

Medway Estuary and Swale Shoreline Management Plan SMP

Appendix D: SEA Environmental Baseline Report (Theme Review)

Contents Amendment Record

This report has been issued and amended as follows:

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Appendix D: SEA Environmental Baseline Report

D1	BACKGROUND	3
D1.1	Introduction	3
D1.2	SMP Requirement	3
D2	NATURAL ENVIRONMENT	5
D2.1	General	5
D2.2	Flora, Fauna And Biodiversity	5
D2.3	Earth Heritage, Soils And Geology	14
D2.4	Air And Climate	14
D2.5	Water	15
D3	LANDSCAPE CHARACTER	17
D3.1	General	17
D3.2	Landscape And Visual Factors	17
D4	HISTORIC ENVIRONMENT	22
D4.1	General	22
D4.2	Terrestrial	22
D4.3	Marine	40
D5	LAND USE, INFRASTRUCTURE AND MATERIAL ASSETS	42
D5.1	General	42
D5.2	Overview	42
D5.3	Features	43
D5.4	Future Land Use/Planning Targets	46
D6	POPULATION AND HUMAN HEALTH	48
D6.1	General	48
D6.2	Residential Developments	48
D6.2	Health	49
D6.3	Recreation, Tourism And Amenity Assets	50
D6.4	Features	51
D7	GLOSSARY OF TERMS	56
D8	SOURCES OF INFORMATION	58
D8.1	Reports	58
D8.2	Websites	58

Annex D1 Biodiversity Action Plans

Annex D2 Heritage Workshop Assessments

Annex D3 Theme Maps

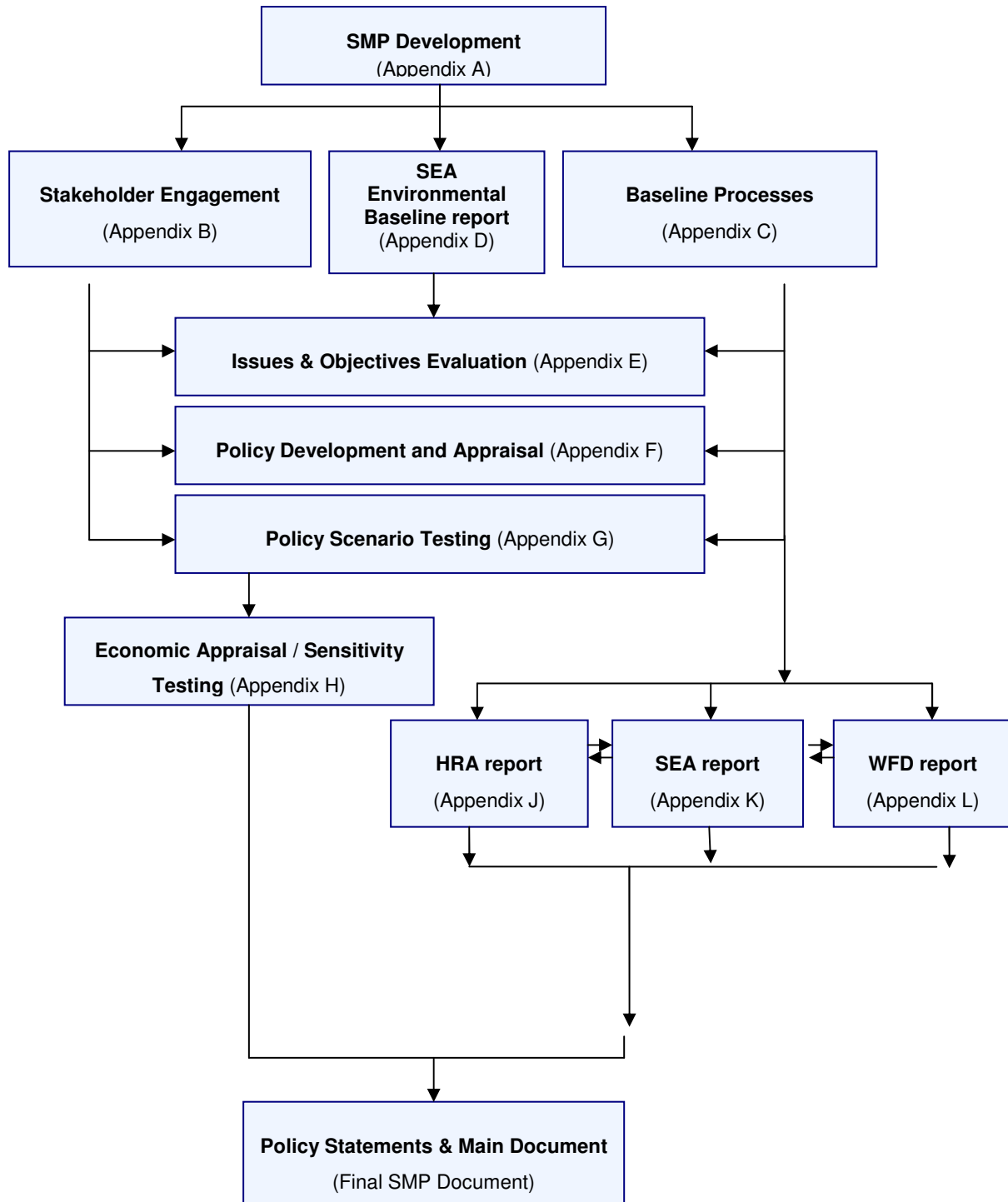
Annex D4 The Planning Framework

The Supporting Appendices

This appendix and the accompanying documents provide all of the information required to support the Shoreline Management Plan. This is to ensure that there is clarity in the decision-making process and that the rationale behind the policies being promoted is both transparent and auditable. The appendices are:

A: SMP Development	This reports the history of development of the SMP, describing more fully the plan and policy decision-making process.
B: Stakeholder Engagement	All communications from the stakeholder process are provided here, together with information arising from the consultation process.
C: Baseline Process Understanding	Includes baseline process report, defence assessment, NAI and WPM assessments and summarises data used in assessments.
D: SEA Environmental Baseline Report (Theme Review)	This report identifies and evaluates the environmental features (natural environment, landscape character, historic environment, land use, infrastructure and material assets, and population and human health).
E: Issues & Objective Evaluation	Provides information on the issues and objectives identified as part of the Plan development, including appraisal of their importance.
F: Initial Policy Appraisal & Scenario Development	Presents the consideration of generic policy options for each frontage, identifying possible acceptable policies, and their combination into 'scenarios' for testing.
G: Scenario Testing	Presents the policy assessment and appraisal of objective achievement towards definition of the Preferred Plan (as presented in the Shoreline Management Plan document).
H: Economic Appraisal and Sensitivity Testing	Presents the economic analysis undertaken in support of the Preferred Plan.
I: Metadatabase and Bibliographic database	All supporting information used to develop the SMP is referenced for future examination and retrieval.
J: Habitat Regulations Assessment	Presents an assessment of the effect the plan will have on European sites.
K: Strategic Environmental Assessment	Presents the Strategic Environmental Assessment of the Plan.
L: Water Framework Compliance	Presents a retrospective Water Framework Directive Assessment.

Within each appendix cross-referencing highlights the documents where related appraisals are presented. The broad relationships between the appendices are as below:



D1 Introduction

D1.1 INTRODUCTION

This SEA Environmental Baseline Report provides information on the existing environmental Appendix contains the theme review and identifies key features relevant to coastal flood and erosion risk management within the Shoreline Management Plan (SMP) area.

The information in this report provides a basis for the identification of key environmental issues along the coast and objectives, and the development of future why these features are important to stakeholders, i.e. the benefits that the feature provides in terms of nature conservation, landscape and character, human environment, including current and future land-use, and heritage. Information from this review has been used as a basis for developing policy options for the management of the coastline. and assessing the implications and thus suitability of these options.

The environmental baseline has been presented as themes, which have been sub-divided into SEA receptor headings (as described in the Environmental Assessment of Plans and Programmes Regulations 2004 – SI 2004 1633). Table 1.1 shows the ‘themes’, which cover more than one SEA receptor.

Table 1.1 Link between Themes and SEA Receptors

Thematic Review	SEA Receptor (as described in the Environmental Assessment of Plans and Programmes Regulations 2004 - SI 2004 1633)
Natural Environment	Flora, Fauna and Biodiversity
	Soil
	Air and Climatic Factors
	Water
Landscape Character and Visual Amenity	Landscape
Historic Environment	Cultural Heritage, including architectural and archaeological heritage
Land Use, Infrastructure and Material Assets	Material Assets
Population and Human Beings	Population
	Human Health

Maps illustrating the baseline environmental features are included in Annex D3.

D1.2 SMP REQUIREMENT

The production of a ‘Theme Review’ is an important stage in the development of the SMP. In particular, it forms the basis for objective setting. The approach to Objective setting, for Shoreline Management Plans has been developed from the ‘Quality of Life Assessment’ (QLA) process and is based upon identifying the benefits that a feature contributes to a location, region or nation. This will

help to clarify why a feature is important to stakeholders. The QLA approach asks four questions of each feature's benefits:

At what spatial (local to international) and temporal (permanent or finite, i.e. <100 years) scales would there be an impact if the feature was lost?

Could the benefit be substituted or replaced at an appropriate scale?

Is there enough of the benefit – how scarce is it (at what scale is it important), and would it therefore be notable if the feature was lost? and,

Importance (at what scale of the SMP or greater) of the benefit – what would the impact be if the feature were lost?

This approach is used to identify in broad terms the scale and importance of the impact in the event that a type of feature (and its associated benefits) were to be lost, and whether these benefits could be recreated or substituted elsewhere. A detailed assessment for each specific feature of note is made in the associated Issues Tables for this SMP area.

To underpin this assessment of the features and their benefits present along the shoreline the 'Theme Reviews' presented in this document identify the key characteristics and importance of features for:

- Natural Environment;
- Landscape character;
- Historic environment; and,
- Current and future land use.

These appraisals are then used to support the development of the 'issues matrix' that is central to the QLA approach (**Appendix E**).

In this report, the features are described in terms of the relevant management unit. For each theme the features present in the Medway and Swale estuaries are first identified in an 'Overview' section and then reviewed against the QLA criteria in a 'features' section.

D2 Natural Environment

D2.1 GENERAL

As part of developing shoreline management policies it is important to understand the relationship between the areas of value to nature and geological conservation and coastal processes, and to understand how coastal defence can alter the coastal processes and therefore have an impact on nature conservation.

This section reviews the status of the 'natural' features present on the shorelines of the Medway and Swale estuaries and comprises consideration of the following receptors: -

- Nature conservation and biodiversity
- Earth heritage, soils and geology
- Water
- Air and climate

This includes significant areas designated for their international and national nature conservation importance.

Maps illustrating the different natural environment designations found within the SMP area are located in Annex D3.

D2.2 FLORA, FAUNA AND BIODIVERSITY

D2.2.1 Overview

The natural environment of the study area is characterised by the following main habitats:

- Intertidal mudflat;
- Saltmarsh;
- Saline lagoons;
- Grazing Marsh; and,
- Ditches.

The special quality of these natural habitats within the Medway and Swale estuaries is recognised in a number of national and international designations. These are as follows:

(a) International Designations

International designations include; Special Protection Areas (SPA) designated under the EC Birds Directive 1979, Ramsar Sites designated under the Convention on Wetlands of International Importance, Ramsar in 1971, and Special Areas of Conservation (SAC) designated under the EC

Habitats Directive, 1992. These designations are regulated in the UK under the Habitats Regulations 1994. International designations in the SMP area include:

- Thames Estuary and Marshes SPA;
- Thames Estuary and Marshes Ramsar Site;
- Medway Estuary and Marshes SPA;
- Medway Estuary and Marshes Ramsar Site;
- The Swale SPA;
- The Swale Ramsar Site; and,
- Peters Pit SAC.

Areas covered by one or more of the three international designations listed above have less flexibility concerning what can be done with the area compared to locations covered by national designations. For example, realignment in these areas would lead to the loss of designated features or lead to significant ecological change. Such change / loss of habitat may require the creation of comparable compensatory habitat elsewhere that needs to be in place before the habitat is lost. Compensation habitat must provide at least equal and comparable habitat to that lost.

(b) National Designations

National designations include; Special Sites of Scientific Interest (SSSI) notified under the Wildlife and Countryside Act 1981 and regulated under the Countryside and Rights of Way Act 2000, and National Nature Reserves (NNR) which are notified and regulated under the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981. National designations in the SMP area include:

- South Thames Estuary and Marshes SSSI;
- Medway Estuary and Marshes SSSI;
- The Swale SSSI;
- The Swale NNR;
- Tower Hill to Cockham Wood SSSI;
- Holborough to Burham Marshes SSSI;
- Peters Pit SSSI; and,
- Elmley NNR.

The condition of SSSI's in England is assessed by Natural England, using categories agreed through the Joint Nature Conservation Committee. The six reportable condition categories are:

- Favourable;
 - Unfavourable recovering;
 - Unfavourable no change;
 - Unfavourable declining;
-

- Part destroyed; and,
- Destroyed.

When the SSSI is being adequately conserved and is meeting 'conservation objectives' it is reported to be in a 'favourable condition', although there is still scope for enhancement. Natural England has a Government Public Service Agreement (PSA) target to have 95% of the SSSI area in favourable or recovering condition by 2010.

Non – Statutory Designations

In addition, there is a range of sites and features covered by non-statutory designations, but which are recognised within the statutory and non-statutory planning framework. These include:

(c) Sites of Nature Conservation Interest (SNClS)

- Grain Pit SNCl;
- River Medway between Cuxton and Temple Marsh SNCl;
- Snodland Meadow SNCl;
- Leybourne Lakes SNCl;
- Wouldham SNCl;
- Eccles Old Pits SNCl;
- Burham SNCl;
- Upchurch SNCl;
- Conyer Pits SNCl; and,
- Milton Creek SNCl.
-

(d) Local Nature Reserves (LNR)

- Baty's Marsh LNR; and,
- Oare Marshes LNR.

(e) Other Reserves

- Holborough Marshes Kent Wildlife Reserve;
 - Leybourne Lakes Country Park;
 - Nor Marsh and Motney Hill RSPB Nature Reserve;
 - Riverside Country Park;
 - Oare Marshes Kent Wildlife Trust Nature Reserve and Country Park;
 - South Swale Kent Wildlife Trust Nature Reserve; and,
 - Elmley RSPB Reserve.
-

(f) Biodiversity Action Plans

The National and Kent Biodiversity Action Plans cover this frontage. They include both Habitat and Species Action Plans, many of which are relevant to estuaries. Details of the habitats and species identified are given in **Annex D1** to this report.

(g) Earth Heritage

The earth science interest of the coastline includes stratigraphic features. In relation to the QLA approach, earth heritage features are considered as finite resources and as such cannot be recreated or substituted in the event that they are lost. Only one designation in the study area includes features of importance to earth science, i.e. Cockham Wood and Upnor Quarry, located between the villages of Hoo St Werburg and Lower Upnor.

D2.2.2 Features**(a) North of Grain village to Middle Stoke**

The intertidal areas on the eastern shoreline of Grain form part of the Thames Estuary and Marshes SPA, Ramsar Site and SSSI. These areas comprise brackish grazing marsh ditches, intertidal saltmarsh and mudflat, which support nationally and internationally important numbers of wintering waterfowl. Natural England currently considers the majority of the SSSI to be in a favourable condition (e.g. the neutral lowland grassland and standing open water). Currently, approximately half of the intertidal habitat (littoral sediment) of the SSSI is in unfavourable condition and declining.

The intertidal areas on the southern shoreline of Grain form part of the Medway Estuary and Marshes SPA, Ramsar Site and SSSI. The area is designated for its complex of mudflats, saltmarsh, grazing coastal marsh with ditches and coastal lagoons, which support internationally important numbers of wintering waterfowl and breeding birds. The habitats together sustain an outstanding assemblage of plant species and invertebrates. Saltmarsh habitats, such as that found at Stoke Marshes, owned and managed as a wildlife reserve by the Kent Wildfowling Association, are of international importance for their diverse rare plants and invertebrates. Natural England currently considers that the majority of the SSSI (99%) is in favourable condition. The small area of freshwater/terrestrial habitat in unfavourable condition is a result of factors such as inappropriate ditch management. Shell and sand beaches and their associated flora around the Isle of Grain are particularly important, being the only examples of this habitat remaining so far up the Thames estuary and are therefore considered to be non-recreatable.

These intertidal and coastal grazing marsh habitats are of international importance and their loss within the study area would be of high significance. Any loss of habitat within the SPA or Ramsar site will have to be compensated for elsewhere with the same/comparable habitat that needs to be in place before the habitat is lost. Re-creation of comparable habitats is possible elsewhere if a suitable location can be identified

Grain Pit, located on the Isle of Grain, is a Site of Nature Conservation Importance (SNCI) comprising of reedbed and open water habitats as well as areas of scrub and rough grassland. These habitats are of local importance and their potential loss within the study area would be of medium significance. Re-creation of this habitat elsewhere in a suitable location is possible.

(b) Middle Stoke to Lower Upnor

Intertidal areas (saltmarsh and mudflat) and coastal grazing marsh (present behind embankments and intersected by dykes and fleets) along this section are designated under the Medway Estuary and Marshes SPA, Ramsar Site and SSSI, for their national and international importance for supporting wintering waterfowl, breeding birds and for the variety of plant species occurring on these habitats. Natural England currently considers a large proportion of the SSSI (81%) to be in an unfavourable condition due to the loss of floristic diversity and roosting areas for birds. These habitats are of international importance and their loss within the study area would be of high significance. Any loss of habitat within the SPA or Ramsar site will have to be compensated for elsewhere with the same/comparable habitat that needs to be in place before the habitat is lost. Saltmarsh and coastal grazing marsh habitats in this section should be regarded as potentially re-creatable.

Cockham Wood and Upnor Quarry, located between the villages of Hoo St Werburg and Lower Upnor, are designated as part of the Tower Hill to Cockham Wood SSSI. The site is of both geological and biological importance. Natural England considers parts of the SSSI (28%) to be in an unfavourable recovering condition.

The geological interest of Upnor Quarry consists of an exposed complete Tertiary stratigraphic sequence of Thanet Sands, through the Woolwich and Oldhaven Beds and into London Clay. The Woolwich and Oldhaven Beds are of significant interest as they provide sedimentary evidence of depositional conditions and support a variety of molluscan fauna. This is a site of national significance that would not be easily re-created if lost.

Cockham Wood, extending along the northern shoreline of the Medway in this location, is of biological importance as an example of coppice on Tertiary deposits in Kent. The woodland, which supports a rich insect fauna, is fronted by a narrow grassy zone and then intertidal mudflat. Erosion of the grass habitat through slippage and wave action has resulted in the disappearance of a number of scarce plant species, only one, bithynian vetch *Vicia bithynica* remains. The characteristic features of this site are of national importance and its habitats should be regarded as essentially non-recreatable. Their loss within the study area would therefore be highly significant.

(c) Lower Upnor to Medway (M2) Bridge

The River Medway between Cuxton and Temple Marsh is designated as a SNCI. The public open space, extending beneath the Medway Bridge, is of local importance for its mosaic of grass, scrub, river and intertidal habitats. These habitats promote biodiversity opportunities and therefore loss within the area would be significant, however recreation of comparable habitats is possible elsewhere in suitable locations.

(d) Medway (M2) Bridge to North of Snodland

The River Medway between Cuxton and Temple Marsh is designated as a SNCI. The public open space, extending beneath the Medway Bridge, is of local importance for its mosaic of grass, scrub, river and intertidal habitats.

An area of grazing marsh at Halling, and the variety of habitats (reedbeds, open water, fen, grassland, scrub and woodland) designated under the Holborough to Burham Marshes SSSI, are priority BAP habitats and host protected and BAP priority species. The different habitats are important for supporting wintering wildfowl and breeding birds and are of interest for the number of scarce wetland plants that occur and nationally rare insects. The SSSI is currently in favourable condition.

The Holborough Marshes Kent Wildlife Reserve extends on both banks of the River Medway. The marshes on the western bank are less brackish than those on the east and support plants scarce in Kent such as the opposite-leaved pondweed *Groenlandia densa* and the greater bladderwort *Utricularia vulgaris*. These marshes are of national importance and their loss would be significant. Recreation of similar habitat is possible elsewhere through a process of habitat migration between saline, brackish and freshwater conditions.

Snodland Meadow, located south of Holborough, is locally designated as a SNCI for its damp, unimproved pasture habitat. The loss of this habitat, although re-creatable elsewhere, would be of high importance.

(e) Snodland to Allington Lock

Leybourne Lakes Country Park (including Abbey Mead Lake) is located behind the western embankments of the River Medway south of Snodland. The lakes are designated as a SNCI and Abbey Mead Lake is part of the Holborough to Burham Marshes SSSI. Abbey Mead Lake is nationally important for the numbers of wintering wildfowl and breeding birds. The site as a whole is of national significance to nature conservation and although the habitat may be re-creatable elsewhere, its loss within the study area would be significant.

(f) Allington Lock to Medway (M2) Bridge

The eastern bank of the Medway between Allington Lock and the Medway Bridge is characterised by large areas of freshwater grazing marsh, grassland and intertidal habitats interspersed by small villages and industry. Holborough and Burham Marshes lie along the tidal flood plain of the river and are designated as part of the Holborough to Burham Marshes SSSI. The SSSI is currently in favourable condition. The variety of habitats present in this area support a variety of breeding birds and wintering wildfowl as well as a number of scarce wetland plants and nationally rare insects. Ditches along the eastern bank are botanically important for brackish tolerant plants. These marshes are of national importance and their loss would be of high significance. Recreation of similar habitat is possible elsewhere through a process of habitat migration between saline, brackish and freshwater conditions.

There are a number of SNCIs in this area which are of local/regional importance:

- Wouldham SNCI, freshwater grazing marsh (potentially re-creatable habitat);
- Eccles Old Pits SNCI, scrub, woodland and grassland hosting rare and priority BAP species (potentially re-creatable habitat); and,
- Burham SNCI, rough grassland adjacent to Burham Marshes (potentially re-creatable habitat).

The chalk quarry set back from the River Medway just south of Wouldham is designated as a SSSI. The Peter's Pit SSSI is notified for having one of the largest populations of great crested newt *Triturus cristatus* in Britain. Natural England currently considers the whole site to be in a favourable condition.

(g) Medway (M2) Bridge to East of St Mary's Island

Along this section, the bank of the River Medway mainly consists of commercial, residential and community structures, however, a Local Nature Reserve (LNR) is located just north of the Medway Bridge. Baty's Marsh LNR is locally important for its wildlife features typical of urban fringe habitat.

(h) St Mary's Island to West Motney Hill

The intertidal areas along this frontage form part of the Medway Estuary and Marshes SPA, Ramsar Site and SSSI. The mudflat, saltmarsh and grazing marsh habitats of the Medway estuary are internationally important for supporting populations of wintering wildfowl and breeding birds. The saltmarsh and grazing marsh are of international importance for the large assemblage of plant species that occur and invertebrates they support. Natural England currently considers that the majority of the SSSI (99%) is in favourable condition. The small area of freshwater/terrestrial habitat in unfavourable condition is a result of factors such as inappropriate ditch management. These marshes are of international importance and their loss would be of high significance. Any loss of habitat within the SPA or Ramsar site will have to be compensated for elsewhere with the same/comparable habitat that needs to be in place before the habitat is lost. These habitats should be regarded as being potentially re-creatable.

There are two Nature Reserves/Country Parks along this frontage:

- Nor Marsh Island is part of the Nor Marsh and Motney Hill RSPB Nature Reserve. (potentially non recreatable habitat); and,
- Riverside Country Park is made up of 100ha of a variety of habitats alongside the Medway estuary. The Country Park also includes Motney Hill and Berengrave LNR (some habitats potentially re-creatable).

(i) Motney Hill to Kingsferry Bridge

The intertidal areas (coastal grazing marsh, habitat on the flood defence embankments, reedbeds, saltmarsh, and mudflat) form part of the Medway Estuary and Marshes SPA, Ramsar Site and SSSI. The complex of habitats supports internationally important numbers of wildfowl and breeding birds and internationally important plant and invertebrate species. Natural England currently considers that the majority of the SSSI (99%) is in favourable condition. The small area of freshwater/terrestrial habitat in unfavourable condition is a result of factors such as inappropriate ditch management. The Chetney Marshes peninsula is one of the most important wildfowl breeding areas in Kent. These habitats are internationally important and therefore their loss would be highly significant. Any loss of habitat within the SPA or Ramsar site will have to be compensated for elsewhere with the same/comparable habitat that needs to be in place before the habitat is lost. These habitats can be regarded as being potentially re-creatable.

A 25ha compensation site has been identified on Chetney Marshes to re-create coastal grazing marsh and to provide new habitat for breeding and wintering wildfowl, as mitigation for SPA habitat loss during the improvement of the A249 and the bridge crossing to the Isle of Sheppey.

There are a number of SNCl and Nature Reserves in this area, which are of local or regional importance:

- Upchurch SNCl, coastal grazing marsh which is also a UK BAP priority habitat, hosting protected and priority species (potentially re-creatable habitat);

-
- Lower Halstow Brickworks SNCI has been developed into important marsh, reedbed, grassland and scrub habitats (potentially re-creatable habitat);
 - Nor Marsh and Motney Hill RSPB Nature Reserve (potentially re-creatable habitat); and,
 - Funton Creek and Bedlam's Bottom managed by Kent Wildfowling association as a bird watching site.

The North Kent Coastal Habitat Management Plan (CHaMP) (Posford Haskoning, 2002) considered areas for managed realignment and habitat creation in this area, based on functional, nature conservation and geomorphological grounds. Using this criterion, the North Kent CHaMP (Posford Haskoning, 2002) has identified Chetney Marshes and Barksore Marshes as future potential managed realignment sites.

(j) Kingsferry Bridge to Faversham Creek

The Intertidal area and coastal grazing marsh to the south of the Swale and along northern sections of Oare Creek and Faversham Creek, form part of the Swale SPA, Ramsar Site SSSI. The mudflat, saltmarsh and coastal grazing marsh intersected by dykes and fleets, are noted internationally for the number of wintering waterfowl and breeding bird species. The area of coastal grazing marsh along this frontage and the north shoreline of the Swale constitutes the largest remaining area of freshwater grazing marsh in Kent. Saltmarsh areas are exceedingly rich in plant species and the mudflats of the Swale support extremely high numbers of invertebrate species (over 350 species have been recorded (Natural England, 2006)). Natural England considers a large proportion of the SSSI (98%) to be in a favourable condition. These habitats are of international importance and their loss would be of high significance. Any loss of habitat within the SPA or Ramsar site will have to be compensated for elsewhere with the same/comparable habitat that needs to be in place before the habitat is lost. Recreation of coastal grazing marsh habitat is possible elsewhere in suitable coastal locations through a process of habitat migration between saline, brackish and freshwater conditions, however much of the environmental value of this area is derived from its size and location. Re-creation of comparable habitat may in practice not be achievable on this scale.

The North CHaMP (Posford Haskoning, 2002) considered areas where existing freshwater habitat can be improved to make them suitable for inclusion within the SPA designation. Examples of grazing marsh identified in the CHaMP, which could be considered for improvement, include areas to the south of the Swale, marsh west of Conyer Creek and areas to the north of the Swale, along the southern shoreline of the Isle of Sheppey.

There are a number of SNCIs and Nature Reserves in this area which are of local or regional importance:

- Oare Marshes LNR – Kent Wildlife Trust Nature Reserve and Country Park (potential re-creation of habitat);
- South Swale Kent Wildlife Trust Nature Reserve (potential re-creation of habitat);
- Conyer Pits SNCI, hosts rare birds, plants and invertebrates (potential re-creation of habitat); and,
- Milton Creek SNCI, intertidal, grassland and ditch habitats (potential re-creation of habitat).

(k) Shell Ness to Kingsferry Bridge

Coastal grazing marsh along the northern shore of the Swale, along with grazing marsh along the southern shore, constitutes the largest remaining area of freshwater grazing marsh in Kent. The grazing marsh and intertidal habitats are designated under the Swale SPA, Ramsar Site and SSSI for their internationally important numbers of wildfowl and breeding birds and diverse plant and invertebrate species. Natural England considers a large proportion of the SSSI (98%) to be in a favourable condition. The area is of international importance and as such loss of these habitats would be of high significance. Any loss of habitat within the SPA or Ramsar site will have to be compensated for elsewhere with the same/comparable habitat that needs to be in place before the habitat is lost. Although the habitats themselves are re-creatable, in principle, much of the value of this wetland derives from its size and location and therefore in practice it may be difficult to find a site where comparable habitat could be re-created.

There are two nature reserves in this area which are of local, regional and national importance:

- Elmley NNR and RSPB Reserve - flat open grazing marsh divided by ditches and separated from the sea by clay embankments. The reserve is important for attracting extensive numbers of wintering waterfowl and birds of prey (potentially re-creatable habitat); and,
- The Swale NNR – forms part of the Swale SPA and Ramsar Site. The reserve is important for the variety of plant species it supports, numbers of breeding birds and birds of prey and rare insects (potentially re-creatable habitat).

The loss of these features within the SMP area would be of high significance.

The North Kent CHaMP (Posford Haskoning, 2002) considered areas for managed realignment and habitat creation in this area, based on functional, nature conservation and geomorphological grounds. Using this criterion, the North Kent CHaMP (Posford Haskoning, 2002) has identified Harty Marshes, Elmley Marshes and Windmill Creek, on the Isle of Sheppey, as areas that may be potentially suitable for managed realignment in the future.

Land surrounding Elmley Island has been identified as a possible location for future managed realignment. Any consideration of an intertidal initiative around Elmley Hill would be supported by Natural England. Natural England would welcome investigations into the possibility of realignment at this site. Any realignment would however have to be undertaken with regard to the Habitats Regulations which would identify the need for any compensation requirements regarding loss of existing habitat.

(l) Kingsferry Bridge to Sheerness Docks

The intertidal area, coastal grazing marsh and reedbeds between Kingsferry Bridge and Sheerness Docks make up part of the Medway Estuary and Marshes SPA, Ramsar Site and SSSI. Designated as the largest area of intertidal habitats in Kent, the habitats of the Medway are of important biological interest for supporting outstanding assemblages of plant species and are important for attracting internationally significant numbers of wintering and breeding wildfowl. Natural England considers a large proportion of the SSSI (81%) to be in an unfavourable condition due to the loss of floristic diversity and roosting areas for birds. The intertidal habitats and coastal grazing marsh are of international significance and therefore loss of these habitats would be highly significant. Any loss of habitat within the SPA or Ramsar site will have to be compensated for elsewhere with the

same/comparable habitat that needs to be in place before the habitat is lost. These habitats can be regarded as being potentially re-creatable.

D2.3 EARTH HERITAGE, SOILS AND GEOLOGY

The earth science interest of the coastline includes some stratigraphic features. Such features make a special contribution to our understanding and appreciation of earth science and the geological history of Britain. Earth heritage features are considered as finite resources and as such cannot be recreated or substituted in the event that they are lost.

Tower Hill to Cockham Wood Site of Special Scientific Interest is the only national geological designation in the study area. This site is described by Natural England as comprising Upnor Quarry, which exposes a complete Tertiary age stratigraphic sequence from the Thanet Sands, through the Woolwich and Oldhaven Beds, into the lower part of the London Clay. The Woolwich and Oldhaven Beds are of particular interest, both in the sedimentary evidence they afford of depositional conditions, and in the abundant molluscan fauna that they yield. The complex lateral facies changes in these formations makes Upnor a vital site to be viewed in comparison with other Palaeogene localities in the eastern London Basin.

Natural erosion is a key driver in maintaining the geological interest of the coastline in the SMP area by exposing rock sequences in the cliff faces. Coastal defences are likely to be detrimental to this objective, in areas where geological interests are present.

D2.4 AIR AND CLIMATE

The south of England experiences relatively warm dry summers and recently there has been increasing concern that climate change is accelerating towards higher temperatures. It is now generally accepted that global warming is taking place, with global mean air temperatures having increased by 0.3 to 0.6⁰C during the 20th century. Projections of average summer temperature change in the South East get larger over time, with projected increases in average summer temperatures of 1.6°C during the 2020s, 2.7°C by the 2040s and 3.9°C by the 2080s (Defra 2009).

Global warming is predicted to increase pressure on coastal defences in the SMP area due to rising sea levels from thermal expansion and the melting of glaciers (Table 2.1 shows the Defra recommended allowances for net sea level rise in this region of the UK). Consequently, conflicts between coastal defence and protection of the coastline are likely to increase in the SMP area.

Table 2.1 Defra's Recommended Allowance for Sea Level Rise (Defra 2006)

Region	Assumed Vertical Land Movement (mm/yr)	Net Sea Level rise (mm/yr)				Previous Allowances
		1990 – 2025	2025 - 2055	2055 - 2085	2085 - 2115	
East of England, East Midlands, London and South East England	-0.8	4.0	8.5	12.0	15.0	6mm/yr constant

Future changes in climate and associated impacts on tide levels are difficult to predict but there is the potential for heavier rainstorms with increased incidences of flash flooding and storm surges. These

are likely to change the frequency, extent, distribution and pattern of coastal flooding and erosion in the future. Consequently, further data collection regarding changes in climate will need to be fed into future assessment at strategy and scheme level.

The main industrial air polluters within the study area in 2007 (www.environment-agency.gov.uk) were Grain Power Station (Isle of Grain), Knauf Drywall (Sittingbourne), Kingsnorth Power Station, Darnhead Creek Power Station, Medway Power Station (Isle of Grain) and the Isle of Grain Storage Installation. The implementation of the SMP would not contribute to air pollution or be affected by these sites.

As air quality and noise levels will not influence or be affected by the recommendations of this SMP, further consideration will not be given to potential issues relating to these receptors. Specific issues will be considered as part of the environmental assessment of any detailed projects arising from the SMP or future strategies.

D2.5 WATER

D2.5.1 Surface Water Features

Appendix C 'Baseline Process Understanding' of the main SMP document describes the characteristics and hydrodynamics of the Medway and Swale Estuaries.

D2.5.2 Water Quality and the Water Framework Directive

A Water Framework Directive (WFD) assessment has been prepared by Halcrow and can be viewed in **Appendix K** of the SMP.

All rivers, lakes, estuaries, coastal waters and groundwater within the study area must achieve a standard of 'good status' by 2015 under the terms of the EU Water Framework Directive (WFD); whereby 'status' is a measure of ecological, chemical, hydrological and morphological quality in surface waters.

The principal transitional/coastal water bodies within the SMP area are the Medway and the Swale, and a series of saline lagoons, Murston Lakes. A number of river and groundwater bodies exist within the SMP area.

This WFD-related assessment takes into consideration the potential effects of SMP policy options on the ecological quality elements of the coastal and transitional water bodies directly affected by the SMP, and the associated river water bodies which may also experience some indirect effect (such as shifting in the upper tidal limit in rivers). The potential effects on ecological quality elements are associated with changes in hydrological regimes and water body morphology – including such factors as changes in current velocities, sediment accretion/erosion, water quality (turbidity, salinity) and tidal inundation.

The WFD-related assessment also considers whether the SMP policies may have adverse consequences for water bodies protected under other EU legislation, in particular Special Protection Areas and Special Areas of Conservation (related to the Birds Directive and Habitats Directive, respectively). Additionally, the potential for changes in groundwater bodies are considered insofar as such changes could affect dependent ecology (i.e. groundwater dependent ecosystems).

A further consideration of possible impacts on groundwater relates to their use for public (or other) water supply. Such considerations are primarily related to No Active Intervention and Managed

Realignment policies, which will result in a geographical change in the shoreline in the vicinity of a groundwater Source Protection Zone (SPZ).

The delineation of an SPZ implies a connection between the ground surface and the underlying abstracted aquifer. Zone 3 of an SPZ is the total catchment of a groundwater abstraction. Inundation of ground within Zone 3 by tidal waters following implementation of an SMP policy presents a potential route for saline water to enter the aquifer. (Additionally, if the realigned location has a history of ground contamination, there may be an increased risk of mobilisation of contaminants, presenting risks to both surface water quality and groundwater quality. However, the existence of contaminated land within an SPZ will present a degree of such risk, irrespective of tidal inundation. The significance for water quality in the aquifer will depend on a number of factors, most notably:

- The extent of the encroachment of tidal inundation over the SPZ following SMP implementation
- The rate of water movement through the aquifer (i.e. will saline incursion remain localised within the aquifer or spread more widely). This will be affected by, amongst other things, the rate of abstraction from the aquifer (with an over-abstracted aquifer being more vulnerable to significant saline incursion).
- The uses of abstracted water, and the associated quality requirements and the water treatment that is applied.

D2.5.2 Flooding

Maps showing the coastal flood risk (and erosion risk) within the SMP area over each epoch, under a no active intervention policy option are presented in **Appendix C ‘Baseline Process Understanding’** of the main SMP document.

D3 Landscape Character

D3.1 GENERAL

Coastal defence provision (and therefore SMP policy) may have an impact on the landscape of an area, depending on the type of defence used, and the significance of this will depend upon the importance placed upon a particular landscape. The visual appearance of the natural and built landscape is an important factor in determining its appeal to residents and visitors.

This section reviews the status of the landscape and character on the shorelines of the Medway and Swale estuaries. This includes areas designated for their high landscape value.

Maps illustrating the different landscape designations within the SMP area are located in **Annex D3**.

D3.2 LANDSCAPE AND VISUAL FACTORS

D3.2.1 Overview

The coastal landscapes of the Medway and Swale estuaries include a range of landscape types, from coastal marshes to highly developed urban centres to undeveloped agricultural land. The majority of the shoreline is considered to be of high landscape value, as reflected in the Area of Outstanding Natural Beauty (AONB), Character Area, Special Landscape Area (SLA), County Character Area, Areas of Local Landscape Importance (ALLI) and Local Landscape Area (LLA) designations.

National landscape and character areas have been identified by the Countryside Agency on the basis of geomorphology, vegetation and human activity. National landscape and character designations within the Medway and Swale estuaries include the:

- North Kent Downs AONB;
- Greater Thames Estuary Character Area;
- North Kent Plain Character Area;
- North Downs Character Area; and,
- Wealden Greensand Character Area.

County landscape and character areas have been identified under policy ENV4 of the Kent Structure Plan as attractive landscapes of countywide significance. County landscape and character designations within the Medway and Swale estuaries include the:

- North Kent Marshes SLA;
- North Downs SLA;
- Swale Marshes County Character Area;
- Eastern Thames Marshes County Character Area;
- Hoo Peninsula County Character Area; and,
- Mid Kent Greensand County Character Area.

Local landscape and character areas have been identified by local councils as landscape areas that enhance local amenity and environmental quality and provide attractive settings for villages and urban areas. Local landscape and character designations within the Medway and Swale estuaries include the:

- Cockham Farm Ridge ALLI;
- Cuxton Brickfields ALLI;
- Halling Common ALLI;
- Leybourne Lakes ALLI;
- Wouldham ALLI;
- Gillingham Riverside ALLI;
- Iwade, Newington and Lower Halstow LLA; and,
- Bapchild and Luddenham LLA.

D3.2.2 Features

(a) North of Grain village to Medway (M2) Bridge

The shoreline from north of Grain village to Hoo St Werburgh is dominated by the Power Stations at Grain and Kingsnorth and the container terminal at Thamesport, interspersed with small wharves and pockets of saltmarsh and grazing marsh habitats. This section of shoreline forms part of the Greater Thames Estuary Character Area and the Eastern Thames Marshes County Character Area.

The main features of the Eastern Thames Marshes County Character Area are described in the Strategy for the Medway and Swale Estuary (Medway and Swale Estuary Partnership, 2000) as:

- Wild, remote and quiet;
- Influence of sea and sky;
- Creeks, dykes, marsh and patches of scrub;
- Extensive areas of cultivated marshes, devoid of feature;
- Overhead power lines; and,
- Wild birds and grazing.

Grazing marsh frontages around Middle Stoke are designated as Undeveloped Coast and form part of the North Kent Marshes SLA. The SLA is characterised by its special and unusual character, where its wild, undeveloped and remote character is contrasted with extensive areas of urban and industrial development (Kent County Council, 2003). This landscape is significant sub-regionally and is of high importance. There is not enough of this feature and because of its scale and diversity it could not be recreated or substituted.

The shoreline between Hoo St Werburg and Frindsbury forms part of the North Kent Plain Character area and the Hoo Peninsula County Character Area.

The main features of the Hoo Peninsula County Character Area are described in the Strategy for the Medway and Swale Estuary (Medway and Swale Estuary Partnership, 2000) as:

- Prominent hills and low-lying alluvial marshes;
- Flat/undulating farmland;
- Decline in orchards and mixed farmland with shelterbelts;
- Intensive, open farmed arable land; and,
- Intrusive influence of industrial development.

The wooded ridge extending along the foreshore between Hoo St Werburgh and Lower Upnor is designated locally as an Area of Local Landscape Importance under the Cockham Farm Ridge ALLI designation. The landscape feature is significant locally, is of high importance and could not be recreated or substituted.

Between Lower Upnor and the Medway Bridge the shoreline is almost entirely urban, comprising the residential areas of Frindsbury and Strood and the industrial and commercial area of Medway City Estate. At Temple Marsh the predominantly urban character is interrupted by an informal public open space characterised by grass, scrub, river and intertidal habitats. This landscape of the estuary and urban area is of high local importance and could not be recreated or substituted. The shoreline between Frindsbury and the Medway Bridge also forms part of the North Downs Character Area.

(b) Medway (M2) Bridge to Allington Lock

South of the Medway Bridge the landscape changes significantly from urbanisation to a river valley with areas of grazing marsh and meadow interspersed with villages, to a more industrial/urban character towards Allington Lock. This section of shoreline forms part of the North Downs SLA and the Mid Kent Greensand County Character Area, the riverside between the Medway Bridge and Holborough also forms part of the North Downs Character Area and between Holborough and Allington forms part of the Wealden Greensand Character Area. These landscape features are nationally significant, are of high importance and could not be recreated or substituted.

Three areas along this section of the Medway are designated as Areas of Local Landscape Importance; Cuxton Brickfields ALLI, Halling Common ALLI and Leybourne Lakes ALLI. The visually prominent area rising from marshes along the Medway at Cuxton forms part of the Cuxton Brickfields AALI designated as an attractive backdrop to the river which forms a gateway to the urban areas of Strood and Cuxton. An area of marshland abutting Halling village is designated under the Halling Common ALLI as an important rural landscape setting preventing urban encroachment to the riverbank. The Leybourne Lakes ALLI covers the area of woodland and lakes between Snodland and New Hythe and is designated as forming an attractive area contributing to the settings of the Medway Towns' urban areas and Snodland. The railway which follows the river along the western shoreline of the valley is also important for the character of the area. The landscape features are locally significant, are of high importance and could not be recreated or substituted.

(c) Allington Lock to Medway (M2) Bridge

The landscape along this section of the Medway is dominated by freshwater grazing marsh, grassland and agricultural land interspersed with villages and forms part of the Mid Kent Greensand County Character Area. The riverside between Allington and Wouldham forms part of the Wealden Greensand Character Area and the area between Wouldham and the Medway Bridge forms part of the North Downs Character Area, the North Downs SLA and the Kent Downs AONB. Defence structures along

the river's banks are also part of the landscape character. These designated landscape features are nationally and regionally significant, are of high importance and could not be recreated or substituted.

The open area of land between Wouldham and Peter's Pit is designated as an ALLI for its contribution to the rural setting of the village of Wouldham. This landscape is locally important and could not be recreated or substituted.

(d) Medway (M2) Bridge to Kingsferry Bridge

East of the Medway Bridge the landscape alters dramatically, being predominantly urban in character along the stretch of shoreline up to The Strand at Gillingham. This section of shoreline forms part of the North Kent Plain Character Area. Between The Strand and Kingsferry Bridge the landscape is predominantly rural, consisting of undeveloped grazing marsh, saltmarsh and agricultural areas interspersed with small villages. This area, including coastal defence structures, forms part of the North Kent Marshes SLA and part of the Greater Thames Estuary Character Area. This landscape is sub-regionally significant and is of high importance. There is not enough of this feature and because of its scale and diversity it could not be recreated or substituted.

The rural area between The Strand and Otterham Creek is designated as Gillingham Riverside ALLI which provides nearby urban areas access to an attractive rural landscape of orchards, arable fields and country lanes. Hills between Iwade, Newington and Lower Halstow are designated as a LLA providing a striking contrast of hills in an otherwise flat marsh landscape. This landscape is of high local importance and could not be recreated or substituted.

Within this section, shorelines of the Medway are designated under the Eastern Thames Marshes County Character Area and those of the Swale are designated under the Swale Marshes County Character Area.

The main features of the Swale Marshes County Character Area are described in the Strategy for the Medway and Swale Estuary (Medway and Swale Estuary Partnership, 2000) as:

- Coastal marsh with isolated low hilly outcrops;
- Remote, wild, isolated, fleet, creeks and marshland vegetation;
- Grazing animals and birds;
- Extensive areas of cultivated marsh, few features; and,
- Intrusive buildings and industry, infilling of creeks/ditches.

(e) The Swale

The north and south banks of the Swale are predominantly characterised by a rural landscape made up of agricultural land, grazing marshes, saltmarshes, mudflats and creeks. These areas, including northern sections of Milton Creek, Conyer Creek and Faversham Creek, on the southern shoreline, form part of the Greater Thames Estuary Character Area, part of the Swale Marshes County Character Area and are designated as 'undeveloped coast' forming part of the North Kent Marshes SLA. These landscape features are significant sub-regionally, are of high importance and could not be recreated or substituted.

An area of open marshland and orchards north of the A2 between Bapchild and Luddenham is designated as a LLA due to its unique landscape. This landscape feature is of local significance, is of high importance and could not be recreated or substituted.

(f) Kingsferry Bridge to Sheerness Docks

The shoreline between Kingsferry Bridge and Rushenden is characterised by an undeveloped rural marshland and area of raised land at the Rushenden Disposal Site to the north of Kingsferry Bridge, followed by two main urbanised and commercial areas, Queenborough and Sheerness. Grazing marsh frontages are designated as Undeveloped Coast and form part of the North Kent Marshes SLA. Rural land between Kingsferry Bridge and Rushenden forms part of the Greater Thames Estuary Character Area and part of the Swale Marshes County Character Area. These landscape features are significant sub-regionally, are of high importance and could not be recreated or substituted.

D4 Historic Environment

D4.1 GENERAL

This section reviews the heritage features found on the Medway Estuary and Swale flood zone, including both archaeological and historic elements in the terrestrial and marine environments.

The Government's policy on archaeological remains is set out in PPG16 (para.6) it states that: 'Archaeological remains should be seen as a finite and non-renewable resource, in many cases highly fragile and vulnerable to damage and destruction. Appropriate management is therefore essential to ensure they survive in good condition'.

There are nearly 500 Scheduled Monuments in the Kent Area, defined by and protected by English Heritage as monuments of national importance.

As well as known built features, potentially significant features from the prehistoric, Roman, early medieval and later periods are likely to be buried. These areas may contain extensive prehistoric landscapes and environmental evidence, archaeological evidence of coastal human settlements, sea defences and other developments, and wrecks. They include sites which have been submerged by rising sea levels since the last ice age or buried in the intertidal zone. Wetlands can also contain important archaeological and palaeo-environmental evidence within the alluvium of marshes.

A Heritage Workshop, attended by representatives from the Environment Agency, Kent County Council, Canterbury City Council, English Heritage and Halcrow, took place in March 2006, to discuss, assess and prioritise existing heritage data in relation to the SMP policy units, in order to inform the Medway Estuary and Swale SMP Theme Review. The workshop succeeded in agreeing a method for assessing and prioritising non-statutory and non-designated heritage features within the policy setting process. Key archaeological features were identified and prioritised according to risk of loss. All four policies (i.e. Hold, Do nothing, Retreat, Advance) were tested in relation to the heritage features along each frontage. The outcomes of the workshop, including results and required action under each policy, are recorded in the table in **Annex D2**.

Maps illustrating the Conservation Areas and Scheduled Monument Sites within the SMP area are located in **Annex D3**.

D4.2 TERRESTRIAL

D4.2.1 Overview

The Medway and Swale estuaries have afforded waterborne access to the north of Kent by invaders, traders and settlers since Saxon times and subsequently have a rich cultural heritage.

There is an abundance of archaeological sites reflecting the commercial and economic development linked to the growth of maritime trading in the area as well as historic fortifications and defences such as:

- Coastal settlements;
- Industry;
- Harbours and Dockyards;
- Historic fortifications;
- Military installations; and,
- Local exploitation of estuarine resources (e.g. brick making, fishing).

These sites are protected as Scheduled Monuments and Conservation Areas. The Medway and Swale estuaries and surrounding areas include 3 Conservation Areas designated for the heritage importance:

- Aylesford Conservation Area;
- Star Hill to Sun Pier Conservation Area (Rochester); and
- Queenborough Conservation Area.

The importance and scarcity of the heritage features is discussed in this section. Historical and cultural artefacts and features are finite in nature, therefore substitution of resources lost to coastal erosion and/or flooding is not relevant in this context.

Mitigatory works, such as 'survey', 'record' and 'mitigate', were highlighted during the Heritage Workshop (see **Annex D2**) to define works required at the strategy stage where a compromise over loss of heritage interest to natural coastal management was made.

D4.2.1 Features

North of Grain village to Middle Stoke

The 5 Scheduled Monuments of national importance listed within this area, are primarily concerned with Coastal Artillery Defences. These are part of more extensive historic defences on the Isle of Grain, these non-scheduled defences are however the most vulnerable to coastal erosion, for example the World War II anti invasion beach defences known locally as 'Dragons Teeth' (Kendall, 2006). The Heritage Workshop assessment (see **Annex D2**) identified that the heritage features on the Isle of Grain contribute to the character of the area and their loss would be of high significance.

Feature	Number
Statutory Designated Features	
<i>Scheduled Monuments</i>	5
<i>Listed Buildings</i>	3
Non-Statutory Features (held on Kent SMR)	
<i>Buildings</i>	3
<i>Findspots</i>	6
<i>Landscapes</i>	2

Feature	Number
Maritime	111
Other Monuments	111

Scheduled Monuments:

There are 5 Scheduled Monuments along this frontage:

Ref	Description	Easting	Northing	Area (ha)
34297-03	Coastal Artillery Defences on The Isle of Grain, immediately East And South East of Grain Village.	589193	176555	0.0060
34297-02	Coastal Artillery Defences on The Isle of Grain, immediately East And South East of Grain Village.	588970	176405	0.9825
34297-04	Coastal Artillery Defences on The Isle of Grain, immediately East And South East of Grain Village.	589261	176119	0.0046
34297-05	Coastal Artillery Defences on The Isle of Grain, immediately East And South East of Grain Village.	589628	176032	4.4243
34297-06	Coastal Artillery Defences on The Isle of Grain, immediately East And South East of Grain Village.	589242	175701	2.5034

Listed Buildings:

There are 3 Listed Buildings within this area:

Ref	Description	Easting	Northing
KE11600	Royal naval dockyard boat basin	590850	176350
KE3178	Grain Tower, Artillery Battery, Grain, Isle of Grain	589866	176038
WX17395	Isle of Grain CP.	588853	176140

Middle Stoke to Lower Upnor

Cockham Wood Fort, Darnet Fort and Hoo Fort are three nationally important defence heritage sites located along the frontage. Cockham Wood Fort is a rare fort dating back to the 17th Century (Kendall, 2006). The lowest brick gun tier of the building is being actively eroded by the river. All three forts are designated as Scheduled Monuments and as such their loss would be of high significance.

Archaeology dating back to the Neolithic period has also been unearthed on islands within the Medway estuary. Darnet Fort and Hoo Fort are located on Darnet Ness and Hoo Salt Marsh Islands respectively. Darnet Fort is low lying and is therefore subject to periodic flooding and

consequently is highly vulnerable to future sea level rise (Kendall, 2006). A long section of Hoo Island is defended by hulk fortifications, where parts of vessels lying in the intertidal zone are used as flood defences (Kendall, 2006).

Scattered WWII Pill boxes along the river, forming part of the General Headquarters (GHQ) Line which is nationally protected by English Heritage, are being eroded into the sea along this frontage.

The Hoo St Werberg Saxon Nunnery is also located along this frontage. The Heritage Workshop has identified that the area as a whole is also very important for finds associated with historic estuary industries, Roman pottery and occasionally prehistoric features (see **Annex D2**).

Feature	Number
Statutory Designated Features	
<i>Scheduled Monuments</i>	3
<i>Listed Buildings</i>	3
Non-Statutory Features (held on Kent SMR)	
<i>Buildings</i>	8
<i>Findspots</i>	27
<i>Landscapes</i>	8
<i>Maritime</i>	141
<i>Other Monuments</i>	173

Scheduled Monuments:

There are three Scheduled Monuments in this area:

Ref	Description	Easting	Northing	Area (ha)
ME195	Cockham Wood Fort	577630	171264	0.5381
34295	Hoo Fort	579643	170288	2.8058
34294	Fort Darnet, Darnet Ness	580669	170728	2.8083

Listed Buildings:

There are 3 Listed Buildings within this area:

Ref	Description	Easting	Northing
KE2640	St. Werburgh's	578340	171850
KE3190	St. Peter and St. Paul's	582330	175060
WX0085	Peaty clays, possible prehistoric land surface, Hoo Flats	579725	171609

Lower Upnor to Medway (M2) bridge

Temple Manor SM and Upnor Castle SM are part of the national portfolio of historic properties. Upnor Castle is also included in the proposed World Heritage Site for Chatham Dockyard. Upnor Building Conservation Area surrounds the castle and takes in the settlement that grew up to serve the castle as well as the Board of Ordnance's depot at Lower Upnor where explosives for naval ships were stored (Kendall, 2006). The Heritage Workshop assessment (**Annex D2**) identified that these heritage features are of national importance and therefore their loss would be highly significant.

Remnants of historic hulks were removed from what was the Whitewall Creek during construction of the Medway tunnel (Kendall, 2006). Potential therefore exists for other remains to be found in this location in the future. The town of Strood is an important historic riverside area, there is potential for industrial archaeological remains, linked with former ship building, around the area that was once the Strood canal and tunnel (Kendal, 2006).

Feature	Number
Statutory Designated Features	
<i>Scheduled Monuments</i>	3
<i>Listed Buildings</i>	9
Non-Statutory Features (held on Kent SMR)	
<i>Buildings</i>	3
<i>Findspots</i>	27
<i>Maritime</i>	111
<i>Other Monuments</i>	85

Scheduled Monuments:

There are 3 Scheduled Monuments along this frontage:

Ref	Description	Easting	Northing	Area (ha)
24363	Temple Manor, Strood	573305	168548	0.2301
25468	Beacon And Pillbox On Beacon Hill	575781	171463	0.0906
27007	Artillery Castle At Upnor	575842	170573	0.5362

Listed Buildings:

There are 9 Listed Buildings within this area:

Ref	Description	Easting	Northing
KE2341	Parish Church Of All Saints	574410	169800
KE2348	Temple Manor	573310	168530
KE2351	Former Parish Church Of St. Nicholas	573530	169290
KE2633	Upnor Castle	575850	170570
KE2700	Barn, Manor Farm	574687	170027
KE9369	Parish Church Of St. Mary	573870	169550
KE9459	Upnor Barracks, High Street, Upper Upnor	575811	170495
WX0196	Marker Stone, Upnor Reach.	576200	171232
WX17396	Frindsbury Extra Cp. Lower Upnor.	576193	171219

Medway (M2) bridge to North of Snodland (left bank looking downstream)

The Heritage Workshop assessment (see **Annex D2**) has identified that the Scheduled Monument of Bishop's Palace at Halling is of national importance and therefore its loss would be significant. The workshop also highlighted that many post medieval finds have been found in the area, that are likely to be associated with the Roman Palace.

Feature	Number
Statutory Designated Features	
<i>Scheduled Monuments</i>	2
<i>Listed Buildings</i>	4
Non-Statutory Features (held on Kent SMR)	
<i>Findspots</i>	12
<i>Maritime</i>	35
<i>Other Monuments</i>	30

Scheduled Monuments:

There are 2 Scheduled Monuments within this area:

Ref	Description	Easting	Northing	Area (ha)
ME199	Palaeolithic site	571077	166553	0.1842
25473	Bishop's palace at Halling	570545	163905	0.0515

Listed Buildings:

There are 4 Listed Buildings within this area:

Ref	Description	Easting	Northing
KE13886	122-124 High Street	570450	163920
KE2359	St. Michael's Church	570950	166440
KE2512	St. John the Baptist's	570510	163880
KE2525	94-96 High St	570420	164040

Snodland to Allington Lock (left bank looking downstream)

The historic settlement at Aylesford is of national significance and has been designated as a Conservation Area. The Heritage Workshop assessment (see **Annex D2**) has therefore identified that the loss of heritage features within the Aylesford Conservation Area would be of high significance. Frequent post medieval finds in the area are likely to be associated with the Roman Villa.

Feature	Number
Statutory Designated Features	
<i>Scheduled Monuments</i>	2
<i>Listed Buildings</i>	1
Non-Statutory Features (held on Kent SMR)	
<i>Findspots</i>	16
<i>Other Monuments</i>	16

Scheduled Monuments:

There are 2 Scheduled Monuments along this frontage:

Ref	Description	Easting	Northing	Area (ha)
23031	Roman villa 200m north of church	570752	162015	0.6786
KE19	Aylesford Bridge	572941	158929	0.0453

Listed Buildings:

There is 1 listed building in this area:

Ref	Description	Easting	Northing
KE2507	All Saints Church	570750	161820

Allington Lock to Medway (M2) bridge (Right Bank looking downstream)

The historic settlement at Aylesford is of national significance and has been designated as a Conservation Area. The two Scheduled Monuments included in the Conservation area are Aylesford Bridge and Aylesford Priory. The Heritage Workshop assessment (see **Annex D2**) has identified that the loss of these nationally important heritage features within the Aylesford Conservation Area would be of high significance.

The Heritage Workshop also identified other important heritage features such as the 11th Century church at Wouldham and industrial remains including barge hulks located near the M2 Bridge.

Feature	Number
Statutory Designated Features	
<i>Scheduled Monuments</i>	2
<i>Listed Buildings</i>	16
Non-Statutory Features (held on Kent SMR)	
<i>Buildings</i>	1
<i>Findspots</i>	22
<i>Maritime</i>	4
<i>Other Monuments</i>	49

Scheduled Monuments:

There are 2 Scheduled Monuments in the area:

Ref	Description	Easting	Northing	Area (ha)
KE19	Aylesford bridge	572941	158929	0.0453
	Aylesford Priory			

Listed Buildings:

There are 16 Listed Buildings in the area:

Ref	Description	Easting	Northing
KE2042	St Peter's Church	572940	159020
KE2043	Hospital of the Holy Trinity	573110	159040
KE2044	Aylesford bridge	572930	158930
KE2047	The Friars	572350	158850
KE2093	Court Farmhouse	572790	159040
KE2094	The George	572950	158960

Ref	Description	Easting	Northing
KE2095	The Chequers public house	572910	158970
KE2101	Not given	572390	158930
KE2105	Not given	572340	158850
KE2106	Not given	572370	158830
KE2107	Not given	572360	158820
KE2108	Not given	572370	158890
KE2344	Starkey Castle Farm	571370	165590
KE2496	St. Mary's	571660	162010
KE2517	All Saints	571250	164390
KE8937	Starkey Castle	571380	165600

Medway (M2) bridge to East of St Mary's Island

The historic coastal town of Rochester, important in the Iron Age and Roman times as a major crossing point of the River Medway between Strood and Rochester, forms part of the Star Hill to Sun Pier Conservation Area. Historic features of importance in this area include the Hulks and old cement works downstream of the M2, historic fortifications which now form parts of the esplanade at Rochester and Palaeolithic remains at Frindsbury.

English Heritage and others have been investing in the regeneration of the 'Chatham Intra' area, part of the Star Hill to Sun Pier Conservation Area between Rochester and Chatham, to retain the historic character of the riverside (Kendall, 2006).

This frontage also incorporates Chatham Historic Dockyard Conservation Area which comprises the most complete former Royal Dockyard in Britain. The historic dockyard contains the largest concentration of SM's in Kent and is afforded potential World Heritage status. The Heritage workshop Assessment (see **Annex D2**) has identified that the heritage features within the Rochester and Chatham Conservation areas are of national importance and consequently their loss would be highly significant.

Feature	Number
Statutory Designated Features	
<i>Scheduled Monuments</i>	57
<i>Listed Buildings</i>	68
<i>Registered Parks and Gardens</i>	1
Non-Statutory Features (held on Kent SMR)	
<i>Buildings</i>	7
<i>Findspots</i>	34
<i>Maritime</i>	33
<i>Other Monuments</i>	221

Scheduled Monuments:

There are 57 Scheduled Monuments in this area:

Ref	Description	Easting	Northing	Area (ha)
ME206	Chatham Dockyard, Main Gate	575875	168884	0.0268
ME391	Chatham Dockyard, Site Of South Mast Pond	576089	169491	1.2030
ME294	Remains Of Rochester Priory Cloister	574270	168474	0.1676
ME254	Fort Borstal	573324	166402	3.1315
ME223	Chatham Dockyard, No 61 Boat Store, Nos 4 And 5 Slips	575949	169491	1.3680
ME321	Brook Low Level Pumping Station	575988	167827	0.0290
ME385	Site Of 17th Century Dockyard	575827	169111	1.3228
ME240	Chatham Dockyard, The Dockyard Wall	575829	168766	0.0068
ME219	Chatham Dockyard, The Main Offices	575912	169146	0.0996
ME220	Chatham Dockyard, Naval Store Department	575938	169212	0.0597
ME237	Chatham Dockyard, Officers' Reading Room And Admirals' Conference Room	575912	169090	0.0289
ME236	Chatham Dockyard, The Cashiers' Office	575942	169075	0.0160
ME201	Brompton Lines	576374	168662	11.6065
ME216	Chatham Dockyard, Medway House	575876	169077	0.0631
ME283	Chatham Dockyard, South Pumping Station	575950	169281	0.0296
ME212	Chatham Dockyard, Sail Loft	575951	169033	0.1077
ME230	Chatham Dockyard, The Iron Store	576103	169345	0.1321
ME213	Chatham Dockyard, Captain Of Dockyard's House	575955	169085	0.0163
ME207	Chatham Dockyard, Bell Mast W Of Main Gate	575860	168896	0.0006
ME241	Chatham Dockyard, The Painters' Shop And Adjacent Store	575822	168752	0.0947
ME244	Chatham Dockyard, Tarred Yarn Store	575817	168867	0.1072
ME210	Chatham Dockyard, Engine Or Boiler House	575823	169016	0.0227
ME242	Chatham Dockyard, Rigging House No 1 And Storehouse No 2	575782	168951	0.2707
ME209	Chatham Dockyard, The Ropery	575783	168825	0.5796
ME243	Chatham Dockyard, Storehouse No 3	575742	168763	0.2768
ME221	Chatham Dockyard, Chain Cable Shed	575744	168725	0.0603
ME211	Chatham Dockyard, Ropery Offices	575838	168953	0.2082
ME232	Chatham Dockyard, Former Working Mast House And Mould Loft	576026	169433	0.2200
ME231	Chatham Dockyard, The Wheelwrights' Shop	576064	169399	0.1079
ME227	Chatham Dockyard, The Expense Account Department, Wages Division	576243	169431	0.0403

Ref	Description	Easting	Northing	Area (ha)
ME222	Chatham Dockyard, No 3 Boat Store	575904	169407	0.3820
ME224	Chatham Dockyard, Covered Slip To N Of No 5 Slip	575999	169580	0.5415
ME229	Chatham Dockyard, The Lower Boat Store	576242	169636	0.1660
ME225	Chatham Dockyard, The Mast Pond	576182	169582	0.9717
ME208	Chatham Dockyard, Police Offices	575906	168939	0.0354
ME238	Chatham Dockyard, Two Stables Se Of Sail Loft	575947	168976	0.0449
ME235	Chatham Dockyard, Mcd Joiners' Shop	575986	169260	0.1684
ME215	Chatham Dockyard, Stables Adjacent To Terrace	576053	169192	0.0215
ME234	Chatham Dockyard, The Joiners' Stores	576040	169229	0.0338
ME217	Chatham Dockyard, Assistant Queen's Harbour Master's Office	575787	169107	0.0099
ME218	Chatham Dockyard, Queen's Stairs	575774	169116	0.0062
ME228	Chatham Dockyard, Bell Mast To Se Of Coppersmith's Shop	576473	169777	0.0019
ME239	Chatham Dockyard, Two 'Vanbrugh' Type Houses	576041	169119	0.0154
ME214	Chatham Dockyard, Officers' Terrace And Gardens To East	575988	169152	0.2444
ME248	Hatchelling House, Chatham Dockyard	575833	169010	0.0300
ME300	Chatham Dockyard, No 1 Smithery	576026	169321	0.4342
ME387	Chatham Dockyard, Dockyard Church	575898	168978	0.0597
ME386	Former Guardhouse	575703	168665	0.0078
ME388	Chatham Dockyard, Customs House	575869	169020	0.0057
ME389	Chatham Dockyard, Garden Wall Of Medway House	575910	169025	0.0043
ME390	Chatham Dockyard, Dry Docks Nos 2, 3 And 4	575871	169304	1.7462
ME202	Fort Clarence	573900	167684	0.0668
ME332	Open Areas Within Roman, Saxon And Medieval Town	574313	168388	1.8138
ME154	Rochester City Wall	574344	168463	0.0797
24349	Rochester Castle	574153	168611	2.1597
36201	Chatham Lines, Section At Chatham Gun Wharf	575736	168228	0.6502
22782	Brunel Sawmills, Chatham Dockyard	576177	169328	0.6844

Listed Buildings:

There are 68 Listed Buildings along this frontage:

Ref	Description	Easting	Northing
KE13594	Hayward's House	574100	168200

Ref	Description	Easting	Northing
KE20457	Medieval Undercroft, No. 35 High Street	574264	168678
KE20463	Boley Hill House, Rochester	574128	168430
KE2227	St John Hawkins Hospital	575260	167920
KE2228	St Bartholemew's Chapel	575240	167890
KE2323	Parish Church Of St. Margaret Of Antioch	574020	168060
KE2381	Oriel House	574230	168340
KE2382	King's School	574320	168380
KE2383	Satis House	574080	168510
KE2384	The Old Hall	574100	168490
KE2385	Old Vicarage	574120	168490
KE2386	Prior's Gate	574204	168450
KE2387	No.60 High Street, Rochester	574294	168596
KE2388	Royal Victoria And Bull Hotel	574200	168730
KE2389	Cloudesley House, No. 42 High Street	574254	168658
KE2390	Berkeley House, Nos 186 And 188 High St.	574550	168190
KE2391	No. 156 High Street	574480	168290
KE2392	Nos. 150,152 And 154 High Street	574480	168300
KE2393	George Vaults, No. 35 High Street	574263	168682
KE2394	The Guildhall	574240	168740
KE2395	The Corn Exchange	574310	168650
KE2396	No. 83 High Street	574340	168550
KE2397	Gordon Hotel, No.91 High Street	574360	168530
KE2398	East Gate House	574480	168340
KE2399	Nos. 1-7 Minor Canon's Row, Rochester	574230	168440
KE2400	The Vines	574350	168200
KE2401	Foord Almshouses	573700	167110
KE2402	No.22 Star Hill (Star Hill House)	574590	168060
KE2404	Rochester Castle	574130	168560
KE2407	Restoration House, Rochester	574360	168220
KE2408	St Andrew's Church, (Rochester Cathedral)	574260	168520
KE2409	The Church Of St. Nicholas, The Precinct, Rochester	574282	168565
KE2441	Deanery Gate, Rochester	574291	168543
KE8923	42,High Street	574300	168500
KE8979	St Mary's Church	575600	168400
KE9108	Christ And St Mary's Cathedral Church	574300	168500
KE9178	32,High Street	574230	168680
KE9179	30,High Street	574200	168600

Ref	Description	Easting	Northing
KE9180	34-36 Even,High Street	574200	168600
KE9304	44 High Street, Rochester	574262	168654
KE9345	Chatham Royal Naval Dockyard	575880	168880
KE9346	Chatham Royal Naval Dockyard	575860	168890
KE9347	Police Offices Chatham Royal Naval Dockyard	575910	168950
KE9348	Chatham Royal Naval Dockyard	575800	168850
KE9349	Chatham Royal Naval Dockyard	575840	168950
KE9351	Chatham Royal Naval Dockyard	575980	169150
KE9353	Milton Cottage	574130	168480
KE9354	Nos 12 And 14 High Street	574200	168750
KE9355	Chertsey's Gate, Rochester Cathedral	574292	168602
KE9356	No.82 With No.82a High Street	574348	168506
KE9357	No. 168 High Street	574500	168250
KE9358	Richard Watts Charity, No.97 High St.	574380	168500
KE9359	Cathedral Cloister Buildings, The Precinct, Rochester	574274	168476
KE9360	Cloister Gate, The Precinct, Rochester	574239	168480
KE9361	King's School (Formerly The Deanery), The Precinct, Rochester	574310	168462
KE9362	Section Of Roman Wall, South Of The Former Deanery, Rochester	574304	168430
KE9363	College Green And Southgate Houses, Adjacent To Prior's Gate House, Rochester	574197	168498
KE9364	Bishops Court	574130	168330
KE9365	King's School (Eastern Block)	574120	168260
KE9366	No.52 St. Margaret's Street (The Limes)	574070	168100
KE9367	No.58 St.Margaret's St.(The Gleanings)	574030	168130
KE9368	Parish Church Of St. Margaret Of Antioch	574020	168060
KE9390	Chatham Royal Naval Dockyard	575940	169220
KE9396	Sawmills, Chatham Royal Naval Dockyard	576180	169300
KE9406	Chatham Royal Naval Dockyard	575940	169070
KE9419	Chatham Royal Naval Dockyard	575900	168970
KE9424	Medway House: Chatham Royal Naval Dockyard	575870	169070
KE9425	Chatham Royal Naval Dockyard	575960	169080

St Mary's Island to West of Motney Hill

This section of shoreline changes from that of industry and dockyards at the western end to a more natural estuary environment along the east of the frontage. The Heritage Workshop assessment (see **Annex D2**) highlighted the regionally important features around Chatham and Gillingham along the west of the frontage, for example the Chatham Basins, Grench

Manor (a limb of Hastings Cinque Ports) and Gillingham Pier, identifying that their loss to the area would be significant.

Any historical finds are predominantly related to prehistoric and Roman times and from the exploitation of the estuary, e.g. fishing. The village of Twydall near Gillingham for example is known to be rich in Palaeolithic remains.

Feature	Number
Statutory Designated Features	
<i>Listed Buildings</i>	8
Non-Statutory Features (held on Kent SMR)	
<i>Buildings</i>	1
<i>Findspots</i>	41
<i>Landscapes</i>	7
<i>Maritime</i>	124
<i>Other Monuments</i>	182

Scheduled Monuments:

There are no Scheduled Monuments in this area.

Listed Buildings:

There are 8 Listed Buildings in this area:

Ref	Description	Easting	Northing
KE10116	Eastcourt Farm	580140	168350
KE13807	Bloors Place	581470	167470
KE13962	Peckham Cottage	579900	168700
KE19952	Remains of Medieval Chapel, Grench Manor	579318	168518
KE20434	Black House, Lower Rainham Road, Gillingham	580730	168150
KE2260	St Mary Magdalen's	578370	168810
KE2269	Grench Manor	579320	168520
KE2269	Grench Manor	579390	168520

Motney Hill to Kingsferry Bridge

There is a very important buried landscape along this frontage. In Roman times, Upchurch Marshes was an area important for its pottery industry and is therefore potentially rich in Roman pottery remains. Deadmans Island was a former leper hospital, while Chetney Hill was the site of the only Government built isolation hospital in the UK, used to forcibly quarantine crews and passengers of ships who had visited infected ports overseas (Kendall, 2006).

Parts of Lower Halstow, including Lower Halstow Dock, form the Lower Halstow Conservation Area, designated for its heritage features and character. The Heritage Workshop assessment (see **Annex D2**) identified other key archaeological features, including an historic barge building, cement works and finds associated with the maritime industry.

Ditches and dykes on Chetney Marshes are also important as they display the fossilised remains of ancient field systems.

Feature	Number
Statutory Designated Features	
<i>Scheduled Monuments</i>	5
<i>Listed Buildings</i>	1
Non-Statutory Features (held on Kent SMR)	
<i>Buildings</i>	6
<i>Findspots</i>	92
<i>Landscapes</i>	5
<i>Maritime</i>	210
<i>Other Monuments</i>	372

Scheduled Monuments:

There are 5 Scheduled Monuments along this frontage:

Ref	Description	Easting	Northing	Area (ha)
34302	World War II Heavy Anti-Aircraft Gunsite (Ts2), 300m East Of Chetney Cottages	590010	168996	3.4169
34309-02	World War II Heavy Anti-Aircraft Gunsite (Ts3) At Wetham Green, 460m North Of Red Brick Cottage	584617	168300	0.7414
34309-01	World War II Heavy Anti-Aircraft Gunsite (Ts3) At Wetham Green, 460m North Of Red Brick Cottage	584519	168364	0.8476
34309-04	World War II Heavy Anti-Aircraft Gunsite (Ts3) At Wetham Green, 460m North Of Red Brick Cottage	584447	168406	0.0130
34309-03	World War II Heavy Anti-Aircraft Gunsite (Ts3) At Wetham Green, 460m North Of Red Brick Cottage	584515	168452	0.0449

Listed Buildings:

There is 1 Listed Building in the area:

Ref	Description	Easting	Northing
KE3001	St Margaret of Antioch	586000	167410

Kingsferry Bridge to Faversham Creek (South Bank of Swale)

Historic Faversham and its associated Creeks are steeped with medieval port and estuary features. Historic wharfs along the creeks, old industry buildings and the associated landscapes have high heritage value in this area. Nationally important gunpowder works were located at Oare and Faversham. Other medieval features in this area include the medieval port of Sittingbourne, Castle 'Rough' with its surrounding moat and the Milton Regis area. The Heritage Workshop assessment (see **Annex D2**) has identified that the loss of nationally important Scheduled Monuments along this frontage, such as the Oare Gunpowder works and Castle Rough, would be highly significant.

The number of Prehistoric artefacts recovered from the Swale and Medway estuaries has been sparse, however a dug out canoe was recovered from alluvial silts near Murston. Remains of large scale brick works have been found at Conyer. Iron Age, Roman and Neolithic finds have been found at Nagden Ferry.

Feature	Number
Statutory Designated Features	
<i>Scheduled Monuments</i>	3
<i>Listed Buildings</i>	10
Non-Statutory Features (held on Kent SMR)	
<i>Buildings</i>	6
<i>Findspots</i>	11
<i>Maritime</i>	160
<i>Other Monuments</i>	206

Scheduled Monuments:

There are 3 Scheduled Monuments in this area:

Ref	Description	Easting	Northing	Area (ha)
25469	Murston Old Church, Sittingbourne	592093	164769	0.2199
12729	`Castle rough' medieval moated site	591821	165963	0.7441
31414	Oare gunpowder works	600292	162420	9.6692

Listed Buildings:

There are 10 Listed Buildings in this area:

Ref	Description	Easting	Northing
KE20481	Mere Court. Murston, near Sittingbourne	592394	164606
KE20482	East Hall Farm, Murston, near Sittingbourne	592488	164270
KE3527	Tonge corner farmhouse	593880	165220
KE4133	St. Peter's Church	600780	163310
WX17369	Teynham. Conyer Road (west side).	596428	164160
WX17377	Little Murston Farmhouse, Murston.	593318	165645
WX17383	The Shipwrights Arms.	601740	163596
WX17385	White House	600613	162647
WX17386	Faversham. The Ham.	601882	162743
WX17387	Faversham. The Ham.	601837	162761

Shell Ness to Kingsferry Bridge (North bank of Swale)

Extensive land reclamation in the past means there may be the possibility of buried counter walls, earthworks etc in the reclaimed grazing marsh. Remains of large scale cement works have been found at Elmley. The only SM in the area is the medieval moated site at Sayes Court.

Other heritage features along this frontage, identified during the Heritage Workshop (see **Annex D2**), include the possibility of medieval Wicks (sheepfolds) and finds associated with former saltworks in the area.

Feature	Number
Statutory Designated Features	
<i>Scheduled Monuments</i>	1
<i>Listed Buildings</i>	3
Non-Statutory Features (held on Kent SMR)	
<i>Buildings</i>	2
<i>Findspots</i>	8
<i>Landscapes</i>	6
<i>Maritime</i>	25
<i>Other Monuments</i>	129

Scheduled Monuments:

There is 1 Scheduled Ancient Monument along this frontage:

Ref	Description	Easting	Northing	Area (ha)
12866	Medieval Moated Site At Sayes Court	602266	166278	0.2574

Listed Buildings:

There are 3 Listed Buildings in this area:

Ref	Description	Easting	Northing
KE4092	St Thomas's Church	602300	166270
WX17389	Harty, Sheerness. Harty Ferry Road (west side).	601524	165946
WX17390	Harty, Sheerness. Harty Ferry Road (east side).	601723	166230

Kingsferry Bridge to Sheerness Docks

Queenborough, a planned medieval town built for King Edward III, is designated as a Conservation Area and is rich with archaeology and heritage features. During a study for improvements to the A249 road counterwalls were discovered in the grazing marsh along the banks of the Swale.

Sheerness Dockyard was a sub-dockyard to Chatham in the past. Historic fortifications surround the 1870's military canal are soon to be listed as a Scheduled Monument. Sheerness town centre also has many listed buildings, including the former Dockyard Church which contributes to the heritage rich character of the area.

The Heritage Workshop assessment (see **Annex D2**) identified that the heritage features within Sheerness and the Queenborough Conservation Area are of national significance and consequently their loss would be of high significance.

Feature	Number
Statutory Designated Features	
<i>Scheduled Monuments</i>	2
<i>Listed Buildings</i>	25
Non Statutory Features (held on Kent SMR)	
<i>Buildings</i>	14
<i>Findspots</i>	4
<i>Landscapes</i>	2
<i>Maritime</i>	73
<i>Other Monuments</i>	135

Scheduled Monuments:

There are 2 Scheduled Monuments in this area:

Ref	Description	Easting	Northing	Area (ha)
KE172	Sheerness Defences	591412	175266	4.1182
23030	Queenborough Castle	591227	172158	1.0600

Listed Buildings:

There are 25 Listed Buildings in this area:

Ref	Description	Easting	Northing
KE3653	The Gatehouse	601723	166230
KE3654	Sheerness Dockyard: Shed No. 78	591300	175260
KE3656	Medway Ports Authority Offices	590870	175300
KE3657	Nos. 1-8 Naval Terrace	591350	175180
KE3658	Nos. 1 And 2 Main Gate	591470	175120
KE3660	Nos. 1 To 15 Regency Close	591330	175240
KE3691	Holy Trinity Church, High Street, Queenborough	591350	175100
WX17409	Sheerness. Sheerness Docks.	590915	172305
WX17410	Sheerness Docks, Sheerness	591010	175231
WX17411	Building 104, Sheerness Docks.	591065	175106
WX17414	High Street, South Side.	591201	175233
WX17415	West Street, East Side.	591102	175025
WX17418	High Street, South Side.	591091	175005
WX17419	High Street, South Side.	591176	175027
WX17424	High Street, South Side.	591199	175027
WX17425	High Street, South Side.	591276	175040
WX17430	West Street, East Side.	591274	175040
WX17431	West Street, East Side.	591106	174944
WX17434	Union Street, North Side.	591123	174949
WX17435	Union Street, North Side.	591205	174982
WX17437	Sheerness Docks.	591200	174996
WX17439	Building 84, Sheerness Dockyard	590805	175428
WX17440	Building 86, Sheerness Docks.	590987	175359
WX17441	Sheerness Docks	590956	175373
WX17442	Sheerness Docks	590886	175296

D4.3 MARINE

D4.3.1 Overview

The Medway and Swale estuary environments have preserved countless artefacts and potentially contain many buried landscapes.

An abundance of archaeology has been found in the banks and beds of the Medway and Swale Rivers. Quantities of Bronze Age metal work were recovered from alluvial deposits in

the Medway during the extension of the naval dockyard at Chatham and during excavations for the Medway Tunnel (North Kent Marshes Initiative, 1997). Pottery production, an important trade in Roman times, has led to the discovery of kiln remains in the intertidal zone of the Medway.

There have been documented references to numerous losses of vessels within the estuaries during the mid/late 17th Century, however to date, no archaeological evidence has been found to support this (North Kent Marshes Initiative, 1997). Numerous other wrecks (e.g. remains of barges) have however been located between the mouth of Faversham Creek and the Swale (HR Wallingford, 2006). The Heritage Workshop assessment (see **Annex D2**) has also identified other frontages where wrecks are known to be located. These frontages include:

- North of Grain village to Middle Stoke;
- Middle Stoke to Lower Upnor;
- Lower Upnor to Medway (M2) Bridge;
- Medway (M2) Bridge to east of St Mary's Island; and,
- Shell Ness to Kingsferry Bridge.

It is difficult to assess the importance of the coastal marine heritage sites identified in this section. Historical and cultural artefacts and features are finite in nature, therefore substitution of resources lost to coastal erosion and/or flooding is not relevant in this context.

D5 Land Use, Infrastructure and Material Assets

D5.1 GENERAL

This section reviews the status of the built environment present within the Medway and Swale estuaries and comprises commercial/industrial areas, infrastructure and current and future land uses.

Maps illustrating current land use within the SMP area are located in **Annex D3**.

D5.2 Overview

The majority of the built assets within the study area are residential and commercial and one of the principal economic activities is tourism. Other economic activities include:

- Power Generation (Grain and Kingsnorth Power Stations), power and gas lines;
- Container Ports (Thamesgate) and docks;
- Commercial Wharfs and marina operations;
- Paper Mills;
- Dredging activities and dredging disposal sites;
- Light industry;
- Roads and rail lines; and,
- Agriculture.

The majority of the Swale estuary and some eastern sections of the Medway estuary form part of the former North Kent Marshes Environmentally Sensitive Area (ESA). The ESA enables farmers and landowners to receive payments to help maintain, manage and if possible enhance the landscape and associated wildlife and heritage resources in the area (Medway and Swale Estuary Partnership, 2001).

D5.2.1 Port Activities

Medway Ports is the statutory Harbour Authority for the Medway and Swale estuaries and is responsible for the conservancy and safe navigation of the Medway and Swale in the study area. The Medway and the Swale is the South-east's only natural deep water port, terminals around the estuaries include (The Medway and Swale Estuary Partnership, 2000):

- Sheerness;
- Chatham;
- Thamesport Container Terminal;
- Ridham Sea Terminals;

- Grovehurst;
- Kingsnorth;
- Isle of Grain BNP Europort;
- Scotline;
- Crown Wharfs;
- Cory's;
- Foster Yeoman;
- Halling;
- Sheerness; and,
- Chatham.

Medway Ports is also responsible for maintenance and capital dredging of navigation channels in the Medway and Swale estuaries and creeks. The Medway Channel approach is presently dredged to 12.5m below Chart Datum to extend the tidal window for shipping movements to Thamesport and Sheerness. Hoo Island and Rushenden are licensed disposal sites within the two estuaries.

D5.3 Features

(a) North of Grain Village to Lower Upnor

There are a number of commercial operations and major infrastructure between Grain Village and Lower Upnor that are of high/medium sub-regional, national or international importance:

- Grain Power Station;
- Thamesport container port;
- Kingsnorth Power Station;
- A228 road;
- Railway line;
- Pipelines;
- Electricity pylons; and
- Hoo Island dredging disposal site.

Most of this area is classified by the Department of Environment, Food and Rural Affairs (Defra) as Grade 4 agricultural land. Vegetables are the predominant crop grown in this area. The area landward of Stoke Saltings is within the North Kent Marshes ESA, managed for wildlife, landscape and heritage benefit.

(b) Lower Upnor to Medway (M2) Bridge

The majority of shoreline along this stretch of the river is backed by the densely developed urban areas of Strood and Frindsbury. Major infrastructure and commercial operations in the

area include the Medway City Estate (commercial enterprises and wharves), the main railway line, the Medway Tunnel and the Rochester and Medway Bridges and the Channel Tunnel rail link bridge.

(c) Medway (M2) Bridge to Allington Lock (west and east banks)

There are a number of commercial operations and major infrastructure between Medway Bridge and Allington Lock that are of high/medium local, sub-regional, regional and national importance:

- Cuxton Industrial estate;
- Industrial area near Halling;
- Commercial wharfs;
- Main railway line;
- Medway Bridge;
- Channel Tunnel rail link bridge;
- Paper Mills at New Hythe;
- M20 and A228 roads;
- Aylesford Bridge;
- New Aylesford Bridge; and
- Electricity pylons.

Agricultural Land on the east bank is classified by Defra as Grade 3 and 4 land, consisting of grassland and arable land supporting sheep and cattle.

(d) Medway (M2) Bridge to east of St Mary's Island

The shoreline between the Medway Bridge and The Strand in Gilligham is backed almost continuously by densely developed residential, commercial and industrial developments, i.e. the towns of Rochester, Chatham and Gillingham that collectively make up the Medway Towns.

There are a number of commercial operations and major infrastructure along this section that are of high/medium local, regional and international importance:

- Commercial interests along Rochester waterfront and St Mary's Island;
- Chatham Dock;
- Medway Ports Terminal;
- Medway Bridge;
- Channel Tunnel rail link bridge;
- Rochester Bridge; and
- Medway Tunnel.

(e) St Mary's Island to Kingsferry Bridge

The banks of the Medway and Swale estuaries are largely undeveloped in this area, although there are some developments associated with marine activities along the Gillingham frontage, predominantly in the vicinity of Gillingham Pier and Marina, and some commercial properties at Otterham Creek. Other small wharfs and moorings are scattered along the frontage, providing access to the foreshore and river.

Major infrastructure in the area includes:

- A289 and A249 roads;
- Kingsferry Bridge; and
- Motney Hill Sewage Works.

Agricultural Land is classified by Defra as predominantly Grade 4 land, consisting of arable land supporting mainly wheat and oilseed rape cultivation. Towards the east of Gillingham however, there are a number of orchards located in the area. Coastal grazing marsh at Chetney Marshes forms part of the North Kent Marshes ESA which is managed for wildlife, landscape and heritage benefit.

(f) Kingsferry Bridge to Faversham Creek

The banks of the Swale are mostly undeveloped in this area, however, there are a number of commercial operations and major infrastructure between Kingsferry Bridge and Faversham Creek that are of high regional importance:

- Commercial properties at Kemsley, Sittingbourne, Conyer, Oare and Faversham;
- Industry and wharfage along Milton Creek, Conyer Creek, Oare Creek and Faversham Creek;
- Faversham Oyster Fishery;
- Ridham Dock;
- Wharves around Ridham Dock;
- Kemsley Paper Mill;
- Kingsferry Bridge;
- Brent Swing Bridge;
- A249 road;
- Railway line;
- Electricity pylons; and
- Sewage Treatment Works.

Flat arable and grazing agricultural Land at Coldharbour marshes, Tonge, Teynham and Luddenham is classified by Defra as Grades 3 and 4 land stock. The area between Milton Creek, to beyond Faversham Creek, forms part of the North Kent Marshes ESA, managed for wildlife, landscape and heritage benefit.

(g) Isle of Sheppey (south and east banks)

There are a number of commercial operations and major infrastructure along the southern and western banks of the Isle of Sheppey that are of high regional importance:

- A249 Road;
- Kingferry Bridge;
- Railway line;
- Electricity pylons;
- Commercial properties in Sheerness, Queenborough and Rushenden;
- Sheerness Port;
- Rushenden Dredging Disposal site;
- Rushenden Sewage Treatment Works; and
- Shell fishery at Queenborough.

Agricultural land at Neatscourt and Minster Marshes is classified by Defra as Grades 3 and 4 and is primarily used as pasture and arable land. The North Kent Marshes ESA extends along the south of the Isle of Sheppey up to the B2231 road and around the towns of Rushenden, Queenborough and Sheerness.

D5.4 FUTURE LAND USE/PLANNING TARGETS

D5.4.1 Overview

The purpose of this section is to identify proposals for development in the vicinity of the Medway and Swale estuaries that are contained in relevant development plans. Most development proposals focus on land away from areas at risk of flooding, and are therefore generally less relevant to the SMP.

The role of this review is to ensure that flooding and erosion risks to potential development sites are identified. This is important to both the SMP decision making, and also in informing future development control.

D5.4.2 Features

The Strategy for the Medway and Swale Estuary (The Medway and Swale Estuary Partnership, 2000) has identified development proposals around the two estuaries in the following areas:

- Isle of Grain;
- Kingsnorth;
- Neats Court Business Park
- Rochester and Chatham Riverside
- Strood Riverside
- Ridham Dock; and
- Kelmsley Fields Abbey Park.

Development proposals from these and other areas relevant to the Medway and Swale estuaries identified in current Local Authority Plans are acknowledged in the following sections.

(a) North of Grain Village to Middle Stoke

The 630 ha former oil refinery site on the Isle of Grain has been identified as the largest strategic economic regeneration site in the Thames Gateway area. The regeneration of the site has employment potential for 5,000 jobs.

Permission has been granted for a new power station on 93 ha of land alongside Kingsnorth Power Station.

(b) Lower Upnor to Medway M2 Bridge

Strood Riverside has been identified as a major development opportunity as part of a 20 year programme for regeneration of the waterfront under the Medway Waterfront Renaissance Strategy. The area is a key development site which is proposed to include between 500 and 600 new homes, a recreational waterfront, new public spaces and leisure facilities.

(c) M2 Bridge to St Mary's Island

Rochester Riverside has been highlighted as an area for regeneration within the Thames Gateway area. The 30 ha brownfield site has been identified for mixed use development. It is expected to provide 2,000 homes, offices, hotels/conference centre, a school, leisure and shopping facilities, community facilities, public open spaces and a riverside walk.

A significant mixed use development is proposed at the north end of Chatham Dockyard and its interface with Chatham Marine. St Mary's Island is also undergoing regeneration in the form of residential development as 'Chatham Maritime' (Kendall, 2006).

(d) Kingsferry Bridge to Faversham Creek

A study has been undertaken to consider the restoration of Faversham Creek to support the economic regeneration of the creek by restoring the basin to a working facility for boats (HR Wallingford, 2006). The report considers the options of impounding the basin, making the basin tidal and impounding a major length of the creek.

Within the 'Swale Gateway' area a 40 ha site at Ridham Dock and a 100 ha site at Kemsley Fields Abbey Park has been proposed for commercial development.

(e) Sheppey

Queenborough and Rushenden are locations proposed for major regeneration mixed-use development, including 700+ homes and brown field industrial land where there are aspirations for a yacht basin (Kendall, 2006). A residential development is also proposed at the Blue Town end of Sheerness dockyard, flooding may be a possible flooding issue here (Kendall, 2006).

A 38 ha site at Neats Court Business Park on the Isle of Sheppey has been proposed for commercial development.

D6 Population and Human Health

D6.1 GENERAL

This section reviews the status of the human environment present within the Medway and Swale estuaries with reference to residential developments and recreational and amenity interests.

D6.2 RESIDENTIAL DEVELOPMENTS

Residential developments are those that encompass a number of facilities: housing, infrastructure, commerce (shops), education, community facilities (libraries, village halls, and a post office), amenities (parks, leisure centre) and exist at a number of scales (village to city).

This SMP area contains a number of significant towns, principally:

- Rochester;
- Chatham;
- Gillingham;
- Sittingbourne;
- Faversham; and,
- Sheerness.

There are also many smaller towns:

- Hoo St Werburgh;
- Frindsbury;
- Strood;
- Cuxton;
- Snodland;
- New Hythe;
- Aylesford;
- Allington; and,
- Queenborough.

And a number of small villages:

- Grain;
- Lower Stoke;

- Middle Stoke;
- Lower Upnor
- Upper Upnor;
- Halling;
- Burham;
- Wouldham;
- Lower Twydall;
- Wetham Green;
- Bayford;
- Lower Halstow;
- Kemsley;
- Conyer; and,
- Oare.

Sustainable coastal erosion and flood risk management to these settlements is one of the main objectives of the SMP, in order to meet self-evident social and economic needs.

D6.2 HEALTH

Within Swale Borough Council, 83,846 of the population out of a total of 122,801 (i.e. approximately 68%) are considered to be in 'good' health (Census 2001 – www.neighbourhood.statistics.gov.uk). This compares to the national average of 69% of the population considered to be in 'good' health. Approximately 18% of the population in Swale Borough Council have a limiting long-term illness. Within Medway Council (unitary authority), 174,167 of the population out of a total of 249,488 (approximately 70%) are considered to be in 'good' health (Census 2001), with approximately 16% of the population having a limiting long-term illness.

A variety of accessible community facilities is vital to the provision of sustainable communities. Government policy aims to protect and improve such provisions and in particular essential community facilities for health. Health facilities which service wider communities within the SMP area need to be particularly protected and access to healthcare services needs to be maintained during flood events.

Flooding events/coastal erosion have adverse impacts upon human health and significant socio-economic consequences. Flooding affects people both physically (e.g. through loss of property, injuries and potentially loss of life) and psychologically (e.g. impacts on human health such as emotional distress can be caused by the event itself, as well as the fear of a flooding event). Socio-economic factors such as the financial burden (e.g. loss or abandonment of property, the cost of repairs after a flood event, changes in insurance and loss of jobs where businesses are affected) created by flooding or cliff erosion can continue to have an impact well after the event has occurred.

Opportunities should also be explored as part of SMP policy implementation to provide improvements to human health such as enhancing public amenity facilities and encouraging exercise outdoors e.g. by improvements to access to the coast, new and improved public rights of way, linkages to other footpaths etc.

D6.3 RECREATION, TOURISM AND AMENITY ASSETS

The Medway and Swale estuaries form part of the Greater Thames Estuary, one of the busiest water recreation resources in the UK, hence water based recreation within the Medway and Swale estuaries is an important component to this resource. Water based recreational activities in the Medway and Swale estuaries include sailing, canoeing (popular along Conyer Creek and Oare Creek) and angling (Hoo Island and around the mouth of the Medway near Garrison Point). A number of sailing clubs and marinas are located in the following areas (Environment Agency, 2001):

- Upnor Reach to Hoo St Werburgh (Medway);
- Gillingham to Rewnham Creek (Medway);
- Bayford Marsh to Lower Halstow (Medway);
- Stangate and Sharfleet Creeks (Swale);
- Queenborough Harbour;
- Oare Creek; and,
- Faversham Creek.

The area also attracts a diverse range of recreational pursuits additional to water based activities including bird watching, wildfowling, walking and cycling. There are a large number of sites to view birds within the two estuaries; however Elmley RSPB Nature Reserve, Riverside Country Park, Shell Ness and Harty Marshes are four of the main bird watching sites in the area. The Kent Wildfowling and Conservation Association is responsible for the management of 500 ha of intertidal and 275 ha of grazing marsh within the Medway and Swale estuaries (Medway and Swale Estuary Partnership, 2001). Landholdings and shooting areas managed by the Kent Wildfowling and Conservation Association include:

- Intertidal habitat around Grain;
- Stoke Saltings;
- Intertidal habitat around Nor Marsh and Darnet Fort;
- Intertidal habitat along Funton Creek and Bedlams Bottom;
- Intertidal habitat along Halstow Creek and Twinney Creek;
- Southern shoreline of the Swale from east of Milton Creek to Graveney Marshes, including Conyer Creek and Faversham Creek; and,
- Northern shoreline of the Swale from Spit end Point to Shell Ness.

Access to the countryside and informal recreation (walking and cycling) are served by an abundance of local walks and Public Rights of Way around the Medway and Swale estuaries including the long distance Saxon Shore Way, extending from Gravesend to Rye, and paths on existing embankments and defences.

Tourism is relatively low in this area compared to the remainder of Kent, however it still plays an important role and is valuable to the local economy. The area attracts visitors primarily to the estuaries' historic conservation areas (e.g. Rochester, Chatham Historic Dockyard and Queenborough) and to the landscape of the rural estuary environment (e.g. walkers, cyclists, photographers, birdwatchers).

D6.4 Features

(a) North of Grain Village to Lower Upnor

There are a number of commercial operations and major infrastructure between Grain Village and Lower Upnor that are of high/medium sub-regional, national or international importance:

- Grain Power Station;
- Thamesport container port;
- Kingsnorth Power Station;
- A228 road;
- Railway line;
- Pipelines;
- Electricity pylons; and,
- Hoo Island dredging disposal site.

Most of this area is classified by the Department of Environment, Food and Rural Affairs (Defra) as Grade 4 agricultural land. Vegetables are the predominant crop grown in this area. The area landward of Stoke Saltings is within the North Kent Marshes ESA, managed for wildlife, landscape and heritage benefit.

Informal recreation within the area consists of predominantly water based recreation, including sailing and fishing, based at small marinas such as the Medway Yacht Club. The Arethusa Venture Centre is also located along this frontage providing formal recreational activities. The Saxon Shore Way, extending along the shoreline from Hoo St Werburgh to Lower Upnor, and local footpaths along embankments, provides informal recreation areas for walkers and cyclists.

(b) Lower Upnor to Medway (M2) Bridge

The majority of shoreline along this stretch of the river is backed by the densely developed urban areas of Strood and Frindsbury.

The Saxon Shore Way extends from Lower Upnor to Frindsbury, where it crosses the river over the Rochester Bridge. The Riverside Walkway and Temple Marsh (an informal public open space) also provide valuable recreation areas for locals and visitors. Water based recreation is important in this location with a number of sailing clubs (e.g. Strood Sailing Club), moorings and slipways providing access to the foreshore and river, in this area.

Heritage features, such as Upnor Castle and Temple Manor, and leisure facilities at the Medway Valley Leisure Park, are enjoyed by the local community and also attract visitors to the area.

(c) *Medway (M2) Bridge to Allington Lock (west and east banks)*

There are a number of commercial operations and major infrastructure between Medway Bridge and Allington Lock that are of high/medium local, sub-regional, regional and national importance:

- Cuxton Industrial estate;
- Industrial area near Halling;
- Commercial wharfs;
- Main railway line;
- Medway Bridge;
- Channel Tunnel rail link bridge;
- Paper Mills at New Hythe;
- M20 and A228 roads;
- Aylesford Bridge;
- New Aylesford Bridge; and,
- Electricity pylons.

Agricultural Land on the east bank is classified by Defra as Grade 3 and 4 land, consisting of grassland and arable land supporting sheep and cattle.

Recreation facilities along this section include the Port Medway Marina, The Rochester Queen, allotments at Cuxton, moorings and slipways providing access to the foreshore and river. Leybourne Lakes provide an important facility for formal and informal recreation, e.g. windsurfing, diving and angling. Riverside footpaths, including the Medway Valley Walk along the east bank of the river, offer rural informal recreation areas for walkers and for fishing. Heritage features in the Aylesford Conservation Area and the historic ruins at Bishops Palace, Halling, are enjoyed by the local community and as well as attracting visitors to the area.

(d) *Medway (M2) Bridge to east of St Mary's Island*

The shoreline between the Medway Bridge and The Strand in Gillingham is backed almost continuously by densely developed residential, commercial and industrial developments, i.e. the towns of Rochester, Chatham and Gillingham that collectively make up the Medway Towns.

There are a number of commercial operations and major infrastructure along this section that are of high/medium local, regional and international importance:

- Commercial interests along Rochester waterfront and St Mary's Island;
- Chatham Dock;
- Medway Ports Terminal;

-
- Medway Bridge;
 - Channel Tunnel rail link bridge;
 - Rochester Bridge; and,
 - Medway Tunnel.

Heritage features within the Chatham Historic Dockyard Conservation Area and the Star Hill to Sun Pier Conservation Area are important visitor attractions in the area. The Medway Valley Walk and the Saxon Shore Way public pathways extend along sections of the frontage. Water based recreation is also important in this location with a number of marinas, moorings and slipways providing access to the foreshore and river.

(e) *St Mary's Island to Kingsferry Bridge*

The banks of the Medway and Swale estuaries are largely undeveloped in this area, although there are some developments associated with marine activities along the Gillingham frontage, predominantly in the vicinity of Gillingham Pier and Marina, and some commercial properties at Otterham Creek. Other small wharfs and moorings are scattered along the frontage, providing access to the foreshore and river.

Major infrastructure in the area includes:

- A289 and A249 roads;
- Kingsferry Bridge; and,
- Motney Hill Sewage Works.

Agricultural Land is classified by Defra as predominantly Grade 4 land, consisting of arable land supporting mainly wheat and oilseed rape cultivation. Towards the east of Gillingham however, there are a number of orchards located in the area. Coastal grazing marsh at Chetney Marshes forms part of the North Kent Marshes ESA which is managed for wildlife, landscape and heritage benefit.

The Saxon Shore Way and other public footpaths in the area provide informal recreational areas for activities such as walking, cycling, bird watching and photography. Riverside Country Park, incorporating Motney Hill and Berengrave LNR is located near Lower Twydall and extends over 100 ha of the Medway estuary. The Country Park attracts bird watchers (providing views over the Nor Marsh and Motney Hill RSPB Reserves) as well as families, cyclists and walkers and therefore provides an important open space amenity for locals and visitors. Wildfowling is another recreational activity in the area. The Kent Wildfowling and Conservation Association is responsible for the management of three intertidal areas along this shoreline which are also licensed for shooting.

Heritage features within the Lower Halstow Conservation Area attract locals and visitors to the area.

(f) *Kingsferry Bridge to Faversham Creek*

The banks of the Swale are mostly undeveloped in this area, however, there are a number of commercial operations and major infrastructure between Kingsferry Bridge and Faversham Creek that are of high regional importance:

-
- Commercial properties at Kemsley, Sittingbourne, Conyer, Oare and Faversham;
 - Industry and wharfage along Milton Creek, Conyer Creek, Oare Creek and Faversham Creek;
 - Faversham Oyster Fishery;
 - Ridham Dock;
 - Wharves around Ridham Dock;
 - Kemsley Paper Mill;
 - Kingsferry Bridge;
 - Brent Swing Bridge;
 - A249 road;
 - Railway line;
 - Electricity pylons; and,
 - Sewage Treatment Works.

Flat arable and grazing agricultural Land at Coldharbour marshes, Tonge, Teynham and Luddenham is classified by Defra as Grades 3 and 4 land stock. The area between Milton Creek, to beyond Faversham Creek, forms part of the North Kent Marshes ESA, managed for wildlife, landscape and heritage benefit.

Access to the countryside and informal recreation are served by a number of local walks and Public Rights of Way around the Swale estuary including the long distance Saxon Shore Way, which follows the shoreline of the south bank of the Swale including around Milton Creek, Conyer Creek, Oare Creek and Faversham Creek. South Swale is an important area for wildfowling on marshes and intertidal habitat on land managed by the Kent Wildfowling and Conservation Association. Water based recreation is also important in and around the creeks at this location, with a number of moorings and slipways providing access to the foreshore and river.

Historic Faversham and its associated creeks attract visitors to the area. There is also potential for the Harty Ferry to become re-operational in the future, as a transport route between the Isle of Sheppey and the mainland, which would also attract visitors to the area.

(g) *Isle of Sheppey (south and west banks)*

The banks of the Swale around the south of the Isle of Sheppey, between Shell Ness and Kingsferry Bridge, are undeveloped rural areas. Between Kingsferry Bridge and Sheerness the undeveloped areas north of the bridge give way to the urban developed areas of Rushenden, Queenborough and Sheerness.

There are a number of commercial operations and major infrastructure along the southern and western banks of the Isle of Sheppey that are of high regional importance:

- A249 Road;
- Kingferry Bridge;
- Railway line;
- Electricity pylons;
- Commercial properties in Sheerness, Queenborough and Rushenden;
- Sheerness Port;

- Rushenden Dredging Disposal site;
- Rushenden Sewage Treatment Works; and,
- Shell fishery at Queenborough.

Agricultural land at Neatscourt and Minster Marshes is classified by Defra as Grades 3 and 4 and is primarily used as pasture and arable land. The North Kent Marshes ESA extends along the south of the Isle of Sheppey up to the B2231 road and around the towns of Rushenden, Queenborough and Sheerness.

Heritage features within the Queenborough Conservation Area, such as Queenborough Castle, and the medieval moat at Sayes Court on the Isle of Harty attract visitors to the local area. The intertidal areas between Shell Ness and Spit End Point along the north bank of the Swale are important for wildfowling and bird watching. An additional important bird watching area is the Elmley RSPB Nature Reserve at Elmley Island in the south-west of Sheppey. Water based recreation is also important in this location with a number of moorings and slipways providing access to the foreshore and river, for example at Queenborough Creek.

D7 Glossary of Terms

Abbreviation	Term	Definition
ALLI	Area of Local Landscape Importance	Areas which represent landscapes of importance at a local level. They are identified as areas that enhance local amenity and environmental quality and provide attractive settings for villages and urban areas. These areas are promoted in Local Development Frameworks
AONB	Area of Outstanding Natural Beauty	Designated by the Countryside Agency. The purpose of the AONB is to identify areas of national importance and to promote the conservation and enhancement of natural beauty. This includes protecting its flora, fauna, geological and landscape features. This is a statutory designation.
Character Area		Areas of England identified by the Countryside Agency as separate character areas of national significance which are identified on the basis of geomorphology, vegetation and human activity. The Agency has mapped 159 separate Character Areas in England.
County Character Area		Areas identified under policy ENV4 of the Kent Structure Plan as attractive landscapes of countywide significance.
LLA	Local landscape Area	Areas which represent landscapes of importance at a local level. They are identified as areas that enhance local amenity and environmental quality and provide attractive settings for villages and urban areas. These areas are promoted in Local Development Frameworks.
LNR	Local Nature Reserve	These are established by local authorities in consultation with Natural England. These sites are generally of local significance and also provide important opportunities for public enjoyment, recreation and interpretation. This is a non-statutory designation.
NNR	National Nature Reserve	Designated by Natural England. These represent some of the most important natural and semi-natural ecosystems in Great Britain, and are managed to protect the conservation value of the habitats that occur on these sites. This is a statutory designation.
PSA	Public Service Agreement	Targets set by the Government for Governmental departments. Part of the PSA target for Defra includes: To care for our natural heritage, make the countryside attractive and enjoyable for all and to preserve biological diversity by bringing into favourable condition, by 2010, 95% of all nationally important wildlife sites.
QLA	Quality of Life Assessment	Quality of Life Assessment is a sustainability appraisal tool for maximising and integrating environmental, economic and social benefits as part of any land use or management decision.
Ramsar Site		Are wetland sites, especially waterfowl habitats, designated under the Ramsar Convention as wetlands

Abbreviation	Term	Definition
		of international importance.
RSPB	Royal Society for the protection of Birds	A UK charity working to promote the conservation of birds and other wildlife through the protection and re-creation of habitats.
SAC	Special Area of Conservation	This designation aims to protect habitats or species of European importance and can include Marine Areas. SACs are designated under the EC Habitats Directive (92/43/EEC) and will form part of the Natura 2000 site network. All SACs sites are also protected as SSSI, except those in the marine environment below the Mean Low Water (MLW).
SLA	Special Landscape Area	A county level designation, promoted by Kent County Council.
SM	Scheduled Monument	Formally referred to as Scheduled Ancient Monuments. Scheduled Monuments are nationally important archaeological sites which have been awarded Scheduled status in order to protect and preserve the site for the educational and cultural benefit of future generations.
SNCI	Site of Nature Conservation Interest	A county designation, usually designated because of its wildlife value. This is a non-statutory designation.
SPA	Special Protection Area	Internationally important sites, being set up to establish a network of protected areas of birds.
SSSI	Site of Special Scientific Interest	These sites, notified by Natural England, represent some of the best examples of Britain's natural features including flora, fauna, and geology. This is a statutory designation.

D8 Sources of Information

D8.1 REPORTS

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D8.2 WEBSITES

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Environment Agency website (May 2006)

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Annex D1 Biodiversity Action Plans

Annex D1 Biodiversity Action Plans

Natural England has divided the country into Natural Areas, based on their physical and biological characteristics. The SMP study area includes parts of one maritime and two terrestrial Natural Areas:

- Maritime – Greater Thames Estuary. This embraces the study area from the eastern limits at Shell Ness and Faversham to Grain, including the whole of the Swale estuary, eastern sections of the Medway estuary and the Isle of Grain;
- Terrestrial – North Kent Plain. Includes the Medway estuary through the Medway Towns; and,
- Terrestrial – North Downs. This embraces the Medway estuary study area south of the Medway Towns to Allington Lock.

The National Biodiversity Action Plan includes both Habitats and Species Action Plans. Habitat types that are the subject of national Action Plans are indicated in the following table, which also shows in which of the three natural areas crossed by the SMP they are found. The table also shows their level of significance (national or local) and priority species that are highly associated with the habitat. (N.B. The inclusion of a priority species in this table does not necessarily mean that the SMP study area is within its normal geographical or habitat range).

Key Nature Conservation Features	Highly Associated Priority Species
Coastal and floodplain grazing marsh	Water Vole (<i>Arvicola terrestris</i>), fisher estuarine moth, hogs fennel, water parsnip, marsh mallow moth, marsh harrier (<i>Circus aeruginosus</i>), avocet, snipe.
Coastal saltmarsh	Glassworts (<i>Salicornia spp</i>), a ground bug (<i>Henestaris halaphilus</i>), a money spider (<i>Baryphyma duffeyi</i>).
Mudflats	No associated priority species
Reedbeds	Reed warbler (<i>Acrocephalus scirpaceus</i>), bearded reedling (<i>Panurus biarmicus</i>), marsh harrier (<i>Circus aeruginosus</i>), bittern (<i>Botaurus stellaris</i>).
Saline Lagoons	Lagoon cockle, ostracods.
Standing open water	Great crested newt (<i>Titurus cristatus</i>), Water vole (<i>Arvicola terrestris</i>), medicinal leech (<i>Hirudo medicinalis</i>), shininh ramshorn snail (<i>Segmentina nitida</i>).
Lowland fens	Water vole (<i>Arvicola terrestris</i>), water shrew, reed bunting.
Littoral sediment	Natterjack toad, a ground beetle (<i>Amara strenua</i>), an eyebright SAP (<i>Euphrasia helslop harrisonii</i>).
Standing water and canals	Great crested newt, water vole (<i>Arvicola terrestris</i>), European otter, medicinal leech (<i>Hirudo medicinalis</i>).
Mudflats	No associated priority species
Coastal and floodplain grazing marsh	Water Vole (<i>Arvicola terrestris</i>), fisher estuarine moth, hogs fennel, water parsnip, marsh mallow moth, marsh harrier (<i>Circus aeruginosus</i>), avocet, snipe.
Coastal saltmarsh	Glassworts (<i>Salicornia spp</i>), a ground bug (<i>Henestaris halaphilus</i>), a

Key Nature Conservation Features	Highly Associated Priority Species
	money spider (<i>Baryphyma duffeyi</i>).
Mudflats	
Reedbeds	Reed warbler (<i>Acrocephalus scirpaceus</i>), bearded reedling (<i>Panurus biarmicus</i>), marsh harrier (<i>Circus aeruginosus</i>), bittern (<i>Botaurus stellaris</i>).
Standing open water	Great crested newt (<i>Titurus cristatus</i>), Water vole (<i>Arvicola terrestris</i>), medicinal leech (<i>Hirudo medicinalis</i>), shininh ramshorn snail (<i>Segmentina nitida</i>).
Lowland fens	Water vole (<i>Arvicola terrestris</i>), water shrew, reed bunting.
Standing water and canals	Great crested newt, water vole (<i>Arvicola terrestris</i>), European otter, medicinal leech.
Rivers and streams	Freshwater white-clawed crayfish, water vole (<i>Arvicola terrestris</i>), European otter.

Targets have been set in the Habitat Action Plans specific to this Natural Area as part of the UK Biodiversity Strategy. These biodiversity targets have similar requirements, and the main themes are summarised below:

- Safeguard and maintain the current extent of habitat;
- Consider opportunities to create habitat;
- Ensure no further loss of extent or quality of habitat;
- Aim to maintain the free functioning of coastal processes;
- Improve by appropriate management the quality of habitat;
- Reinstate lost habitats where appropriate; and,
- Manage public access to some habitats.

Targets that are most relevant to SMP considerations are indicated in the following table:

Habitat	SMP – Related Targets
Coastal and floodplain grazing marsh	To maintain the extent and quality of existing areas of semi-natural grazing marsh; To bring all existing areas of semi-natural grazing marsh into appropriate management; To create new habitat from arable land, especially where it will link existing areas of grazing marsh; To assess the present distribution of grazing marsh in the county.
Coastal saltmarsh	Maintain the extent of the saltmarsh resource in Kent (subject to evolution through natural processes); Maintain, enhance and restore the quality of coastal saltmarsh; Raise awareness of the importance of coastal saltmarsh as a UK priority habitat in Kent.
Mudflats	Maintain at least the present extent and general distribution of Kent's mudflats.

Habitat	SMP – Related Targets
	<p>Maintain, restore and enhance the quality of intertidal mudflats;</p> <p>Raise awareness, amongst key decision-makers, of the importance of mudflats as an ecological resource.</p>
Reedbeds	<p>Maintain the overall extent of existing reedbed sites;</p> <p>Create new, strategically important wetlands – to include reedbeds – as part of the major river systems in the county;</p> <p>Secure the appropriate conservation management of existing reedbeds;</p> <p>Where appropriate, seek restoration to conservation wetland – including reedbeds – as a condition of aggregate extraction in floodplains;</p> <p>Ensure that any future proposals for coastal realignment do not result in net loss of reedbed habitat.</p>
Saline Lagoons	<p>Maintain the current quality and extent of saline lagoons in Kent;</p> <p>Enhance and restore the conservation interest of existing saline lagoons by appropriate management;</p> <p>Raise awareness of the importance of saline lagoons as a UK priority habitat in Kent.</p>
Standing open water	<p>Maintain the condition of open waters currently judged as in favourable condition within important sites/landscapes (SSSI, SNCI, AONB). Maintain the condition of all other high-quality sites where feasible;</p> <p>Initiate action to restore to favourable condition (typical plant and animal communities present) sites that have been damaged or neglected, particularly within important sites and landscapes;</p> <p>Increase the abundance of standing open water habitats where appropriate, particularly wildlife-friendly ponds.</p>
Lowland fens	<p>Maintain the extent and quality of all existing fen sites;</p> <p>Ensure sufficient water is available to maintain, and where appropriate enhance, fen habitat;</p> <p>Ensure that, wherever possible, the management of flood risk works with, maintains and enhances natural systems, for example through the reconnection of water courses with their natural floodplains;</p> <p>Resist culverting, canalisation, diversion or other alterations of springs, headwaters and other water courses where this would potentially or actually damage fen habitat;</p> <p>Create new, strategically important wetlands as part of the major river systems in the county;</p> <p>Secure the appropriate conservation management of existing fen;</p> <p>Where appropriate, seek restoration to conservation wetland, including fen habitat, as a condition of aggregate extraction in floodplains.</p>

Annex D2 Heritage Workshop Assessments

Heritage Workshop 31st March 2006



Record of Heritage Workshop Assessments: Medway and Swale (31/03/06)											
Policy Unit	Location Description	Background to Coastal Management	Key Archaeological Features	Hold the Line		Do Nothing		Retreat the Line		Advance the Line	
					Required Action		Required Action		Required Action		Required Action
MES1	North of Grain Village to Middle Stoke	North coast likely to be eroding	Artillery features around Grain Listed Buildings & SMs in Grain A lot of old features along the line of coastal defence (wrecks, evidence of earthworks etc.) Grain coastal fortification SAM Listed Buildings in Grain Blackstakes in channel off coast of Grain powerstation Baseline survey incomplete	✓	Actively promoted for Grain Survey Record Monitor	×	For Grain Survey & Record Elsewhere (Middle stoke)	✓	For Grain Survey Record Monitor Elsewhere (Middle stoke)	×	For Grain Survey Record Monitor Elsewhere
MES2	Middle Stoke to Lower Upnor	Cliff that looks stable – beach below	Cockham Wood Fort SM & local Pill boxes being eroded into the sea Pillboxes part of GHQ line are of national importance. 2 Forts & a lot of archaeology dating back to Neolithic period on islands off coast (in mixed policy units) Maritime wrecks & fortifications Historic Estuary Industries Occasional prehistoric features Hoo St. Werberg Saxon Nunnery Very important area for Roman pottery Baseline survey incomplete.	✓	Actively promoted where Cockham SM, GHQ pillboxes & forts better protected Survey Record Monitor	×	Not acceptable at locations such as Cockham SM, GHQ pillboxes & forts Acceptable at some other locations with Survey & Record (notably historic landscape)	✓	Not acceptable at locations such as Cockham SM, GHQ pillboxes & forts Acceptable at some other locations with Survey Record Monitor (notably historic landscape)	×	Submerged Neolithic landscape + island interests + riverside features Survey Record Monitor
MES3	Lower Upnor to Medway (M2) Bridge	Composite of slowly eroding cliffs and hard defences	Upnor Castle SM and proposed World Heritage Site at Chatham Historic Dockyard Lower Upnor Conservation Area – NB. Recently changed extent Strood Riverside & Rochester are highly important historic areas A lot of Wrecks No baseline survey	✓	Actively promoted Survey Record Monitor	×	Due to uncontrolled impact on features	✓	Where key features damaged Outside these areas (limited) Survey Record Monitor	×	Where key features damaged Outside these areas (limited) Survey Record Monitor
MES4	Medway (M2) bridge to North of Snodland (Left Bank of Medway looking downstream)	Erosive & a need to look for widening floodplain	Aylesford historic settlement has high value A lot of post medieval finds likely to be associated to Roman fort Halling Bishops Palace SM Survey – No baseline survey	✓	Survey Record Monitor	×	For Aylesford & Halling SAM Survey & Record Elsewhere	✓	Survey Record Monitor	✓	Survey Record Monitor

Record of Heritage Workshop Assessments: Medway and Swale (31/03/06)											
Policy Unit	Location Description	Background to Coastal Management	Key Archaeological Features	Hold the Line		Do Nothing		Retreat the Line		Advance the Line	
				✓	Required Action	✗	Required Action	✓	Required Action	✗	Required Action
MES5	Snodland to Allington Lock (Left Bank of Medway looking downstream)	Erosive & a need to look for widening floodplain	Aylesford historic settlement has high value A lot of post medieval finds likely to be associated to Roman fort Halling Bishops Palace SM Survey – No baseline survey	✓	Survey Record Monitor	✗ ✓	For Aylesford & Halling SAM Survey & Record Elsewhere	✓	Survey Record Monitor	✓	Survey Record Monitor
MES6	Allington Lock to M2 Bridge (Right Bank of Medway looking downstream)	Erosive & a need to look for widening floodplain	Aylesford historic settlement has huge value A lot of post medieval finds likely to be associated to Roman fort Halling Bishops Palace SAM Survey – No baseline survey 11th century church at Wouldham. Industrial remain, barge hulks near bridge. No baseline survey.	✓	Survey Record Monitor	✗ ✓	For Aylesford & Halling SAM Survey & Record Elsewhere	✓	Survey Record Monitor	✓	Survey Record Monitor
MES7	Medway (M2) BRIDGE TO East of St Mary's Island	Earth embanked estuarine river banks & harbour walls	Potential World Heritage Site at Chatham Historic Dockyard Too much archaeology to list – Highly important area Rochester very important coastal town Hulks and old cement works just downstream of M2 No baseline survey	✓	Actively promoted if not essential Survey Record Monitor	✗	Due to uncontrolled impact on features	✗ ✓	Where key features damaged Outside these areas (limited to just d/s of M2) Survey Record Monitor	✗	Due to uncontrolled impact on features
MES8	St Mary's Island to West of Motney Hill	Accreting area	A lot of important features around Chatham – Chatham Basins Hoo Fort and Darnet Fort SMs on Islands–Grench Manor – limb of Hastings Cinque Ports Gillingham Pier Baseline survey incomplete	✓	Actively promoted for western end Survey Record Monitor	✗ ✓	At western end At eastern end Survey & Record	✗ ✓	At western end At eastern end Survey Record Monitor	✓	Significant wrecks constrain Survey Record Monitor

Record of Heritage Workshop Assessments: Medway and Swale (31/03/06)

Policy Unit	Location Description	Background to Coastal Management	Key Archaeological Features	Hold the Line		Do Nothing		Retreat the Line		Advance the Line	
				✓	Required Action	✓	Required Action	✓	Required Action	✓	Required Action
MES9	Motney Hill to Kingsferry Bridge	Area is accreting but defences are v.poor	Very important buried landscape Leper Hospital on Deadmans Island Historic barge building Cement works Maritime Industry Baseline survey incomplete	✓	Survey Record Monitor	✓	Survey & Record	✓	Survey Record Monitor	✓	Survey Record Monitor
MES10	Kingsferry Beach to Faversham Creek (South Bank of Swale)	Swale currently generally considered to be mildly accreting until +100yrs	Faversham steeped with medieval port & estuary features – lots of SMs Nationally important gunpowder works in undeveloped Floodplains Creeks & associated transport links – wharfs, old industry buildings + associated landscape Sittingbourne has important medieval port features & medieval Milton Regis area Castle Rough SM Survey - Baseline survey incomplete	✓	Actively promoted for creeks and some open coast Survey Record Monitor Mitigation likely to be expensive	×	For creeks and some open coast Some open coast + Survey & Record (better interpret baseline survey 1 st)	×	For creeks and some open coast Some open coast + Survey Record Monitor (better interpret baseline survey 1 st)	×	For creeks and some open coast Some open coast + Survey Record Monitor (foreshore & baseline)
MES11	Shellness to Kingsferry Bridge (North Bank of Swale)	Area around Elmley Island eroding Defences in poor condition Accreting at Shellness	Medieval Wicks (sheepfolds) Saltworks Wrecks Reclaimed grazing marsh (age unknown) - possibility of counter walls, earthworks etc. Survey - baseline survey almost complete	✓	Survey Record Monitor	✓	Survey & Record	✓	Survey Record Monitor	✓	Survey Record Monitor
MES12	Kingsferry Bridge to Sheerness Docks	Composite of defences in varying condition	Queenborough is very important – planned medieval town built for Edward III Too much archaeology to list – Highly important area Study for A249 improvements turned up a lot of counterwalls etc. in grazing marsh areas Survey – A249 & SEEDA excavations. Baseline survey incomplete Sheerness was subdockyard to Chatham, very historic. Fortifications surround it 1870s Military Canal soon to be scheduled as SM	✓	Actively promoted for Queenborough Survey Record Monitor	×	For Queenboro' & Rushenden Survey & Record Elsewhere (Rushenden Dredge disposal area)	×	For Queenboro' Survey Record Monitor Elsewhere but must appreciate Queenboro' historic landscape	×	For Queenboro' Survey Record Monitor Elsewhere but must appreciate Queenboro' historic landscape

Annex D3 Theme Maps

Annex D4 The Planning Framework

National Planning Policies

Document	Relevance
PPS1 – Delivering Sustainable Development (2005)	Sets out the Government's overarching planning policies on the delivery of sustainable development through the planning system. PPS1 will aim to ensure that urban and rural development within the study area is developed in a sustainable way that benefits the local community, conserves the environment, and ensures economic growth and employment, as well as making prudent use of natural resources. The PPS also identifies the potential impact of the environment on proposed developments by avoiding new development in areas at risk of flooding and sea-level rise, and as far as possible, by accommodating natural hazards and the impacts of climate change.
Planning and Climate Change: Supplement to PPS1 (2007)	Supplements PPS1 by setting out how planning should contribute to reducing emissions and stabilising climate change and take into account the unavoidable consequences. This will have a direct and indirect impact on the climate and environment of the study area. The PPS also identifies that modern human activity has the potential to cause more extreme weather events, including hotter and drier summers, flooding and rising sea-levels leading to coastal realignment.
PPG2 – Green Belts (1995)	Stipulates that general policies controlling development in the countryside apply with equal force in Green Belts but there is, in addition, a general presumption against inappropriate development (harmful to the Green Belt) within them. Such development will not be approved, except in very special circumstances.
PPS3 – Housing (2006)	Underpins the delivery of the Government's strategic housing policy objectives and their goal to ensure that everyone has the opportunity to live in a decent home, which they can afford in a community where they want to live.
PPG4 – Industrial, Commercial Development and Small Firms (1994)	Identifies that the planning system should operate on the basis that applications for development should be allowed, having regard to the development plan and all material considerations, unless the proposed development would cause demonstrable harm to interests of acknowledged importance. Also, development control should not place unjustifiable obstacles in the way of development which is necessary to provide homes, investment and jobs, or to meet wider national or international objectives.
PPS6 – Planning for Town Centres (2005)	Aims for town centres to promote their vitality and viability by planning for the growth and development of existing centres; and promoting and enhancing existing centres, by focusing development in such centres and encouraging a wide range of services in a good environment, accessible to all. This will result in the development and enhancement of coastal towns in the study area.
PPS7 – Sustainable Development in Rural Areas (2004)	Identifies that local planning should include policies to sustain, enhance and, where appropriate, revitalise country towns and villages (including through the provision of affordable housing) and for strong, diverse, economic activity, whilst maintaining local character and a high quality environment.
PPS9: Biodiversity and Geological Conservation (2005)	Aims to ensure that sites of geological importance and geological features are protected in the same way as other nature conservation interests, providing protection for much of the study area.
PPG14 – Development on Unstable Land (1990)	Seeks to identify that the Government wishes to encourage the full and effective use of land in an environmentally acceptable manner. However, difficulties have been experienced in developing land in areas of past and present mining and in other areas

Document	Relevance
	<p>where land is unstable or potentially unstable.</p> <p>It is also identifies that, in the context of the management of coastal zones, coastal authorities may wish to consider the introduction of a presumption against built development in areas of coastal landslides or rapid coastal erosion.</p>
PPG15 – Planning and the Historic Environment (1994)	Specifies that it is fundamental to the Government's policies for environmental stewardship that there should be effective protection for all aspects of the historic environment. The Historic Environment should be protected and enhanced, where possible.
PPG16 – Archaeology and Planning (1990)	PPG16 sets out the Secretary of State's policy on archaeological remains on land, and how they should be preserved or recorded both in an urban setting and in the countryside. Development should pay heed to the location or potential location of archaeological remains and should seek to minimise the impact that it has on the archaeological record.
PPG20 – Coastal Planning (1992)	<p>Seeks to identify that it is the role of the planning system to reconcile development requirements with the need to protect, conserve and, where appropriate, improve the landscape, environmental quality, wildlife habitats and recreational opportunities of the coast. Local authorities should recognise that on-shore development can often have an impact off-shore. There is a need to protect the environment while providing appropriately for development, and the need to plan with due regard for hazards from flooding, erosion and unstable land, are not unique to the coast.</p> <p>Opportunities for development on the coast are limited by physical circumstances, such as risk of flooding, erosion and land instability, and by conservation policies. Policies should aim to avoid putting further development at risk from flooding, erosion and land slips. It is highlighted that stretches of coast damaged by industrial and urban development, mining or waste disposal, will need proposals for improving the environment. This will be an essential prerequisite for restoring the physical environment and securing economic and physical regeneration. Further, policies should encourage the imaginative re-use of disused commercial docks as part of the regeneration of such areas, whilst conserving and restoring landmarks and structures of special historic interest.</p>
PPS22 – Renewable Energy (2004)	Encourages the use of appropriate land and the development of existing energy production for renewable energy sources, including wind, water, tidal, solar and biomass.
PPS23 – Planning and Pollution Control (2004)	Seeks to establish the role of planning in determining the location of development which may give rise to pollution, either directly or indirectly, and ensuring that other uses and developments are not as far as possible, affected by major existing or potential sources of pollution.
PPS25 – Planning and Flood Risk (2006)	The aims of planning policy on development and flood risk are to ensure that flood risk is taken into account at all stages in the planning process to avoid inappropriate development in areas at risk of flooding, and to direct development away from areas at highest risk. Where new development is, exceptionally, necessary in such areas, policy aims to make it safe without increasing flood risk elsewhere and where possible, reducing flood risk overall. The PPS also identifies that extensive, low-lying coastal lands around most British estuaries are particularly susceptible to flooding. Changes to the drivers associated with coastal erosion (surges, waves, coastal sediment supply and morphology, and relative sea level rise) will affect the probability of flooding to new developments.
Good Practice Guide on Planning for Tourism	Identifies that the planning system, by taking a pro-active role in facilitating and promoting the implementation of good quality development, is crucial to ensuring that

Document	Relevance
(2007)	the tourism industry can develop and thrive throughout the UK. Maximising the economical, social and environmental benefits. The guidance identifies that tourism can become the focus of regeneration in urban areas and a key element of rural diversification and revitalisation of market towns and villages. Tourist developments should be located where they are accessible and sustainable. It is also identified that caravan sites should be relocated away from visually intrusive locations, or from sites prone to flooding or coastal erosion.

Relevant Policies contained in the Regional Spatial Strategy (South East Plan 2009)

Policy CC2 – Climate Change

The strategy and policies of the Plan will promote measures to mitigate and adapt to the forecast effects of climate change and should be implemented through application of local planning policy and other mechanisms. Behavioural change will be essential in implementing this policy and the measures identified. Mitigation, through reducing greenhouse gas emissions, will primarily be addressed through greater resource efficiency including:

- i improving energy efficiency performance of new and existing buildings and influencing behaviour of occupants
- ii Reducing the need to travel and ensuring good accessibility to public and other sustainable modes of transport
- iii Promoting land use that acts as carbon sinks
- iv Encouraging development and use of renewable energy
- v Reducing the amount of biodegradable waste landfilled. In addition, and in respect of carbon dioxide emissions, regional and local authorities, agencies and others shall include policies and proposals in their plans, strategies and investment programmes to help reduce the region's carbon dioxide emissions by at least 20% below 1990 levels by 2010 and by at least 25% below 1990 levels by 2015. A target for 2026 will be developed and incorporated in the first review of the Plan (and no later than 2011).

Adaptation to risks and opportunities will be achieved through:

- i Guiding strategic development to locations offering greater protection from impacts such as flooding, erosion, storms, water shortages and subsidence
- ii Ensuring new and existing building stock is more resilient to climate change impacts
- iii Incorporating sustainable drainage measures and high standards of water efficiency in new and existing building stock
- iv Increasing flood storage capacity and developing sustainable new water resources
- v Ensuring that opportunities and options for sustainable flood management and migration of habitats and species are not foreclosed.

Policy KTG9 – Flood Risk

In order to accommodate the growth levels proposed in this strategy it will be necessary to implement co-ordinated measures for flood protection and surface water drainage in the Thames, Medway and Swale. Strategic Flood Risk Assessments will be undertaken for each urban area and its major development sites, and reviewed in the light of the Environment Agency's long term plans for flood risk management. Development will be planned to avoid the risk of flooding and will not be permitted if it would:

- i Be subject to an unacceptable risk of flooding or increase the risk elsewhere
- ii Prejudice the capacity or integrity of flood plains or flood protection measures.

Local Development Documents will include policies to:

- i Adopt a risk based approach to guiding categories of development away from flood risk areas
- ii Ensure that development proposals are accompanied by flood risk assessments.

Local Planning Framework

Local development framework documents of relevance to the SMP area comprise: -

- Medway Local Development Scheme 2008 – 2011 – this sets out the programme and timetable for the preparation of a Local Development Framework for Medway
 - Medway Core Strategy Issues and Options Report (July 2009) - this report sets out an initial view on what issues need to be addressed in the Medway's Core Strategy.
 - Medway Local Plan (adopted May 2003) – this sets out the policies and proposals for the control and regulation of development in the administrative area of Medway Council. Of particular relevance is planning policy CF13 – Tidal Flood Risk Areas.
 - Swale Borough Local Plan 2008 – 2016 (adopted): - planning policies of relevance include:
 - SP2 – Environment
 - TG1 – Thames Gateway Planning Area
 - FAV1 – The Faversham and Rest of Swale Planning Area
 - E4 – Flooding and Drainage
 - E5 – Cliff Erosion and Unstable Land
 - E13 – The Coastal Zone and Undeveloped Coast
 - Swale Borough Local Plan 2008 Sustainability Appraisal – the draft final Sustainability Report (2005) of the Swale Borough Local Plan has been produced to assess the environmental, economic and social impacts of implementing Swale's Local Plan.
 - Swale Borough Council Core Strategy (2006 – 2026) – this will set out a vision for the area and strategic policies to guide development and management of the environment.
 - A Masterplan Supplementary Planning Document for redevelopment at Queenborough and Rushenden
 - Swale Borough Masterplan – this masterplan comprises the supplementary planning document (March 2009), a sustainability appraisal and a consultation statement.
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