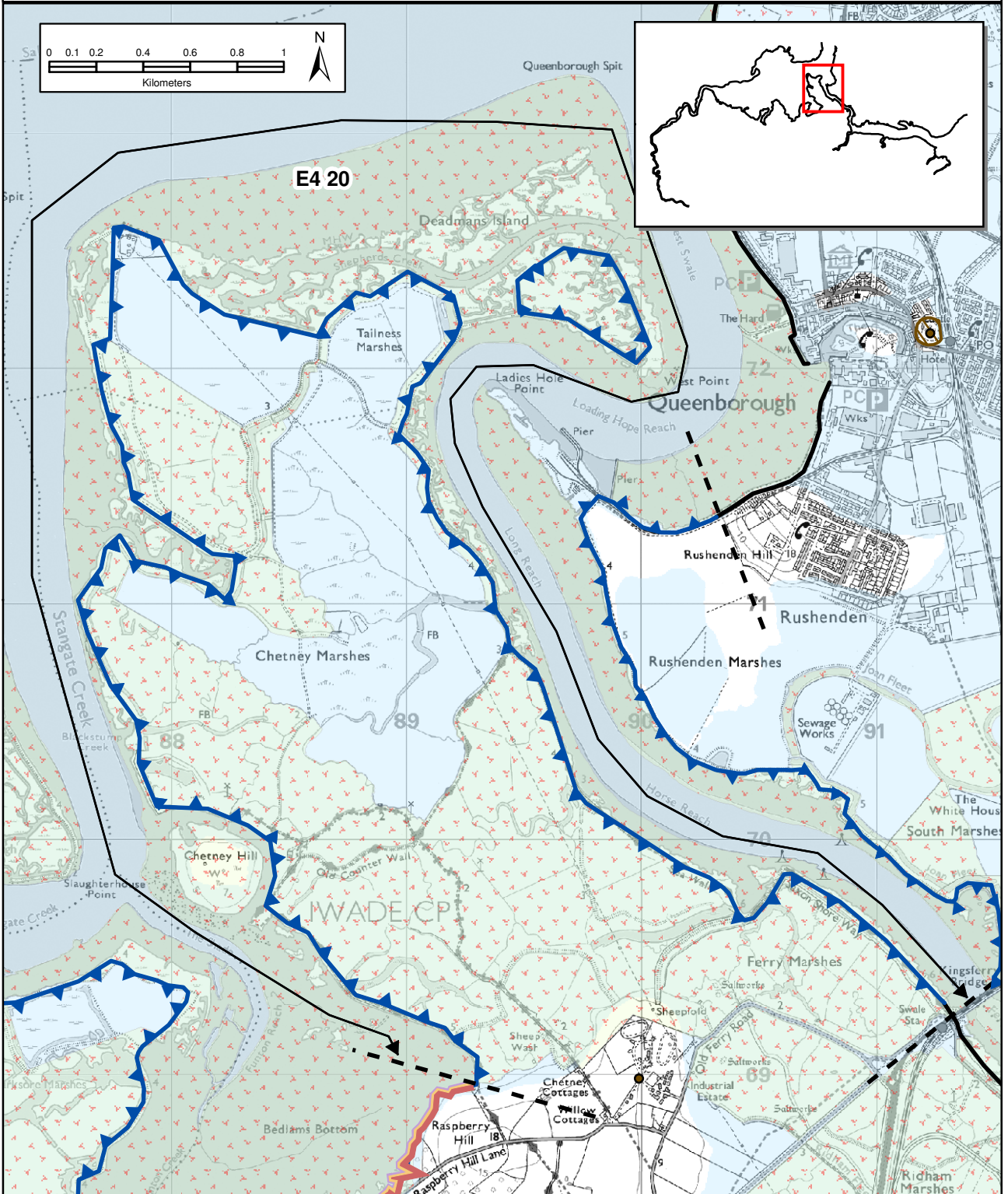


Medway Estuary and Swale Shoreline Management Plan

Policy Unit E4 20: Chetney Marshes



Policy

From Present Day:	Medium-Term:	Long-Term:
Managed Realignment	Managed Realignment	Managed Realignment

- Indicative erosion zone up to 2025
- Indicative erosion zone up to 2055
- Indicative erosion zone up to 2105

Indicative realignment location*

* Actual realignment extent and location will be the subject of further studies.

Policy Unit Boundary

Policy Unit Extent

Current shoreline

Hold the Line

Environmental/Cultural Heritage

- National Nature Conservation Designation
- International Nature Conservation Designation

Important Heritage Sites (Scheduled Monuments)

2005 Indicative floodplain © Environment Agency

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Location reference: Chetney Marshes

Policy Unit reference: E4 20

SUMMARY OF THE PLAN AND JUSTIFICATION

Plan:

Chetney Marshes is a large peninsular of low lying agricultural marsh that extends into the middle section of the Medway estuary and is bordered by the Swale along its eastern shoreline and the A249 road to the south. The marshes are considered to be one of the most important wildfowl breeding areas in Kent. An area of compensatory freshwater habitat has been created on part of the marshes as mitigation for loss of SPA habitat during improvements to the A249 and the Sheppey crossing. Survey data is showing that this area is meeting most of the requirements for the compensatory land and in the future, a discussion will need to be made as to whether it should be included in the SPA. Intertidal habitat surrounding the marshes and some areas of coastal grazing marsh are nationally and internationally designated for their ecological importance. The area is locally important for attracting bird watchers and walkers along the Saxon Shore Way which follows the southern shorelines, traversing the marshes approximately half way along the peninsular. The whole frontage is of important landscape value.

The recommended long-term plan is to allow the coastline to realign to a more naturally functioning system in a controlled way, whilst continuing to provide flood defence to the remaining floodplain, freshwater habitats and infrastructure. It is recognised that this section of shoreline provides an opportunity for environmental enhancement and habitat creation through managed realignment and a more naturally functioning coastline balanced with the need to maintain the integrity of the internationally designated freshwater habitats..

No specific realignment positions have been identified for the SMP. The potential impact on internationally designated sites will be a limiting factor on realignment extents and therefore, further studies will be required to investigate and define the extent, location and implementation of the realignment i.e. the best technical, environmental and economic option that best manages flood risk. These studies will also need to investigate the exact standard and alignment of any defences for this frontage and any mitigation measures required for loss of designated habitat.

This policy is considered to be sustainable in the long-term, on the basis that environmental, engineering and inter-tidal benefits will be realised and that the overall flood defence is maintained to limit flood propagation to low lying areas and infrastructure.

The aim of these policies is to work towards achieving a more naturally functioning estuary and the creation of important brackish and saline habitats whilst at the same time creating a shoreline with a reduced requirement for defence maintenance.

The effect of these policies on designated conservation sites has been assessed in partnership with Natural England.

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Location reference: Chetney Marshes

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Preferred policies to implement Plan:

From present day: The present day policy is **managed realignment**. The detailed alignment, will be subject to further study to address uncertainties and confirm the best technical, environmental and economic option to manage the estuary. The policy will be implemented by constructing realigned secondary defences where necessary, at a set-back position and allow the existing defences to fail or deliberately removing all or part of the existing defences. This will require re-routing of shoreline footpaths in localised areas.

No specific realignment positions have been identified for the SMP. Large scale realignment is likely to result in significant increases in tidal prism, flow speeds and erosion in confined channel locations and may have implications on processes within the Swale. However, intertidal areas are predicted to remain more stable with smaller scale realignments as sediment supply is expected to meet demand throughout this epoch in both the Medway and Swale estuaries. The viability of managed realignment, the exact nature of shoreline response and the managed realignment works to be implemented will require further detailed studies.

A set back will involve the loss of some agricultural marsh as well as designated freshwater habitat, dependant on realignment extents. Loss of designated freshwater habitats will need to be managed in line with the Habitats Regulations Assessment (Appendix J) and the Regional Habitat Creation Programme. As the coastline realigns, intertidal habitat will develop in the realigned areas.

Intertidal areas are predicted to remain stable along the majority of frontage, as sediment supply is expected to meet demand within the estuaries throughout this epoch. Saltmarsh habitats around Deadmans Island are, however, expected to continue to erode on the seaward edge due to the confined nature of the channel at this location.

Medium-term: The medium term policy is to continue allowing the shoreline to evolve naturally under a policy of **managed realignment**. Defences will require further maintenance throughout this period as sea levels rise. Environmental transitions will be prominent during this epoch as brackish and intertidal habitats replace some of the freshwater interests. This may require specific management to maximise the environmental benefits and limit potential habitat impacts.

Evolution of intertidal areas will continue as per the previous epoch, remaining

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stable as sediment supply is expected to be able to meet demand throughout this epoch. However erosion may become more prevalent along the seaward edge of the marshes and at Deadmans Island as sea levels rise.

Long-term:

The long-term policy is a continuation of **managed realignment**, to enable more flexible and sustainable flood and erosion risk management within the estuary. All defences will require periodic maintenance and potential upgrading with sea level rise. It is expected that created habitat will become well-established during this epoch and afford additional protection to low lying hinterland areas.

Erosion of intertidal habitats will continue to become more prevalent in confined channel locations and around the edge of the marshes as sea levels rise and sediment supply to the Medway estuary decreases.

Location reference:	Chetney Marshes
Policy Unit reference:	E4 20

IMPLICATIONS OF THE PLAN FOR THIS LOCATION

Time Period	Management Activities	Material Assets, Infrastructure & Land Use	Landscape	Natural Environment	Historic Environment	Population (Amenity & Recreational Use and Human Health)
0-20 years	Undertake engineering works to defences to Hold the Line of sections of defences that protect key assets and construct secondary defences in suitable locations.	Defences will provide an appropriate level of protection to built assets, infrastructure and some agricultural land. Areas of land affected by managed realignment will become intertidal. MR along the Swale frontage may impact on future commercial traffic in the Swale estuary.	Designated estuary landscape will be maintained. However, some features will change through realignment.	No net loss of internationally designated intertidal habitat and nationally important (BAP) habitat. Creation of internationally and nationally important habitat in realigned area. Effect on internationally designated coastal grazing marsh and nationally important (BAP) habitat. Compensatory habitat will need to be secured before any designated habitat is lost. There may be hydromorphological and physical changes to the lwyde at the tidal interface but this will improve rather than deteriorate the ecological potential associated with WFD objective 2, "no changes that will cause failure to meet surface water "good" ecological status or potential (where potential relates to HMWB or AWB) or result in a deterioration of surface water ecological	Potential loss of buried unknown heritage.	Defences will provide an appropriate level of protection to property Re-routing of footpaths where MR is implemented.

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IMPLICATIONS OF THE PLAN FOR THIS LOCATION

Time Period	Management Activities	Material Assets, Infrastructure & Land Use	Landscape	Natural Environment	Historic Environment	Population (Amenity & Recreational Use and Human Health)
				status/potentials".		
20-50 years	Undertake engineering works to defences to Hold the Line of sections of defences protecting key assets. Maintan secondary defences.	Defences will provide an appropriate level of protection to built assets, infrastructure and some agricultural land. Areas of land affected by managed realignment will become intertidal. MR along the Swale frontage may impact on current and future commercial traffic in the Swale estuary.	Designated landscape maintained. Visually more 'natural' shoreline.	No net loss of internationally designated intertidal habitat and nationally important (BAP) habitat. Establishment of habitat in realigned area. Effect on internationally designated coastal grazing marsh and nationally important (BAP) habitat if defences realigned further. There may be hydromorphological and physical changes to the lwater at the tidal interface but this will improve rather than deteriorate the ecological potential associated with WFD objective 2, "no changes that will cause failure to meet surface water "good" ecological status or potential (where potential relates to HMWB or AWB) or result in a deterioration of surface water ecological status/potentials".	Potential loss of buried unknown heritage.	Defences will provide an appropriate level of protection to property No loss of amenity or recreation features.

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IMPLICATIONS OF THE PLAN FOR THIS LOCATION

Time Period	Management Activities	Material Assets, Infrastructure & Land Use	Landscape	Natural Environment	Historic Environment	Population (Amenity & Recreational Use and Human Health)
50-100 years	Undertake engineering works to defences to Hold the Line of sections of defences protecting key assets. Maintain secondary defences. locations.	Defences will provide an appropriate level of protection to built assets, infrastructure and some agricultural land. Areas of land affected by managed realignment will become intertidal. MR along the Swale frontage may impact on future commercial traffic in the Swale estuary.	Designated landscape maintained. Visually more 'natural' shoreline.	Effect on internationally designated intertidal habitat and nationally important (BAP) habitat with coastal squeeze as sediment supply declines. Establishment of habitat in realigned area. Effect on internationally designated coastal grazing marsh and nationally important (BAP) habitat if defences realigned further. There may be hydromorphological and physical changes to the lwyde at the tidal interface but this will improve rather than deteriorate the ecological potential associated with WFD objective 2, "no changes that will cause failure to meet surface water "good" ecological status or potential (where potential relates to HMWB or AWB) or result in a deterioration of surface water ecological status/potentials".	Potential loss of buried unknown heritage.	Defences will provide an appropriate level of protection to property No loss of amenity or recreation features.

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