











-  To balance flood and erosion management with the assets and benefits that it protects.
-  To seek opportunities for managing the shoreline through natural coastal processes and take full account of longshore and cross-shore impacts.
-  To provide time and information for communities, individuals and partner organisations to adapt to any anticipated coastal change.
-  To support communities and sustainable development for the people living around the Essex and South Suffolk shoreline by managing the risk to community activities and infrastructure.
-  To support and promote the social and economic values of the Essex and South Suffolk coast to wider society.
-  To support conservation and enhancement of biodiversity and geodiversity.
-  To support protection and promotion of the historic environment and its value for the heritage, culture and economy of the area.
-  To support and enhance people's enjoyment of the coast by maintaining and enhancing access.
-  To develop policies appropriate to the diverse character of the Essex and South Suffolk coast and its dynamic interaction of land and sea.
-  To contribute to maintaining and enhancing the evolving character of the coastal landscape.

Decreasing fulfilment of criteria ↓	Description	Associated colour and scores
	Good performance of the policy against the criterion	9 - 7
	Average performance of the policy against the criterion	6 - 4
Poor performance of the policy against the criterion	3 - 1	

Table 4-1 Key to appraisal tables

4.2 Management Unit A – Stour and Orwell Estuaries

Summary of the Plan: Recommendations and Justification

The overall intent of management for the Stour and Orwell is to support and enhance the natural evolution of the estuaries, while continuing to defend all existing dwellings and infrastructure, and facilitating adaptation or limited local intervention where needed. For most of the shoreline, the current management approach will be continued: holding the current alignment where there are defences, and continuing a No Active Intervention approach for high ground frontages. For some of the frontages however a change of approach is required.

Currently defended areas

The expansions currently ongoing or under consideration for both Felixstowe (A1) and Harwich Port (A11a) constitute Advance the Line policies.

The frontages where the existing defences will continue to be held at their current alignment include Ipswich (A5), parts of the Ports of Felixstowe (A1) and Harwich (A11b), the Harwich railway line (A10) and River Stour valley (A9), plus a number of smaller currently defended areas.

However, at Trimley Marsh, Loom Pit Lake and Shotley Marshes (PDZs A2, A3a, A8a and A8b) the flood defences are under pressure from erosion and tidal wave action. The defences at PDZ A3a are privately owned and the ongoing maintenance is the responsibility of this landowner. A landward realignment at some time within the timescale of the SMP will create a more sustainable situation by reducing the pressure on the flood defences and will support the estuary to move towards a more natural system. All dwellings and infrastructure will remain protected, which would require construction of new defences in a more sustainable, sheltered position. The realignments will come at the expense of Grade 3 and 4 agricultural land, and partly designated freshwater habitat, but they will create new intertidal habitats and the opportunity to replace and expand the area of current freshwater interest. Reedbed habitats could be generated at this site. Realignment will have some impact on heritage assets, particularly the historic landscape near Shotley, which will require mitigation by design and recording as part of implementation of the Plan. The footpaths on top of the sea banks to be breached will need to be sustained, for example through re-routing. The realignments in the Orwell Estuary could have a significant impact on the AONB by changing freshwater habitats to intertidal habitats; this will be mitigated by aiming to recreate freshwater habitats within the AONB area. The impact of the potential realignments on tourism and recreation (including sailing) is difficult to quantify, and realignments can have both positive and negative impacts. All these impacts will be taken into account during project appraisal and scheme development, which will be carried out with full stakeholder involvement before any works start.

The realignment at Shotley Marshes west (PDZ A8a) is proposed for epoch 1, subject to cooperation of the landowner. This project – Hill House farm- is being taken forward with a willing landowner under the Regional Habitat Creation programme. The realignments at Trimley Marsh (PDZ A2), Loom Pit Lake (PDZ A3a) and Shotley Marshes east (PDZ A8b) are proposed for epoch 2.

There are three frontages for which the SMP's broad scale economic analysis supports an intent to maintain or upgrade the standard of protection, including taking into account impacts of climate change. These are Felixstowe Port (PDZ A1), Ipswich (PDZ A5) and Manningtree (part of PDZ A10). For all the other defended frontages, detailed analysis beyond the SMP is needed to determine the appropriate standard of protection.

Currently undefended areas

The frontages where the current No Active Intervention approach will be continued include large sections along both the Stour and the Orwell, particularly in the middle estuaries.

However, there are locations along both estuaries where erosion is affecting significant features. This concerns Orwell Park, Wrabness Beach and various sections of the Stour and Orwell Walk and other footpaths. For these frontages the intent is not to start holding the existing alignment: it would not be sustainable to work against the natural estuary processes. However, local intervention to limit erosion risk to features is acceptable if the impact on natural estuary evolution is minimised. This will require a localised assessment outside the SMP. The SMP will label this intent as a form of Managed Realignment. Note that there is only limited information on erosion processes in the Stour and Orwell; the SMP's Action Plan identifies the need for monitoring.

There are a number of currently undefended areas in the Stour and Orwell where coastal change is starting to affect important features, and which need an integrated solution. This concerns

- The Strand at Wherstead (PDZ A6), where the closure frequency due to flooding is likely to increase;
- Pin Mill (PDZ A7b), where the marina is at risk of erosion and there are a number of dwellings, including a Grade II Listed Building, just above the (current) floodzone;
- Shotley Gate (PDZ A8c), where the cliff top dwellings and the recreational area of Shotley Wood and its footpaths are at risk of cliff instability and possibly erosion. There are a number of privately owned toe protection structures along this frontage. However, these structures are currently not recognised in legislation as coast protection structures and neither the

Environment Agency nor the Local Authority has legal responsibility or funding to maintain them.

The SMP's intent for these areas is to establish a process of cooperation between the partner organisations and all people and businesses with an interest in the area to develop a sustainable long-term solution, including funding opportunities. This solution may include limited local defences, but it is also likely to include adaptation or other measures. All small scale local interventions would require permission or consents. And this is when any geological, environmental and social issues or impacts would be considered and addressed. The SMP uses the label Managed Realignment for this intent.

Summary of Potential Policies

Policy Development Zone		Policy Plan			Explanation
		Now - 2025	2025 - 2055	2055 - 2105	
A1	Felixstowe Port	AtL+	HtL+	HtL+	The currently ongoing expansion constitutes Advance the Line. The new line will then be held throughout all epochs to continue protection of Felixstowe Port. The standard of protection will be maintained or upgraded.
A2	Trimley Marsh	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 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.
A4b	Northern Orwell west	NAI	NAI	NAI	No erosion expected, therefore no defences needed.
A5	Ipswich	HtL+	HtL+	HtL+	The current line will be held throughout all epochs. Ipswich will remain protected. The standard of protection will be maintained or upgraded.

Policy Development Zone		Policy Plan			Explanation
		Now - 2025	2025 - 2055	2055 - 2105	
A6	The Strand	MR1	MR1	MR1	Integrated plan for adaptation to be determined through partnership approach; may include local defences.
A7a	Southern Orwell west	NAI	NAI	NAI	No erosion expected, therefore no defences needed.
A7b	Southern Orwell east	MR1	MR1	MR1	Integrated plan for adaptation to be determined through partnership approach; may include local defences.
A8a	Shotley Marshes west	MR2	HtL	HtL	Managed realignment at Hill House Farm by breach of the existing defences while continuing to provide flood defence to Shotley Marshes to the south.
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.
A8c	Shotley Gate	MR1	MR1	MR1	Integrated plan for adaptation to be determined through partnership approach; may include local defences. Local community project for small scale defences underway.
A9a,d,f	Northern Stour – flood defence	HtL	HtL	HtL	The current line will be held throughout all epochs.
A9b	Northern Stour – not erosional	NAI	NAI	NAI	Limited erosion expected, therefore no defences needed.

Policy Development Zone		Policy Plan			Explanation
		Now - 2025	2025 - 2055	2055 - 2105	
A9c,e	Northern Stour – erosional	MR1	MR1	MR1	Local intervention to limit erosion risk to features is acceptable if the impact on natural estuary evolution is minimised.
A10a,c,e	Southern Stour – flood defence	HtL+	HtL+	HtL+	The current line will be held throughout all epochs. The standard of protection at Manningtree will be maintained or upgraded.
A10b,g	Southern Stour – not erosional	NAI	NAI	NAI	Limited erosion expected, therefore no defences needed.
A10d,f	Southern Stour – erosional	MR1	MR1	MR1	Local intervention to limit erosion risk to features is acceptable if the impact on natural estuary evolution is minimised.
A11a	Harwich Harbour	AtL	HtL	HtL	The port expansion currently under consideration for Bathside Bay constitutes Advance the Line. The new line will then be held throughout all epochs to continue protection of Harwich Port. This is subject to port development plans progressing.

Policy Development Zone		Policy Plan			Explanation
		Now - 2025	2025 - 2055	2055 - 2105	
A11b	Harwich town	HtL	HtL	HtL	The current line will be held throughout all epochs.

Key:

MR1 – Managed Realignment - Allow local and limited intervention

MR2 – Managed Realignment - Breach of frontline defence after building landward defence

HtL - Hold the Line – Hold the existing line

AtL – Advance the Line

Where a “+” is added to the policy label, this means that the Standard of protection will be maintained or upgraded

Changes from Present Management

Change from existing policies will take place in the currently defended PDZs where Managed Realignment is proposed. This would be in epoch 1 for Shotley Marshes west (PDZ A8a) and in epoch 2 for Trimley Marsh (PDZ A2), Loom Pit Lake (PDZ A3a) and Shotley Marshes east (PDZ A8b).

A change of management is also proposed for the erosional frontages with features at risk. This change would occur in epoch 1, although its practical implications will be very limited and may not start until the later epochs.

Policy Appraisal Results (key and explanation: see Table 4-1 on page 95)

Policy Development Zone	Policy																								
		Policies appropriate to the diverse nature of Essex and South Suffolk Essex	Flood and erosion risk to people and property	Future opportunities	Use of natural processes	Positive and negative impact on other frontages	Cross-shore impact on near-shore activities	Time available for adaptation for communities, individuals and partner organisations	Infrastructure	Socio-economic activities	Public services	Communities	Deprived communities	Impact on socio-economic features of regional, national or international significance	Designated habitats and species	Biodiversity Action Plan (BAP) targets	Designated geological sites	Maintaining the evolving nature of the coastal landscape	Designated Heritage Assets	Significant undesignated heritage assets	Quality of Preservation	Archaeological Potential	Historic Landscape	Expected Scale of Mitigation	Impact on access to and along the coast
A. Stour and Orwell																									
A1 (Felixstowe)	ATL	8	9	9	8	8	8	9	9	9	9	9	9	9	5	5	8	9	9	9	9	9	9	9	9
A2 (Trimley Marshes)	MR2				9	7		8		1					5	7				3	3	3	4	3	8
A3a (Loom Pit Lake)	MR2				9	7		8							6	7				4	3	4	3	4	8
A3b (Levington Creek)	HTL		9	9	8	5	5	9	9	9	9	9	9	9	5	5		9	9	9	9	9	9	9	9
A4a (Orwell Northern Bank)	MR1				9	9	9	7		4					9	9				8	8	6	8	4	4
A4b (Orwell Northern Bank)	NAI				9	9	9			9	9	9	9		9	9				3	2	2	2	2	
A5 (Ipswich)	HTL		9	9	5	5	5	9	9	9	9	9	9	9	5	5		9	9	9	9	9	9	9	9

Policy Development Zone	Policy	Policies appropriate to the diverse nature of Essex and South Suffolk Essex	Flood and erosion risk to people and property		Use of natural processes		Positive and negative impact on other frontages	Cross-shore impact on near-shore activities	Time available for adaptation for communities, individuals and partner organisations	Infrastructure	Socio-economic activities			Public services	Communities	Deprived communities	Impact on socio-economic features of regional, national or international significance	Designated habitats and species	Biodiversity Action Plan (BAP) targets	Designated geological sites	Maintaining the evolving nature of the coastal landscape	Designated Heritage Assets	Significant undesignated heritage assets	Quality of Preservation	Archaeological Potential	Historic Landscape	Expected Scale of Mitigation	Impact on access to and along the coast	
			Flood and erosion risk to people and property	Future opportunities	Use of natural processes	Positive and negative impact on other frontages					Infrastructure	Socio-economic activities	Public services																Communities
A10e (Southern Stour)	HtL	8	9	9	5	5	5	9	9	9	9	9	9	9	9	9	9	5	5		8	9	9	9	9	9	9	9	
A10f (Southern Stour)	MR1				6	6	9	9		7									7	7			9	8	8	6	8	4	9
A10g (Southern Stour)	NAI				9	9	9												9	9				2	2	3	2	3	
A11a (Harwich Harbour)	AtL		9	9	5	5	5	9	9	9	9	9	9	9	9	9	9	9	5	5			9	9	9	9	9	9	9
A11b (Harwich Harbour)	HtL		9	9	5	5	5	9	9	9	9	9	9	9	9	9	9	9	5	5			9	9	9	9	9	9	9

Policy maps

Figure 4-1 Management Unit A, Present Day

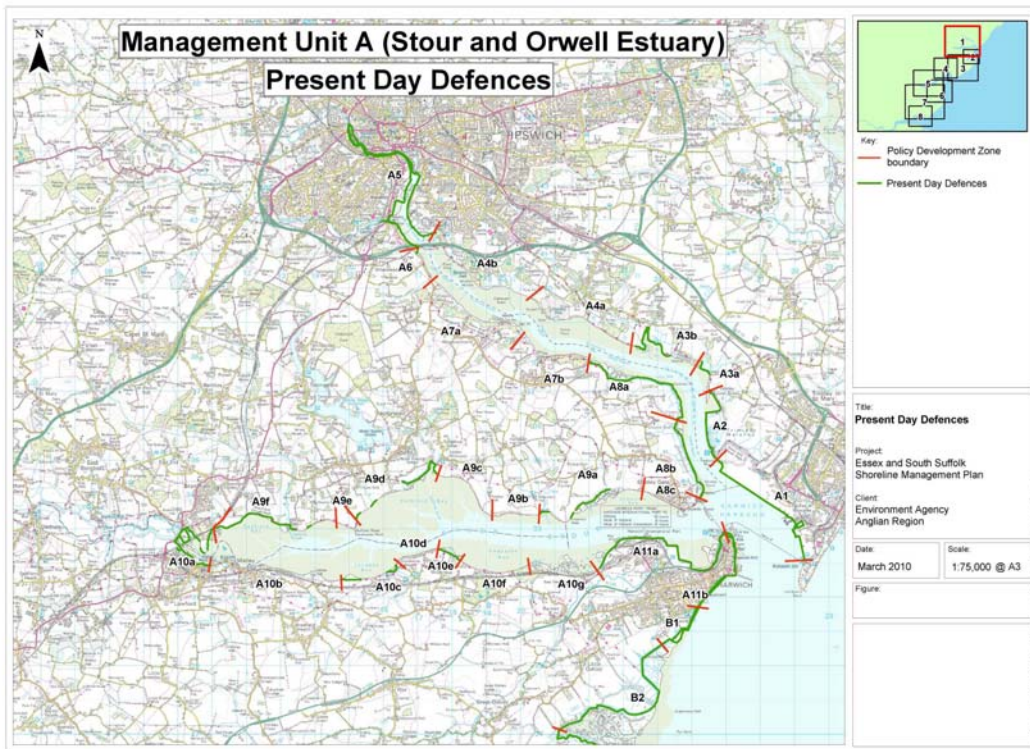


Figure 4-2 Management Unit A, epoch 1

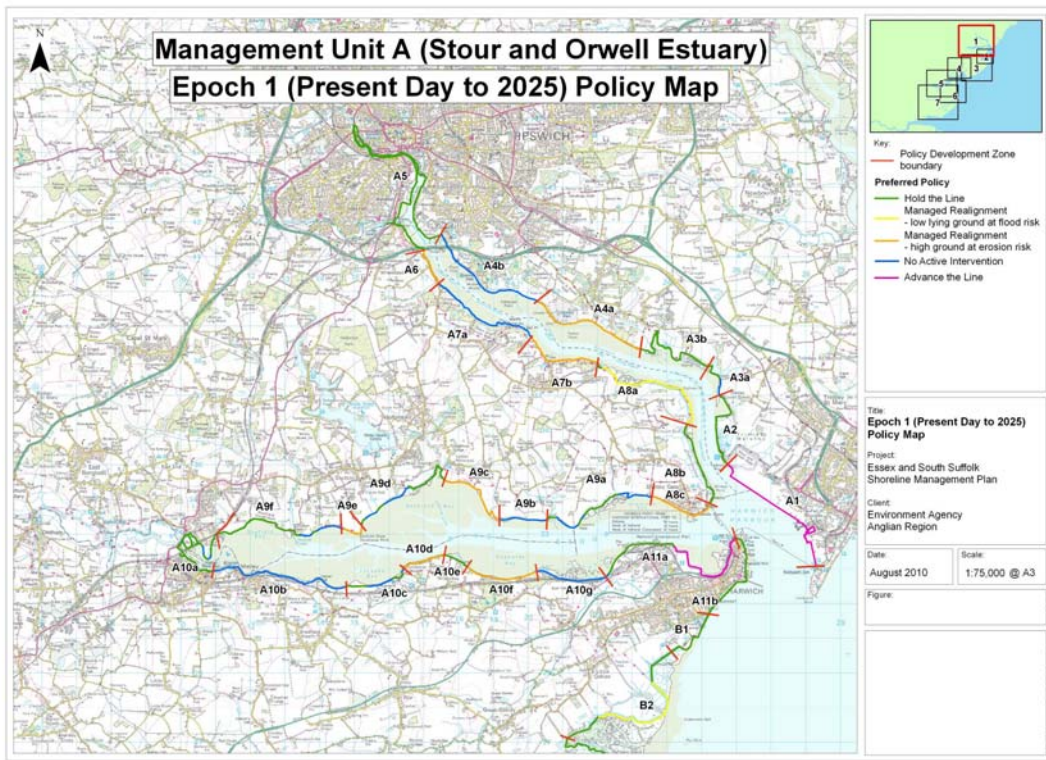


Figure 4-3 Management Unit A, epoch 2

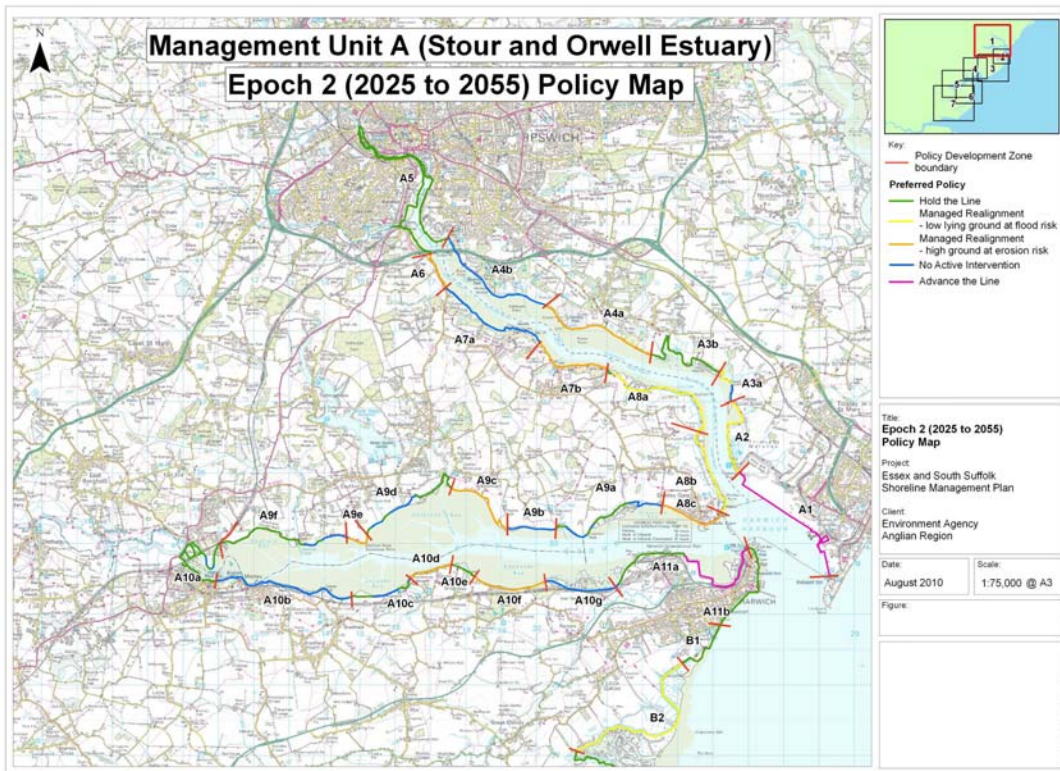
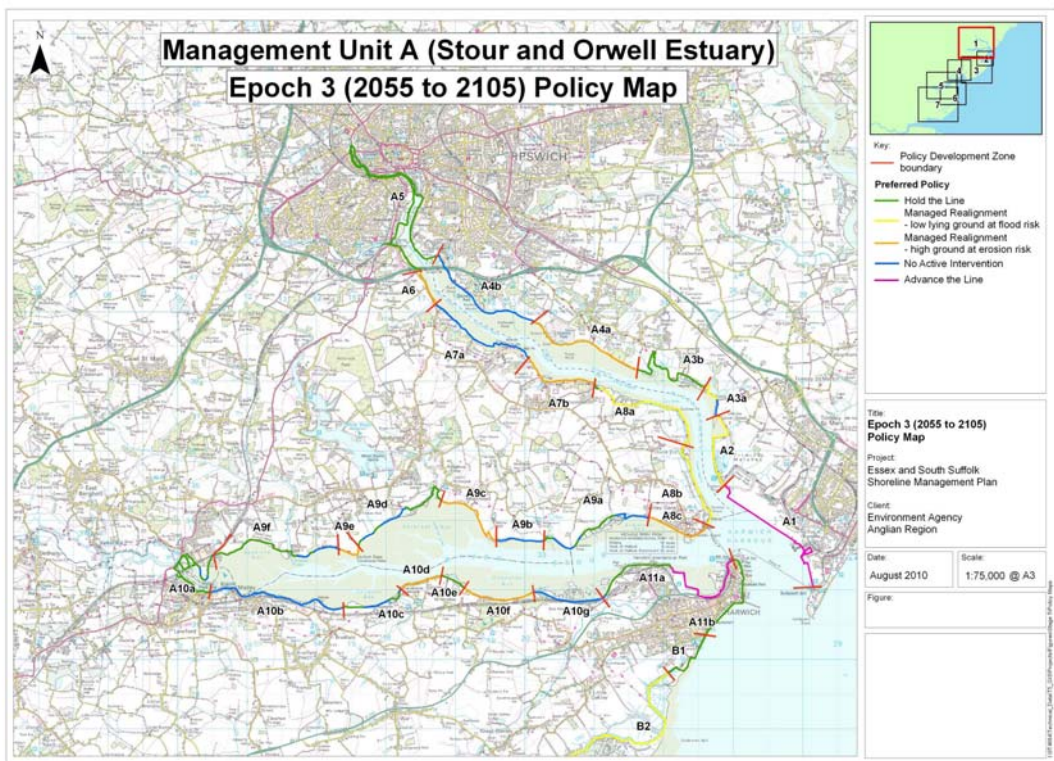


Figure 4-4 Management Unit A, epoch 3



4.3 Management Unit B – Hamford Water

Summary of the Plan: Recommendations and Justification

The overall intent of management for Hamford Water is to sustain and support the viability of communities, tourism and commercial activities while creating new intertidal habitats and focusing flood risk management on frontages where it is most needed. The policy to achieve this intent is to maintain flood defence to the majority of the defended land, including all dwellings and key infrastructure at risk of flooding, whilst also allowing coastal and estuarine processes to act in a less constrained manner by realigning defences that are under pressure.

The frontages where the existing flood defences will continue to be held at their current alignment are south Dovercourt, Oakley Creek and Titchmarsh Marina. The defences at south Dovercourt protect an old refuse tip. The SMP's Action Plan includes a study to determine how to deal with this contamination, for input into the next SMP review.

However, at Little Oakley, Horsey Island, Devereux Farm and Walton Channel (PDZs B2, B3a, B4a and B5) the defences are under pressure from coastal change and a landward realignment will create a more sustainable situation by reducing the pressure from the channels on the defences and moving towards a more natural estuary with increase of tidal prism and intertidal area. Realignment can have a socio-economic benefit for navigation, sailing clubs and local marinas; there are examples where increased flow helps to sustain navigation channels. All dwellings and infrastructure will remain protected, including the sewage treatment works at Walton; this would require moving some of the defences to a more sustainable sheltered position, possibly in the form of counterwalls. The potential realignments would come at the expense of some Grade 2, 3 and 4 agricultural land. They will also affect partly designated freshwater habitats on Horsey Island and at Walton Channel, but they will also create new intertidal habitats. They will have some impact on heritage assets, particularly on Horsey Island, which will require mitigation by design and recording as part of implementation of the Plan. The footpaths on top of the sea banks to be breached, particularly at Little Oakley, will need to be sustained, for example through re-routing. The impact of the potential realignments on tourism and recreation (including sailing) is difficult to quantify, and realignments can have both positive and negative impacts. This impact will be taken into account during project appraisal and scheme development, which will be carried out with full stakeholder involvement before any works start.

At the entrance of the Walton channel, along Stone Point and Stone Marsh, foreshore recharge took place during the 1990s as significant sands and shingles were available from the Felixstowe port expansion and capital dredging. The intent of management for this section of the frontage is to continue dialogue and

explore the possibility of using sands and shingles from dredging activities for foreshore recharge. However it is understood that sediment availability from those activities may be limited.

The realignment for Devereux Farm (PDZ B4a) is proposed for epoch 1 and part of this site is already under construction. Realignment is proposed for epoch 2 (possibly epoch 1) for Little Oakley (PDZ B2), and epoch 3 for Horsey Island (PDZ B3a), and Walton Channel (PDZ B5).

Little Oakley is currently planned as a realignment site for habitat compensation for the Bathside Bay Project (Port of Harwich). The realignment that the SMP proposes for Little Oakley (PDZ B2) includes the Bathside Bay compensation plus additional area. This is illustrated in the Policy Maps. The realignment that the SMP proposes for Devereux Farm (PDZ B4a) is the same that is currently being developed within the Regional Habitats Creation Programme for the Devereux Farm project.

For south Dovercourt (B1) and Walton Channel (B5), the SMP's broad scale economic analysis supports an intent to maintain or upgrade the standard of protection, including taking into account impacts of climate change. For all the other defended frontages, detailed analysis beyond the SMP is needed to determine the appropriate standard of protection.

The cliffs at the Naze are the only frontage in this Unit that presently has a No Active Intervention policy. The intent of management is to continue this approach as much as possible, to sustain the geographical interest of the fresh cliff face and the supply of sediment along the shoreline. Therefore the policy for the northern stretch (PDZ B6a) remains No active intervention. However, at the southern extent of the cliffs (PDZ B6b) the intent is to protect the southern end of the cliff which will extend the life of the Naze Tower and its historic interest while sustaining and supporting the geological interest. This is in line with the Crag Walk Project and the Naze Heritage Project that are being developed and actioned by the Naze Protection Society (NPS) in partnership with Essex Wildlife Trust (EWT) and Tendring District Council (TDC) in a shared aim to celebrate, promote and preserve the Naze. All small scale local interventions would require permission or consents. And this is when any geological, environmental and social issues or impacts would be considered and addressed.

Summary of Specific Policies

Policy Development Zone		Policy Plan			Explanation
		Now - 2025	2025 - 2055	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	Hutchisons Ports is proposing a managed realignment scheme for Epoch 1 for the central area of B2 secured for the Bathside Bay development to meet their compensatory habitat needs. Potential to expand this site would be considered with willing local landowners into the rest of B2. If Bathside bay does not go ahead MR in this PDZ would be considered in Epoch 2. Managed realignment would be by breach of the existing defence while continuing flood defence to the dwellings, communities, roads and infrastructure south of Dovercourt and to the sewage works.
B3	Oakley Creek to Kirby-le-Soken	HtL	HtL	HtL	The current line will be held throughout all epochs.
B3a	Horseley Island	HtL	HtL	MR2	The current line will be held throughout the 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.

Policy Development Zone		Policy Plan			
		Now - 2025	2025 - 2055	2055 - 2105	Explanation
B4a	Kirby-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 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.
B6a	Naze Cliffs north	NAI	NAI	NAI	The shoreline will be allowed to develop naturally.
B6b	Naze Cliffs south	MR1	MR1	MR1	The erosion process will be slowed down and managed.

Key:

HtL – Hold the Line

MR1 – Managed Realignment - Allow local and limited intervention

MR2 – Managed Realignment - Breach of frontline defence after building landward defence

NAI – No Active Intervention

Where a “+” is added to the policy label, this means that the Standard of protection will be maintained or upgraded














Changes from Present Management

Change from existing policies will take place in the currently defended PDZs where Managed Realignment is proposed. This would be in epoch 1 for Devereux Farm (PDZ B4a), epoch 2 (possibly epoch 1) for Little Oakley (PDZ B2), and epoch 3 for Horsey Island (PDZ B3a), and Walton Channel (PDZ B5).

The limited intervention approach for the southern end of Naze Cliffs is consistent with the existing policy.

Policy Appraisal Results (key and explanation: see Table 4-1 on page 95)

Policy Development Zone	Policy																									
		Policies appropriate to the diverse nature of Essex and South Suffolk Essex	Flood and erosion risk to people and property	Future opportunities	Use of natural processes	Positive and negative impact on other frontages	Cross-shore impact on near-shore activities	Time available for adaptation for communities, individuals and partner organisations	Infrastructure	Socio-economic activities	Public services	Communities	Deprived communities	Impact on socio-economic features of regional, national or international significance	Designated habitats and species	Biodiversity Action Plan (BAP) targets	Designated geological sites	Maintaining the evolving nature of the coastal landscape	Designated Heritage Assets	Significant undesignated heritage assets	Quality of Preservation	Archaeological Potential	Historic Landscape	Expected Scale of Mitigation	Impact on access to and along the coast	
B. Hamford Water																										
B1 (South Dovercourt)	HtL	8	9	9	5	5	9	9	9	9	9	9	9	9	5	9	8	9	9	9	9	9	9	9	9	
B2 (Little Oakley)	MR2		9	7	8	8	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
B3 (Oakley Creek to Kirby-le-Soken)	HtL		9	9	8	8	5	9	9	9	9	9	9	9	9	5	5	9	9	9	9	9	9	9	9	9
B3a (Horsey Island)	MR2		9	5	8	8	9	9	9	9	9	9	9	9	9	5	5	9	9	9	9	9	9	9	9	9
B4a (Kirby-le-Soken to the Martello Tower)*	MR2		Not appraised because the policy has been determined outside the SMP (in Regional Habitats Creation Programme)											9	9	9	9	9	9	9	9	9	9			

Policy Development Zone	Policy																										
		Policies appropriate to the diverse nature of Essex and South Suffolk Essex	Flood and erosion risk to people and property	Future opportunities	Use of natural processes	Positive and negative impact on other frontages	Cross-shore impact on near-shore activities	Time available for adaptation for communities, individuals and partner organisations	Infrastructure	Socio-economic activities	Public services	Communities	Deprived communities	Impact on socio-economic features of regional, national or international significance	Designated habitats and species	Biodiversity Action Plan (BAP) targets	Designated geological sites	Maintaining the evolving nature of the coastal landscape	Designated Heritage Assets	Significant undesignated heritage assets	Quality of Preservation	Archaeological Potential	Historic Landscape	Expected Scale of Mitigation	Impact on access to and along the coast		
B4b (Kirby-le-Soken to the Martello Tower)	HIL	8	9	9	8	8	5	9	9	9	9	9	9	5	5		8	9	9	9	9	9	9	9	9		
B5 (Walton Channel)	MR2				9	7		8		1					5	5				3	2	2	2	2	2	2	8
B6a (Naze Cliffs)	NAI					9	9	9							9	9		9			2	3	2	2	2	3	
B6b (Naze Cliffs)	MR1					6	6		9		9				5	5		7		8	8	8	8	8	8	4	7

Policy maps

Figure 4-5 Management Unit B, Present Day

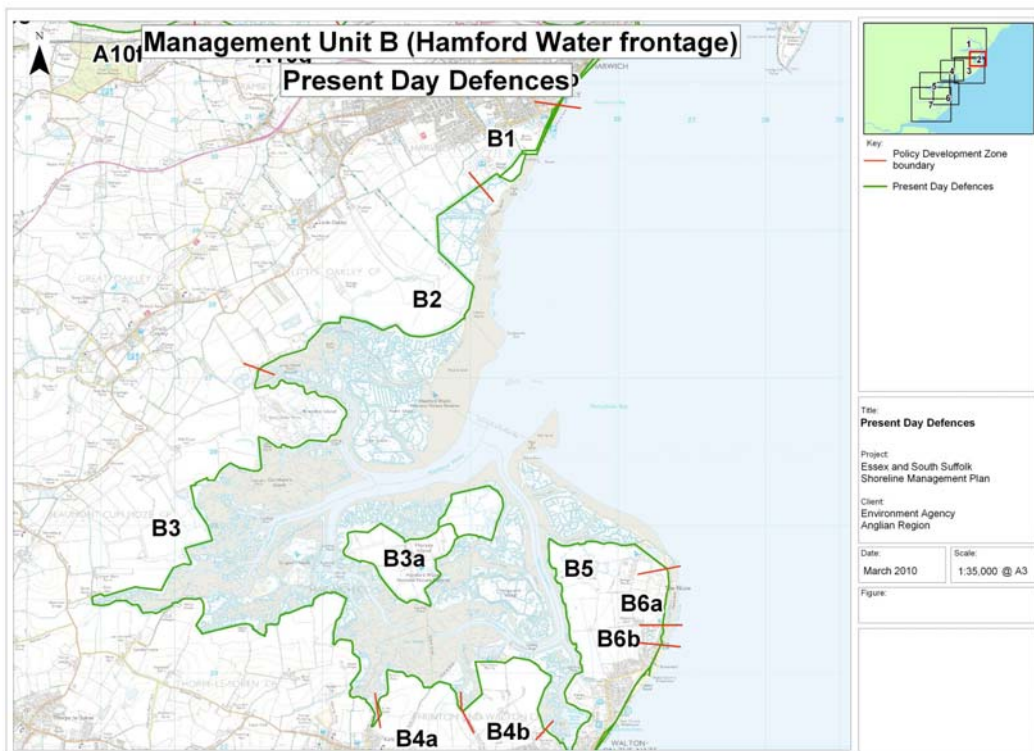


Figure 4-6 Management Unit B, epoch 1

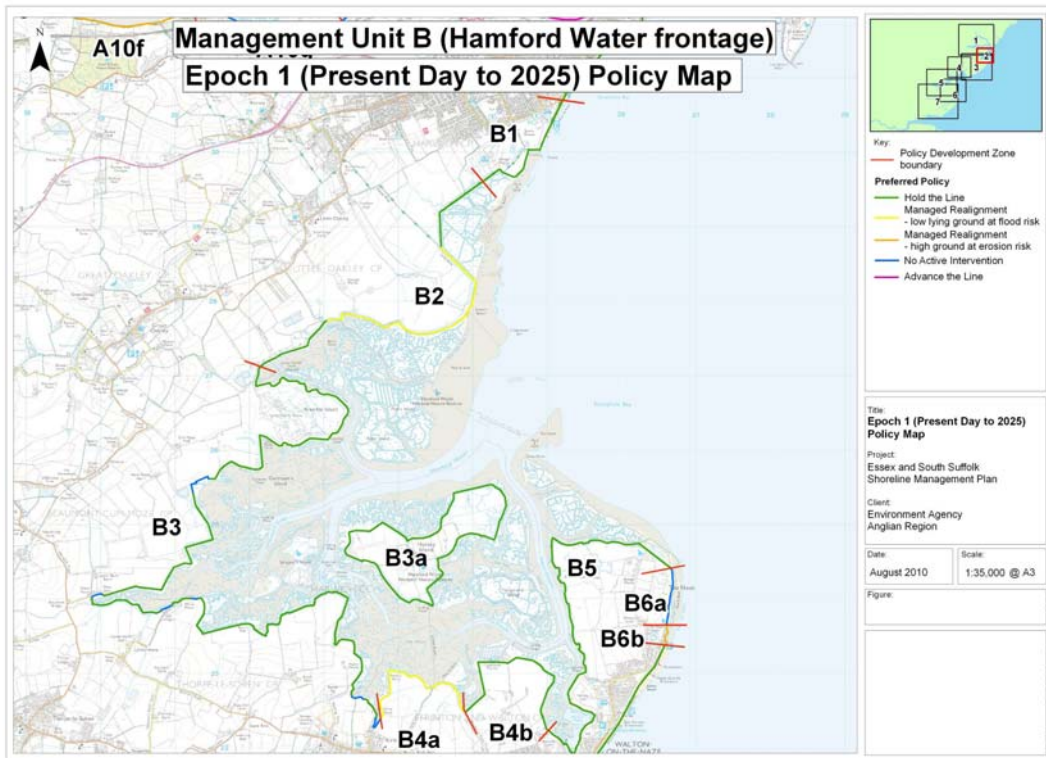


Figure 4-7 Management Unit B, epoch 2

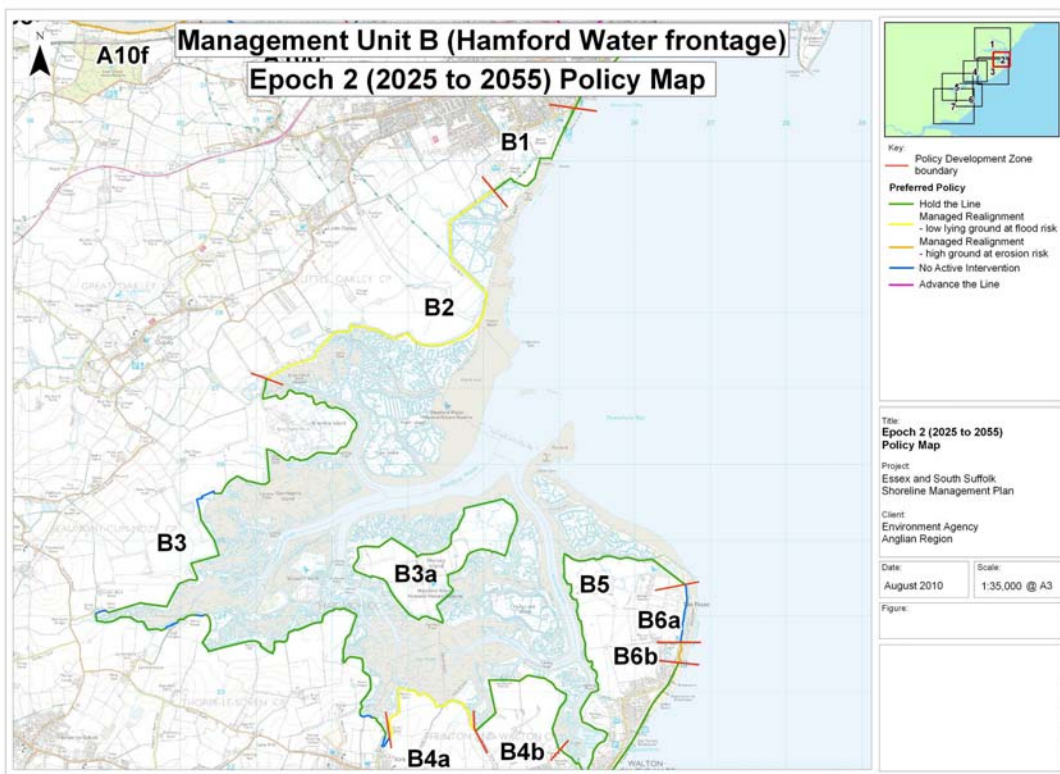
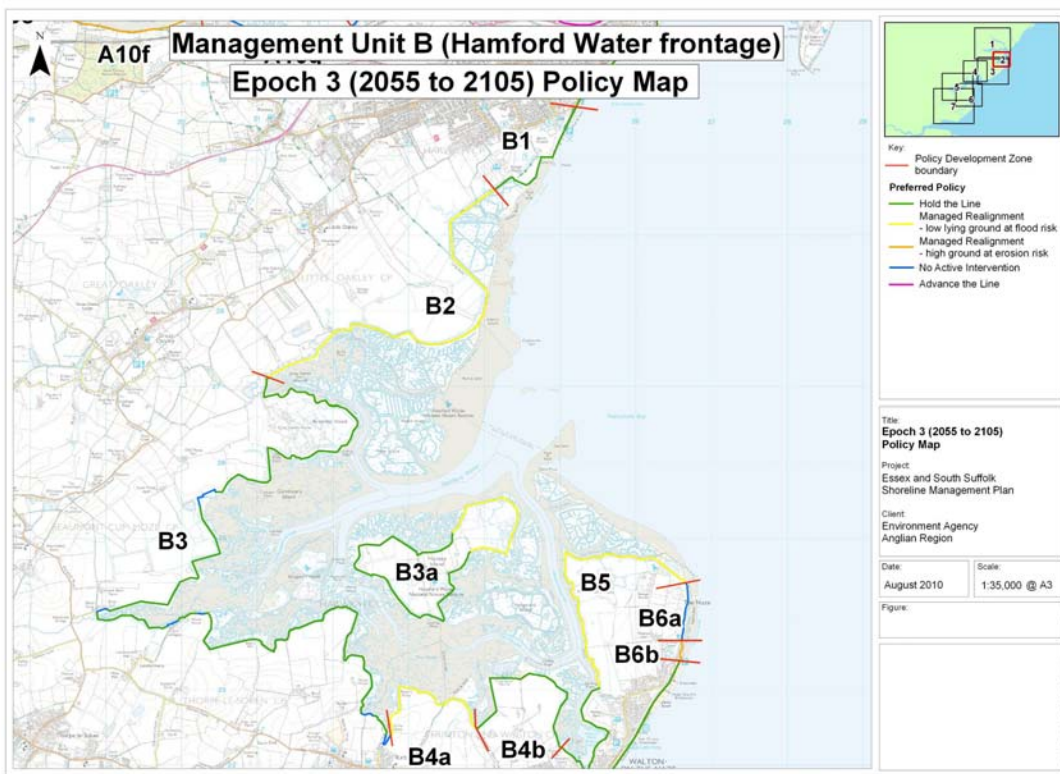


Figure 4-8 Management Unit B, epoch 3



4.4 Management Unit C – Tendring Peninsula

Summary of the Plan: Recommendations and Justification

The overall intent of management for Tendring is to sustain and support the viability of the seaside towns and their communities, tourism and commercial activities. This means a continuation of the current management approach: holding the current alignment where there are defences. Although the defences are under pressure, holding the line is necessary to sustain the seafront which is essential to the viability of Walton-on-the Naze and Frinton-on-Sea (C1) and Clacton-on-Sea (C3) as coastal towns and the Tendring frontage as a whole. Working with communities will be encouraged to move gradually to more sustainable flood risk management for the low-lying parts of the frontage. It should be noted that beach erosion is likely to remain an issue due to a shortage of sediment supply, as explained in Appendix F4.4.

At Holland Haven (PDZ C2) the defences are under pressure and a landward realignment would create a more sustainable situation by reducing the pressure on defences and moving towards a more natural coastal frontage. However, the situation is complex and sensitive. The SMP's intent of management for Holland-on-Sea is to support a long term sustainable solution and adaptation. In the short term and the medium term, the intent is to hold the existing frontline defences where they are now. After 2055 a dual policy means that the existing frontline defences may be held where they are now or some form of Managed Realignment may be implemented. It needs to be noted that in the long term, holding the line at this frontage will be challenging, and funding may have to come from a variety of sources. In both cases, so also if Managed realignment takes place, all dwellings and infrastructure will remain protected, which will require moving some of the defences to a more sustainable sheltered position.

Whether the policy in Epoch 3 is Hold the line or Managed realignment, all dwellings and infrastructure will remain protected, which will require moving some of the defences to a more sustainable sheltered position but this would need to be explored more fully in the future with full community consultation before finalising a policy option. The importance of protecting Holland Sewerage Treatment Works was recognised by the Elected Members Forum and this was seen as a priority for protection for the next 100 years.

This realignment would impact on the Holland Haven Country Park and the Frinton-on-Sea Golf Course. The realignment would create new intertidal habitats and opportunities for new forms of tourism and recreation. It would have some impact on heritage assets, particularly the archaeological potential within the realignment area, which would require mitigation by design and recording as part of implementation of the Plan. The footpaths on top of and toward the sea

bank to be breached would need to be sustained, for example through re-routing. The impact of the potential realignment on tourism and recreation is difficult to quantify, and realignments can have both positive and negative impacts. This impact will be taken into account during project appraisal and scheme development, which would be carried out with full stakeholder involvement before any works start.

The policies for Walton-on-the-Naze and Frinton-on-Sea (PDZ C1), Holland Haven (PDZ C2) and Clacton-on-Sea (PDZ C3) will be developed in more detail in the Clacton Coastal strategy. This will be reviewed in 2010 and will consider in more detail the links between these frontages and the potential detailed scheme options for Clacton.

The C4 frontage encompasses the communities of Jaywick, Seawick and Leewick. This frontage was severely flooded in 1953 and significant defence works have taken place to defend the area from flooding since then. Any managed realignment in this PDZ would significantly impact on tourism infrastructure at Seawick, Leewick and Jaywick due to the presence of large caravan and holiday parks which are important for the local economy. In addition there is over 700ha of grade 3/4 agricultural land and important historic assets including 3 Scheduled Monuments. There is a significant flood risk issue for the local communities and businesses in PDZ C4 as the area is very low-lying behind the defence.

At Jaywick, the situation is very complex. The flood defences have recently been strengthened to protect the communities of Brooklands, Grasslands and Jaywick village, plus important tourist facilities (e.g. caravan parks).

However, the sea defence is under considerable pressure, and sustaining it in the medium and long term would require significant investment, particularly in the eastern half of the PDZ. Clearly, any change in shoreline management approach would only be possible in combination with significant adaptation for the people and businesses in the area. The SMP's intent for Jaywick is to support the process that Tendring District Council and Essex County Council are carrying out through the Local Development Framework to develop a sustainable long-term solution for the area. The period up to around 2025 is the minimum time needed to allow land use adaptation that may be required. In the short and medium term, the intent is to hold the existing frontline defences where they are now. After 2055 the intent is less fixed and depends on further work through the Local Development Framework in the coming years, and therefore the SMP proposes a dual policy of Managed realignment or Hold the line. Any change in management after 2055 will not take place without the implementation of appropriate adaptation measures and all management will reflect the need to defend residential settlements, while also reflecting the extent of land use changes that may have taken place. Any policy implemented, either Managed realignment or Hold the line, will ensure continued appropriate flood defence for the communities and associated socio economic features at Jaywick and will also ensure continued use of the area for leisure, recreation and tourism.

The ongoing planning process specifically concerns Jaywick, which is only part of PDZ C4. However, the whole of the PDZ needs an integrated shoreline management approach, which means that the outcome for the rest of the PDZ (Seawick, Leewick and the agricultural land around it) partly depends on the decision for Jaywick as described in the previous paragraph.

The SMP's broad scale economic analysis supports an intent to maintain or upgrade the standard of protection for Holland Haven (PDZ C2),, including taking into account impacts of climate change. For all the other defended frontages (PDZs C1, C3 and C4), detailed analysis beyond the SMP is needed to determine the appropriate standard of protection.

Summary of Specific Policies

Policy Development Zone		Policy Plan			
		Now - 2025	2025 - 2055	2055 - 2105	Explanation
C1	Walton-on-the-Naze and Frinton-on-Sea	HtL	HtL	HtL	The current line will be held throughout all epochs.
C2	Holland Haven	HtL+	HtL+	MR2+/HtL+	The current line will be held in epoch 1 and epoch 2. In epoch 3 there is a dual policy of either Managed realignment or Hold the line. In either case flood defence to the dwellings, roads and sewerage treatment works will be continued. The standard of protection will be maintained or upgraded.
C3	Clacton-on-Sea	HtL	HtL	HtL	The current line will be held throughout all epochs.
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.

Key:

HtL – Hold the Line

MR1 – Managed Realignment - Allow local and limited intervention

MR2 – Managed Realignment - Breach of frontline defence after building landward defence











NAI – No Active Intervention

Where a "+" is added to the policy label, this means that the Standard of protection will be maintained or upgraded

Changes from Present Management

Change from existing policies could take place in Holland Haven (PDZ C2) and in Seawick, Jaywick and St. Osyth Marsh (PDZ C4), where a policy of either Managed Realignment or Hold the Line is proposed for epoch 3.

Policy Appraisal Results (key and explanation: see Table 4-1 on page 95)

Policy Development Zone																										
		Policies appropriate to the diverse nature of Essex and South Suffolk Essex	Flood and erosion risk to people and property	Future opportunities	Use of natural processes	Positive and negative impact on other frontages	Cross-shore impact on near-shore activities	Time available for adaptation for communities, individuals and partner organisations	Infrastructure	Socio-economic activities	Public services	Communities	Deprived communities	Impact on socio-economic features of regional, national or international significance	Designated habitats and species	Biodiversity Action Plan (BAP) targets	Designated geological sites	Maintaining the evolving nature of the coastal landscape	Designated Heritage Assets	Significant undesignated heritage assets	Quality of Preservation	Archaeological Potential	Historic Landscape	Expected Scale of Mitigation	Impact on access to and along the coast	
C. Tending																										
C1 (Walton-on-the-Naze and Frinton-on-Sea)	HtL	8	9	9	5	5		9	9	9	9	9	9					9	9	9	9	9	9	9	9	
C2 (Holland-on-Sea)	HtL/MR2				9	7		8		1				5	5		8		2	2	1	2	2	2	8	
C3 (Clacton-on-Sea)	HtL		9	9	5	5		9	9	9	9	9	9	9	5	5	5		9	9	9	9	9	9	9	9
C4 (Seawick, Jaywick and St. Osyth Marsh)	HtL/MR2		Not appraised because the policy has been determined outside the SMP (in the Local Development Framework)																							

Policy Maps

Figure 4-9 Management Unit C, Present Day



Figure 4-10 Management Unit C, epoch 1

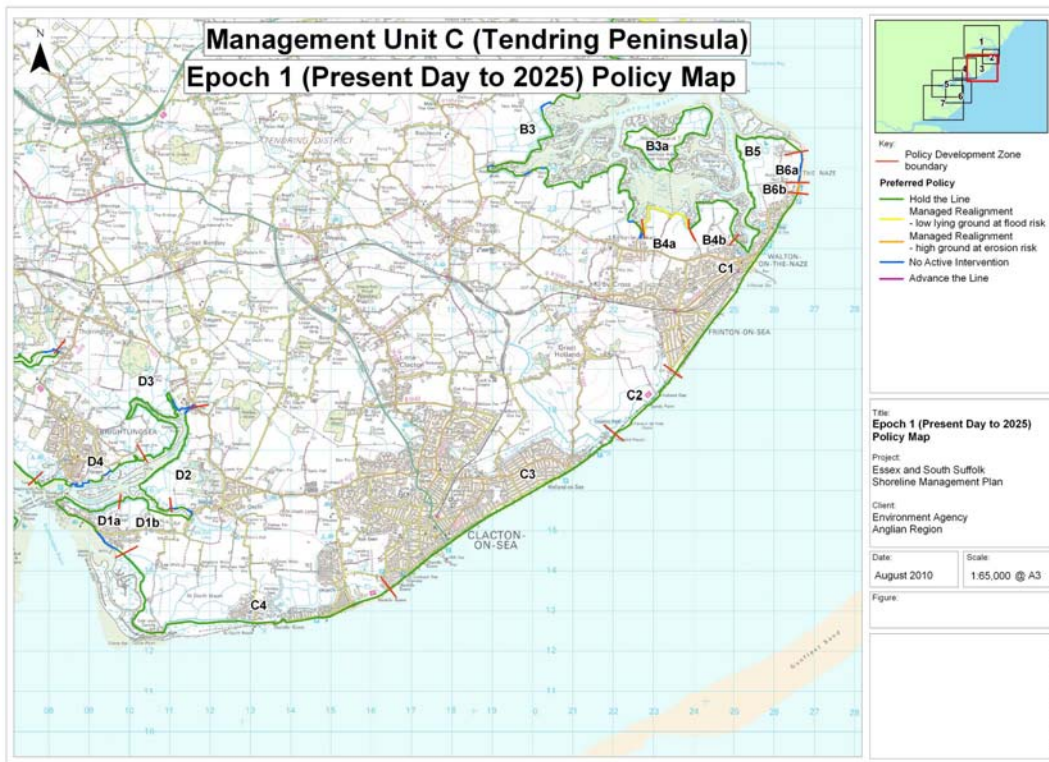


Figure 4-11 Management Unit C, epoch 2

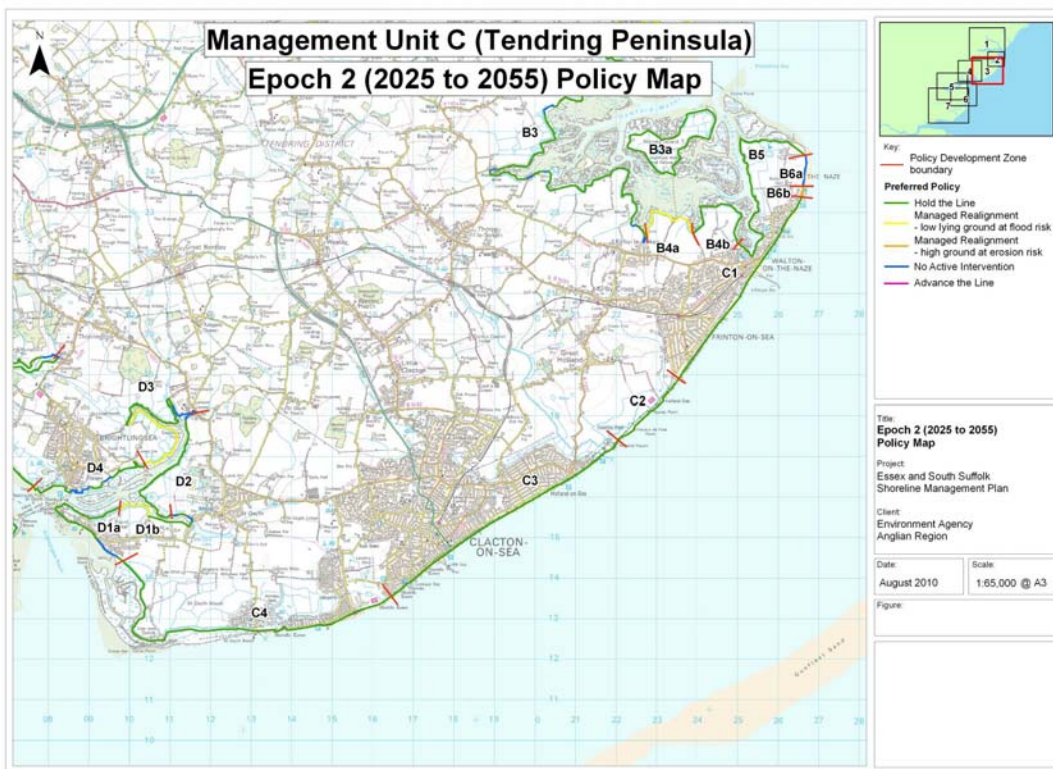
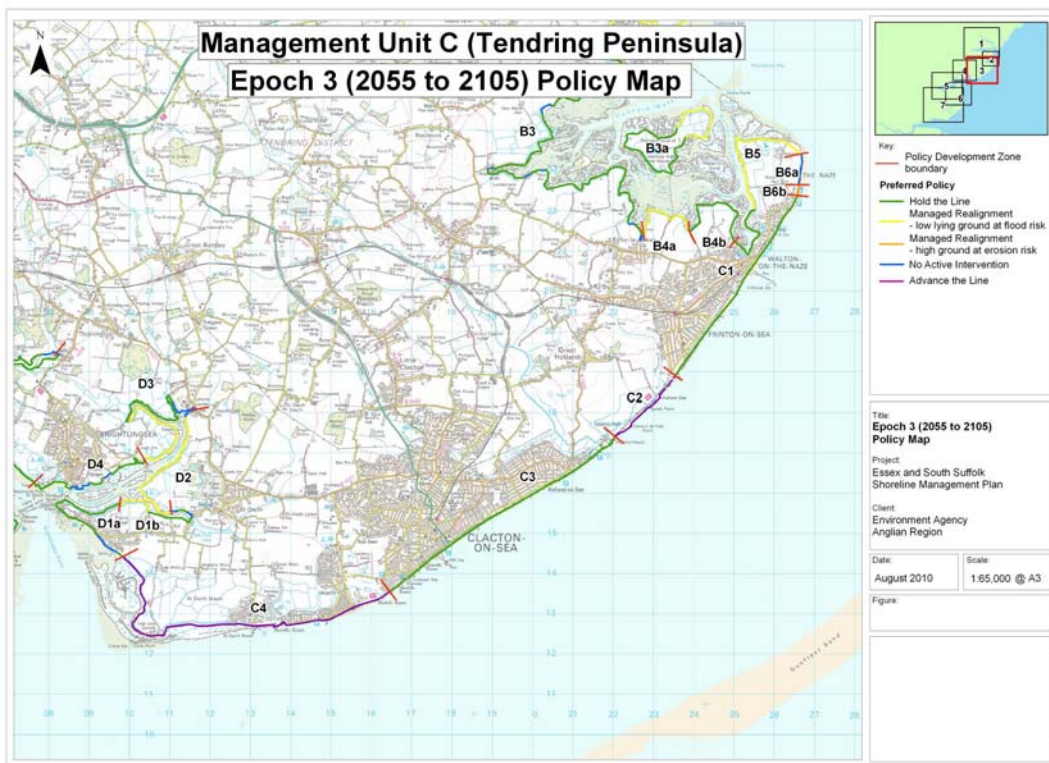


Figure 4-12 Management Unit C, epoch 3



4.5 Management Unit D – Colne Estuary

Summary of the Plan: Recommendations and Justification

The overall intent of management for the Colne Estuary is to sustain and support the viability of communities, tourism and commercial activities while creating new intertidal habitats and focusing flood risk management on frontages where it is most needed. The policy to achieve this intent is to maintain flood defence to the majority of the defended land, including all dwellings and key infrastructure at risk of flooding, whilst also allowing coastal and estuarine processes to act in a less constrained manner by realigning defences that are under pressure, and / or where the value of the protected features is unlikely to justify continued maintenance.

The frontages where the existing flood defences will continue to be held at their current alignment are Point Clear, Brightlingsea, South of Wivenhoe, Colne Barrier, Fingringhoe and Langenhoe and Langenhoehall Marsh.

However, at St Osyth Creek, Flag Creek and West Marsh (PDZs D1b, D2, D3 and D5) the defences are under pressure. Landward realignment at these frontages would create a more sustainable situation by reducing the pressure on defences and moving towards a more natural estuary and creek evolution with increase of tidal prism and intertidal area. All dwellings and infrastructure will remain protected, which will require moving some of the defences to a more sustainable sheltered position, possibly in the form of counterwalls. The realignments will come at the expense of Grade 3 and 4 agricultural land. They will affect partly designated freshwater habitats, particularly at St. Osyth, but they will also create new intertidal habitats. The intention is to replace the affected freshwater habitats as near as possible to the area of loss. The realignments could have a significant impact on heritage assets, at St Osyth Creek and West Marsh, but particularly along Flag Creek (D2) which is particularly important due to its landscape character and heritage. There will be a need for mitigation by design and recording as part of implementation of the Plan, particularly at Flag Creek (D2), which could take significant time and may influence the timing of the realignments. This has been reflected in the proposed epochs for the realignments but may also mean that some of these realignments take place toward the end of the epochs for which they are proposed, or even that the policy reverts to Hold the line in future reviews of the SMP. There are footpaths at West Marsh; these will need to be sustained, for example through re-routing. The impact of the potential realignments on tourism and recreation (including sailing) and on oyster fisheries is difficult to quantify, and realignments can have both positive and negative impacts. These impacts will be taken into account during project appraisal and scheme development, which will be carried out with full stakeholder involvement before any works start.

At Wivenhoe and Inner Colne west bank (PDZ D6b and D8a) the defences are not necessarily under pressure. However, they only protect features of limited economic value or the economic benefits are for a finite period, As a result it is unlikely that continued maintenance is justified. At D6b the former applies. At the Colne west bank (D8a), quarry operations at the gravel pit are projected to continue up to around 2045, after which maintenance of the defences is unlikely to be justified. A more thorough assessment of the long term economic value of the quarry will need to be completed before the next review of the SMP to help confirm the shoreline management policy for PDZ D8a. No Active Intervention is a fall-back position for such cases, but it would be preferable to take a pro-active and managed approach, in order to create intertidal habitats (possibly in combination with freshwater habitats) and the associated socio-economic benefits. It has to be noted that Managed Realignment (and also No Active Intervention) could have a significant impact on the historic environment (particularly the well-preserved grazing marsh on the east bank) and on freshwater habitats (although these are not nationally designated). The further impact of the potential realignments on tourism and recreation (including navigation from the nearby moorings) is difficult to quantify, and realignments can have both positive and negative impacts. These impacts will be taken into account during project appraisal and scheme development, which will be carried out with full stakeholder involvement before any works start. The banks that connect the Colne Barrier to high ground on both banks are part of PDZ D7 (Colne Barrier), which has a Hold the Line policy.

Realignment is proposed to take place in epoch 2 for Point Clear to St Osyth Creek (PDZ D1b), Flag Creek to northern bank to Brightlingsea (D3), Westmarsh Point to where the frontage meets the B1029 (PDZ D5), B1029 to Wivenhoe (PDZ D6b), and the Inner Colne west bank (PDZ D8a). The realignment along the southern bank of Flag Creek (PDZ D2) is proposed for Epoch 3.

For all defended frontages, detailed analysis beyond the SMP is needed to determine the appropriate standard of protection.

There are a number of short frontages where the current No Active Intervention approach will be continued; these are within the PDZs at Point Clear (PDZ D1a), St Osyth (PDZ D1b), Alresford (PDZ D6a) and Fingringhoe (PDZ D8b).

Summary of Specific Policies

Policy Development Zone		Policy Plan			
		Now - 2025	2025 - 2055	2055 - 2105	Explanation
D1a	Stone Point	HtL	HtL	HtL	The current line will be held throughout all epochs. The currently undefended section will remain undefended.
D1b	Point Clear to St Osyth Creek	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 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 to Brightlingsea	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 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. In epoch 2, Managed realignment by breach of the existing defence while continuing flood defence to the dwellings, the road and the freshwater habitats.

Policy Development Zone		Policy Plan			
		Now - 2025	2025 - 2055	2055 - 2105	Explanation
D6a	South of Wivenhoe	HtL	HtL	HtL	The current line will be held throughout all epochs. The current undefended areas will remain undefended.
D6b	B1029 to Wivenhoe	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 railway line.
D7	Colne Barrier	HtL	HtL	HtL	The current line will be held throughout all epochs.
D8a	Inner Colne west bank	HtL	MR2	NAI	The current line will be held in epoch 1. In epoch 2 (after the end of the functional life of the existing quarry), Managed realignment by breach of the existing defence. No defence needed after that. A more thorough assessment of the long term economic value of the quarry will need to be completed before the next review of the SMP to help confirm the shoreline management policy.
D8b	Fingringhoe and Langenhoe	HtL	HtL	HtL	The current line will be held throughout all epochs. The currently undefended sections will remain undefended.
D8c	Langenhoehall Marsh	HtL	HtL	HtL	The current line will be held throughout all epochs.

Key:

HtL – Hold the Line

MR1 – Managed Realignment - Allow local and limited intervention

MR2 – Managed Realignment - Breach of frontline defence after building landward defence

NAI – No Active Intervention

Where a “+” is added to the policy label, this means that the Standard of protection will be maintained or upgraded

Changes from Present Management

Change from existing policies will only take place in the PDZs where Managed Realignment is proposed. This is proposed to take place in epoch 2 for Point Clear to St Osyth Creek (PDZ D1b), Flag Creek to northern bank to Brightlingsea (D3), Westmarsh Point to where the frontage meets the B1029 (PDZ D5), B1029 to Wivenhoe (PDZ D6b), and the Inner Colne west bank (PDZ D8a). Along the southern bank of Flag Creek (PDZ D2), Managed realignment is proposed for epoch 3.

Policy Appraisal Results (key and explanation: see Table 4-1 on page 95)

Policy Development Zone	Policy																							
		Policies appropriate to the diverse nature of Essex and South Suffolk Essex	Flood and erosion risk to people and property Future opportunities	Use of natural processes Positive and negative impact on other frontages Cross-shore impact on near-shore activities	Time available for adaptation for communities, individuals and partner organisations	Infrastructure Socio-economic activities Public services Communities Deprived communities	Impact on socio-economic features of regional, national or international significance	Designated habitats and species Biodiversity Action Plan (BAP) targets	Designated geological sites Maintaining the evolving nature of the coastal landscape	Designated Heritage Assets Significant undesignated heritage assets Quality of Preservation Archaeological Potential Historic Landscape Expected Scale of Mitigation	Impact on access to and along the coast													
D. Colne Estuary																								
D1a (Stone Point)	HtL	8	9	9	3	3	9	9	9	9	9	9	5	5	8	9	9	9	9	9	9	9	8	
D1b (Point Clear to St Osyth Creek)	MR2				9	5	8							9	9			4	4	2	4	4	4	8
D2 (Along the southern bank of Flag Creek)	MR2				9	5	8							5	5			1	1	1	1	1	1	8
D3 (Flag Creek to northern bank to Brightlingsea)	MR2				9	5	8							9	9			2	1	1	2	1	1	8

Policy Development Zone	Policy	Policies appropriate to the diverse nature of Essex and South Suffolk Essex	Flood and erosion risk to people and property		Use of natural processes		Cross-shore impact on near-shore activities	Time available for adaptation for communities, individuals and partner organisations	Infrastructure	Socio-economic activities	Public services	Communities	Deprived communities	Impact on socio-economic features of regional, national or international significance	Designated habitats and species	Biodiversity Action Plan (BAP) targets	Designated geological sites	Maintaining the evolving nature of the coastal landscape	Designated Heritage Assets	Significant undesignated heritage assets	Quality of Preservation	Archaeological Potential	Historic Landscape	Expected Scale of Mitigation	Impact on access to and along the coast
D4 (Brightlingsea)	HtL		9	9	8	8	5	9	9	9	9	9	9	9	9	5	5		9	9	9	9	9	9	9
D5 (Westmarsh Point to where the frontage meets the B1029)	MR2	8			9	7		8		1					9	9		8		2	2	2	4	1	
D6a (South of Wivenhoe)	HtL		9	9	8	8		9	9	9	9	9	9	9	9	5	5		9	9	9	9	9	9	9
D6b (B1029 to Wivenhoe)	MR2				6	6		8		1					5	5				2	1	2	1	2	8
D7 (Colne Barrier)	HtL		9	9	8	8		9	9	9	9	9	9	9	9	5	5		9	9	9	9	9	9	9
D8a (Inner Colne west bank)	MR2				6	6				1					7	5				2	3	2	3	2	

Policy Development Zone	Policy																							
		Policies appropriate to the diverse nature of Essex and South Suffolk Essex	Flood and erosion risk to people and property	Future opportunities	Use of natural processes	Positive and negative impact on other frontages	Cross-shore impact on near-shore activities	Time available for adaptation for communities, individuals and partner organisations	Infrastructure	Socio-economic activities	Public services	Communities	Deprived communities	Impact on socio-economic features of regional, national or international significance	Designated habitats and species	Biodiversity Action Plan (BAP) targets	Designated geological sites	Maintaining the evolving nature of the coastal landscape	Designated Heritage Assets	Significant undesignated heritage assets	Quality of Preservation	Archaeological Potential	Historic Landscape	Expected Scale of Mitigation
D8b (Fingringhoe & Langenhoe)	HtL		9	9	8	8		9	9	9	9	9	9	5	5		9	9	9	9	9	9	9	9
D8c (Langenhoe Hall Marsh)	HtL	8	9	9	5	5		9	9	9	9	9	9	5	5	8	9	9	9	9	9	9	9	9

Policy maps

Figure 4-13 Management Unit D, Present Day

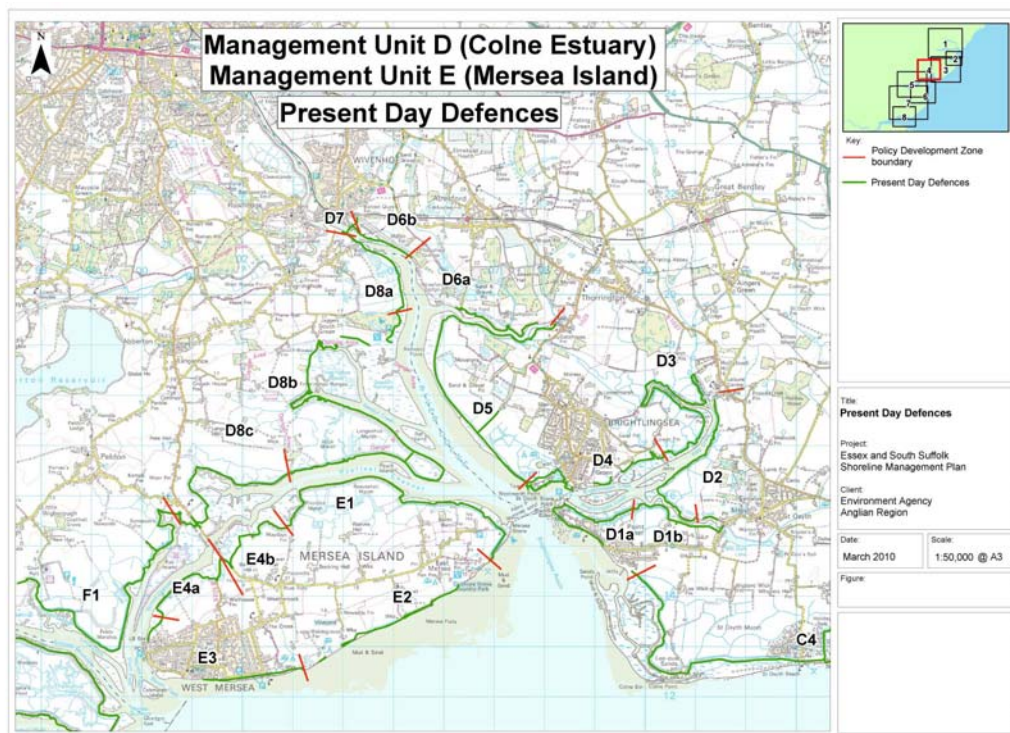


Figure 4-14 Management Unit D, epoch 1



Figure 4-15 Management Unit D, epoch 2

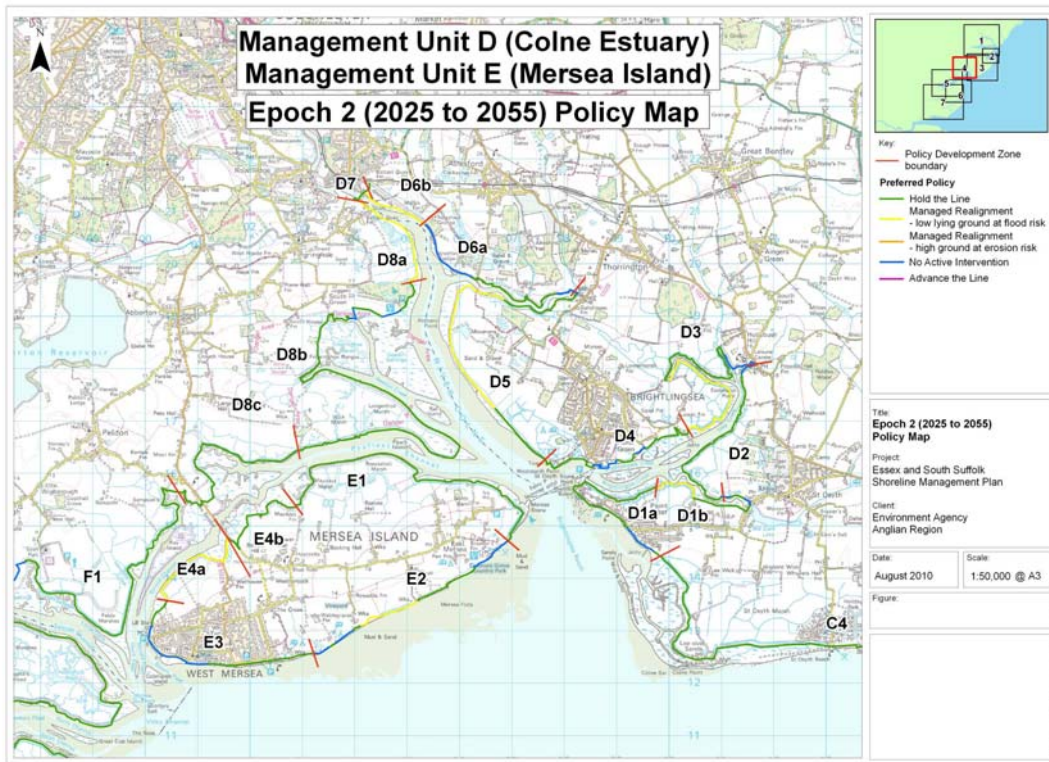
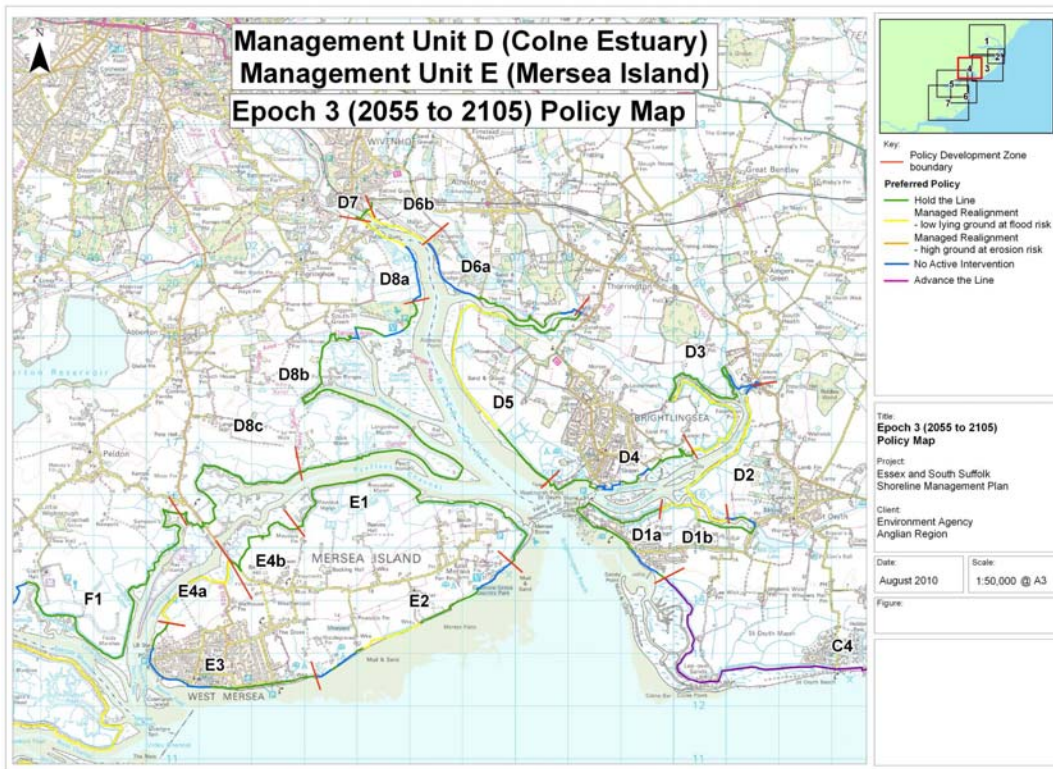


Figure 4-16 Management Unit D, epoch 3



4.6 Management Unit E – Mersea Island

Summary of the Plan: Recommendations and Justification

The overall intent of management for Mersea Island is to sustain and support the viability of communities, tourism and commercial activities especially the important shellfisheries in the area, while creating new intertidal habitats and focusing flood and erosion risk management on frontages where it is most needed. The policy to achieve this intent is to maintain flood and erosion defence to all dwellings, key infrastructure and tourism facilities at risk of flooding and erosion, combined with a gradual increase of natural processes by realigning defences that are under pressure.

The frontages where the existing flood and erosion defences will continue to be held at their current alignment are West Mersea, Pyefleet Channel and parts of the sea facing frontage between West and East Mersea

However, at East Mersea seaward frontage and landward of the Strood Channel (PDZs E2 and E4a) the defences are under pressure, and a landward realignment would create a more sustainable situation by reducing the pressure on defences and moving towards a more natural coast with increase of tidal prism and intertidal area. All dwellings and infrastructure would remain protected, which will require moving some of the defences to a more sustainable sheltered position, possibly in the form of counterwalls. The realignments will come at the expense of Grade 3 and 4 agricultural land. They will affect freshwater habitats (non-designated), but they will also create new intertidal habitats. They will have significant impact on heritage assets. There are footpaths on top of all the sea banks to be breached; these will need to be sustained, for example through re-routing. The impact of the potential realignments on tourism and recreation (including sailing and the youth camp) and on oyster fisheries is difficult to quantify, and realignments can have both positive and negative impacts. These impacts will be taken into account during project appraisal and scheme development, which will be carried out with full stakeholder involvement before any works start, similar to the approach taken at the Abbots Hall farm realignment on Salcott Creek in 2002.

Realignment is proposed for the seaward frontage between North Barn and West Mersea (PDZ E2) and North Mersea (Strood Channel) (PDZ E4a) in epoch 2.

For West Mersea (E3) and North Mersea (E4), the SMP's broad scale economic analysis supports an intent to maintain or upgrade the standard of protection, including taking into account impacts of climate change. For all the other defended frontages, detailed analysis beyond the SMP is needed to determine the appropriate standard of protection. In PDZ E1 (Mersea's Landward frontage)

there is a need for a counterwall to separate the Cudmore Grove section as the floodcell is considered to be significant.

The current No Active Intervention approach will be continued for sections of West Mersea (landwards of Cobmarsh Island, (PDZ E3) and for the SSSI cliffs at Cudmore Grove East Mersea (PDZ E2).

The Action Plan highlights the need to identify opportunities for the beneficial use of dredging within the SMP project area. Cobmarsh Island has been identified as a site for inclusion in any future study to identify good receptor sites.

Summary of Specific Policies

Policy Development Zone		Policy Plan			
		Now - 2025	2025 - 2055	2055 - 2105	Explanation
E1	Landward Frontage	HtL	HtL	HtL	The current line will be held throughout all epochs.
E2	Seaward frontage between North Barn and West Mersea	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 sewage works. The currently undefended sections will remain undefended.
E3	West Mersea	HtL+	HtL+	HtL+	The current line will be held throughout all epochs. The currently undefended sections will remain undefended. The standard of protection will be maintained or upgraded.
E4a	North Mersea (Strood Channel)	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 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.

Key:

HtL – Hold the Line

MR1 – Managed Realignment - Allow local and limited intervention

MR2 – Managed Realignment - Breach of frontline defence after building landward defence

NAI – No Active Intervention

Where a “+” is added to the policy label, this means that the Standard of protection will be maintained or upgraded

Changes from Present Management

Change from existing policies will only take place in the PDZs where Managed Realignment is proposed. This would be in epoch 2 for Seaward frontage between North Barn and West Mersea (PDZ E2) and for North Mersea (Strood Channel) (PDZ E4a).

Policy Appraisal Results (key and explanation: see Table 4-1 on page 95)

Policy Development Zone	Policy																								
		Policies appropriate to the diverse nature of Essex and South Suffolk Essex	Flood and erosion risk to people and property	Future opportunities	Use of natural processes	Positive and negative impact on other frontages	Cross-shore impact on near-shore activities	Time available for adaptation for communities, individuals and partner organisations	Infrastructure	Socio-economic activities	Public services	Communities	Deprived communities	Impact on socio-economic features of regional, national or international significance	Designated habitats and species	Biodiversity Action Plan (BAP) targets	Designated geological sites	Maintaining the evolving nature of the coastal landscape	Designated Heritage Assets	Significant undesignated heritage assets	Quality of Preservation	Archaeological Potential	Historic Landscape	Expected Scale of Mitigation	Impact on access to and along the coast
E. Mersea Island																									
E1 (Landward Frontage)	HtL	8	9	9	5	5	5	9	9	9	9	9	9	9	5	5	8	9	9	9	9	9	9	9	9
E2 (seaward frontage between North Barn and West Mersea)	MR2	8			7			8		1					7	5	8		3	2	2	2	2	2	8
E3 (West Mersea)	HtL	8	9	9	5	5	5	9	9	9	9	9	9	9	5	5	8	9	9	9	9	9	9	9	9
E4a (Mersea Island along The Strood Channel)	MR2	8			9	5	5	8		1					7	5	8		2	2	2	2	2	2	8
E4b (Pyefleet Inner Channel)	HtL	8	9	9	8	5	5	9	9	9	9	9	9	9	5	5	8	9	9	9	9	9	9	9	9

Policy maps

Figure 4-17 Management Unit E, Present Day

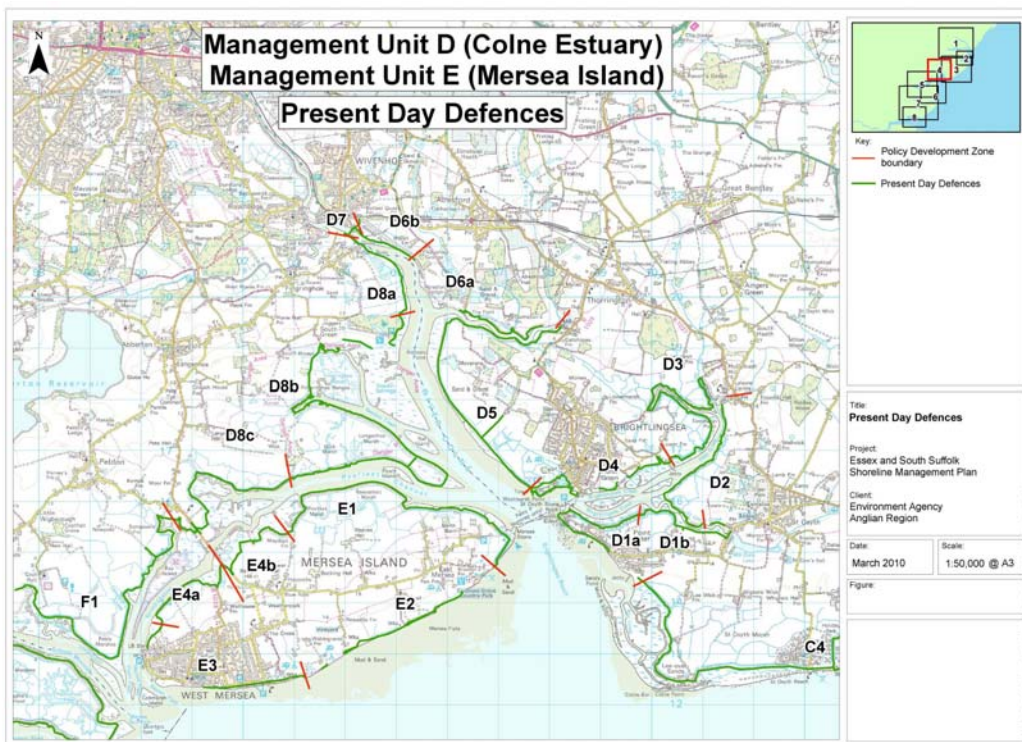


Figure 4-18 Management Unit E, epoch 1

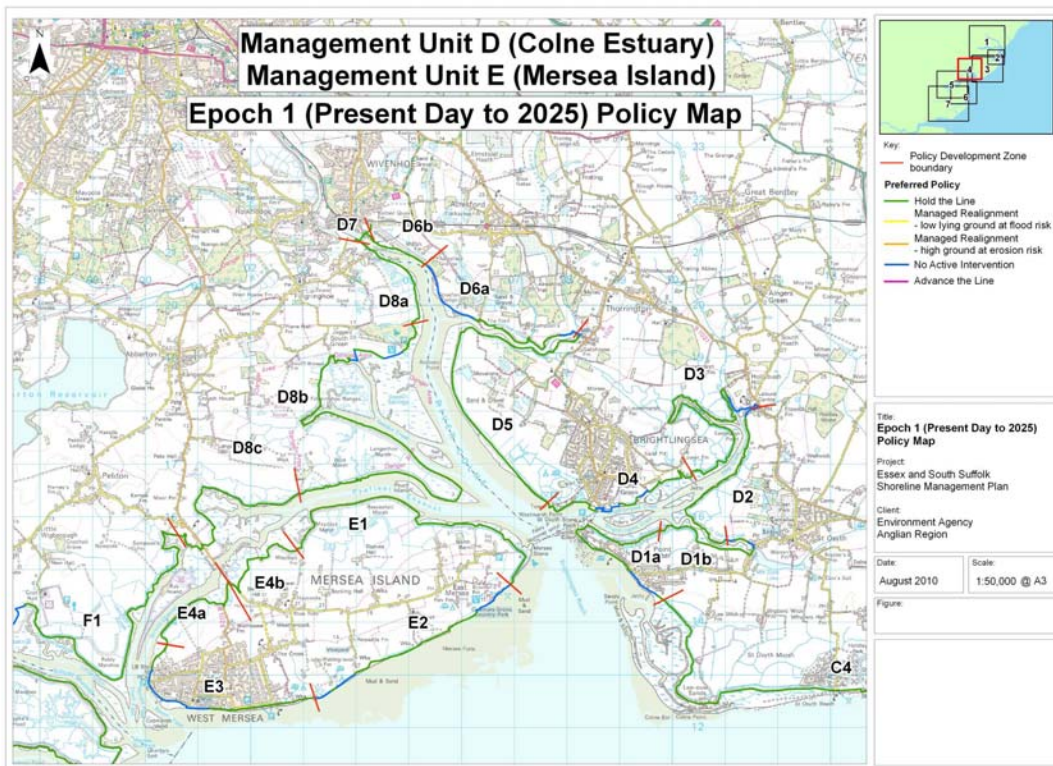


Figure 4-19 Management Unit E, epoch 2

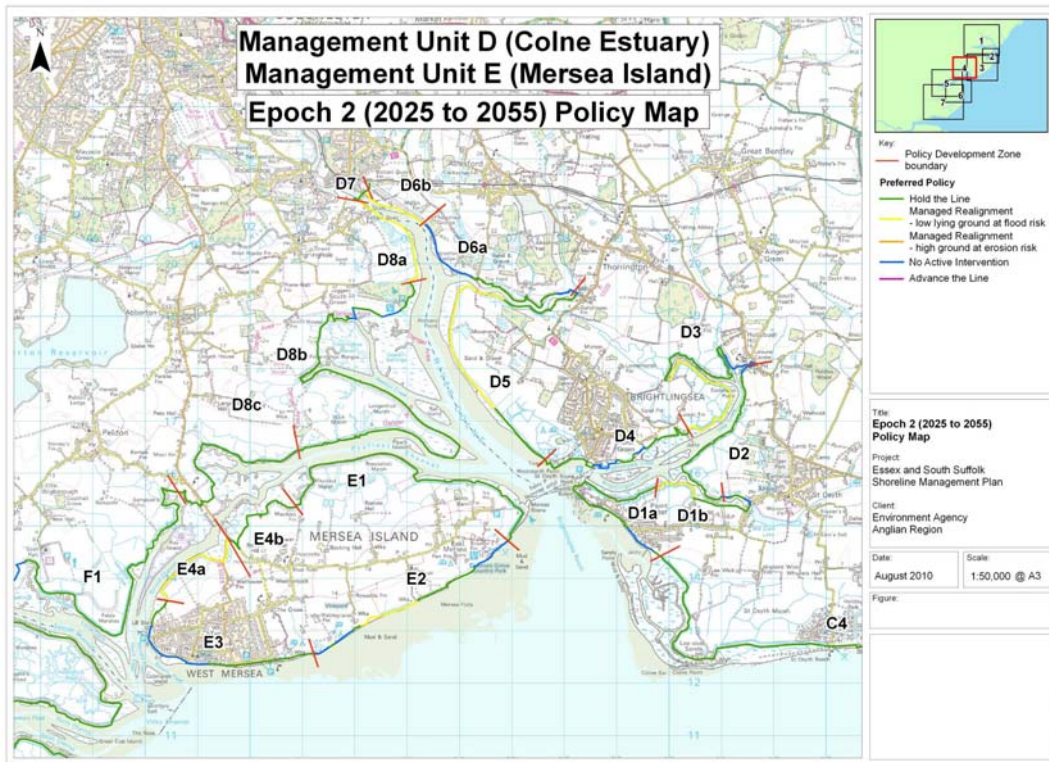
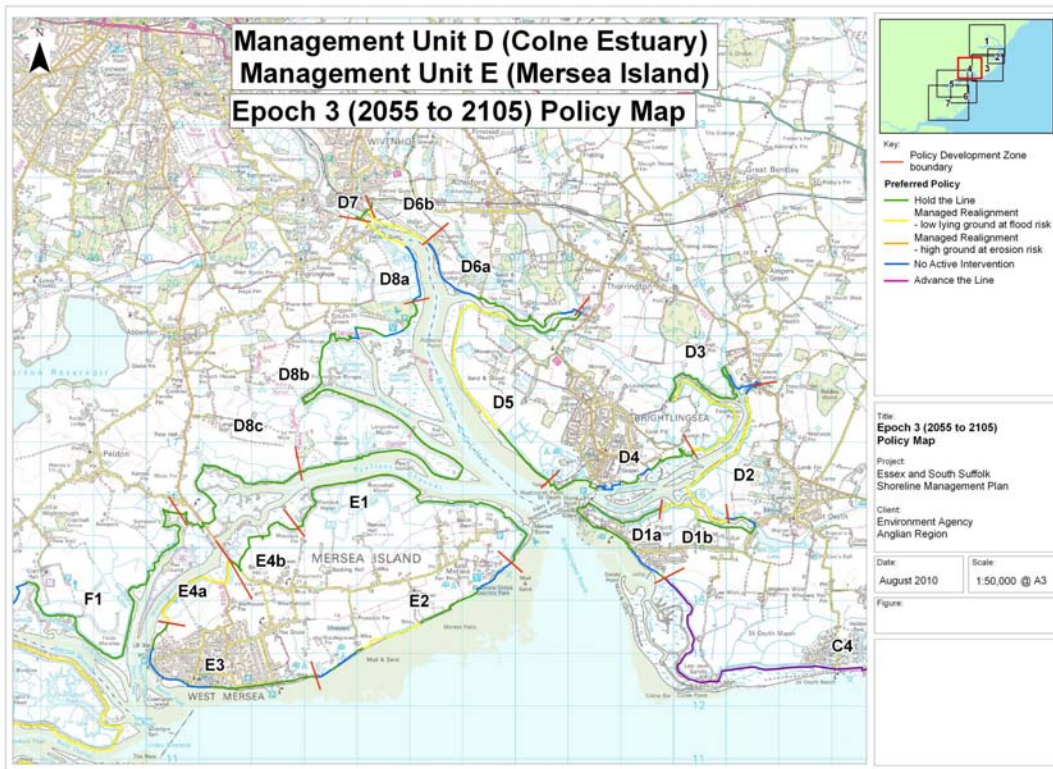


Figure 4-20 Management Unit E, epoch 3



4.7 Management Unit F – Blackwater Estuary

Summary of the Plan: Recommendations and Justification

The overall intent of management for the Blackwater Estuary is to sustain and support the viability of communities, tourism and commercial activities while creating new intertidal habitats and focusing flood and erosion risk management on frontages where it is most needed. The policy to achieve this intent is to maintain flood and erosion defence to all dwellings, key infrastructure and tourism facilities at risk of flooding and erosion, whilst also allowing coastal and estuarine processes to act in a less constrained manner by realigning defences that are under pressure and / or where the value of the protected features is unlikely to justify continued maintenance.

The frontages where the existing flood defences will continue to be held at their current alignment include the Strood, Salcott Creek, sections of Tollesbury, Goldhanger, Heybridge, Maldon Inner estuary, South Maldon, Northey Island, sections of Mayland Creek, St. Lawrence and sections of Bradwell Creek.

However, at Salcott Channel, Steeple, St. Lawrence and Tollesbury Wick Marshes (PDZs F3, F5, F12 and F14) the defences are under pressure. Landward realignment at these frontages would create a more sustainable situation by reducing the pressure on defences and moving towards a more natural estuary and creek evolution with increase of tidal prism and intertidal area. This policy also responds to the need to plan for replacement of these very significant freshwater habitats which need to be recreated in more sustainable locations, because if left in situ, they will become increasingly saline.

All dwellings and infrastructure will remain protected, which will require moving some of the defences to a more sustainable sheltered position, possibly in the form of counterwalls. The realignments will come at the expense of Grade 2, 3, 4 and 5 agricultural land, campsites and caravan parks, which have a socio-economic value. They will affect partly designated freshwater habitats, including Old Hall Marshes and Tollesbury Wick, but they will also create new intertidal habitats. They could have a significant impact on the very important landscape character and heritage assets, particularly in the potential sites between Tollesbury and Mersea Island (F3 and F5). Hence, implementation of the Plan will require mitigation by design, assessment of the historic importance of the sites and detailed recording, which could take significant time and may influence the timing of the realignments, or even cause the policy to revert to Hold the line in future reviews of the SMP.. There are footpaths on top of the banks at most potential sites; these will need to be sustained, for example through re-routing. The impact of the potential realignments on tourism and recreation, on oyster fisheries and on moorings and marinas is difficult to quantify, and realignments can have both positive and negative impacts. These impacts will be taken into

account during project appraisal and scheme development, which will be carried out with full stakeholder involvement before any works start.

For St. Lawrence to Bradwell-on-Sea (PDZ F14), realignment is proposed in epoch 2, but conditional on landowner agreement and support. Realignment is proposed for the South bank of the Salcott Channel to Tollesbury Fleet, (PDZ F3), Tollesbury Wick Marshes to Goldhanger (F5) and Steeple (PDZ F12) in epoch 3. It should again be noted that realignment for F3 and F5 would take place on sensitive areas of environmental, landscape and historic importance. Future SMPs should review the feasibility and the implementation of these policies in particular.

There are seven frontages for which the SMP's broad scale economic analysis supports an intent to maintain or upgrade the standard of protection, including taking into account impacts of climate change. These are Goldhanger to Heybridge (PDZ F6), Heybridge Basin (PDZ F7), Maldon Inner estuary (PDZ F8), South Maldon (PDZ F9), Maylandsea (PDZ F10), St. Lawrence (PDZ F13) and St. Lawrence to Bradwell-on-Sea (PDZ F14). For all the other defended frontages, detailed analysis beyond the SMP is needed to determine the appropriate standard of protection.

The current No Active Intervention approach will be continued for the Abbott's Hall area (part of PDZ F1) and for sections of Wigborough (PDZ F1), Mayland Creek (PDZ F11) and Bradwell Creek (PDZ F15). No Active Intervention is only proposed for in sections where currently there are no defences and no assets requiring protection. However local intervention works may still take place by private individuals, conditional on appropriate consent.

The St. Lawrence to Bradwell-on-Sea frontage (PDZ F14) is currently proposed as a realignment site as an extension to the existing managed realignment at Orplands.

Summary of Specific Policies

Policy Development Zone		Policy Plan			
		Now - 2025	2025 - 2055	2055 - 2105	Explanation
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 epoch 1 and 2. In epoch 3, Managed realignment by breach of the existing defence while continuing flood defence to the dwellings, roads and sewage works. 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.
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 epoch 1 and 2. In epoch 3, Managed realignment by breach of the existing defence while continuing flood defence to the dwellings, roads and sewage works. 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.
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.

Policy Development Zone		Policy Plan			
		Now - 2025	2025 - 2055	2055 - 2105	Explanation
F8	Maldon Inner estuary	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.
F11b	Mayland Creek	NAI	NAI	NAI	Limited erosion expected, therefore no defences needed.
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 epoch 1 and 2. In epoch 3, Managed realignment by breach of the existing defence while continuing flood 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.

Policy Development Zone		Policy Plan			
		Now - 2025	2025 - 2055	2055 - 2105	Explanation
F15	Bradwell Creek	HtL	HtL	HtL	The current line will be held throughout all epochs. The currently undefended section will remain undefended.

Key:

HtL – Hold the Line

MR1 – Managed Realignment - Allow local and limited intervention

MR2 – Managed Realignment - Breach of frontline defence after building landward defence

NAI – No Active Intervention

























Where a “+” is added to the policy label, this means that the Standard of protection will be maintained or upgraded

Changes from Present Management

Change from existing policies will only take place in the PDZs where Managed Realignment is proposed. This would be for St. Lawrence to Bradwell-on-Sea (PDZ F14), realignment is proposed in epoch 2. Realignment is proposed for the South bank of the Salcott Channel to Tollesbury Fleet, (PDZ F3), Tollesbury Wick Marshes to Goldhanger (PDZ F5) and Steeple (PDZ F12) in epoch 3.

Policy Appraisal Results (key and explanation: see Table 4-1 on page 95)

Policy Development Zone	Policy																										
		Policies appropriate to the diverse nature of Essex and South Suffolk Essex	Flood and erosion risk to people and property	Future opportunities	Use of natural processes	Positive and negative impact on other frontages	Cross-shore impact on near-shore activities	Time available for adaptation for communities, individuals and partner organisations	Infrastructure	Socio-economic activities	Public services	Communities	Deprived communities	Impact on socio-economic features of regional, national or international significance	Designated habitats and species	Biodiversity Action Plan (BAP) targets	Designated geological sites	Maintaining the evolving nature of the coastal landscape	Designated Heritage Assets	Significant undesignated heritage assets	Quality of Preservation	Archaeological Potential	Historic Landscape	Expected Scale of Mitigation	Impact on access to and along the coast		
F. Blackwater																											
F1 (Strood to Salcott-cum Virley)	HTL	8	9	9	5	5		9	9	9	9	9	9	9	5	5		8	9	9	9	9	9	9	9	9	8
F2 (Salcott-cum Virley to Old Marsh)	HTL		9	9	8	8		9	9	9	9	9	9	9	5	5			9	9	9	9	9	9	9	9	9
F3 (South bank of the Salcott Channel to Tollesbury Fleet)	MR2				9	7		8		1					5	5			1	1	1	1	1	1	1	1	8
F4 (Tollesbury)	HTL		9	9	5	5	5	9	9	9	9	9	9	9	5	5			9	9	9	9	9	9	9	9	9
F5 (Tollesbury Wick Marshes to Goldhanger)	MR2				9	7		8		1					5	5				1	1	1	1	1	1	1	8

Policy Development Zone	Policy	 Policies appropriate to the diverse nature of Essex and South Suffolk Essex	 Flood and erosion risk to people and property	 Future opportunities	 Use of natural processes	 Positive and negative impact on other frontages	 Cross-shore impact on near-shore activities	 Time available for adaptation for communities, individuals and partner organisations	 Infrastructure	 Socio-economic activities	 Public services	 Communities	 Deprived communities	 Impact on socio-economic features of regional, national or international significance	 Designated habitats and species	 Biodiversity Action Plan (BAP) targets	 Designated geological sites	 Maintaining the evolving nature of the coastal landscape	 Designated Heritage Assets	 Significant undesignated heritage assets	 Quality of Preservation	 Archaeological Potential	 Historic Landscape	 Expected Scale of Mitigation	 Impact on access to and along the coast	
																										8
F6 (Goldhanger to Heybridge)	HTL		9	9	5	5		9	9	9	9	9	9	9	5	5			9	9	9	9	9	9	9	9
F7 (Heybridge Basin)	HTL	8	9	9	5	5		9	9	9	9	9	9	9	5	5		8	9	9	9	9	9	9	9	9
F8 (Maldon Inner estuary)	HTL		9	9	5	5		9	9	9	9	9	9	9	5	5			9	9	9	9	9	9	9	9
F9a (South Maldon)	HTL		9	9	8	8	8	9	9	9	9	9	9	9	5	5			9	9	9	9	9	9	9	9
F9b (Northey Island)	HTL		9	9	8	8		9	9	9	9	9	9	9	5	5			9	9	9	9	9	9	9	9
F10 (Maylandsea)	HTL		9	9	8	8	5	9	9	9	9	9	9	9	5	5			9	9	9	9	9	9	9	9
F11a (Mayland Creek west)	HTL		9	9	8	8	5	9	9	9	9	9	9	9	5	5			9	9	9	9	9	9	9	9
F11b (Mayland Creek)	NAI				9	9	9								9	9	9			2	3	2	4	4	9	

Policy Development Zone	Policy																								
		Policies appropriate to the diverse nature of Essex and South Suffolk Essex	Flood and erosion risk to people and property	Future opportunities	Use of natural processes	Positive and negative impact on other frontages	Cross-shore impact on near-shore activities	Time available for adaptation for communities, individuals and partner organisations	Infrastructure	Socio-economic activities	Public services	Communities	Deprived communities	Impact on socio-economic features of regional, national or international significance	Designated habitats and species	Biodiversity Action Plan (BAP) targets	Designated geological sites	Maintaining the evolving nature of the coastal landscape	Designated Heritage Assets	Significant undesignated heritage assets	Quality of Preservation	Archaeological Potential	Historic Landscape	Expected Scale of Mitigation	Impact on access to and along the coast
F11c (Mayland Creek east)	HtL		9	9	8	8	5	9	9	9	9	9	9	5	5			9	9	9	9	9	9	9	9
F12 (Steeple)	MR2				9	4		8		1	3			9	7				4	2	2	2	2	2	8
F13 (St. Lawrence)	HtL		9	9	5	5	5	9	9	9	9	9	9	5	5			9	9	9	9	9	9	9	9
F14 (St. Lawrence Creek)	MR2	8			9	5		8		1				9	9		8		2	2	2	3	2	2	8
F15 (Bradwell Creek)	HtL		9	9	5	5	8	9	9	9	9	9	9	5	5			9	9	9	9	9	9	9	9

Policy maps

Figure 4-21 Management Unit F, Present Day

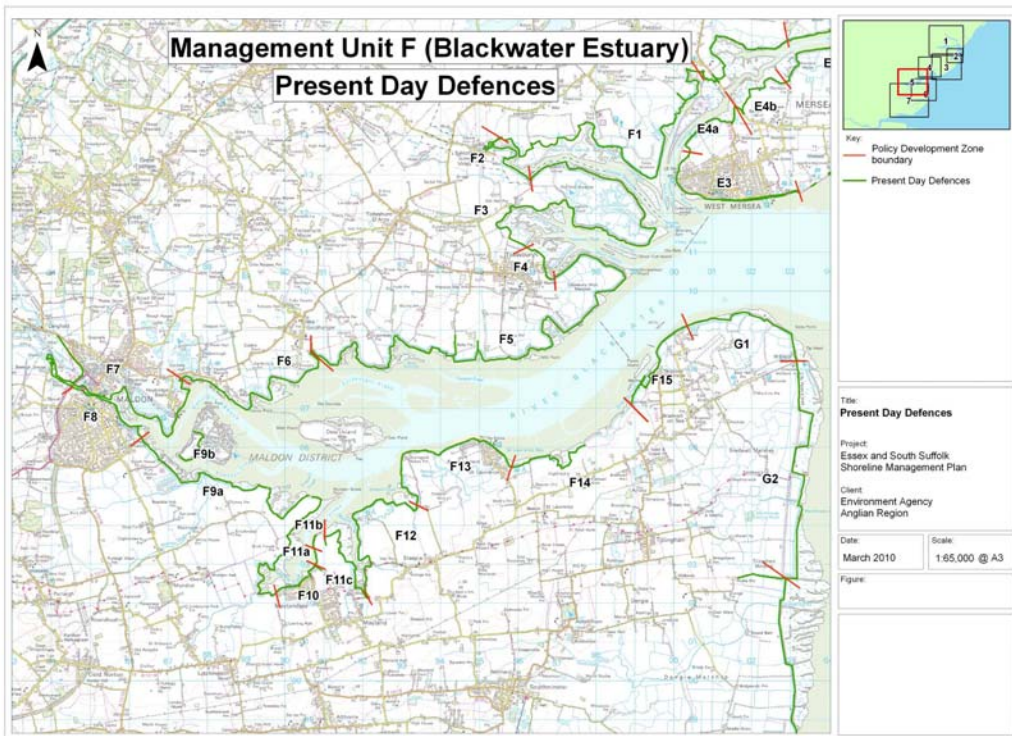


Figure 4-22 Management Unit F, epoch 1

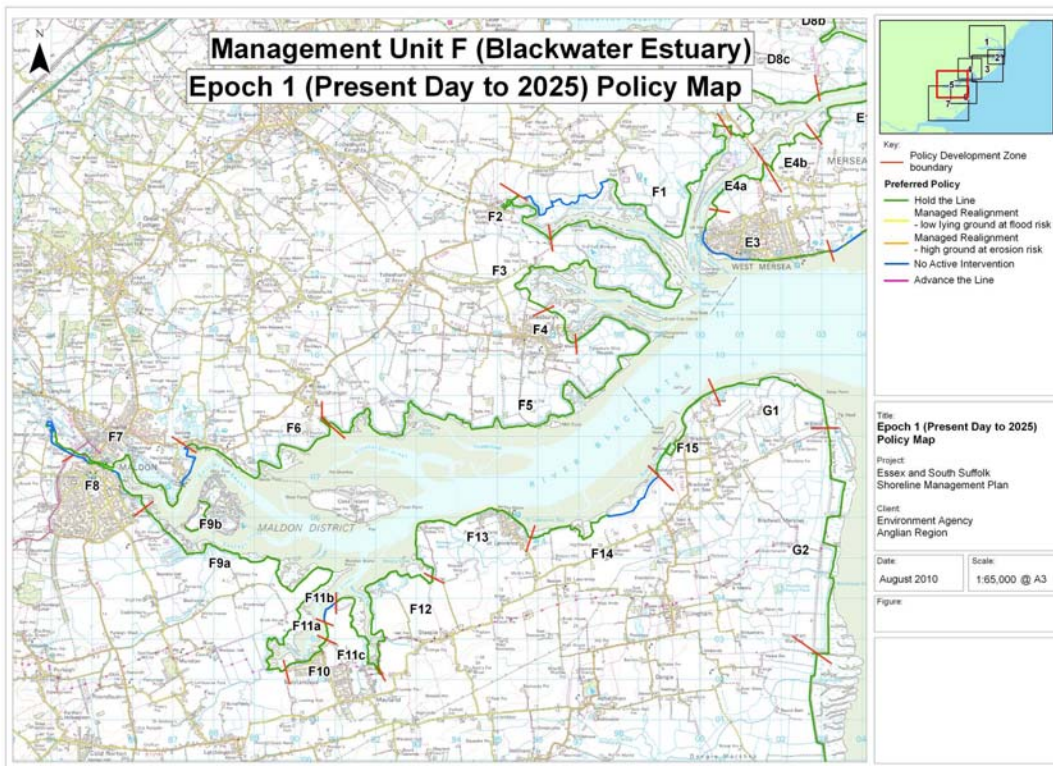


Figure 4-23 Management Unit F, epoch 2

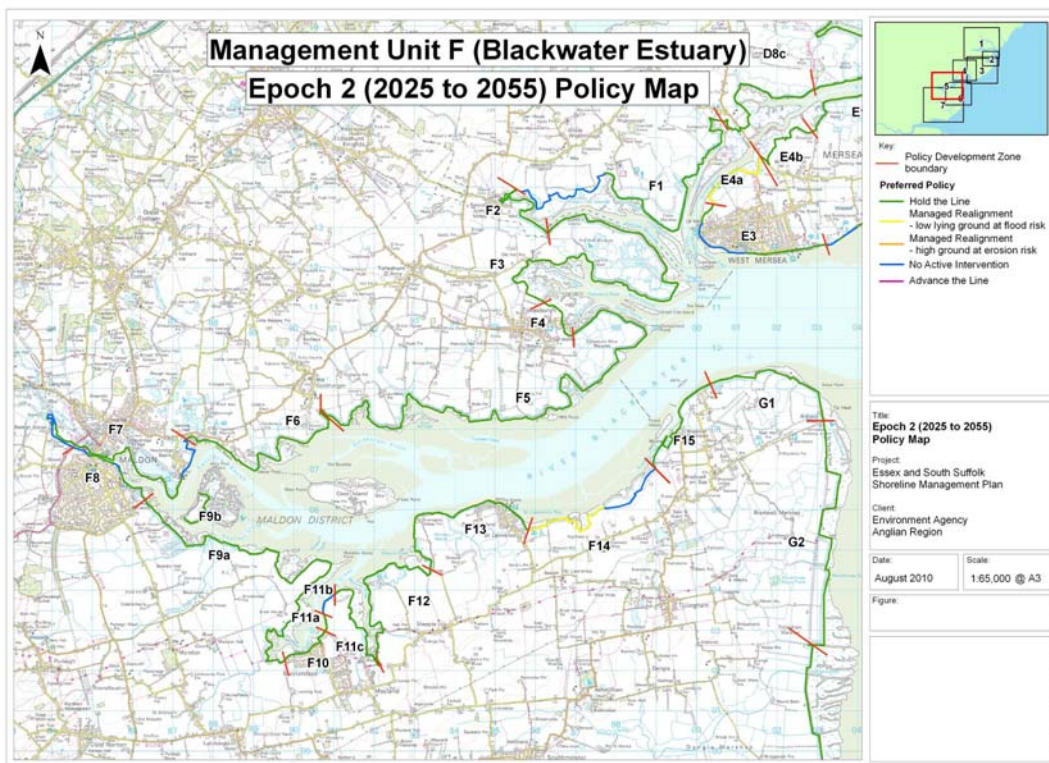
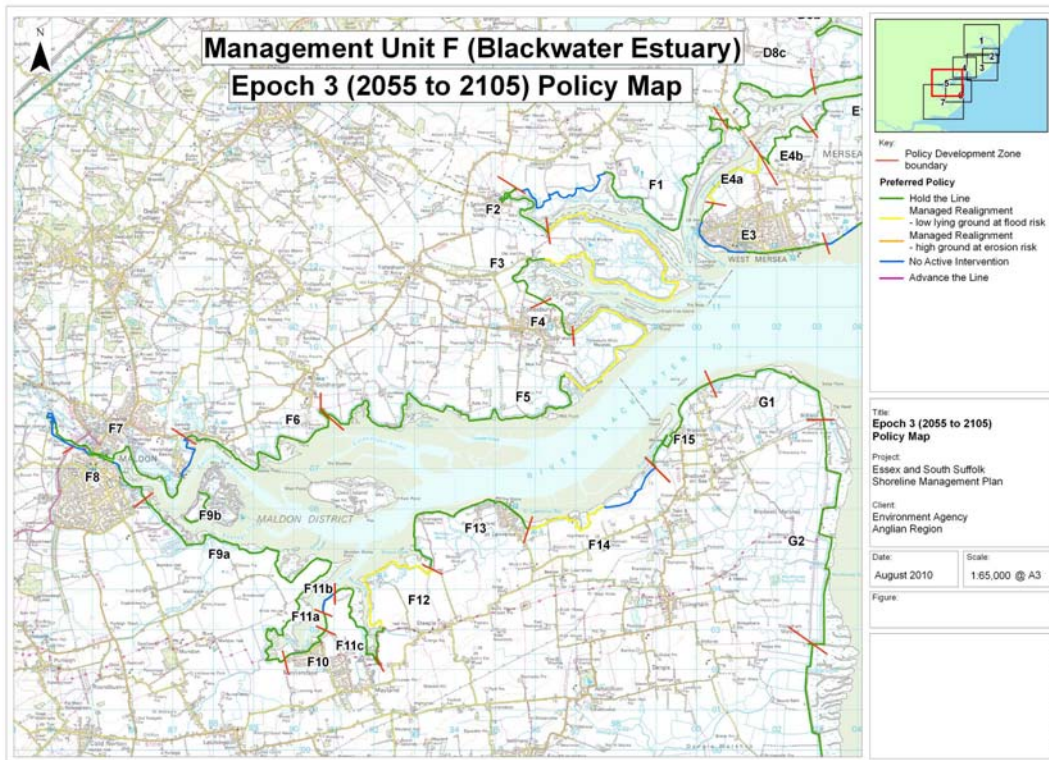


Figure 4-24 Management Unit F, epoch 3



4.8 Management Unit G – Dengie Peninsula

Summary of the Plan: Recommendations and Justification

The overall intent of management for the Dengie Peninsula is to sustain and support the viability of communities, tourism and commercial activities, including agriculture. The policy to achieve this intent is to maintain flood defence to all of the defended land.

For Bradwell-on-Sea (PDZ G1) and Holliwell Point (part of PDZ G3), the defences are under pressure. This pressure is felt throughout the defence line at Bradwell-on-sea and it is coupled by ongoing erosion of the foreshore. Beach recharge is required to maintain acceptable levels of foreshore. Holding the line at this frontage has adverse impacts on the evolution of the natural coastal processes. Landward realignment at these sites could create a more sustainable shoreline management approach. However, the partner authorities have indicated explicitly that realignment for these frontages is not seen as a realistic option as there are overriding constraints at this time. For Bradwell-on-Sea this concerns the value of the beach and historic features for recreation and tourism. At Holliwell Point the existing frontline defence contains refuse. For these reasons, the policy is to hold the existing alignment for all three epochs, but it needs to be noted that the management of the defences at these locations will remain challenging. For Holliwell Point, the SMP's Action Plan includes a study to assess the economic feasibility of realigning the refuse filled seabank, for input into the next SMP review. It should be noted that as further studies and investigations are undertaken and the SMP is reviewed, frontages along the Dengie Peninsula may be put forward for managed realignment. In particular issues of future freshwater drainage will need to be considered because additional pumping may be needed in the future as sea levels rise. The economic viability of Hold the line policies coupled with freshwater pumping will need further appraisal in the future.

For all frontages, detailed analysis beyond the SMP is needed to determine the appropriate standard of protection.