected: Stour and Orwell Estuaries

- This site is:
- a designated Special Area of Conservation (SAC)
 - a candidate SAC under the Habitats Directive
 - a classified Special Protection Area (SPA)
 - a proposed SPA under the Birds Directive
 - a Ramsar hosting a priority habitat/species
 - a Site of Community Importance (SCI)

C: Summary of the plan or project having an effect on the site

Introduction

During the development of the SMP2, implications for internationally designated sites which may be affected (**Figure 1**) have been considered through an assessment under the Habitats Directive. This process concluded that there is the potential for adverse effects on the integrity of the Stour and Orwell Estuaries SPA and Ramsar site.

The Orwell Estuary is in Suffolk, with the ports of Felixstowe and Harwich at the mouth, and Ipswich at the upstream end. The Stour Estuary forms the border between Suffolk and Essex. It has a common seaward end with the Orwell Estuary, and its upstream limit is at Manningtree. Both estuaries have a mixture of low-lying frontages that are defended by existing sea defences, and naturally rising ground that is often subject to erosion.

The Stour and Orwell Estuaries SPA/Ramsar site is primarily intertidal habitat, but there are also areas of grazing marsh.

The policies in the SMP2 allow for continued expansion of the important ports at Felixstowe and Harwich, and there are significant lengths where a hold the line policy is required to protect property and infrastructure. The best available evidence suggests that the estuary is currently accreting, and hold the line policies are not currently causing adverse effect.

The preferred policies that are anticipated to have an adverse effect resulting from managed realignment. As set out in table 2.2 these are policies A2; A3a, A3b, A4a, A8a, A8b, A91, d, f and A10a, c, e.

Any proposals for port expansion that include an Advance the Line approach will be subject to separate HRAs, and any compensation measures would be the responsibility of the Port Authorities.

This chapter presents the Statement of Case for the Stour and Orwell SPA/Ramsar site.

Designated features of the Stour and Orwell Estuaries SPA/Ramsar

The SPA is classified under article 4.1 and 4.2 of the Birds Directive (79/409) for the following species:

Article 4.1:

- Avocet (breeding)
- Hen Harrier (winter)

Article 4.2 - wintering populations:

- Redshank
- Pintail
- Dark-bellied brent goose
- Dunlin
- Black-tailed godwit
- Grey plover
- Knot
- Ringed Plover
- Shelduck
- Turnstone

The area also qualifies by regularly supporting at least 20,000 waterfowl.

The estuary is also listed as a Ramsar site under the following criteria

- Ramsar criterion 2
The site supports seven nationally-scarce plant species and five British Red Data Book invertebrates.
- Ramsar criterion 5
The site regularly supports more than 20,000 waterfowl in winter (63,017 – 5 year peak mean).
- Ramsar criterion 6
Qualifying species/populations
Species with peak counts in spring/autumn:
Redshank
Species with peak counts in winter:
Dark-bellied brent goose
Pintail
Grey plover
Knot
Dunlin
Black-tailed godwit
Redshank

D: Summary of the assessment of the negative effects on the site

Ramsar listed saltmarsh plants

The latest available evidence indicates that the area of saltmarsh within the estuary is currently increasing due to deposition of sediment. The estuary is predicted to continue to accrete in epoch 1, and hold the line policies are therefore assessed as having no adverse effect on Stour and Orwell Estuary SPA and Ramsar intertidal features in that period. However, there is the potential for coastal squeeze in epochs 2 and 3, which would have an adverse effect on saltmarsh plants.

The proposed managed realignment at Shotley West Marsh (A8a) in epoch 1 will create 45 ha of new intertidal habitat within the site boundary, thereby providing mitigation in advance for any loss of this habitat that may occur within the estuaries in epoch 2.

Managed realignments proposed in epoch 2 in policy units A2, A3a and A8b would create an additional 145 ha of intertidal habitat within the SPA/Ramsar site, and potentially more than 100 ha of intertidal habitat in areas outside the site. These policies will be implemented as and when monitoring confirms that they are appropriate.

The conclusion, therefore, is that loss of saltmarsh can be mitigated within the site. There would be no loss of intertidal feeding habitat for SPA and Ramsar bird species throughout the 100 years covered by the SMP.

Coastal grazing marsh supporting SPA/Ramsar species, particularly dark-bellied brent goose, avocet, black-tailed godwit, waterfowl assemblage, hen harrier and Ramsar listed invertebrates

The managed realignment at Shotley West Marsh (A8a) in epoch 1 will result in the loss of 50 ha of grazing marsh within the SPA/Ramsar site. This is considered likely to cause an adverse effect on dark-bellied brent goose through loss of an important feeding area. Ramsar features for which the site qualifies under Criterion 2 may also be affected.

Managed realignments in epoch 2 in policy units A2, A3a and A8b would result in the loss of 145 ha of SPA/Ramsar coastal grazing marsh and associated wetland habitats. This is assessed as potentially causing adverse effects on breeding avocet, and overwintering birds that use the areas as roosting and to a lesser extent feeding areas. Species that are likely to be particularly affected are dark-bellied brent goose, black-tailed godwit and hen harrier.

Full details of the HRA for this SPA/Ramsar site are provided in Appendix 1.

E: Modifications or restrictions considered

Shoreline Management Plans set high-level policy, and as such variations to reduce or eliminate adverse effects are not considered at this stage. However, opportunities to incorporate modifications or restrictions (e.g. timing of construction, location and footprint of works) will be considered at the detailed design stage for each of the managed realignment projects. Detailed HRA at a strategy/project level will be carried out and project-specific mitigation will be prescribed as part of these. Such measures will seek to reduce the magnitude of the impact on the SPA/Ramsar site, but it is not clear whether the overall adverse effect can be mitigated at this stage. Hence, on the precautionary principle, an adverse effect has been determined.

Monitoring regimes are in place through both Natural England and the Environment Agency to assess the actual loss of saltmarsh. The results will feed into an iterative process to ensure that sufficient intertidal habitat to support qualifying bird populations and Ramsar features will be created during this period, and in advance of losses.

F: Alternative Solutions considered

The policy options considered are described in Chapter 2.

The option to advance the line was rejected at an early stage as it would have resulted in additional loss of intertidal habitats.

The option to hold the line in all areas would have been more damaging as it would have resulted in a greater loss of intertidal habitats due to coastal squeeze. It would also have been increasingly unsustainable with rising sea levels.

There was no combination of policies that would benefit all designated features of the SPA/Ramsar site. For example, managed realignment would benefit Ramsar saltmarsh features, but would have adverse effects on species such as dark-bellied brent goose that are partly dependant on coastal grazing marsh. On the other hand, a policy to maintain all areas of coastal grazing marsh to benefit geese and certain Ramsar features would have caused adverse effects on saltmarsh by causing coastal squeeze. Hence the identification of the best option for managing the SPA/Ramsar site was inevitably a trade-off between different options and impacts. The advice of Natural England was key to identifying the least damaging and most sustainable option.

The alternative option that would potentially be less damaging to the Stour and Orwell Estuaries SPA/Ramsar site in epoch 1 would be to hold the line at Shotley Marshes West (A8a), and hence to maintain protection to the grazing marshes within the SPA/Ramsar site was considered, but in consultation with Natural England, it was concluded that it was not sustainable to maintain the grazing marsh and associated habitats in situ.

The alternative hold the line policy was also considered for the three sites where managed realignment is the identified policy in epoch 2, but in consultation with Natural England, it was concluded that this

would cause adverse effects on Ramsar saltmarsh plants and that it was not sustainable to maintain the grazing marsh and associated habitats in situ.

G: Imperative reasons of Overriding Public Interest

SMPs identify coastal management policies to enable effective use of this fund to reduce risks to life and property in a strategic way. The Flood Risk Management Operating Authorities (including the Environment Agency and coastal local authorities) seek to maximise the benefits to human health and safety that can be achieved with the available funding, and SMPs play a very important role in this process. With sea level rise and increased coastal storminess, it is forecast that flood risk and erosion will increase, resulting in increased risk to life and properties within the SMP2 area. Without the SMP, risk to life and property would not be properly managed.

In partnership with Natural England, we have identified the least damaging alternative to manage this coastline and its designated habitats over the next 100 years.

There are imperative reasons of overriding public interest for implementing this SMP2, notwithstanding the assessment of adverse effect on site integrity. The reasons are:

- The need to address a serious risk to human health and public safety (uncontrolled flood and erosion risks to large residential populations);
- failure to implement the SMP2 policies would have unacceptable social and/or economic consequences (loss of economic infrastructure, commercial property and community areas) through coastal flood and erosion damage;
- The SMP as a whole is the least damaging option for the designated sites and will help them to adjust to sea level rise. This SMP therefore also has beneficial consequences of primary importance for the environment.

Beneficial consequences of primary importance for the environment

The proposed policies are the least damaging for the SPA and Ramsar site. In particular, they incorporate managed realignment to mitigate the loss of Ramsar listed saltmarsh plants. They also contribute to the un-quantified requirements for intertidal habitat compensation for the SAC in Epochs 2 and 3 (see Chapter 3). The proposals are supported by Natural England as being the best overall for the SPA/Ramsar site as a whole.

Human health and public safety

Coastal flooding and erosion within the Stour and Orwell Estuaries poses risks to more than 25,000 properties, nearly 8,000 ha of agricultural land, two major ports (Felixstowe and Harwich), and key infrastructure such as roads and railway lines and agricultural land. Policies within Management Unit A maintain protection to the main railway line between Ipswich and London, five A roads (including the A137 at Cattawade and the A120 Harwich link road) and several sewage treatment works.

This SMP coordinates the management of these risks to ensure that the social, environmental and economic impacts of coastal flooding and erosion are managed in the best way over the long term. Without the plan, coastal engineering in the area may be uncoordinated, ineffective and miss opportunities to manage the coastal environment in the most balanced and positive way.

H: Compensatory measures

Policies set out in the SMP for this estuary will result in the overall loss of 50 ha of grazing marsh in epoch 1 and a further 145 ha of coastal grazing marsh and lagoon habitats in epoch 2. These losses are assessed as having an adverse effect on breeding and wintering bird populations and Ramsar listed invertebrate and plant species. HRAs will be undertaken for each managed realignment project in advance of implementation to confirm the details of the adverse effects, and therefore the precise compensation requirements will be determined at that stage. However, at present it is anticipated that measures will be required to compensate for loss of grazing habitat for waterfowl (especially dark-bellied brent geese), breeding habitat for avocet, and roosting habitats for wading birds such as black-tailed godwit.

The potential loss of an unknown area of saltmarsh in epoch 3 is not mitigated by managed realignment and requires compensation. Monitoring will be undertaken to determine the area required.

Adverse effects remaining after modifications and restrictions have been incorporated in scheme design will be compensated in advance by creating appropriate habitats through the Environment Agency Anglian RHCP.

I: Supporting Documentation

Appendix 1 – Essex and South Suffolk SMP2 Habitats Regulation Assessment Appendix 2 – Essex and South Suffolk SMP2



Habitats Directive
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A: Administration details

Date: December 2011

Plan/Project Reference: Essex and South Suffolk SMP 2

Contact person: Ian Cappitt - National Environmental Assessment Service (NEAS)

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Fax: 01733 464372

E-mail: ian.cappitt@environment-agency.gov.uk

B: Site details

Name of European site affected: Hamford Water

- This site is:
- a designated Special Area of Conservation (SAC)
 - a candidate SAC under the Habitats Directive
 - a classified Special Protection Area (SPA)
 - a proposed SPA under the Birds Directive
 - a Ramsar hosting a priority habitat/species
 - a Site of Community Importance (SCI)

C: Summary of the plan or project having an effect on the site

Introduction

During the development of the SMP2, implications for internationally designated sites which may be affected (**Figure 1**) have been considered through an assessment under the Habitats Directive. This process concluded that there is the potential for adverse effects on the integrity of the Hamford Water SPA/Ramsar site.

Hamford Water is a shallow embayment situated between Harwich and Walton on the Naze. There are large areas of saltmarsh and mudflat, but also several low-lying islands that have been reclaimed from saltings, and are protected from inundation by flood defences. These islands are included in the SPA due to their value as they provide additional feeding and roosting habitats for waterfowl. The preferred policies that are anticipated to have an adverse effect on Hamford Water SPA/Ramsar site are set out in table 2.3. These are the policies in units B1, B2, B3, B3a, B4a, B4b and B5.

The policies for epoch 1 are hold the line except for managed realignment on two sections. The managed realignment in B2 (north shore) provides compensation for port development. Managed realignment in B4a (south shore) provides compensation for historic loss of intertidal habitats. Both involve realignment over agricultural land outside the SPA/Ramsar site.

The hold the line policy for epochs 1 and 2 at Horsey Island will maintain feeding and roosting habitats on coastal grazing marshes within the SPA, but the policy is for managed realignment in epoch 3.

This chapter presents the Statement of Case for the Hamford Water SPA/Ramsar site.

Designated features of Hamford Water SPA/Ramsar

The SPA is classified under articles 4.1 and 4.2 of the Birds Directive (79/409) for the following species:

Article 4.1

- Little Tern (breeding)
- Avocet (winter)
- Golden plover ((winter)
- Ruff (winter)

Article 4.2

On passage

- Ringed plover

wintering populations

- Common teal
- Dark-bellied brent goose
- Ringed plover
- Black-tailed godwit
- Grey plover
- Shelduck
- Redshank

The site also qualifies by supporting by regularly supporting at least 20,000 waterfowl.

The estuary is listed as a Ramsar site under the following criterion

- Ramsar criterion 6
Qualifying species/populations
Species with peak counts in spring/autumn:
Ringed plover
Redshank
Species with peak counts in winter:
Dark-bellied brent goose
Black-tailed godwit

D: Summary of the assessment of the negative effects on the site

Coastal grazing marsh and associated wetland habitats and species, including feeding habitat for wildfowl such as brent geese and roosting habitat for a range of waterfowl

Managed realignment in B3a (Horse Island) in epoch 3 will result in loss of up to 45 ha of coastal grazing marshes, with adverse effects on a range of SPA and Ramsar site waterfowl features.

Managed realignment in B2 in epoch 2 and in B5 in epoch 3 could result in loss of up to 500 ha of agricultural land outside the SPA/Ramsar site, which may have adverse effect on dark-bellied brent geese through loss of feeding opportunities. These potential effects will need to be assessed at the project level. On the precautionary principle, they are assessed as having adverse effect.

Overall

In conclusion, based on the precautionary principle it is not possible to conclude no adverse effects in epoch 2 due to loss of farmland outside the SPA/Ramsar site that may support qualifying species. In epoch 3, there is an adverse effect on the SPA/Ramsar site due to loss of 45 ha of coastal grazing marsh and wetland habitat on Horse Island.

Full details of the HRA for this SPA/Ramsar site are provided in Appendix 1.

E: Modifications or restrictions considered

Shoreline Management Plans set high-level policy, and as such variations to reduce or eliminate adverse effects are not considered at this stage. However, opportunities to incorporate modifications or restrictions (e.g. timing of construction, location and footprint of works) will be considered at the detailed design stage for each project that may affect the site. Detailed HRA at a strategy/project level will be carried out and project-specific mitigation will be prescribed as part of these. Such measures will seek to reduce the magnitude of the impact on the SPA/Ramsar site, but it is not clear whether the overall adverse effect can be mitigated at this stage. Hence, on the precautionary principle, an adverse effect has been determined.

F: Alternative Solutions considered

The policy options considered are described in Chapter 2.

The option to advance the line was rejected at an early stage as it would have resulted in additional loss of intertidal habitats.

The option to hold the line in all areas would have been more damaging as it would have resulted in a greater loss of intertidal habitats due to coastal squeeze in epochs 2 and 3. It would also be increasingly difficult to hold the line in future due to sea level rise, and this could lead to uncontrolled breaches with consequent effects on SPA/Ramsar species.

There was no combination of policies that would benefit all designated features of the SPA/Ramsar site. For example, managed realignment would benefit wading birds that feed in intertidal habitats, but would have adverse effects on species such as dark-bellied brent goose that are partly dependant on coastal grazing marsh. On the other hand, a policy to maintain all areas of coastal grazing marsh to benefit geese and certain Ramsar features would have caused adverse effects on intertidal features by causing coastal squeeze. Hence the identification of the best option for managing the SPA/Ramsar site was inevitably a trade-off between different options and impacts. The advice of Natural England was key to identifying the least damaging option.

There are no alternative options that would be less damaging to the Hamford Water SPA/Ramsar site. Holding the line throughout would potentially cause greater loss of intertidal habitats supporting SPA/Ramsar designated features during epochs 2 and 3. Managed realignment in additional areas would be outside the SPA/Ramsar site boundary. As such, it could provide more compensation habitat but would not lessen the impact on the intertidal habitats within the designated area.

G: Imperative reasons of Overriding Public Interest

SMPs identify coastal management policies to enable effective use of this fund to reduce risks to life and property in a strategic way. The Flood Risk Management Operating Authorities (including the Environment Agency and coastal local authorities) seek to maximise the benefits to human health and safety that can be achieved with the available funding, and SMPs play a very important role in this process. With sea level rise and increased coastal storminess, it is forecast that flood risk and erosion will increase, resulting in increased risk to life and properties within the SMP2 area. Without the SMP, risk to life and property would not be properly managed.

In partnership with Natural England, we have identified the least damaging alternative to manage this coastline and its designated habitats over the next 100 years.

There are imperative reasons of overriding public interest for implementing this SMP2, notwithstanding the assessment of adverse effect on site integrity. The reasons are:

- The need to address a serious risk to human health and public safety (uncontrolled flood and erosion risks to large residential populations);
- Failure to proceed would have unacceptable social and/or economic consequences (loss of economic infrastructure, commercial property and community areas) through coastal flood and erosion damage;
- The SMP as a whole is the least damaging option for the designated sites and will help them to adjust to sea level rise. This SMP therefore has beneficial consequences of primary importance for the environment.

Beneficial consequences of primary importance for the environment

The proposed policies are the least damaging for the SPA and Ramsar site. The proposals are supported by Natural England as being the best overall for the SPA/Ramsar site as a whole because the grazing marsh habitats are not sustainable in situ. Furthermore, by planning to create compensation habitats in more sustainable locations, we minimise the risk of loss due to uncontrolled breaches.

Human health and public safety

Coastal flooding and erosion within this section of the SMP area poses risks to approximately 4,750 residential and commercial properties, key infrastructure such as roads and railway lines and more than 4,000 hectares of agricultural land. In particular, Hold the Line policies maintain protection to significant commercial and residential properties in Walton-on-the Naze, the sewage treatment works at The Naze and the B1414 linking Thorpe-le-Soken and Harwich.

This SMP coordinates the management of these risks to ensure that the social, environmental and economic impacts of coastal flooding and erosion are managed in the best way over the long term. Without the plan, coastal engineering in the area may be uncoordinated, ineffective and miss opportunities to manage the coastal environment in the most balanced and positive way so as to ensure risks to human health and public safety are addressed.

H: Compensatory measures

Detailed assessment will be required at the scheme design stage to identify the species which would be adversely affected. However, at this stage it is confirmed that compensatory measures will be required for SPA/Ramsar features affected by the loss of 45 ha of coastal grazing marsh habitat at Horsey Island in Epoch 3. On the precautionary principle, compensatory measures will also be required if adverse effects are confirmed for the managed realignments in epochs 2 and 3 policy in units B2 and B5 respectively, although both of these result in loss of agricultural land outside the SPA/Ramsar site only.

On the precautionary principle, compensatory measures will also be required for the adverse effects on SPA/Ramsar bird species affected by potential loss of intertidal habitats in epoch 2.

Adverse effects remaining after modifications and restrictions have been incorporated in scheme design will be compensated for in advance of losses through the Environment Agency Anglian RHCP.

I: Supporting Documentation

Appendix 1 – Essex and South Suffolk SMP2 Habitats Regulation Assessment Appendix 2 – Essex and South Suffolk SMP2



**Habitats Directive
Information to the Secretary of State/National Assembly for Wales
according to Regulations 62(5) and 64(2) of the Habitats Regulations**

Purpose: This document provides a framework and proforma for the provision of information to the Secretary of State/Welsh Ministers for cases of Overriding Public Interest under the Habitats Regulations.

Scope: This document provides a format for Environment Agency staff to use when providing information to the Secretary of State/Welsh Ministers over cases of OPI under the Habitats Directive.

A: ADMINISTRATION

B: SITE DETAILS

C: SUMMARY OF THE PLAN OR PROJECT HAVING AN EFFECT ON THE SITE

D: SUMMARY OF THE ASSESSMENT OF THE NEGATIVE EFFECTS ON THE SITE

E: MODIFICATIONS CONSIDERED

F: ALTERNATIVE SOLUTIONS CONSIDERED

G: IMPERATIVE REASONS

H: COMPENSATION MEASURES

I: SUPPORTING DOCUMENTATION

A: Administration details

Date: December 2011

Plan/Project Reference: Essex and South Suffolk SMP 2

Contact person: Ian Cappitt - National Environmental Assessment Service (NEAS)

Address: Environment Agency, Kingfisher House, Goldhay Way, Orton Goldhay, Peterborough, PE2 5ZR

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B: Site details

Name of European site affected: Colne Estuary

- This site is:
- a designated Special Area of Conservation (SAC)
 - a candidate SAC under the Habitats Directive
 - a classified Special Protection Area (SPA)
 - a proposed SPA under the Birds Directive
 - a Ramsar hosting a priority habitat/species
 - a Site of Community Importance (SCI)

C: Summary of the plan or project having an effect on the site

Introduction

During the development of the SMP2, implications for internationally designated sites which may be affected (**Figure 1**) have been considered through an assessment under the Habitats Directive. This process concluded that there is the potential for adverse effects on the integrity of the Colne Estuary SPA and Ramsar site (which is Phase 2 of the overarching Mid-Essex Coast SPA and Ramsar site).

The Colne Estuary is downstream from Colchester. There are flood embankments protecting low-lying land on both sides, and a storm surge barrier that can be closed to protect low-lying property in Wivenhoe and Colchester during extreme events. The preferred policies that are anticipated to have an adverse effect on the Colne Estuary SPA and Ramsar site are set out in table 2.4. These are policies C4, D1a, D1b, D2 - D5, D6a, D6b, D8a-c, E1, E2, and E4a-b.

The policies in this section of the SMP2 for epoch 1 are hold the line except for two small areas of no active intervention. No new intertidal habitats are therefore expected to be created as a result of the policies. The hold the line policy for epoch 1 will maintain feeding and roosting habitats on coastal grazing marshes within the SPA.

In epoch 2 there are managed realignment policies on seven frontages, and there is one additional managed realignment proposed in epoch 1.

Much of the area included in the Colne Estuary SPA and Ramsar site is also part of the Essex Estuaries SAC.

This chapter presents the Statement of Case for the Colne Estuary SPA/Ramsar site.

Designated features of the Colne Estuary SPA/Ramsar

The SPA is classified under articles 4.1 and 4.2 of the Birds Directive (79/409) for the following species:

Article 4.1

- Little tern (breeding)
- Hen harrier (winter)
- Avocet (winter)
- Golden plover (winter)

Article 4.2

- Pochard (breeding)
- Ringed plover (breeding)
- Dark-bellied brent goose (winter)
- Redshank (winter)

The site also qualifies by regularly supporting more than 20,000 waterfowl.

The estuary is listed as a Ramsar site under the following criteria

- Ramsar criterion 1
The site is important due to the extent and diversity of saltmarsh present. This site, and the four other sites in the Mid-Essex Coast complex, includes a total of 3,237ha that represent 70% of the saltmarsh habitat in Essex and 7% of the total saltmarsh in Britain.

- Ramsar criterion 2
The site supports 12 species of nationally scarce plants and at least 38 British Red Data Book invertebrate species.
- Ramsar criterion 3
The site supports a full and representative sequence of saltmarsh plant communities covering the range of variation in Britain.
- Ramsar criterion 5
The site regularly supports more than 20,000 waterfowl in winter (32,041 - 5 year peak mean).
- Ramsar Criterion 6
Qualifying species with peak counts in winter:
 - Dark-bellied brent goose
 - Redshank

D: Summary of the assessment of the negative effects on the site

Ramsar saltmarsh features

Based on the most recent data, it is estimated that the Hold the Line and no active intervention policies in epoch 1 will result in loss of 12 ha of saltmarsh in the Colne Estuary. Managed realignment policies at D5 in epoch 2 and D2 in epoch 3 will each create about 50 ha of new intertidal habitat within the SPA/Ramsar site, thereby providing mitigation for losses due to coastal squeeze in the estuary. Adverse effect on saltmarsh is therefore confined to epoch 1.

Coastal grazing marsh and associated wetland habitat, which supports Ramsar listed invertebrate and plant species breeding pochard, wintering hen harrier, black-tailed godwit, dark-bellied brent goose and other waterfowl

Managed realignment at D5 in epoch 2 and D2 in epoch 3 will result in direct loss of coastal grazing marsh and associated wetland habitats, causing adverse effect on a wide range of SPA and Ramsar listed features, including waterfowl, nationally scarce plants and red data book invertebrates. Managed realignment at six other frontages outside the SPA/Ramsar site during epoch 2 may also have adverse effects on waterfowl such as dark-bellied brent goose, which may also feed in arable fields.

The impact of loss of habitats in the Colne Estuary on the wider Mid-Essex Coast SPA and Ramsar sites is considered in Chapter 11.

Full details of the HRA for this SPA/Ramsar site are provided in Appendix 1.

E: Modifications or restrictions considered

Shoreline Management Plans set high-level policy, and as such variations to reduce or eliminate adverse effects are not considered at this stage. However, opportunities to incorporate modifications or restrictions (e.g. timing of construction, location and footprint of works) will be considered at the detailed design stage for each project that may affect the site. Detailed HRA at a strategy/project level will be carried out and project-specific mitigation will be prescribed as part of these. Such measures will seek

to reduce the magnitude of the impact on the SPA/Ramsar site, but it is not clear whether the overall adverse effect can be mitigated at this stage. Hence, on the precautionary principle, an adverse effect has been determined.

Monitoring regimes are in place through both Natural England and the Environment Agency to assess the actual loss of saltmarsh. The results will feed into an iterative process to ensure that sufficient intertidal habitat to support qualifying bird populations and Ramsar features will be created in advance of losses.

F: Alternative Solutions considered

The policy options considered are described in Chapter 2.

The option to advance the line was rejected at an early stage as it would have resulted in additional loss of intertidal habitats.

The option to hold the line in all areas would have been more damaging as it would have resulted in a greater loss of Ramsar saltmarsh features due to coastal squeeze in epochs 2 and 3. It would also be increasingly difficult to hold the line in future due to sea level rise, and this could lead to uncontrolled breaches with consequent effects on SPA/Ramsar species.

There was no combination of policies that would benefit all designated features of the SPA/Ramsar site. For example, managed realignment would benefit Ramsar saltmarsh features, but would have adverse effects on species such as dark-bellied brent goose that are partly dependant on coastal grazing marsh. On the other hand, a policy to maintain all areas of coastal grazing marsh to benefit geese and certain Ramsar features would have caused adverse effects on intertidal features by causing coastal squeeze. Hence the identification of the best option for managing the SPA/Ramsar site was inevitably a trade-off between different options and impacts. The advice of Natural England was key to identifying the least damaging option.

In some locations, a hold the line approach is required to maintain protection to SPA/Ramsar grazing marsh and associated wetland habitats. However, in D2 and D5 it was concluded that hold the line would not be sustainable, and that it was more appropriate to convert these areas into intertidal habitats during the SMP period, thereby maintaining the area of intertidal habitat within the SPA/Ramsar site as a whole. The alternative approach of holding the line for these two frontages throughout the SMP period would have resulted in increased loss of intertidal habitats within the site. It would also have been increasingly unsustainable with rising sea levels.

G: Imperative reasons of Overriding Public Interest

SMPs identify coastal management policies to enable effective use of this fund to reduce risks to life and property in a strategic way. The Flood Risk Management Operating Authorities (including the Environment Agency and coastal local authorities) seek to maximise the benefits to human health and safety that can be achieved with the available funding, and SMPs play a very important role in this process. With sea level rise and increased coastal storminess, it is forecast that flood risk and erosion will increase, resulting in increased risk to life and properties within the SMP2 area. Without the SMP, risk to life and property would not be properly managed.

In partnership with Natural England, we have identified the least damaging alternative to manage this coastline and its designated habitats over the next 100 years.

There are imperative reasons of overriding public interest for implementing the SMP2, notwithstanding the assessment of adverse effect on site integrity. The reasons are:

- The need to address a serious risk to human health and public safety (uncontrolled flood and erosion risks to large residential populations);
- Failure to implement the SMP2 policies would have unacceptable social and/or economic consequences (loss of economic infrastructure, commercial property and community areas) through coastal flood and erosion damage;
- The SMP as a whole is the least damaging option for the designated sites and will help them to adjust to sea level rise. This SMP therefore has beneficial consequences of primary importance for the environment.

Beneficial consequences of primary importance for the environment

The proposed policies are the least damaging for the SPA and Ramsar site. They incorporate managed realignment to mitigate the loss of intertidal habitats. The proposals are supported by Natural England as being the best overall for the SPA/Ramsar site as a whole because the grazing marsh habitats are not sustainable in situ. Furthermore, by planning to create compensation habitats in more sustainable locations, we minimise the risk of loss due to uncontrolled breaches.

Human health and public safety

Coastal flooding and erosion within this section of the SMP poses risks to more than 9,000 residential and commercial properties and approximately 5,000 hectares of agricultural land. Hold the Line policies also maintain protection for the military training area at Wick and Langenhoe Marshes, the Colchester to Walton-on-the Naze railway line at Wivenhoe, and significant properties and infrastructure in communities at Point Clear, Brightlingsea, Wivenhoe and Rowhedge.

This SMP coordinates the management of these risks to ensure that the social, environmental and economic impacts of coastal flooding and erosion are managed in the best way over the long term. Without the plan, coastal engineering in the area may be uncoordinated, ineffective and miss opportunities to manage the coastal environment in the most balanced and positive way so as to ensure risks to human health and public safety are addressed.

H: Compensatory measures

Compensatory measures will be required for the loss of approximately 12 ha of saltmarsh in epoch 1. A managed realignment project is underway at Wallasea Island to provide compensatory intertidal habitat for this loss.

Loss of saltmarsh is expected to be greater in epochs 2 and 3. We do not yet know that there will definitely be an effect, nor the scale of any effect. The effects will be considered in much greater detail through ongoing monitoring. At this stage, it is believed that the managed realignments at D5 (epoch 2) and D2 (epoch 3), both of which could provide about 50 ha of new habitat, will be more than adequate to provide mitigation through creation of new intertidal habitat within the SPA/Ramsar site.

Compensatory measures will be required in response to loss of coastal grazing marsh and associated wetland habitats at frontage D5 in epoch 2 (c 50 ha) and frontage D2 in epoch 3 (ca 50 ha). Other managed realignments proposed in epoch 2 outside the SPA/Ramsar site may have adverse effects on waterfowl that are features of the SPA/Ramsar site. Detailed HRA at the scheme design stage will determine the scale of any compensation requirements arising from these managed realignment proposals.

Compensation habitats will be created in advance of losses through the Environment Agency Anglian RHCP.

I: Supporting Documentation

Appendix 1 – Essex and South Suffolk SMP2 Habitats Regulation Assessment
Appendix 2 – Essex and South Suffolk SMP2



Environment
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Asiantaeth yr
Amgylchedd

Habitats Directive

Information to the Secretary of State/National Assembly for Wales according to Regulations 62(5) and 64(2) of the Habitats Regulations

Purpose: This document provides a framework and proforma for the provision of information to the Secretary of State/Welsh Ministers for cases of Overriding Public Interest under the Habitats Regulations.

Scope: This document provides a format for Environment Agency staff to use when providing information to the Secretary of State/Welsh Ministers over cases of OPI under the Habitats Directive.

A: ADMINISTRATION

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E: MODIFICATIONS CONSIDERED

F: ALTERNATIVE SOLUTIONS CONSIDERED

G: IMPERATIVE REASONS

H: COMPENSATION MEASURES

I: SUPPORTING DOCUMENTATION

A: Administration details

Date: December 2011

Plan/Project Reference: Essex and South Suffolk SMP 2

Contact person: Ian Cappitt - National Environmental Assessment Service (NEAS)

Address: Environment Agency, Kingfisher House, Goldhay Way, Orton Goldhay, Peterborough, PE2 5ZR

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B: Site details

Name of European site affected: Blackwater Estuary

- This site is:
- a designated Special Area of Conservation (SAC)
 - a candidate SAC under the Habitats Directive
 - a classified Special Protection Area (SPA)
 - a proposed SPA under the Birds Directive
 - a Ramsar hosting a priority habitat/species
 - a Site of Community Importance (SCI)

C: Summary of the plan or project having an effect on the site

Introduction

During the development of this SMP2, implications for internationally designated sites which may be affected (**Figure 1**) have been considered through an assessment under the Habitats Directive. This process concluded that there is the potential for adverse effects on the integrity of the Blackwater Estuary SPA and Ramsar site.

The Blackwater Estuary extends from the tidal limit at Maldon to the coast near Bradwell. There are flood embankments protecting low-lying land along the whole length of the estuary on either side. The preferred policies that are anticipated to have an adverse effect on the Blackwater Estuary SPA/Ramsar site are as set out in table 2.5. These are policies E3, E4a, F1 – F7, F9a, F9b, F10, F11a, F11c, and F12 - F15.

The policies in this section of the SMP2 for epoch 1 are all hold the line. Policies in epoch 1 are hold the line on all but two frontages. This will maintain feeding and roosting habitats on important coastal grazing marshes within the SPA at Old Hall Marshes and Tollesbury Wick but cause loss of intertidal habitats through coastal squeeze. However, managed realignment over both of these marshes in epoch 3 will convert coastal grazing marshes into intertidal areas.

This chapter presents the Statement of Case for the Blackwater Estuary SPA/Ramsar site.

Designated features of the Blackwater Estuary SPA/Ramsar

The SPA is classified under articles 4.1 and 4.2 of the Birds Directive (79/409) for the following species:

Article 4.1

- Little tern (breeding)
- Hen harrier (winter)
- Avocet (winter)
- Golden plover (winter)
- Ruff (winter)

Article 4.2

breeding season

- Pochard
- Ringed plover

winter

- Dunlin
- Ringed plover
- Black-tailed godwit
- Grey plover
- Dark-bellied brent goose
- Shelduck
- Redshank

The area also qualifies by regularly supporting more than 20,000 waterfowl.

The Blackwater Estuary is listed as a Ramsar site under the following criteria

- Ramsar criterion 1

The site is important due to the extent and diversity of saltmarsh present. This site, and the four other sites in the Mid-Essex Coast complex, includes a total of 3,237ha that represent 70% of the saltmarsh habitat in Essex and 7% of the total saltmarsh in Britain.

- Ramsar criterion 2
Well represented invertebrate fauna that includes at least 16 British Red Data Book species.
- Ramsar criterion 3
The site supports full and representative sequences of saltmarsh plant communities covering the range of variation in Britain.
- Ramsar criterion 5
The site regularly supports more than 20,000 waterfowl in winter (105,061 waterfowl - 5 year peak mean).
- Ramsar criterion 6
Qualifying species/populations of wintering
Dark-bellied Brent goose
Grey Plover
Dunlin
Black-tailed godwit

D: Summary of the assessment of the negative effects on the site

Ramsar saltmarsh features

Based on recent monitoring, the HRA concluded that the current rate of loss of saltmarsh in the Blackwater Estuary is very low. On this basis, it is anticipated that only about 3 ha of saltmarsh will be lost in the Blackwater Estuary during epoch 1 as a result of the proposed Hold the Line and no active intervention policies. This results in adverse effect on Ramsar saltmarsh features.

The predicted increased rate of sea level rise may cause greater loss in epoch 2. Our conclusion of adverse effect in this assessment is precautionary. We do not yet know that there will definitely be an effect, nor the scale of any effect. The effects will be considered in much greater detail as results of monitoring become available. Losses of intertidal habitat caused by coastal squeeze in epoch 3 will be mitigated by managed realignment over Old Hall Marshes and Tollesbury Wick. Whilst the extent of these managed realignment projects will be determined at the scheme design stage, and will be dependant on location of retreated defences, there is potential for creation of around 400 ha of new intertidal habitats at these locations.

Coastal grazing marsh and associated wetland habitats, which supports Ramsar listed invertebrate and plant species, and provides feeding and roosting habitats for a wide range of SPA and Ramsar bird species

Managed realignment in epoch 3 will cause an adverse effect on a range of SPA and Ramsar listed features associated with direct loss of coastal grazing marsh and wetland habitats supporting these features behind existing defences.

The impact of loss of habitats in the Blackwater Estuary on the wider Mid-Essex Coast SPA and Ramsar sites is considered in Chapter 11.

Full details of the HRA for this SPA/Ramsar site are provided in Appendix 1.

E: Modifications or restrictions considered

Shoreline Management Plans set high-level policy, and as such variations to reduce or eliminate adverse effects are not considered at this stage. However, opportunities to incorporate modifications or restrictions (e.g. timing of construction, location and footprint of works) will be considered at the detailed design stage for each project that affects the site. Detailed HRA at a strategy/project level will be carried out and project-specific mitigation will be prescribed as part of these. Such measures will seek to reduce the magnitude of the impact on the SPA/Ramsar site, but it is not clear whether the overall adverse effect can be mitigated at this stage. Hence, on the precautionary principle, an adverse effect has been determined.

Monitoring regimes are in place through both Natural England and the Environment Agency to assess the actual loss of saltmarsh. The results will feed into an iterative process to ensure that sufficient intertidal habitat to support qualifying bird populations and Ramsar features will be created during this period, and in advance of losses.

F: Alternative Solutions considered

The policy options considered are described in Chapter 2. The option to advance the line was rejected at an early stage as it would have resulted in additional loss of intertidal habitats.

The option to hold the line in all areas would have been more damaging as it would have resulted in a greater loss of intertidal habitats due to coastal squeeze in epochs 2 and 3. It would also be increasingly difficult to hold the line in future due to sea level rise, and this could lead to uncontrolled breaches with consequent effects on SPA/Ramsar species.

There was no combination of policies that would benefit all designated features of the SPA/Ramsar site. For example, managed realignment would benefit Ramsar saltmarsh features, but would have adverse effects on species such as dark-bellied brent goose that are partly dependant on coastal grazing marsh. On the other hand, a policy to maintain all areas of coastal grazing marsh to benefit geese and certain Ramsar features would have caused adverse effects on intertidal features by causing coastal squeeze. Hence the identification of the best option for managing the SPA/Ramsar site was inevitably a trade-off between different options and impacts. The advice of Natural England was key to identifying the least damaging option.

Epoch 1 policies maintain protection to the coastal grazing marsh and wetland habitats and cause minimal loss of saltmarsh. There were no policy combinations that would have had less effect on the Blackwater Estuary SPA/Ramsar site. Greater loss of saltmarsh is likely in epochs 2 and 3, but these are mitigated through managed realignments. A hold the line policy throughout the estuary in epoch 2 would have resulted in greater coastal squeeze impacts, causing loss of Ramsar saltmarsh features, whereas further managed realignment outside the SPA/Ramsar boundary would potentially have generated more saltmarsh compensation potential, but would not have reduced the adverse due to loss of saltmarsh within the SPA/Ramsar site. Hold the line at Old Hall Marshes and Tollesbury Wick in epoch 3 would have avoided adverse effects on the coastal grazing marsh and associated wetland habitats, but it would be increasingly difficult to hold the line in future due to sea level rise, and this could lead to uncontrolled breaches with consequent effects on SPA/Ramsar species. It would also have resulted in further loss of Ramsar saltmarsh features.

G: Imperative reasons of Overriding Public Interest

SMPs identify coastal management policies to enable effective use of this fund to reduce risks to life and property in a strategic way. The Flood Risk Management Operating Authorities (including the Environment Agency and coastal local authorities) seek to maximise the benefits to human health and safety that can be achieved with the available funding, and SMPs play a very important role in this process. With sea level rise and increased coastal storminess, it is forecast that flood risk and erosion will increase, resulting in increased risk to life and properties within the SMP2 area. Without the SMP, risk to life and property would not be properly managed.

In partnership with Natural England, we have identified the least damaging alternative to manage this coastline and its designated habitats over the next 100 years.

There are imperative reasons of overriding public interest for implementing this SMP2, notwithstanding the assessment of adverse effect on site integrity. The reasons are:

- The need to address a serious risk to human health and public safety (uncontrolled flood and erosion risks to large residential populations);
- Failure to implement the SMP2 policies would have unacceptable social and/or economic consequences (loss of economic infrastructure, commercial property and community areas) through coastal flood and erosion damage;
- The SMP as a whole is the least damaging option for the designated sites and will help them to adjust to sea level rise. This SMP therefore has beneficial consequences of primary importance for the environment.

Beneficial consequences of primary importance for the environment

The proposed policies are the least damaging for the SPA and Ramsar site. They incorporate managed realignment to mitigate the loss of intertidal habitats. The proposals are supported by Natural England as being the best overall for the SPA/Ramsar site as a whole because the grazing marsh habitats are not sustainable in situ. Furthermore, by planning to create compensation habitats in more sustainable locations, we minimise the risk of loss due to uncontrolled breaches.

Human health and public safety

Coastal flooding and erosion that would result from failure of defences in this SMP area poses risks to approximately 14,000 residential and commercial properties, key infrastructure such as roads and railway lines and more than 16,000 hectares of agricultural land. Hold the Line policies maintain protection to the nuclear power station at Bradwell, and are particularly important for properties in the communities at St Lawrence, Maland/Maylandsea, Maldon and West Mersea. Hold the Line also maintains protection to significant areas of coastal grazing marshes within the SPA at Tollesbury Wick and Old Hall Marshes.

This SMP coordinates the management of these risks to ensure that the social, environmental and economic impacts of coastal flooding and erosion are managed in the best way over the long term. Without the plan, coastal engineering in the area may be uncoordinated, ineffective and miss opportunities to manage the coastal environment in the most balanced and positive way so as to ensure risks to human health and public safety are addressed.

H: Compensatory measures

During epoch 1 there is expected to be a slight loss of saltmarsh due to coastal squeeze (approximately 3 ha). A managed realignment project is underway at Wallasea Island to provide compensatory intertidal habitat for this loss.

Loss of saltmarsh is expected to be greater in epoch 2. At this stage, it is believed that the managed realignments at E4a and F14 will be sufficient to provide compensation through creation of new intertidal habitats adjacent to the SPA/Ramsar site.

In epoch 3, ongoing loss of saltmarsh will be mitigated through managed realignment over large areas within the SPA/Ramsar site at Old Hall Marshes and Tollesbury Wick. However, this will cause loss of potentially as much as 400 ha of coastal grazing marsh and associated wetland habitats, resulting in adverse effects on a range of SPA and Ramsar features. Compensatory habitats will be required for these adverse effects.

Compensation habitats will be provided in advance of losses through the Environment Agency Anglian RHCP.

I: Supporting Documentation

Appendix 1 – Essex and South Suffolk SMP2 Habitats Regulation Assessment Appendix 2 – Essex and South Suffolk SMP2



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D: SUMMARY OF THE ASSESSMENT OF THE NEGATIVE EFFECTS ON THE SITE

E: MODIFICATIONS CONSIDERED

F: ALTERNATIVE SOLUTIONS CONSIDERED

G: IMPERATIVE REASONS

H: COMPENSATION MEASURES

I: SUPPORTING DOCUMENTATION

A: Administration details

Date: December 2011

Plan/Project Reference: Essex and South Suffolk SMP 2

Contact person: Ian Cappitt - National Environmental Assessment Service (NEAS)

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B: Site details

Name of European site affected: Dengie

- This site is:
- a designated Special Area of Conservation (SAC)
 - a candidate SAC under the Habitats Directive
 - a classified Special Protection Area (SPA)
 - a proposed SPA under the Birds Directive
 - a Ramsar hosting a priority habitat/species
 - a Site of Community Importance (SCI)

C: Summary of the plan or project having an effect on the site

Introduction

During the development of this SMP2, implications for internationally designated sites which may be affected (**Figure 1**) have been considered through an assessment under the Habitats Directive. This process concluded that there is the potential for adverse effects on the integrity of the Dengie SPA and Ramsar site.

The Dengie peninsula lies between the mouth of the Blackwater Estuary and the mouth of the Crouch and Roach estuaries. The SPA and Ramsar site is an extensive area of intertidal mud and sandflats with saltmarsh. Flood embankments separate the intertidal area from low-lying agricultural land.

The policy for the whole of this section of the coast in the SMP2 for Epoch 1 is hold the line, causing loss of intertidal habitat through coastal squeeze in all epochs.

This chapter presents the Statement of Case for the Dengie SPA/Ramsar site.

Designated features of the Dengie SPA/Ramsar

The SPA is classified under article 4.1 and 4.2 of the Birds Directive (79/409) for the following species:

Article 4.1

- Hen Harrier (winter)
- Bar-tailed godwit (winter)

Article 4.2 – wintering populations:

- Dark-bellied brent goose
- Knot
- Grey Plover

The area also qualifies by regularly supporting more than 20,000 waterfowl.

Dengie is listed as a Ramsar site under the following criteria

- Ramsar criterion 1
This site, and the four others in the Mid-Essex Coast complex, includes a total of 3,237ha that represent 70% of the saltmarsh habitat in Essex and 7% of the total area of saltmarsh in Britain.
- Ramsar criterion 2
The site supports a number of rare plant and animal species including 11 nationally scarce plants and three British Red Data Book species.
- Ramsar criterion 3
This site supports a full and representative sequence of saltmarsh plant communities covering the range of variation in Britain.
- Ramsar criterion 5
The site regularly supports more than 20,000 wintering waterfowl (43,828 waterfowl - 5yr peak mean).

- Ramsar criterion 6
Qualifying species with peak counts in winter
Dark-bellied brent goose
Grey plover
Red knot

D: Summary of the assessment of the negative effects on the site

Ramsar saltmarsh features including scarce plants and invertebrates, and habitat supporting wintering hen harrier

Based on the historic rate of loss, the HRA concluded that about 28 ha of saltmarsh will be lost in the Dengie SPA and Ramsar site in epoch 1 as a result of the proposed Hold the Line policy. Loss of saltmarsh is likely to be greater in epochs 2 and 3 as a result of increasing sea level rise. We do not yet know the scale of loss, which will be informed by monitoring. This constitutes adverse effect on the saltmarsh features of the Ramsar site and wintering hen harrier in all epochs.

The impact of loss of habitats in the Dengie peninsula on the wider Mid-Essex Coast SPA and Ramsar sites is considered in Chapter 11.

Full details of the HRA for this SPA/Ramsar site are provided in Appendix 1.

E: Modifications or restrictions considered

Shoreline Management Plans set high-level policy, and as such variations to reduce or eliminate adverse effects are not considered at this stage. Since the policy is hold the line throughout this SPA/Ramsar site, opportunities to modify or restrict activities are limited, although ongoing maintenance would be timed to reduce impact on waterfowl.

Monitoring regimes are in place through both Natural England and the Environment Agency to assess the actual loss of saltmarsh. The results will feed into an iterative process to ensure that sufficient intertidal habitat to support qualifying bird populations and Ramsar features will be created during this period, and in advance of losses.

F: Alternative Solutions considered

The policy options considered are described in Chapter 2. A key objective in the appraisal of the options was to try and find a solution with no significant effect on Natura 2000 sites. The alternative option that would be less damaging to the Dengie SPA/Ramsar site would be to adopt managed realignment policies on at least one frontage. However, it has not been possible to do this because of land-ownership and the need to protect assets.

The potential for additional managed realignments to offset the predicted loss of intertidal habitats was investigated for a range of sites within the Dengie peninsula. However, consultation failed to identify any further options at this stage, although some opportunities for managed realignment may emerge in the future.

It should be noted, however, that the overall SMP2 policies provide mitigation measures for the loss of intertidal habitats is provided within the wider Mid-Essex Coast SPA/Ramsar site of which the Dengie SPA/Ramsar site is a component (see Chapter 11).

G: Imperative reasons of Overriding Public Interest

SMPs identify coastal management policies to enable effective use of this fund to reduce risks to life and property in a strategic way. The Flood Risk Management Operating Authorities (including the Environment Agency and coastal local authorities) seek to maximise the benefits to human health and safety that can be achieved with the available funding, and SMPs play a very important role in this process. With sea level rise and increased coastal storminess, it is forecast that flood risk and erosion will increase, resulting in increased risk to life and properties within the SMP2 area. Without the SMP, risk to life and property would not be properly managed.

In partnership with Natural England, we have identified the least damaging alternative to manage this coastline and its designated habitats over the next 100 years.

There are imperative reasons of overriding public interest for implementing this SMP2, notwithstanding the assessment of adverse effect on site integrity. The reasons are:

- The need to address a serious risk to human health and public safety (uncontrolled flood and erosion risks to large residential populations);
- Failure to implement the SMP2 policies would have unacceptable social and/or economic consequences (loss of economic infrastructure, commercial property and community areas) through coastal flood and erosion damage;
- The SMP as a whole is the least damaging option for the designated sites and will help them to adjust to sea level rise. This SMP therefore has beneficial consequences of primary importance for the environment.

Human health and safety

Coastal flooding and erosion within the Dengie peninsula poses risks to approximately 21,000 hectares of agricultural land and the nuclear power station at Bradwell.

This SMP coordinates the management of these risks to ensure that the social, environmental and economic impacts of coastal flooding and erosion are managed in the best way over the long term. Without the plan, coastal engineering in the area may be uncoordinated, ineffective and miss opportunities to manage the coastal environment in the most balanced and positive way so as to ensure risks to human health and public safety are addressed.

H: Compensatory measures

Compensation is required for the predicted loss of 28 ha of intertidal habitat in epoch 1 and an as yet unknown, but probably greater loss of saltmarsh in epochs 2 and 3.

Compensation habitats will be provided in advance of losses through the Environment Agency Anglian RHCP.

I: Supporting Documentation

Appendix 1 – Essex and South Suffolk SMP2 Habitats Regulation Assessment Appendix 2 – Essex and South Suffolk SMP2



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Habitats Directive

Information to the Secretary of State/National Assembly for Wales according to Regulations 62(5) and 64(2) of the Habitats Regulations

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A: Administration details

Date: December 2011

Plan/Project Reference: Essex and South Suffolk SMP 2

Contact person: Ian Cappitt - National Environmental Assessment Service (NEAS)

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Tel: 01733 464596

Fax: 01733 464372

E-mail: ian.cappitt@environment-agency.gov.uk

B: Site details

Name of European site affected: Crouch and Roach Estuaries

- This site is:
- a designated Special Area of Conservation (SAC)
 - a candidate SAC under the Habitats Directive
 - a classified Special Protection Area (SPA)
 - a proposed SPA under the Birds Directive
 - a Ramsar hosting a priority habitat/species
 - a Site of Community Importance (SCI)

C: Summary of the plan or project having an effect on the site

Introduction

During the development of this SMP2, implications for internationally designated sites which may be affected (**Figure 1**) have been considered through an assessment under the Habitats Directive. This process concluded that there is the potential for adverse effects on the integrity of the Crouch and Roach Estuaries SPA and Ramsar site. Adverse effects are due to policies at G3, H1, H2a, H2b, H3 – H7, H8a, H8b, H11a, H11b, and H12 – H16.

The Crouch and Roach Estuaries are to the north of Southend, with their main entrance to the sea between the Dengie Peninsula and the northern tip of Foulness Island. There is also a creek connecting the Roach Estuary to the sea on the southern side of the island. Both estuaries are narrow, being highly constrained by flood embankments. The SPA and Ramsar site includes relatively narrow bands of intertidal habitat.

The policy for the defences is hold the line for epoch 1 except at Wallasea Island, where the policy is managed realignment except for the western end.

This chapter presents the Statement of Case for the Crouch and Roach SPA/Ramsar site.

Designated features of the Crouch and Roach Estuaries SPA/Ramsar

The SPA is classified under Articles 4.1 and 4.2 of the Birds Directive (79/409) for the following species:

Article 4.1

- Hen harrier (winter)

Article 4.2 – wintering population

- Dark-bellied brent goose

The area also qualifies by regularly supporting more than 20,000 waterfowl.

The estuary is listed as a Ramsar site under the following criteria

- Ramsar criterion 2
Supports an appreciable assemblage of rare, vulnerable or endangered species or subspecies of plant and animal including 13 nationally scarce plant species.
- Ramsar criterion 5
The site supports a national important assemblage of wintering waterfowl (16970⁷ - 5 year peak mean).
- Ramsar criterion 6
Qualifying species/populations in winter
Dark-bellied brent goose

⁷ Ramsar sites qualify under criterion 5 if they regularly support more than 20,000 waterfowl

D: Summary of the assessment of the negative effects on the site

Ramsar listed scarce saltmarsh plants

Monitoring shows that the extent of saltmarsh within the Crouch and Roach Estuaries SPA and Ramsar site has increased slightly in recent years. On that basis, the HRA concluded that there would be no losses of saltmarsh during epoch 1, despite the predominance of hold the line policies. Hence the HRA concluded no adverse effect in epoch 1.

During epochs 2 and 3 there is uncertainty whether or not saltmarsh will be lost due to increased rates of sea level rise. However, there is potential for any losses to be mitigated by managed realignment projects in units H2a and H8b in epoch 2 which could create approximately 60 ha of intertidal habitat), and in H2b in epoch 3 (which could create up to about 150 ha of new intertidal habitat).

Coastal grazing marsh and associated wetland habitats, supporting Ramsar listed scarce plants and invertebrates, and wintering dark-bellied brent geese and hen harrier

Hold the line policies maintain coastal grazing marsh and associated wetland habitats within the SPA/Ramsar site through epoch 1. Hence the HRA concluded no adverse effect in epoch 1.

Managed realignment over coastal grazing marsh and associated wetland habitats within the SPA/Ramsar site in units H2a (10 ha) and H8b (50 ha) in epoch 2, and in unit H2b (150 ha) in epoch 3 are assessed as causing adverse effects on a range of listed species. Based on the precautionary principle, it is concluded that there may also be adverse effect on certain SPA and Ramsar species due to managed realignment in units H11a and H11b which would result in loss of farmland outside the SPA/Ramsar boundary.

The impact of loss of habitats in the Crouch and Roach estuary on the wider Mid-Essex Coast SPA and Ramsar sites is considered in Chapter 11.

Full details of the HRA for this SPA/Ramsar site are provided in Appendix 1.

E: Modifications or restrictions considered

Shoreline Management Plans set high-level policy, and as such variations to reduce or eliminate adverse effects are not considered at this stage. However, opportunities to incorporate modifications or restrictions (e.g. timing of construction, location and footprint of works) will be considered at the detailed design stage for each project that affects the site. Detailed HRA at a strategy/project level will be carried out and project-specific mitigation will be prescribed as part of these. Such measures will seek to reduce the magnitude of the impact on the SPA/Ramsar site, but it is not clear whether the overall adverse effect can be mitigated at this stage. Hence, on the precautionary principle, an adverse effect has been determined.

Monitoring regimes are in place through both Natural England and the Environment Agency to assess the actual loss of saltmarsh. The results will feed into an iterative process to ensure that sufficient intertidal habitat to support qualifying bird populations and Ramsar features will be created during this period, and in advance of losses.

F: Alternative Solutions considered

The policy options considered are described in Chapter 2. The option to advance the line was rejected at an early stage as it would have resulted in additional loss of intertidal habitats.

The option to hold the line in all areas would have been more damaging as it would have resulted in a greater loss of intertidal habitats due to coastal squeeze in epochs 2 and 3.

There was no combination of policies that would benefit all designated features of the SPA/Ramsar site. For example, managed realignment would benefit Ramsar saltmarsh features, but would have adverse effects on species such as dark-bellied brent goose that are partly dependant on coastal grazing marsh. On the other hand, a policy to maintain all areas of coastal grazing marsh to benefit geese and certain Ramsar features would have caused adverse effects on intertidal features by causing coastal squeeze. Hence the identification of the best option for managing the SPA/Ramsar site was inevitably a trade-off between different options and impacts. The advice of Natural England was key to identifying the least damaging option.

The alternative option that would be less damaging to the Crouch and Roach SPA/Ramsar site would be to continue to hold the line policies to protect SPA/Ramsar grazing marsh and associated wetland habitats throughout the SMP period. However, it would also be increasingly difficult to hold the line in future due to sea level rise, and this could lead to uncontrolled breaches with consequent effects on SPA/Ramsar species. This policy would also have resulted in a greater adverse effect on the features of the Essex Estuaries SAC (Chapter 3).

G: Imperative reasons of Overriding Public Interest

SMPs identify coastal management policies to enable effective use of this fund to reduce risks to life and property in a strategic way. The Flood Risk Management Operating Authorities (including the Environment Agency and coastal local authorities) seek to maximise the benefits to human health and safety that can be achieved with the available funding, and SMPs play a very important role in this process. With sea level rise and increased coastal storminess, it is forecast that flood risk and erosion will increase, resulting in increased risk to life and properties within the SMP2 area. Without the SMP, risk to life and property would not be properly managed.

In partnership with Natural England, we have identified the least damaging alternative to manage this coastline and its designated habitats over the next 100 years

There are imperative reasons of overriding public interest for implementing this SMP2, notwithstanding the assessment of adverse effect on site integrity. The reasons are:

- The need to address a serious risk to human health and public safety (uncontrolled flood and erosion risks to large residential populations);
- Failure to implement the SMP2 policies would have unacceptable social and/or economic consequences (loss of economic infrastructure, commercial property and community areas) through coastal flood and erosion damage;
- The SMP as a whole is the least damaging option for the designated sites and will help them to adjust to sea level rise. This SMP therefore has beneficial consequences of primary importance for the environment.

Beneficial consequences of primary importance for the environment

The proposed policies are the least damaging for the SPA and Ramsar site. They incorporate managed realignment to mitigate the loss of intertidal habitats. The proposals are supported by Natural England as being the best overall for the SPA/Ramsar site as a whole because the grazing marsh habitats are not sustainable in situ. Furthermore, by planning to create compensation habitats in more sustainable locations, we minimise the risk of loss due to uncontrolled breaches.

Human health and public safety

Coastal flooding and erosion in the Crouch and Roach Estuary poses risks to approximately 19,000 residential and commercial properties, key infrastructure such as roads and railway lines and 24,000 hectares of agricultural land. Hold-the-line policies are particularly important in maintaining protection to properties in communities at Burnham-on-Crouch, South Woodham Ferrers, Battlesbridge, Hullbridge, and Great Wakering. Protection would also be maintained for the railway line between Woodham Ferrers and Burnham-on-Crouch.

This SMP coordinates the management of these risks to ensure that the social, environmental and economic impacts of coastal flooding and erosion are managed in the best way over the long term. Without the plan, coastal engineering in the area may be uncoordinated, ineffective and miss opportunities to manage the coastal environment in the most balanced and positive way so as to ensure risks to human health and public safety are addressed.

H: Compensatory measures

Compensatory measures will be required in response to loss of up to about 60 ha of coastal grazing marsh and associated wetland habitats due to managed realignment at H2a and H8b in epoch 2, and up to about 150 ha of coastal grazing marsh at H2b in epoch 3. On the precautionary principle, it is concluded that compensatory measures may also be required due to loss of possible wildfowl feeding habitats outside the SPA/Ramsar site in epoch 2 at H11a and H11b.

Compensation habitats will be provided in advance of losses through the Environment Agency Anglian RHCP.

I: Supporting Documentation

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Tel: 01733 464596

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E-mail: ian.cappitt@environment-agency.gov.uk

B: Site details

Name of European site affected: Foulness

- This site is:
- a designated Special Area of Conservation (SAC)
 - a candidate SAC under the Habitats Directive
 - a classified Special Protection Area (SPA)
 - a proposed SPA under the Birds Directive
 - a Ramsar hosting a priority habitat/species
 - a Site of Community Importance (SCI)

C: Summary of the plan or project having an effect on the site

Introduction

During the development of this SMP2, implications for internationally designated sites that may be affected (**Figure 1**) have been considered through an assessment under the Habitats Directive. This process concluded that there is the potential for adverse effect on the integrity of the Foulness SPA and Ramsar site.

Foulness Island is at the mouth of the Crouch and Roach Estuaries, the main channel of which separates the island from the land to the north, with a much smaller channel separating it from the land to the south. The SPA and Ramsar site is an extensive area of intertidal mud and sandflats with saltmarsh, but there are also grazing marsh habitats within the site that are protected by existing flood embankments

The policy for the whole of this section of the coast in the SMP2 for epochs 1 and 2 is hold the line. This will maintain protection to the SPA Ramsar habitats to seaward of the defences. In epoch 3 the policy in I1c is managed realignment, causing loss of terrestrial habitats within the SPA/Ramsar site.

The whole of the intertidal part of the Foulness SPA and Ramsar site is also part of the wider Mid-Essex Coast SPA/Ramsar site.

This chapter presents the Statement of Case for the Foulness SPA/Ramsar site.

Designated features of Foulness SPA/Ramsar

Article 4.1

During the breeding season the area regularly supports:

- Avocet
- Little tern
- Common tern
- Sandwich tern

Over winter the area regularly supports;

- Hen Harrier
- Golden plover
- Bar-tailed godwit
- Avocet

Article 4.2

During the breeding season the area regularly supports:

- Ringed plover

Over winter the area regularly supports:

- Dark-bellied Brent goose
- Knot
- Oystercatcher
- Grey plover
- Redshank

The area also qualifies by regularly supporting more than 20,000 waterfowl.

Foulness is listed as a Ramsar site under the following criteria:

- Ramsar criterion 1
This site, and the four others in the Mid-Essex Coast complex, includes a total of 3,237ha that represent 70% of the saltmarsh habitat in Essex and 7% of the total area of saltmarsh in Britain.
- Ramsar criterion 2
The site supports a number of nationally-rare and nationally-scarce plant species, and British Red Data Book invertebrates.
- Ramsar criterion 3
This site supports a full and representative sequence of saltmarsh plant communities covering the range of variation in Britain.
- Ramsar criterion 5
The site regularly supports more than 20,000 waterfowl in winter (82,148 - 5yr peak mean).
- Ramsar criterion 6
Species with peak counts in spring/autumn:
Redshank
Species with peak counts in winter:
Dark bellied brent goose
Eurasian oystercatcher
Grey plover
Bar-tailed godwit
Red knot

D: Summary of the assessment of the negative effects on the site

Ramsar saltmarsh features and hen harrier

Recent monitoring data confirms that saltmarsh is being lost from the area within the Foulness SPA/Ramsar site. Based on the existing rate of loss, the HRA estimated that hold the line policies in this site will cause the loss of about 17 ha of saltmarsh during epoch 1. The rate of loss is expected to be greater in epochs 2 and 3. This is considered to cause an adverse effect on the SPA/Ramsar site in epochs 1 and 2. However, the managed realignment within the SPA/Ramsar site in unit I1c provides about 50 ha of mitigation for loss of saltmarsh in epoch 3.

Coastal grazing marsh and associated wetland habitat, supporting wintering hen harrier, dark-bellied brent geese and other SPA/Ramsar bird species

The managed realignment in I1c in epoch 3 causes loss of approximately 50 ha of SPA/Ramsar habitat supporting waterfowl such as dark-bellied brent goose, causing adverse effect on these species.

The impact of loss of habitats in the Foulness SPA/Ramsar site on the wider Mid-Essex Coast SPA and Ramsar sites is considered in Chapter 11.

Full details of the HRA for this SPA/Ramsar site are provided in Appendix 1.

E: Modifications or restrictions considered

Shoreline Management Plans set high-level policy, and as such variations to reduce or eliminate adverse effects are not considered at this stage. However, opportunities to incorporate modifications or restrictions (e.g. timing of construction, location and footprint of works) will be considered at the detailed design stage for each project that affects the site. Detailed HRA at a strategy/project level will be carried out and project-specific mitigation will be prescribed as part of these. Such measures will seek to reduce the magnitude of the impact on the SPA/Ramsar site, but it is not clear whether the overall adverse effect can be mitigated at this stage. Hence, on the precautionary principle, an adverse effect has been determined.

Monitoring regimes are in place through both Natural England and the Environment Agency to assess the actual loss of saltmarsh through epoch 1. The results will feed into an iterative process to ensure that sufficient intertidal habitat to support qualifying bird populations and Ramsar features will be created during this period, and in advance of losses.

F: Alternative Solutions considered

The policy options considered are described in Chapter 2. The option to advance the line was rejected at an early stage as it would have resulted in additional loss of intertidal habitats.

The option to hold the line in all areas would have been more damaging as it would have resulted in a greater loss of intertidal habitats due to coastal squeeze in epochs 2 and 3. It would also be increasingly difficult to hold the line in future due to sea level rise, and this could lead to uncontrolled breaches with consequent effects on SPA/Ramsar species.

There was no combination of policies that would benefit all designated features of the SPA/Ramsar site. For example, managed realignment would benefit Ramsar saltmarsh features, but would have adverse effects on species such as dark-bellied brent goose that are partly dependant on coastal grazing marsh. On the other hand, a policy to maintain all areas of coastal grazing marsh to benefit geese and certain Ramsar features would have caused adverse effects on intertidal features by causing coastal squeeze. Hence the identification of the best option for managing the SPA/Ramsar site was inevitably a trade-off between different options and impacts. The advice of Natural England was key to identifying the least damaging overall option.

A key objective in the appraisal of the options was to try and find a solution with no significant effect on Natura 2000 sites. Hold the line policies maintain protection to PSA/Ramsar grazing marsh and associated wetland habitats. The alternative of continuing a hold the line policy in epoch 3 at I1c was considered, but although this would maintain terrestrial habitats within the SPA/Ramsar site, the defence is considered unsustainable. Natural England advised that it would be preferable to undertake realignment to provide mitigation for loss of saltmarsh habitat.

G: Imperative reasons of Overriding Public Interest

SMPs identify coastal management policies to enable effective use of this fund to reduce risks to life and property in a strategic way. The Flood Risk Management Operating Authorities (including the Environment Agency and coastal local authorities) seek to maximise the benefits to human health and safety that can be achieved with the available funding, and SMPs play a very important role in this process. With sea level rise and increased coastal storminess, it is forecast that flood risk and erosion will increase, resulting in increased risk to life and properties within the SMP2 area. Without the SMP, risk to life and property would not be properly managed.

In partnership with Natural England, we have identified the least damaging alternative to manage this coastline and its designated habitats over the next 100 years.

There are imperative reasons of overriding public interest for implementing this SMP2, notwithstanding the assessment of adverse effect on site integrity. The reasons are:

- The need to address a serious risk to human health and public safety (uncontrolled flood and erosion risks to large residential populations);
- Failure to implement the SMP2 policies would have unacceptable social and/or economic consequences (loss of economic infrastructure, commercial property and community areas) through coastal flood and erosion damage;
- The SMP as a whole is the least damaging option for the designated sites and will be helping them to adjust to sea level rise. This SMP therefore has beneficial consequences of primary importance for the environment.

Beneficial consequences of primary importance for the environment

The proposed policies are the least damaging for the SPA and Ramsar site. They incorporate managed realignment to mitigate the loss of intertidal habitats. The proposals are supported by Natural England as being the best overall for the SPA/Ramsar site as a whole because the grazing marsh habitats are not sustainable in situ. Furthermore, by planning to create compensation habitats in more sustainable locations, we minimise the risk of loss due to uncontrolled breaches.

Human health and public safety

In particular, coastal flooding and erosion at Foulness poses risks to approximately 350 residential and commercial properties, the important Foulness military training area, and more than 10,000 hectares of agricultural land. With sea level rise we forecast increased risks of flooding and erosion resulting in increased risk to life and properties.

This SMP coordinates the management of these risks to ensure that the social, environmental and economic impacts of coastal flooding and erosion are managed in the best way over the long term. Without the plan, coastal engineering in the area may be uncoordinated, ineffective and miss opportunities to manage the coastal environment in the most balanced and positive way.

H: Compensatory measures

Compensatory measures are required in response to the estimated loss of 17 ha of saltmarsh in epoch 1, and the potentially larger area of saltmarsh that will be lost in epoch 2. We do not yet know how much saltmarsh will be lost. Actual losses will be monitored, and future decisions on the extent of compensatory measures refined at a later stage. However, it is assumed that the policies set out in the SMP for this island will result in the overall loss of intertidal habitat.

Managed realignment in unit I1c will create new intertidal habitat to mitigate for loss of saltmarsh in epoch 3, but may cause adverse effect on waterfowl populations and other Ramsar features through loss of up to 50 ha of grazing marsh. The compensation requirements will need to be assessed at the project development stage.

Compensation habitats will be provided in advance of losses through the Environment Agency Anglian RHCP.

I: Supporting Documentation

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Appendix 2 – Essex and South Suffolk SMP2



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B: Site details

Name of European site affected: Foulness

- This site is:
- a designated Special Area of Conservation (SAC)
 - a candidate SAC under the Habitats Directive
 - a classified Special Protection Area (SPA)
 - a proposed SPA under the Birds Directive
 - a Ramsar hosting a priority habitat/species
 - a Site of Community Importance (SCI)

C: Summary of the plan or project having an effect on the site

Introduction

During the development of this SMP2, implications for internationally designated sites that may be affected (**Figure 1**) have been considered through an assessment under the Habitats Directive. This process concluded that there is the potential for adverse effect on the integrity of the Mid-Essex Coast SPA and Ramsar site.

The Mid-Essex Coast SPA/Ramsar site was designated in five 'phases' or constituent sites, and incorporates the following areas: the Colne Estuary, Blackwater Estuary, Dengie Peninsular, Crouch and Roach Estuary, and Foulness Island. The SPA and Ramsar site includes extensive areas of intertidal mud and sandflats with saltmarsh, as well as large areas of coastal grazing marsh and other terrestrial habitats that are protected by existing flood embankments.

The managed realignment projects in constituent sites all result in loss of coastal grazing marsh and associated wetland habitats. The cumulative effect on the wider Mid-Essex Coast SPA/Ramsar site is the sum of the impacts for the constituent sites. However, predicted loss of intertidal habitats in some of the constituent sites is offset by gains due to accretion or managed realignment in other areas, and hence the assessment in this section considers the overall balance of change in intertidal habitats across the whole of the Mid-Essex Coast SPA/Ramsar site.

The whole of the intertidal part of the Mid-Essex SPA and Ramsar site is also part of the Essex Estuaries SAC.

This chapter presents the Statement of Case for the Mid-Essex Coast SPA/Ramsar site

Designated features of Mid-Essex Coast SPA and Ramsar site

The qualifying features for the overarching Mid-Essex Coast SPA and Ramsar site are not listed separately in the designation, but are provided for each of the constituent sites. These are provided above in sections 6C, 7C, 8C, 9C and 10C.

D: Summary of the assessment of the negative effects on the site

The HRA concluded that hold the line policies would cause loss of intertidal habitats through coastal squeeze during one or more epochs for all constituent sites within the Mid-Essex Coast SPA and Ramsar site. However, managed realignment projects totalling about 110 ha within the SPA/Ramsar site in epoch 2 and 650 ha in epoch 3 provide mitigation for these losses. Adverse effect is therefore confined to epoch 1.

Loss of coastal grazing marsh and associated habitats also occurs in several of the constituent sites, and none of these losses are mitigated within the wider SPA/Ramsar site. There would therefore be adverse effects on a wide range of SPA/Ramsar bird features and other Ramsar features such as rare plants and invertebrates within the wider site.

Details of the adverse effects are provided in the relevant statements of case for each of the separate SPA/Ramsar sub-sites

A summary of the adverse effects after taking account of mitigation measures across the SPA/Ramsar site is provided in table 11.1.

Table 11.1 Overall effect of SMP on the Mid-Essex Coast SPA/Ramsar site

Sub-site	Habitat type	Epoch 1		Epoch 2		Epoch 3	
		Gain/loss (ha)	AEOI?	Loss predicted after mitigation?	AEOI?	Loss predicted after mitigation?	AEOI?
Colne Estuary	Intertidal	-12	Yes	No	No	No	No
	Coastal grazing marsh	No	No	c 50 ha	Yes	c 50 ha	Yes
Blackwater Estuary	Intertidal	-3	Yes	Yes	Yes	No	No
	Coastal grazing marsh	No	No	No	No	c 400 ha	Yes
Dengie	Intertidal	-28	Yes	Yes	Yes	Yes	Yes
	Coastal grazing marsh	No	No	No	No	No	No
Crouch and Roach	Intertidal	+10	No	No	No	No	No
	Coastal grazing marsh	No	No	c 60 ha	Yes	c 150 ha	Yes
Foulness	Intertidal	-17	Yes	Yes	Yes	No	No
	Coastal grazing marsh	No	No	No	No	c 50 ha	Yes
Overall	Intertidal	-50	Yes	No	No	No	No
	Coastal grazing marsh	No	No	c 110 ha	Yes	c 650 ha	Yes

E: Modifications or restrictions considered

Shoreline Management Plans set high-level policy, and as such variations to reduce or eliminate adverse effects are not considered at this stage. Since the policy is hold the line throughout this SPA/Ramsar site, opportunities to modify or restrict activities are limited, although ongoing maintenance would be timed to reduce impact on waterfowl.

Monitoring regimes are in place through both Natural England and the Environment Agency to assess the actual loss of saltmarsh through Epoch 1. The results will feed into an iterative process to ensure that sufficient intertidal habitat to support qualifying bird populations and Ramsar features will be created during this period, and in advance of losses.

F: Alternative Solutions considered

The alternative solutions considered are addressed for each of the sub-components of the wider SPA/Ramsar site in the above sections.

G: Imperative reasons of Overriding Public Interest

Imperative reasons of Overriding Public Interest are listed for each of the constituent SPA/Ramsar sites in the above sections.

H: Compensatory measures

Over the wider SPA/Ramsar site as a whole, there is a requirement to compensate for the predicted loss of 50 ha of intertidal habitats in epoch 1. However, losses of intertidal habitat in epochs 2 and 3 are mitigated by managed realignment projects. These managed realignment projects give rise to compensation requirements in response to losses of around 110 ha of coastal grazing marsh in epoch 2 and 650 ha in epoch 3.

Compensation habitats will be provided in advance of losses through the Environment Agency Anglian RHCP.

I: Supporting Documentation

Appendix 1 – Essex and South Suffolk SMP2 Habitats Regulation Assessment Appendix 2 – Essex and South Suffolk SMP2

12 IN-COMBINATION EFFECTS

An in-combination assessment of the SMP2 policy was included in section 6 of the HRA. The assessment included all plans and projects that were considered likely to have similar and potentially compounding effects on any of the international sites likely to be affected by the SMP2.

The assessment considered the in-combination effects of land-use plans, maintenance dredging and fisheries and aquaculture proposals. It concluded that there were no in-combination effects.

13 CONCLUSIONS

There are no preferable or acceptable alternative solutions and there are imperative reasons of over-riding public interest for approving the preferred policies set out in the SMP, at this stage in the SMPs' lifecycle.

The HRA concluded that the SMP2 policies cannot be shown to have no adverse effect on the integrity of the following international sites:

- Essex Estuaries SAC;
- Stour and Orwell Estuaries SPA/Ramsar site;
- Hamford Water SPA/Ramsar site;
- Colne Estuary SPA/Ramsar site;
- Blackwater Estuary SPA/Ramsar site;
- Dengie SPA/Ramsar site;
- Crouch and Roach Estuaries SPA/Ramsar site;
- Benfleet and Southend Marshes SPA/Ramsar site; and
- Foulness SPA and Ramsar site.

Specifically, it cannot be concluded that there will be no adverse effect:

- On the Stour and Orwell Estuaries SPA/Ramsar site (all epochs), the Hamford Water SPA/Ramsar site (epoch 3), and the wider Mid-Essex Coast SPA/Ramsar site (epochs 2 and 3) due to loss of coastal grazing marsh and associated wetland habitats;
- On the Mid-Essex Coast SPA/Ramsar site in epoch 1 due to loss of intertidal habitats; and
- On the Essex Estuaries SAC throughout all three epochs due to loss of intertidal habitats.

An assessment of a range of alternative options concluded that none could be considered to be feasible over long term or likely to produce lesser adverse effects than the preferred policies. It can, therefore, be concluded that there is an absence of alternative solutions.

There are imperative reasons of overriding public interest for adopting the preferred policies in this SMP2 for each of the internationally designated sites where adverse effects are likely to occur.

Compensatory requirements are summarised in table 13.1.

Compensatory habitat will be provided in advance of losses through the Environment Agency RHCP.

Table 13.1. Summary of compensation requirements

site	Habitat type	Epoch 1	Epoch 2	Epoch 3
		Loss (ha)	Loss (ha)	Loss (ha)
Stour and Orwell SPA/Ramsar site	Coastal grazing marsh	50	145	0
	Intertidal	0	0	Unquantified
Hamford Water SPA/Ramsar site	Coastal grazing marsh	0	0	c 45 ha
	Intertidal	0	Unquantified	0
Mid-Essex Coast SPA/Ramsar site	Coastal grazing marsh	0	110	650
	Intertidal	50	0	0
Essex Estuaries SAC	Intertidal	50	Unquantified	Unquantified

REFERENCES

Defra (2006a). Shoreline Management Plan guidance: Volume 1: Aims and requirements: March 2006. Department for Environment, Food and Rural Affairs, London, UK.

Defra (2006b) Flood and Coastal Defence Appraisal Guidance FCDPAG3 Economic Appraisal. Supplementary Note of Operating Authorities – Climate Change Impacts. October 2006

Cottle, R, Pethick, J, and Dalton, H. (2002). Essex Coast and Estuaries Coastal Habitat Management Plan; Final Report. Posford Haskoning Report, September 2002.

APPENDIX 1

HABITATS REGULATIONS ASSESSMENT

APPENDIX 2

ESSEX AND SOUTH SUFFOLK SMP2