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Medway Estuary and Swale Shoreline Management Plan Appendix J Habitats Regulations Assessment Conservation (Natural Habitats & c.) Regulations 1994 (amended 2007)

Assessment of Shoreline Management Plan

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Natural England

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Environment Agency

Medway Estuary & Swale Shoreline Management Plan

Habitats Regulations Assessment

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Executive Summary

The Medway Estuary and Swale Shoreline Management Plan (SMP) has a potential effect on the following designated European Habitats Directive Sites and Ramsar sites (“European Sites”) in the local area:

- Thames Estuary & Marshes Ramsar/ Special Protection Area (SPA)
- Medway Estuary & Marshes Ramsar/ SPA
- The Swale Ramsar/ SPA
- Peter’s Pit Special Area of Conservation (SAC)

An SMP is a non-statutory, policy document for coastal flood and erosion risk management planning. Its main objective is to identify sustainable long-term management policies for the coast. The plan enables social, environmental and economic assets effected by coastal flood and erosion to be managed in the best way over the long term.

The SMP has been produced by the South East Coastal Group, according to latest government guidance (Defra, 2006). The shoreline management policies considered are those defined in this guidance: Hold the [defence] Line, Advance the line, Managed Realignment and No Active Intervention.

SMPs are high level, strategic plans. The policies they set are further developed and appraised prior to implementation of any new flood defence and coastal erosion works – this can be through undertaking flood and coastal erosion risk management strategies, informed by technical and environmental studies.

Application of the Environment Agency Internal Guidance on Habitats Regulations Assessment has four stages;

1. Stage 1 – Scoping,
2. Stage2 – Assessment of Likely Significant Effect,
3. Stage 3 – Appropriate Assessment, and
4. Stage 4 – Consent or Refusal of the Application (including consideration of alternatives and Imperative Reasons of Overriding Public Interest).

Stage 1 - Scoping

The South East Coastal Group, who have developed the SMP, includes Maritime Councils, the Environment Agency, Kent County Council, English Heritage and Natural England. The Environment Agency have acted as lead authority for developing this SMP thus act as lead competent authority for the Habitats Regulations Assessment.

Natural England and the Environment Agency agreed to work in partnership in delivering the Habitats Regulations Assessment and agreed the scope of the assessment.

Stage 2 – Assessment of Likely Significant Effect

Stage 2 identified that the SMP would have a likely significant effect on the Ramsar sites / SPAs due to freshwater habitat displacement and intertidal habitat growth through Managed Realignment Policies. Based on the 2002 North Kent Coastal Habitat Management Plan (CHaMP) for the area, coastal squeeze was not considered a likely significant effect at the time of the stage 2 work.

Stage 2 identified that there would be No Likely Significant Effect on Peter's Pit SAC.

Stage 3 – Appropriate Assessment

It is important to note that the SMP sets policies for the shoreline not the location or scale of the effect of the policy. Whereas it is straightforward to assess the scale of impact for Hold the Line or No Active Intervention Policies, it is not straightforward for Managed Realignment policies e.g. this could mean a change in defence alignment by as little as 5 metres or as much as 500 metres. The actual extent of impact is determined at subsequent stages of work (flood risk management strategies and schemes) which flow from the SMP. These strategies and schemes will be subject to further Habitats Regulations Assessments as required.

To provide a reference point on which to base the Stage 3 assessment, and to provide other project benefits, *Indicative Realignment Extents* ("*Indicative Extents*") were derived for Managed Realignment policies. These alignments were derived from the best available information on coastal processes, coastal defence type and cost, and consultation with local coastal managers. These alignments were indicative to provide a sense of scale for public consultation activities and for this Habitats Regulations Assessment, the actual scale of change would be the subject of greater study (to inform the subsequent strategies and schemes). The SMP recognises the information required for the greater studies and

monitoring. These are detailed in Section 5 of this Assessment and within the SMP Action Plan.

The appropriate assessment on the Preferred Policies and any associated *Indicative Extents* has concluded the following:

Site Specific

Thames Estuary & Marshes SPA/ Ramsar:

Alone, the Hold the Line policies of the plan that affect this site have an **adverse effect** through coastal squeeze of intertidal habitat.

In Combination, the Managed Realignment Policies in the adjacent Isle of Grain to South Foreland SMP2 and the current Thames Estuary 2100 (TE2100) project counter these coastal squeeze losses with **no adverse effect** on site integrity.

The adjacent SMP2 and TE2100 projects are assessing and justifying the impacts of their policies on this site through their own Habitats Regulations Assessments. Should the recommended policies in these projects change, this will impact on the above conclusion.

Medway Estuary & Marshes SPA/ Ramsar:

Alone, the Managed Realignment policies in units within the plan that affect this site have a **beneficial effect** on the Intertidal Habitats **and an adverse effect** through displacement of Grazing Marsh habitat. Displacement of other freshwater features (including Standing Water) is acceptable modification to this site or can be mitigated through application of conditions.

In Combination, the Managed Realignment Policies from the rest of the SMP, the recommendations of local strategic plans (TE2100, Isle of Grain SMP2, South East Plan, Local Development Frameworks) and effects on other local European Sites have a **beneficial effect** on the Intertidal Habitats **and an adverse effect** through displacement of Grazing Marsh and Standing Water habitat.

The Swale SPA/ Ramsar:

Alone, the Managed Realignment policies in units within the plan that affect this site have a **beneficial effect** on the Intertidal Habitats **and an adverse effect** through displacement of Grazing Marsh habitat. Displacement of other freshwater features (including Standing Water) is acceptable modification to the site or can be mitigated through application of conditions.

In Combination, the Managed Realignment Policies from the rest of the SMP, the recommendations of local strategic plans (TE2100, Isle of Grain SMP2, South East Plan, Local Development Frameworks) and effects on other local European Sites have a **beneficial effect** on the Intertidal Habitats **and an adverse effect** through displacement of Grazing Marsh and Standing Water habitat.

Appropriate Assessment Conclusion (*Indicative Extents*)

The Appropriate Assessment concludes that, alone and In combination, the Indicative Extents of Managed Realignment within the Medway Estuary & Swale SMP would have an **Adverse Effect** on the integrity of the Medway Estuary and Marshes and The Swale SPA/Ramsar network, through displacement of Grazing Marsh and Standing Water habitats.

This assessment therefore progressed to Stage 4.

Stage 4 Alternatives, Imperative Reasons for Overriding Public Interest (IROPI) and Compensation

Alternatives

We identified the following less damaging alternatives:

- a) Hold the Line, or
- b) Managed Realignment with a Controlled Extent (to minimise ecological impact) i.e. a controlled alternative to the 'indicative extents'

Natural England were invited to formally advise on the least damaging of these alternatives. The advice from Natural England was as follows:

Hold the Line

Based on the best available information recently produced under the Greater Thames CHaMP project, Hold the Line is now considered a damaging policy within all epochs due to its predicted loss of intertidal habitat through coastal squeeze. Natural England do not consider Hold the Line to be the least damaging alternative for any epoch of the plan based on this information.

Managed Realignment With a Controlled Extent

Following a review of the SMP policies within and outside the designated areas plus their respective timing, Managed Realignment with a Controlled Extent (to minimise ecological impact) **is the least damaging alternative** for all Managed Realignment Policies affecting the designated sites. This is

therefore the approach that the SMP has adopted subject to the following conditions that define the actions and controls required to implement the plan in the least damaging way. These conditions transpose to the SMP action plan:

- a. investigations (ecological survey & monitoring) to increase understanding of the site, its interest features and the conditions necessary to best maintain site integrity;
- b. investigations (geomorphological study) to increase the understanding of sediment flux and habitat change through sea level rise.
- c. informed mitigation and;
- d. modification of the realignment extent to best manage the estuary and cause least adverse effect.

Imperative Reasons of Overriding Public Interest (Managed Realignment with a Controlled Extent: Adverse Effect Justification)

At this high strategic level of study we cannot guarantee that the least damaging alternative for implementing this plan will not cause adverse effect either through freshwater habitat displacement or coastal squeeze. Adopting the precautionary principle of the Habitats Regulations, we therefore conclude that **the plan will have an adverse effect** even with controls in place and when taking the least damaging approach. As such, we need to consider whether the plan is necessary and needs to be implemented for 'Imperative Reasons of Overriding Public Interest.'

The aim of a Shoreline Management Plan is to identify the best approach or approaches to managing risks over the next 100years from flooding and coastal erosion (including cliff instability) both for individual areas and the wider coast.

In the absence of this plan, these issues would be managed in a less coordinated way which would increase the risk of:

- Less sustainable long term action to manage coastal erosion and flooding in the face of climate change
- Increased risk of flooding and erosion to assets (nationally, regionally and locally important) that would have significant socio-economic impacts

- Human fatality and ill health through flooding and erosion
- Mismanagement of the coastal environment (including coastal squeeze problems)

The Greater Thames CHaMP has forecast major coastal squeeze problems if these estuaries continue to be managed as they currently are and change in management practices is necessary. The least damaging SMP policies identify the best way of changing management practices over the next 100 years in the least damaging way.

For these reasons the lead authority considers that the Shoreline Management Plan is necessary and has the following ‘Imperative Reasons of Overriding Public Interest:’

- A need to address a serious risk to human health and public safety (uncoordinated and uncontrolled flood and erosion risks to large residential populations and major infrastructure);
- Where failure to proceed would have unacceptable social and/or economic consequences (loss of economic infrastructure, commercial property and community areas) through coastal flood and erosion damage;
- Whilst this is a damaging plan, it is the least damaging option for the designated sites in adjusting to the climate change impacts of sea level rise. This SMP therefore has beneficial consequences of primary importance for the environment.

Compensation

Compensation provisions were developed in partnership with Natural England using the best available information. The partnership agreed that, at SMP level, it was appropriate to follow Defra Policy Guidance on Coastal Squeeze and consider compensatory habitat ‘secured’ if it is suitably programmed and resourced within a Regional Habitat Creation Programme (RHCP).

The table below summarises the management of coastal squeeze and freshwater habitat compensation within the SMP and the Southern RHCP.

Medway Estuary & Swale SMP Habitat Balance Sheet

| Epoch (yrs) | Greater Thames CHaMP Intertidal Losses in SMP area (Ha) | SMP Intertidal (MR) in Undesignated areas (Ha) | SMP Intertidal Gains (MR) in Designated areas (Ha) | SMP Designated Freshwater Displacement (Ha) | RHCP Intertidal Habitat Compensation for SMP (Ha) | RHCP Freshwater Habitat Compensation for SMP (Ha) |
|---------------|---|--|--|---|---|---|
| 0-20 | 370 | <113 | 257<370 | -257<-370 | 0 | 370 |
| 20-50 | + 295 | +32 | +295 | -295 | 0 | +295 |
| 50-100 | +1035 | +0 | +435 | -195 | <600 (tbc) | +195 |
| TOTAL | <u>1700</u> | <u>145</u> | <u>987<1100</u> | <u>860</u> | <u><600 (tbc)</u> | <u>860</u> |

In interpreting the table, the following notes should be considered:

1. The table presents the additional change in habitat in each epoch, cumulative values are only presented in the total.
2. There is a difference of 240 Ha between the SMP intertidal gains and freshwater habitat compensation as some of the defended freshwater/terrestrial areas can change as acceptable modification to the site (Urban, Littoral Rock, Improved grassland etc.).
3. The table presents a range of values as we currently do not know the suitability of the undesignated areas of managed realignment as coastal squeeze intertidal habitat compensation. This may reduce the need for compensation within designated sites and corresponding freshwater habitat displacement.
4. The Greater Thames CHaMP has low confidence in the timing and scale of later coastal squeeze predictions. The SMP recommends a scale of realignment that best benefits estuarine processes. This is less than the CHaMP prediction and we have not considered it in the best interests of the estuary to increase the managed realignment areas to cater for the full 50-100 year epoch losses. Also, as there is low confidence in this later prediction and it will be refined many times before the compensatory habitat is required, we only highlight that up to an additional 600 Ha of coastal and freshwater habitat compensation may be required (See Section 5).

There are areas of undesignated grazing marsh with standing water features adjacent and inland of the designated sites which, if managed properly, could compensate for the adverse effect on Freshwater Habitats arising from this SMP. These areas are summarised in the table below and correspond to the entries for Freshwater Habitat Compensation in the RHCP. A map is available in Section 4 of this assessment.

Proposed Freshwater Compensation Sites for Habitat Creation Programme

| Epoch (yrs) | Location | Habitat | Cumulative Habitat Area (Ha) |
|--------------------|-------------------------|--------------------------------|-------------------------------------|
| 0-20 | Rank 1 – North Swale | Grazing Marsh & Standing Water | 370 |
| 20-50 | Rank 2 - South Swale | | 665 |
| 50-100 | Rank3 - Hoo St. Werburg | | 860 |

Should sufficient areas not be available within these sites, the RHCP will secure investigate locations increasingly further afield until suitable sites are found.

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1 Introduction and Requirement for Habitats Regulations Assessment

1.1 *Introduction*

The Shoreline Management Plan (SMP) includes or has the potential to affect several European sites (Special Protection Areas, Ramsar sites and a Special Area of Conservation). Consequently, the requirements of the European Union Habitats Directive (92/43/EEC) and European Union Birds Directive (79/409/EEC), as implemented in the UK by the Conservation (Natural Habitats &c) Regulations 1994 ("Habitats Regulations" as amended in 2007), have to be addressed. The implications of the plan on these European sites and the interaction with the requirements of the Habitats Regulations are critical to the development of a realistic and legally viable strategy.

Planning Policy Statement (PPS) 9 [‘Biodiversity and Geological Conservation’](#) (published August 2005) sets out planning policies on protection of biodiversity and geological conservation through the planning system. This replaces Planning Policy Guidance Note 9 on nature conservation (PPG9) published in October 1994. The Habitats Regulations do not provide statutory protection for potential Special Protection Areas (pSPAs) or to candidate Special Areas of Conservation (cSACs) before they have been agreed with the European Commission. It is the policy of the UK Government to offer the consider pSPAs and cSACs and sites designated under the Ramsar Convention 1974 in line with the Habitats Regulations.

Regulation 48 of the Habitats Regulations requires that a plan or project likely to have a significant effect on a European site be subject to Appropriate Assessment by a Competent Authority. Defra and the Environment Agency have agreed that CFMPs (Catchment Flood Management Plans), SMPs and flood risk management strategies constitute land use plans, as per the Directive.

For an SMP, the objective of the Habitats Regulations Assessment (HRA) is to determine the impact of all policy options proposed by the plan where there is a likelihood of an adverse effect on the integrity of a European site, either alone or in combination with other plans, programmes and projects.

It is standard practice for there to be four stages to a HRA as shown in Table 1 below.

Table 1 – Habitats Regulations Assessment stages

| <u>Stage</u> | <u>Task</u> |
|--------------|---|
| 1 | Determine whether the plan is necessary for the site Assess & agree the appropriate level of assessment and information required with relevant conservation body |
| 2 | Assess Likely Significant Effect of the plan on each European Site |
| 3 | Appropriate assessment - assess whether the plan has an 'Adverse Effect' in reference to the site's conservation objectives (i.e. the reasons for which it was designated) Assess the in combination effects Determine 'No Adverse' or 'Adverse' Effect |
| 4 | Assess alternative policies where 'Adverse' effect derived Determine Overriding Public Interest where there are no viable alternatives Quantify and secure compensation Approve or Reject Plan. Submit assessment to Secretary of State (Defra) |

If Stage 4 is reached, the plan can only be implemented if the Secretary of State is satisfied that there are no available alternative solutions, that there are imperative reasons of over-riding public interest (IROPI) and that compensatory measures (e.g. compensatory habitat creation) are secured.

1.2

1.2.1

Role of Organisations in Appropriate Assessment

Competent Authorities

Competent authorities are responsible for:

- Making an appropriate assessment before deciding to undertake, or give any consent, permission or other authorisation for a plan or project likely to have a significant effect on a European site, either alone or in combination with other plans and projects;
- For the purposes of the assessment, consulting the appropriate nature conservation body and having regard to its representations; and
- Ensuring that if there is a negative assessment of a plan or project, agreement to that plan or programme is only given if there are no alternative solutions, it must be carried out for imperative reasons of overriding public interest, and any compensatory measures that may be required are secured.

1.2.2

Natural England

In England, the ‘appropriate nature conservation body’ under the Regulations (see 1.3.1) is Natural England. Natural England implement, on behalf of the Government, international conventions and EC Directives on nature conservation including the Conservation (Natural Habitats etc.) Regulations 1994, as follows:

- Provide advice on whether plans and programme are likely to have a significant effect [either alone or in combination with other plans and projects] when requested to do so;
- Advise competent authorities whether a plan or programme is necessary for the management of the site;
- Comment on appropriate assessments;
- Provide advice on the ecological requirements of any compensatory measures; and
- Provide advice on the suitability of any proposed compensatory measures.

1.2.3

Secretary of State

The Secretary of State is responsible for:

- Securing any necessary compensatory measures to ensure that the overall coherence of Natura 2000 Network is protected;

- Confirming that any compensatory measures are sufficient to maintain the coherence of Natura 2000 Network; and
- Informing the Commission of the measures adopted.
- Directing the plan-making authority not to give effect to a plan that does not justify an adverse affect on site integrity.

1.4 *Structure of this report*

This report is structured to follow the 4 stage assessment process outlined in Table.1 as follows:

Section 1 – Introduction, Roles and Method

Stage 1: Assessment of plan necessity and acceptable information base

Section 2 – Stage 2: Assessment of Likely Significant Effect

Section 3 – Stage 3: Appropriate Assessment

Section 4 – Stage 4: Alternatives, Justification of Adverse Effect and Compensation

Section 5 – Conditions, Limitations & Future Works

This report documents the HRA process and has been produced following the Environment Agency’s Habitats Directive Handbook, case studies and best available advice and guidance.

As part of the Environment Agency’s internal Habitats Directive Guidance a HR01 (Appendix 11) form has been completed. This form is a record of Stage 2 (assessment of likely significant effect on a European site) and is contained in Annex D. An HR02 (Appendix 12) form has also been completed; this form records Stage 3 (assessment of adverse effect on site integrity) and is contained in Annex E.

1.5 *Method of Assessment*

This HRA was produced for the Medway Estuary & Swale SMP in advance of more focussed guidance being available. Using the Environment Agency Habitats Directive Handbook, the Lead Author and Environment Agency Project Manager, Mark Smith, derived a method for undertaking the assessment to the satisfaction of internal parties and

the relevant conservation body. National and local experts from the Environment Agency and Natural England informed the development of this method. This method is summarised in Table 2 overleaf and presented in Annex A of this report.

A draft assessment was completed on the preferred SMP policies (derived following Defra Procedural Guidance 2006) of the consultation draft of the plan in order to confirm the viability of the policies prior to public consultation. The Stage 3 Appropriate Assessment of Indicative extents of managed realignment was assessed at this time.

Stage 3 of the assessment is undoubtedly the largest body of work. For the SMPs we mapped the change in the shoreline and habitats arising from the SMP policies and the effects of sea level rise from the best available information. We named the changes in Shoreline from Managed Realignment Policies 'Indicative Realignment Extents.' These enabled the effect to be quantified and analysed. If this information were not available, we could not have quantified habitat change and the assessment would tend to rely on conditions that can only offer low confidence in the viability of the policy, the plan and on future compliance with the Habitats Regulations.

The assessment was finalised post consultation completed plan.

As members of the Coastal Group producing the SMP, both Natural England (Relevant Conservation Body) and the Environment Agency (Lead Authority for this SMP) produced the assessment in partnership. This partnership approach to the assessment is considered by the author as vital to deriving a successful assessment that enables progression of a forward-looking SMP.

Table 2 – Medway Estuary & Swale SMP HRA Method

| <u>Stage</u> | <u>Task</u> | <u>How</u> | <u>Who</u> |
|--------------|---|---|---|
| 1 | Determine whether the plan is necessary for the site Assess & agree the appropriate level of assessment and information required | Meeting | EA & NE |
| 2 | Assess Likely Significant Effect of SMP policies. N.B. separate assessment per site and must include beneficial as well as adverse effects to inform later balanced assessment | Follow Table 1 of M. Smith guidance | EA |
| 3 | Quantify the significance of each effect. E,g magnitude of Managed realignment/ No Active Intervention Policies affecting freshwater features, Magnitude of coastal squeeze caused or cliff erosion prevented by Hold the Line policies Programme the effects (good & bad) Assess cumulative effect of all policies on each site (magnitude and time) | Follow Table 2 of M. Smith guidance & Workshops | EA (coastal assessment) NE (Freshwater Assessment) |
| | Assess the in combination effects Determine 'No Adverse' or 'Adverse' Effect | | Both Partners |
| 4 | Assess alternative policies where 'Adverse' effect derived Determine Overriding Public Interest where there are no viable alternatives Quantify Compensation Submit assessment to Secretary of State (Defra) | Follow National guidance & Workshops | Both Partners |

SMP Roles and Stage 1 Assessment

Stage 1 of the assessment was undertaken in a meeting between the Competent Authority (EA) and Relevant Conservation body (NE). The minutes of this meeting are included in Annex H.

It was agreed that these authorities would undertake the assessment in partnership. To describe the roles simply, the Environment Agency investigated and quantified the scale of the effect and Natural England, with their understanding of the sites, assessed the impact of that effect. Both Partners then worked together to best manage the effect, and derive the least damaging plan.

At Stage 1 of the assessment Natural England advised that the plan was not necessary for the management of the site and an appropriate assessment was required.

Both the EA and NE agreed on the following level of detailed investigation and supporting information on which to base the assessment:

- SMP/ North Kent CHaMP assessments of Coastal Processes & Most Sustainable Coast/ Estuary Alignment
- EA Review of Consents – Stage 1 information
- GT CHaMP Phase 1 Habitat Survey GIS Data set
- South East Plan Site Summary Tables
- Kent BRC Habitat Surveys (where relevant)
- SSSI Favourable Condition Information (to inform viability of site modification/ Priority Habitats/ Ramsar features)
- MESP Website (KCC) – Bird Distribution Data

It was agreed that it would be impractical and prohibitively expensive to assess the effect of the SMP on each interest feature unless this could not be avoided. The partnership agreed to assess the habitat level effects only unless this was deemed as not representative of all effects during the assessment.

The partnership agreed that the following plans would be considered in the ‘In Combination’ assessment:

Adjacent SMPs
Local plans/ LDFs

Thames Gateway Proposals
TE2100 Proposals
GT CHaMP
Medway Ports Proposals
CFMP Policies

It was agreed that the problem of *Spartina anglica* Monocultures would not be part of the in combination assessment as the plan cannot control the problem.

1.7

Background to the European Sites

Four sites that could be directly affected by the SMP were identified. These were:

- Thames Estuary & Marshes SPA & Ramsar Site
- The Swale SPA & Ramsar Site
- Medway Estuary & Marshes SPA & Ramsar Site
- Peter's Pit SAC

Natural England and the Environment Agency agreed that assessment was required for each of these sites in stage 1 (see Section 1.7). It was agreed that an assessment would be made for each site and the one assessment would cover all European designations for that site (SPA & Ramsar assessed in one).

A summary of these sites is in Table 3 below. More information can be found in the Appendix 11 & 12 proforma in Annexes D and E and the citations are contained in Annex G.

Table 3 – European Site Interest Features

| | |
|---|--|
| <p>Thames Estuary & Marshes SPA & Ramsar Site</p> | <p><u>Special Protection Area</u></p> <p>The following habitats are required in favourable condition to support the range of bird species for which the Thames Estuary and Marshes SPA is designated (indicative proportion of site %):</p> <p>Tidal rivers. Estuaries. Mud flats. Sand flats. Lagoons (including saltwork basins) (57.3%) Salt marshes. Salt pastures. Salt steppes (1.5%) Shingle. Sea cliffs. Islets (0.9%) Inland water bodies (standing water, running water) (5.6%) Bogs. Marshes. Water fringed vegetation. Fens (3.7%) Dry grassland. Steppes (1.9%) Humid grassland. Mesophile grassland (29.1%)</p> <p><u>Ramsar Site</u></p> <p>The Thames Estuary and Marshes Ramsar site is a mosaic of intertidal habitats, saltmarsh, coastal grazing marshes, saline lagoons and chalk pits. The site provides wintering and breeding habitats for important assemblages of wetland bird species, particularly wildfowl and waders as well as supporting migratory birds on passage. The site also provides suitable conditions for a number of notable plants and invertebrates associated with these wetland habitats.</p> |
| <p>The Swale SPA & Ramsar Site</p> | <p><u>Special Protection Area</u></p> <p>The following habitats are required in favourable condition to support the range of bird species for which the SPA is designated (indicative proportion of site %):</p> <p>Tidal rivers. Estuaries. Mud flats. Sand flats. Lagoons (including saltwork basins) (39%) Salt marshes. Salt pastures. Salt steppes (5%) Inland water bodies (standing water, running water) (2%) Other arable land (47%) Other land (including towns, villages, roads, waste places, mines, industrial sites (6%)</p> <p><u>Ramsar Site</u></p> <p>The following habitats are required in favourable condition to support the range of bird species for which the Ramsar site is designated (indicative proportion of site %):</p> <p>Sand / shingle shores (including dune systems) (1%) Tidal flats (38%) Salt marshes (5.8%) Rivers / streams / creeks: seasonal / intermittent (1.8%) Seasonally flooded agricultural land (47.7%) Other (5.7%)</p> |

| | |
|--|--|
| <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Medway Estuary & Marshes Special Protection Area/ Ramsar Site</p> | <p><u>Special Protection Area</u></p> <p>The following habitats are required in favourable condition to support the range of bird species for which the SPA is designated (indicative proportion of site %):</p> <ul style="list-style-type: none"> Tidal rivers. Estuaries. Mud flats. Sand flats. Lagoons (including saltwork basins) (67%) Salt marshes. Salt pastures. Salt steppes (15%) Inland water bodies (standing water, running water) (1%) Bogs. Marshes. Water fringed vegetation. Fens (1%) Dry grassland. Steppes (1%) Humid grassland. Mesophile grassland (15%) <p><u>Ramsar Site</u></p> <p>The following habitats are required in favourable condition to support the range of bird species for which the Ramsar site is designated (indicative proportion of site %):</p> <ul style="list-style-type: none"> Sand / shingle shores (including dune systems) (0.02%) Tidal flats (58.3%) Salt marshes (16.8%) Coastal brackish / saline lagoons (0.2%) Rivers / streams / creeks: permanent (1.2%) Freshwater marshes / pools: permanent (0.4%) Seasonally flooded agricultural land (13.8%) Other (9.3%) |
| <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Peter's Pit SAC</p> | <p><u>Habitat Types represented (Biodiversity Action Plan categories)</u></p> <ul style="list-style-type: none"> Standing open water and canals Broadleaved, mixed and yew woodland Lowland calcareous grassland Inland Rock <p><u>Individual designated Special Interest Features</u></p> <p>Great crested newts <i>Triturus cristatus</i> (Annex II & IV of EC Habitats Directive and Appendix II of Bern Convention, Sch.2 of Conservation Regulations and Sch.5 –disturbance 1981 W&C act)</p> |

2. Stage2: Assessment of Likely Significant Effect

2.1 *Generic Effects Controllable by Conditions – Applicable to all assessments*

The Stage 2 assessment comprised of a generic assessment of control measures that could be applied to flood and coastal defence works to avoid adverse effect. This was undertaken with Natural England.

Effects: It was readily identified that the timing of works and the extent of the working area are key direct scheme level impacts that can be controlled.

Conditions: A generic condition applies to all assessments as follows: ‘works will be timed to avoid disturbance and the working area will be subject to detailed assessment to avoid damage.’

2.2 *Sequential Test of Policies*

For efficiency, the four generic SMP policies (Hold the Line, No Active Intervention, Managed realignment and Advance the Line) were tested against the designated sites using the method in Annex A (Table 2) to identify significant effect. This only required an assessment of four scenarios compared to unit by unit assessments.

The full stage 2 assessment of ‘Likely Significant Effect’ is contained in the Appendix 11 proforma in Annex D.

2.3 *Peter’s Pit: SAC*

At Stage 2 it was concluded that there would be **No Likely Significant Effect** on Peter’s Pit SAC from the SMP alone or in combination with other effects. Peter’s Pit SAC is outside of the Medway Estuary Floodplain and its interest features are not at risk from coastal flooding or erosion as a result of the plan. This was agreed with Natural England and the site is not assessed further.

2.4 *Thames Estuary & Marshes SPA/ Ramsar*

This site would be sensitive to estuarine habitat loss through the footprint of an Advance the Line or coastal squeeze from Hold the Line. The site would be sensitive to freshwater habitat loss through Managed Realignment or No Active Intervention.

The recommended policy for unit E401 of the SMP is Hold the Line (see maps in Annex B). This SMP policy is **likely to have a direct significant negative effect** on the site.

2.5 *Medway Estuary & Marshes SPA/ Ramsar*

This site would be sensitive to estuarine habitat loss through the footprint of an Advance the Line. The site would be sensitive to freshwater habitat loss through Managed Realignment or No Active Intervention.

The North Kent CHaMP 2002 identified that the estuary is not suffering coastal squeeze , thus Stage 2 did not identify likely significant effect from Hold the Line policies.

Policy Units E402, 04, 14, 15, 17, 18, 20 & 28 recommend Managed Realignment. These policies are **likely to have a direct significant negative effect** on the site.

2.6 *The Swale SPA/ Ramsar*

This site would be sensitive to estuarine habitat loss through the footprint of an Advance the Line. The site would be sensitive to freshwater habitat loss through Managed Realignment or No Active Intervention.

The North Kent CHaMP 2002 identified that the estuary is not suffering coastal squeeze , thus Stage 2 did not identify likely significant effect from Hold the Line policies.

Policy Units E423, 25 & 26 recommend Managed Realignment. These policies are **likely to have a direct significant negative effect** on the site.

3. Stage 3: Appropriate Assessment

3.1 Introduction

Stage 2 concluded that the plan could have a likely significant effect on the following European sites:

Thames Estuary & Marshes SPA/ Ramsar

Medway Estuary & Marshes SPA/ Ramsar

The Swale SPA/ Ramsar

Appropriate assessment was thus required for these sites.

3.2 Method

The Appropriate Assessment methodology described in Section 1 and included in Annex A was followed to determine whether the plan would have an adverse effect on the integrity of these sites.

To recap, the scale of the effect of the SMP policies was assessed using *Indicative Realignment Extents*. These mapped extents indicate a scale of change associated with SMP policies that change the alignment of the coast. They are drafted for each of the three SMP epochs and are derived from the best information available to the SMP relating to coastal (estuarine) processes, constraints and economic viability. The Indicative Realignment Extents are intended to provide a relative scale of change to better inform the use and public interpretation of the SMP Policies, they do not define the exact nature of the change. The actual realignment extents will be determined by more detailed study through coastal strategies and schemes.

3.3 Thames Estuary & Marshes SPA & Ramsar Site

The stage 2 assessment highlighted the likely significant effect of a hold the line policy in Policy unit E401 of the Shoreline Management Plan causing coastal squeeze losses to intertidal habitats.

The Thames Estuary and Marshes are suffering loss of intertidal habitat through coastal squeeze.

The intertidal habitat in this policy unit is a narrow coastal fringe and under sea level rise we have assumed that the entire habitat in the unit would be affected. This results in a net loss of 1Ha saltmarsh & 3Ha mudflat. This constitutes an **adverse effect** on the integrity of the site.

The adjacent Isle of Grain to South Foreland SMP2 and the Thames Estuary 2100 programme (TE2100) are both recommending managed realignment in the adjacent section of coastline within this designated site. This management approach is likely to create significantly greater quantities of these habitats within the site within the 1st epoch of the plan and the in combination effect is critical to the final assessment. Please refer to Section 3.5 of this report on in combination assessment.

Although at the time of drafting this assessment, neither of these adjacent plans have finalised HRAs, this is the best available information for our in combination assessment.

3.4 *Medway Estuary and Marshes SPA & Ramsar*

The Stage 2 assessment of Hold the Line policies adjacent to this European Site has concluded No Adverse Effect on site integrity. This is based on the trends shown in the adopted North Kent CHaMP, 2002 in line with agreed Stage 1 HRA Scope. (NB – During Stage 4 of this assessment, the Greater Thames CHaMP 2008 was used as best available information and changed this trend).

The stage 2 assessment highlighted the likely significant effect of Managed Realignment Policies in Policy Units E402, E404, E414, E415, E418, E420, E428 of the Shoreline Management Plan causing tidal inundation of designated freshwater features.

Following the Methodology in Section 1.6.& Annex A we have calculated the losses and gains of habitat in Table 4. These habitat changes are illustrated in the maps in Annex B and C.

Table 4 – Predicted Habitat Change in the Medway Estuary & Marshes SPA & Ramsar resulting from SMP Policies (Indicative Extents)

| Habitat Description | Habitat Code | Habitat Change by 20yrs (Hectares) | Habitat Change by 50yrs (Hectares) | Habitat Change by 100yrs (Hectares) |
|--|-------------------------|---|---|--|
| Mudflat | LS | 142.0 | 166.14 | 187.51 |
| Saltmarsh | LS | 68.16 | 62.5 | 54.67 |
| | Intertidal Total | 210.16 | 228.64 | 242.2 |
| Standing water (ditches/ ponds/ scrapes) | AS | 4.27 | 4.27 | 4.27 |
| Arable | CR | 17.62 | 22.78 | 30.53 |
| Wetland/ Marsh | EM | 6.33 | 6.84 | 7.29 |
| Improved Grassland | GI | 8.32 | 11.00 | 14.24 |
| Neutral Grassland (grazing marsh etc.) | GN | 172.31 | 180.43 | 183.7 |
| Littoral Rock | LR | 1.04 | 1.58 | 1.66 |
| Urban (Non- Residential – roads etc.) | UR | 1.50 | 2.33 | 2.83 |
| Woodland/ Scrub | WB | 0.44 | 1.46 | 1.57 |
| | Freshwater Total | 211.8 | 230 | 242.2 |

Key: Text in Black = Growth Text in Red = Displacement

The assessment shows that there will be a net growth of saltmarsh and mudflat over the various time periods with a corresponding displacement of freshwater features.

The Environment Agency/Natural England partnership determined that a gain of intertidal features has a **Beneficial Effect** on the European site and the wider Natura 2000 network. The partnership concluded that the displacement of some freshwater features has an **Adverse Effect** on the whole European site. However, the displacement of some of the freshwater features can be controlled by conditions placed on the SMP policies or is acceptable modification to the site. The breakdown of this assessment, the relevant conditions and acceptable modification is summarised by policy unit as follows:

3.4.1

Policy unit E402: Managed Realignment with Localised Hold the Line

The policy will increase the area of intertidal habitat, a beneficial effect on the integrity of the site.

This policy unit is one of the primary locations for current accretion in the Medway Estuary and important for intertidal habitat management.

The displacement of standing water features (AS) would have a resultant **adverse effect** on the designated invertebrate species and flora associated with the features. **To avoid adverse effect on site integrity**, surveys will be required to establish the distribution and health of these populations in order to define the acceptable scale of realignment and to identify any mitigation needs. Any required mitigation, for example enhancement of other habitat features to support designated invertebrate and flora species, would be undertaken sufficiently in advance of the change in defence alignment. For the policy to be implemented within the planned epoch, this preliminary work will be required sufficiently in advance of the change in defence alignment.

At this policy unit, the displacement of grazing marsh (GN) and associated bird populations due to tidal inundation of the site would cause an **adverse effect** on site integrity.

3.4.2

Policy unit E404: Managed Realignment with Localised Hold the Line

The policy will increase the area of intertidal habitat, a beneficial effect on the integrity of the site.

The displacement of standing water features (AS) would have a resultant **adverse effect** on the designated invertebrate species and flora associated with the features. **To avoid adverse effect on site integrity**, surveys will be required to establish the distribution and health of these populations in order to define the acceptable scale of realignment and to identify any mitigation needs. Any required mitigation, for example enhancement of other habitat features to support designated invertebrate and flora species, would be undertaken sufficiently in advance of the change in defence alignment. For the policy to be implemented within the planned epoch, this preliminary work will be required sufficiently in advance of the change in defence alignment.

There are permitted mineral extraction activities at this location with associated compensatory habitat requirements. The compensation habitat is considered as part of the SPA.

At this policy unit, the displacement of grazing marsh (GN) and associated bird populations due to tidal inundation of the site would cause an **adverse effect** on site integrity.

3.4.3

Policy Unit E414: Hold the Line (Epoch 1); Managed Realignment (Epochs2&3)

The policy will increase the area of intertidal habitat, a beneficial effect on the integrity of the site.

This freshwater component of the site at this location is scrub woodland (WB). The displacement of this freshwater habitat feature within this policy unit is an **acceptable modification** to the overall European site due to the scale and current quality of this component of the site.

This policy alone would cause **no adverse effect** to site integrity.

3.4.4 Policy Unit E415: Managed Realignment with Localised Hold the Line

The policy will increase the area of intertidal habitat, a beneficial effect on the integrity of the site.

The freshwater components of the site at this policy unit support good populations of wintering and breeding birds.

At this policy unit, the displacement of grazing marsh (GN) and associated bird populations due to tidal inundation of the site would cause an **adverse effect** on site integrity.

3.4.5 Policy Unit E418: Managed Realignment (Epoch1); No Active Intervention (Epochs 2&3)

The policy will increase the area of intertidal habitat, a beneficial effect on the integrity of the site.

The freshwater components of the site at this policy unit support good populations of wintering birds and breeding avocet.

At this policy unit, the displacement of grazing marsh (GN) and associated bird populations due to tidal inundation of the site would cause an **adverse effect** on site integrity.

3.4.6 Policy Unit E420: Managed Realignment

The policy will increase the area of intertidal habitat, a beneficial effect on the integrity of the site.

The freshwater components of the site at this policy unit support good populations of wintering and breeding birds and invertebrate and flora assemblages associated with the ditch features.

The displacement of standing water features (AS) would have a resultant **adverse effect** on the designated invertebrate species and flora associated with the features. **To avoid adverse effect on site integrity**, surveys will be required to establish the distribution and health of these populations in order to define the acceptable scale of realignment and to identify any mitigation needs. Any required mitigation, for example enhancement of other habitat features to support

designated invertebrate and flora species, would be undertaken sufficiently in advance of the change in defence alignment. For the policy to be implemented within the planned epoch, this preliminary work will be required sufficiently in advance of the change in defence alignment.

At this policy unit, the displacement of grazing marsh and associated bird populations due to tidal inundation of the site would cause an **adverse effect** on site integrity.

There is an area of freshwater habitat within this unit that is adjacent to the designated site that is of SPA quality and supports site integrity as a compensation package for improvements to the A249. This has been considered as a component of the SPA.

3.4.7

Policy Unit E428: Hold the Line (Epoch1); Managed Realignment (Epochs 2&3)

The policy will increase the area of intertidal habitat, a beneficial effect on the integrity of the site.

The displacement of standing water features (AS) would have a resultant **adverse effect** on the designated invertebrate species and flora associated with the features. **To avoid adverse effect on site integrity**, surveys will be required to establish the distribution and health of these populations in order to define the acceptable scale of realignment and to identify any mitigation needs. Any required mitigation, for example enhancement of other habitat features to support designated invertebrate and flora species, would be undertaken sufficiently in advance of the change in defence alignment. For the policy to be implemented within the planned epoch, this preliminary work will be required sufficiently in advance of the change in defence alignment.

The displacement of other freshwater habitat features within this policy unit is an **acceptable modification** to the overall European site due to the scale and current quality of these components of the site.

Subject to the required works being undertaken as stated above, this policy alone would cause **no adverse effect** to site integrity.

Conclusion

The Indicative Extents of SMP Managed Realignment policies for Policy Units E402, E404, E414, E415, E418, E420, E428 will result in the creation of 242Ha of intertidal habitat within this site but will displace an equivalent 242Ha of Freshwater Habitat from this site.

The creation of intertidal habitat from each of these policies is considered a **Beneficial Effect** on site integrity and important for the wider Natura 2000 network.

The flooding and erosion of the following terrestrial habitats represents **Acceptable Modification** to the site composition and will cause **No Adverse Effect**:

| <u>Policy Unit</u> | <u>Effect & Condition</u> |
|--------------------|---|
| All | Arable, Improved Grassland Woodland & Scrub, Littoral Rock, Urban (Non-Residential) |

The displacement of the following freshwater habitats **can be controlled by conditions to cause No Adverse Effect**:

| <u>Policy Unit</u> | <u>Effect & Condition</u> |
|--------------------|---|
| E402 | The displacement of standing water features would have a resultant adverse effect on the designated invertebrate species and flora associated with the features. To avoid adverse effect on site integrity, surveys will be required to establish the distribution and health of these populations and any mitigation needs. For the policy to be implemented within the planned epoch, this will be required sufficiently in advance of the determination of, and change in defence alignment. |
| E404 | |
| E420 | |
| E428 | |

The displacement of the following freshwater habitats will cause **Adverse Effect**:

| <u>Policy Unit</u> | <u>Adverse</u> |
|--------------------|---|
| E402 | |
| E404 | |
| E415 | The displacement of grazing marsh and associated bird populations due to tidal inundation of the site would cause an adverse effect on site integrity. |
| E418 | |
| E420 | |

The displacement of freshwater habitats under the recommended policies for policy units E402, 04, 15, 18 & 20 have an **Adverse Effect on the Medway Estuary & Marshes SPA/ Ramsar site that cannot be controlled by conditions.**

3.5

The Swale SPA & Ramsar

The previous studies referred to in developing an understanding of coastal processes within the Swale for the SMP have concluded that the estuary is experiencing net accretion rates greater than the losses caused by coastal squeeze. For the purposes of this assessment we have used this information as the best available but would strongly recommend future workers implement the monitoring programmes recommended by the plan and refer to these for future appropriate assessments. (NB – During Stage 4 of this assessment, the Greater Thames CHaMP 2008 was used as best available information and changed this trend).

The Stage 2 assessment of Hold the Line policies adjacent to this European Site has thus concluded No Adverse Effect on site integrity.

The stage 2 assessment highlighted the likely significant effect of Managed Realignment Policies in Policy Units E423, E425, & E426 of the Shoreline Management Plan causing tidal inundation of designated freshwater features.

Following the Methodology in Section 1.6.& Annex A we have calculated the losses and gains of habitat in Table 5 overleaf. These habitat changes are illustrated in the maps in Annex B and C.

The assessment shows that there will be a net gain of saltmarsh and mudflat over the various time periods with a corresponding displacement of freshwater features.

The Environment Agency/Natural England partnership determined that the gain of intertidal features has a **Beneficial Effect** on the European site and the wider Natura 2000 network. The partnership concluded that the displacement of some freshwater features as an **Adverse Effect** on the whole European site. However, the displacement of some of the freshwater features can be controlled by conditions placed on the SMP policies or is acceptable modification to the site. The breakdown of this assessment, the relevant conditions and acceptable modification is summarised by policy unit as follows:

3.5.1

Policy Unit E423: Hold the Line (Epoch1); MR + HTL (Epochs2&3)

The policy will increase the area of intertidal habitat, a beneficial effect on the integrity of the site..

The displacement of standing water features (AS) would have a resultant **adverse effect** on the designated invertebrate species and flora associated with the features. **To avoid adverse effect on site integrity**, surveys will be required to establish the distribution and health of these populations and any mitigation needs. Any required mitigation, for example enhancement of other habitat features to support designated invertebrate and flora species, would be undertaken sufficiently in advance of the change in defence alignment. For the policy to be implemented within the planned epoch, this will be required sufficiently in advance of the change in defence alignment.

The Neutral Grassland (GN -grazing marsh) component of the site at this policy unit supports good populations of wintering and breeding birds. At this policy unit, the displacement of grazing marsh and associated bird populations due to tidal inundation of the site would cause an **adverse effect** on site integrity.

Table 5 – Predicted Habitat Change in the Swale SPA & Ramsar resulting from Draft SMP Policies (Indicative Extents)

| <u>Habitat Description</u> | <u>Habitat Code</u> | <u>Habitat Change by 20yrs (Hectares)</u> | <u>Habitat Change by 50yrs (Hectares)</u> | <u>Habitat Change by 100yrs (Hectares)</u> |
|--|-------------------------|---|---|--|
| Mudflat | LS | 197.55 | 561.24 | 785.83 |
| Saltmarsh | LS | 347.7 | 382.58 | 159.45 |
| | Intertidal Total | 545.25 | 945.82 | 945.28 |
| Standing water (ditches/ ponds/ scrapes) | AS | 13.79 | 13.79 | 13.79 |
| Arable | CR | 93.22 | 106.51 | 117.17 |
| Wetland/ Marsh | EM | 16.04 | 21.05 | 21.08 |
| Improved Grassland | GI | 107.54 | 125.69 | 133.36 |
| Neutral Grassland (grazing marsh etc.) | GN | 274.53 | 645.61 | 653.84 |
| Littoral Rock | LR | 2.26 | 2.50 | 2.51 |
| Urban (Non- Residential – roads etc.) | UR | 5.13 | 7.31 | 8.14 |
| Woodland/ Scrub | WB | 0.00 | 0.11 | 0.26 |
| | Freshwater Total | 513.6 | 922 | 945.28 |

Key: Text in Black = Growth Text in Red = Displacement

3.5.2

Policy Unit E425: Managed Realignment

The policy will increase the area of intertidal habitat, a beneficial effect on the integrity of the site.

The rollback of the shingle shoreline within this unit would **benefit** site integrity.

The displacement of Standing Water (AS) features would have a resultant **adverse effect** on the designated invertebrate species and flora associated with the features. **To avoid adverse effect on site integrity**, surveys will be required to establish the distribution and health of these populations and any mitigation needs. Any required mitigation, for example enhancement of other habitat features to support designated invertebrate and flora species, would be undertaken sufficiently in advance of the change in defence alignment. For the policy to be implemented within the planned epoch, this will be required sufficiently in advance of the change in defence alignment.

The Neutral Grassland (GN -grazing marsh) component of the site at this policy unit supports good populations of wintering and breeding birds. At this policy unit, the displacement of grazing marsh and associated bird populations due to tidal inundation of the site would cause an **adverse effect** on site integrity.

3.5.3

Policy Unit E426: Managed Realignment

The policy will increase the area of intertidal habitat, a beneficial effect on the integrity of the site.

The displacement of standing water features (AS) would have a resultant **adverse effect** on the designated invertebrate species and flora associated with the features. **To avoid adverse effect on site integrity**, surveys will be required to establish the distribution and health of these populations and any mitigation needs. Any required mitigation, for example enhancement of other habitat features to support designated invertebrate and flora species, would be undertaken sufficiently in advance of the change in defence alignment. For the policy to be implemented within the planned epoch, this will be required sufficiently in advance of the change in defence alignment.

The Neutral Grassland (GN -grazing marsh) component of the site at this policy unit supports good populations of wintering and breeding birds. At this policy

unit, the displacement of grazing marsh and associated bird populations due to tidal inundation of the site would cause an **adverse effect** on site integrity..

3.5.4

Conclusion

The Indicative Extents of SMP Managed Realignment policies for Policy Units E423, 25 & 26 will result in the creation of 945Ha of intertidal habitat within this site but will displace 945Ha of Freshwater Habitat from this site.

The creation of intertidal habitat from each of these policies is considered a **Beneficial Effect** on site integrity and important for the wider Natura 2000 network. The rollback of the Shingle frontage on Policy Unit E425 is considered a **Beneficial Effect** on site integrity.

The flooding and erosion of the following terrestrial habitats represents **Acceptable Modification** to the site composition and will cause **No Adverse Effect**:

| <u>Policy Unit</u> | <u>Effect & Condition</u> |
|--------------------|---|
| All | Arable, Improved Grassland Woodland & Scrub, Littoral Rock, Urban (Non-Residential) |

The displacement of the following freshwater habitats represents **can be controlled by conditions to cause No Adverse Effect**:

| <u>Policy Unit</u> | <u>Effect & Condition</u> |
|--------------------|---|
| E423 | The displacement of standing water features would have a resultant adverse effect on the designated invertebrate species and flora associated with the features. To avoid adverse effect on site integrity, surveys will be required to establish the distribution and health of these populations and any mitigation needs. |
| E425 | For the policy to be implemented within the planned epoch, this will be required sufficiently in advance of the determination of, and change in defence alignment. |
| E426 | |

The displacement of the following freshwater habitats will cause **Adverse Effect**:

| <u>Policy Unit</u> | <u>Adverse Effect</u> |
|--------------------|---|
| E423 | The displacement of grazing marsh and associated bird populations due to tidal inundation of the site would cause an adverse effect on site integrity. |
| E425 | |
| E426 | |

3.6 *In Combination Assessment*

The effects of the following plans and projects on the designated sites were considered in combination with the effects of the Shoreline Management Plan:

Open Coast (Isle of Grain to South Foreland) SMP2
Thames Estuary 2100
South East Plan & Local Development Frameworks
Thames Gateway Proposal
Medway Ports Plan
Greater Thames CHaMP
North Kent Rivers CFMP

3.6.1 Open Coast SMP2

The Open Coast SMP2 promotes Managed Realignment for Policy unit 4d01 in the first epoch of the plan. This unit is within the Thames Estuary & Marshes SPA/ Ramsar. The quantity of saltmarsh and mudflat habitat created exceeds the coastal squeeze losses resulting from other policies in the plan that affect this European site. The residual mudflat and saltmarsh habitat created also exceeds the amount of coastal squeeze losses from the Medway Estuary & Swale SMP where alone, the policy in Policy Unit E401 causes an adverse effect.

In combination with the Open Coast SMP2, the Medway Estuary & Swale SMP Does Not have an Adverse Effect on the Integrity of the intertidal habitat of the Thames Estuary & Marshes SPA/ Ramsar site.

Note to Future Workers: The significance of the displacement of freshwater habitat from the Open Coast is not yet known. The 'In Combination' effect of the two SMPs will require review once the interests and sensitivities of the freshwater areas displaced will be determined during development of the Open Coast SMP HRA and will undertake 'in combination' assessment with the Medway & Swale SMP HRA (this assessment). As a precaution, provisional figures for compensatory freshwater habitat have been included in the Southern Regional Habitat Creation Programme (RHCP).

3.6.2 Thames Estuary 2100 (TE2100)

The TE 2100 project is not yet far enough advanced to define a clear picture of its recommendations. Early conceptual options for the plan concur with the Open Coast SMP2. Please refer to the In Combination assessment for the Open Coast SMP2.

Note to Future Workers: The significance of the displacement of freshwater habitat from the TE 2100 and Open Coast SMP is not yet known. The significance of coastal squeeze caused by the TE2100 project is not yet known. The 'In Combination' effect of the SMP with the bounding plan will require review once these plans are more developed. The TE2100 project team will be informed to refer to this assessment for future project development (see Section 5).

3.6.3 South East Plan, Thames Gateway Proposals & Local Development Frameworks

The South East Plan has been developed with Appropriate Assessment. All planning proposals within the plan are subject to a generic appropriate assessment that negates or places conditions on any proposal that could affect a European site to ensure no adverse effect. This assessment cascades to the other plans.

There should be no additional Adverse Effect from in combination with these plans.

Note to Future Workers: These are high level plans and the significance of the development recommended under these plans is not yet known. The SMP recommends displacement of freshwater features adjacent to some areas of development allocation. The detailed interface of these cumulative impacts should be at the forefront of any subsequent Flood and Coastal Erosion Management

Strategy or Scheme Local Development Framework and Development Proposal (see Section 5).

3.6.4 Port Expansion

As the Medway Estuary contains internationally important port facilities there is likely to be future pressure for expansion of these facilities. Such Port expansion could involve the reclamation of designated intertidal features affecting the European sites covered by the plan. The SMP policies will help manage coastal squeeze but should not be assumed to compensate for footprint loss of Port developments.

3.6.5 Greater Thames CHaMP

At commencement of this assessment in early 2007, this project was **in the early stages of development**, hence in Stage 1, the adopted North Kent CHaMP 2002 was agreed to underpin the scope of this assessment.

The Greater Thames ChaMP has now been drafted and will be adopted in mid-September 2008. The plan has reviewed the North Kent CHaMP 2002 trends and predicted new erosion and accretion trends. This has changed the forecasts used to underpin this HRA so far. As best available information, the Greater Thames CHaMP has been used to finalise this HRA .

3.6.6 North Kent Rivers Catchment Flood Management Plan

This CFMP covers the freshwater streams and ditches that flow into the Medway Estuary & Swale. This plan will be finalised by the end of September 2008.

The CFMP is very general and broad in its recommendations. As such, the CFMP Habitats Regulations Assessment concludes 'No Adverse Effect' based on the level of uncertainty and that no effect can be quantified.

It is clear that there is an opportunity within the CFMP to create conditions that enable the freshwater features of the European sites migrate inland to assist the management of site integrity and enable rollback of freshwater **habitat displaced by the SMP policies**. The SMP team have ensured that the CFMP team have included text within their policies accordingly.

The CFMP and SMP teams have worked closely together to ensure that residual issues are cross references between the plans.

3.7 ***Cumulative In Combination Effect Across the Natura 2000 Network***

Within the Indicative Alignment Extents, the SMP recommends 1187Ha of Managed Realignment that will effect the Natura 2000 network in and around North Kent.

Intertidal Habitats: The realignments would create 973Ha of Mudflat and 214Ha of Saltmarsh within the Natura 2000 sites over the 100year life of the plan, evolving over time as follows:

| <u>Habitat</u> | <u>0-20yrs</u> | <u>20-50yrs</u> | <u>50-100yrs</u> |
|-----------------------|-----------------------|------------------------|-------------------------|
| Mudflat (ha) | 340 | 727 | 973 |
| Saltmarsh (ha) | 416 | 445 | 214 |

Freshwater Habitats: The realignments would displace 21 Ha of Standing Water features and 838Ha of Grazing Marsh, reducing over time as follows:

| <u>Habitat</u> | <u>0-20yrs</u> | <u>20-50yrs</u> | <u>50-100yrs</u> |
|-----------------------|-----------------------|------------------------|-------------------------|
| Standing Water (ha) | 18 | 18 | 21 |
| Grazing Marsh (ha) | 447 | 827 | 838 |

NB – The difference in Intertidal and Freshwater Extents quoted in the tables above represents the area over which managed realignment would not cause damage (Littoral Rock, Urban areas, Arable Land etc.)

In combination with the SMP policies on other European Sites, the plan **has a major cumulative Beneficial Effect** on the Intertidal Habitat within the Natura Network.

Alone, we have identified that the displacement of **Standing Water features** can be locally controlled through application of conditions (see 3.4 and 3.5). However in combination across both the Medway Estuary and Marshes and the Swale, the scale of change represents an **Adverse Effect to the Natura 2000 network** that cannot be controlled by conditions..

The displacement of a large area of **Grazing Marsh** through Managed Realignment represents a major **Adverse Effect to the Natura 2000 network** that cannot be controlled by conditions.

3.8 **Final Appropriate Assessment Conclusion (Indicative Extents)**

3.8.1 Peter's Pit SAC

This site was screened out at Stage 2. **The SMP has no likely significant effect on this site.**

3.8.2 Thames Estuary & Marshes SPA/ Ramsar

The SMP policy for Policy Unit E401 will continue to cause coastal squeeze. This will be countered by the TE2100 and Open Coast SMP policy for Managed Realignment in Policy Unit 4d01. **In Combination the SMP will have No Adverse Effect on this site.**

3.8.3 Medway Estuary & Marshes SPA/ Ramsar

The SMP policies for Policy Units E402, E414, E415, E418, E420, E428 will result in the creation of 242Ha of intertidal habitat within this site but will displace an equivalent amount of Freshwater Habitat from this site.

The creation of intertidal habitat from each of these policies is considered a **Beneficial Effect** on site integrity and important for the wider Natura 2000 network.

The flooding and erosion of the following terrestrial habitats represents **Acceptable Modification** to the site composition and will cause **No Adverse Effect**:

Policy Unit

Effect & Condition

All Arable, Improved Grassland Woodland & Scrub, Littoral Rock, Urban (Non-Residential)

On the assessed extent of managed realignment and based on the information available, it is not possible to demonstrate that **the SMP does not have adverse effect due to the displacement of the** following freshwater habitats:

Policy Unit

Effect & Condition

E402

In combination with the Swale, the displacement of standing water features and associated invertebrate species and flora would have a resultant **adverse effect** on site integrity.

E415

The displacement of grazing marsh and associated bird populations due to tidal inundation of the site would cause an **adverse effect** on site integrity.

E418

E420

E428

As the assessment of the plan concludes some Adverse Effect to the Medway Estuary & Marshes SPA/ Ramsar that cannot be controlled by condition or use of alternatives, **it therefore progresses to stage 4 assessment.**

3.8.4

The Swale SPA/ Ramsar

The SMP policies for Policy Units E402, E414, E415, E418, E420, E428 will result in the creation of 945Ha of intertidal habitat within this site but will displace an equivalent amount of Freshwater Habitat from this site.

The creation of intertidal habitat from each of these policies is considered a **Beneficial Effect** on site integrity and important for the wider Natura 2000 network. The rollback of the Shingle frontage on Policy Unit E425 is considered a **Beneficial Effect** on site integrity.

On the assessed extents of managed realignment and based on the information available, it is not possible to demonstrate that the SMP does not have **adverse effect** due to the displacement of the following freshwater habitats:

| <u>Policy Unit</u> | <u>Effect & Condition</u> |
|--------------------|---|
| E423 | In combination with the Medway Estuary & Marshes, the displacement of standing water features and associated invertebrate species and flora would have a resultant adverse effect on site integrity. |
| E424 | The displacement of grazing marsh and associated bird populations due to tidal inundation of the site would cause an |
| E425 | adverse effect on site integrity. |
| E426 | |

As the assessment of the plan concludes some Adverse Effect to The Swale SPA/ Ramsar that cannot be controlled by condition or use of alternatives, **it therefore progresses to stage 4 assessment.**

4 Stage 4: Approval or Refusal of Plan

4.1 Alternatives

On the assessed extents of managed realignment and based on the information available, the SMP has an **Adverse Effect on the Medway estuary and marshes SPA/ Ramsar and the Swale SPA/ Ramsar** caused by Grazing Marsh and Standing Water Habitat displacement through Managed Realignment. This cannot be controlled by conditions, mitigated nor has it been countered 'In Combination' with other plans.

Alternatives policies were assessed as part of policy appraisal within the SMP. The SMP has determined Managed Realignment as the most sustainable way to manage the estuary shoreline into the future to meet wider social, economic and environmental objectives. The SMP has investigated the following in deriving this conclusion:

- a) The future evolution of the estuaries with sea level rise
- b) The ideal most natural form of the estuaries
- c) The Issues and Objectives of all stakeholders associated with coastal management and the coastal plain within the SMP area
- d) The primary constraints relating to infrastructure, property, people and the environment.

To assess alternatives, the policy appraisal and Stage 2 assessment was revisited with full consideration of Grazing Marsh (neutral grassland) protection. The lead competent authority then consulted Natural England as 'appropriate conservation body' on the remaining viable alternatives in order to identify the least damaging alternative.

The findings of the alternatives assessment are as follows:

4.1.1 Alternatives – No Active Intervention

No Active Intervention would have an Adverse Effect on the site in any epoch of the plan through uncontrolled freshwater habitat displacement. It would also lead

to destabilisation of the geomorphology of the estuary leading to increased erosion and flood risk throughout the estuary and likely damage of coastal habitats.

This is not a viable alternative and was not taken further.

4.1.2 Alternatives – Advance The Line

Advance the Line would have an Adverse Effect on the site in any epoch of the plan through footprint displacement of intertidal habitat.

This is not a viable alternative and was not taken further.

4.1.3 Alternatives – Hold The Line

For the first two epochs, following the 2002 North Kent CHaMP predictions, there is some confidence that a Hold the Line Policy would not have an Adverse Effect on these intertidal accreting sites.

As such, Natural England were consulted on this alternative. Their response is detailed in Section 4.1.7.

4.1.4 Alternatives – Managed Realignment with a Controlled Extent (to minimise ecological impact)

The assessment of Managed Realignment policies so far has been based on ‘Indicative Realignment Extents.’ This provided a method of quantifying the effect of the Managed Realignment and Managed Realignment with Hold the Line Policies. These extents have been derived from the best available information as a guide for consultation and the appropriate assessment. The extents were derived from:

- Coastal process understanding: The best estuary alignment for the future to deliver the SMP policies
- Coastal plain constraints: The location of designated habitat, built property and infrastructure
- Affordability: An affordable defence alignment

These extents are not fixed and will be subject to a much greater detail of study to fully understand the technical, economic and environmental impacts and opportunities.

The extents could be changed to implement managed realignment policies without adverse effect or with adverse effect but in a way that best manages site integrity.

As such, Natural England were consulted this alternative. Their response is detailed in Section 4.1.7.

4.1.5 Alternatives – Different Managed Realignment Timescale

An alternative timing of the managed realignment policy was considered as part of this assessment. Changing the timing may best manage site integrity over time in the face of climate change although it will have the same net effect on the sites and Natura network (as the adverse effect conclusion is not time dependent).

As such, Natural England were consulted this alternative. Their response is detailed in Section 4.1.7.

4.1.6 Alternatives – Additional Realignment Policies outside Natura 2000 sites

The SMP already recommends this policy in a number of locations outside Natura 2000 sites where it is the best policy and meets the objectives of the SMP.

In other areas, the Managed Realignment Policy has been assessed along with all other policies for each section of coastline covered by the plan.

The SMP recommends Managed Realignment in 16 of 30 policy units, Hold the line in 12 of 30 policy units and No Active Intervention in the remaining 2 policy units.

In revisiting Hold the Line policies in undesignated areas and assessing whether their policy should change to Managed Realignment, Hold the Line remains justified for one or more of the following reasons:

- The policy benefits the overall management of estuary form or evolution with ongoing sea level rise.
- Hold the Line is necessary to meet wider social, economic or environmental objectives.

- Hold the Line is necessary to protect nationally or regionally important infrastructure, property, people and / or environmental assets.

4.1.7

Natural England Advice on Least Damaging Alternative

The competent authority identified the following less damaging alternatives:

- a) Hold the Line, or
- b) Managed Realignment with a Controlled Extent (to minimise ecological impact)

Natural England were invited to formally advise on the least damaging of these alternatives and requested that the most timescales of the policies be considered. The advice from Natural England was as follows:

Hold the Line

Based on the best available information recently produced under the Greater Thames Coastal Habitat Management Plan (CHaMP) project, Hold the Line is now considered a damaging policy within all epochs due to its predicted loss of intertidal habitat through coastal squeeze. Natural England do not consider Hold the Line to be the least damaging alternative for any epoch of the plan based on this information.

Managed Realignment With a Controlled Extent

Following a review of the SMP policies within and outside the designated areas plus their respective timing, Managed Realignment with a Controlled Extent (to minimise ecological impact) **is the least damaging alternative** for all Managed Realignment Policies affecting the designated sites.

Timing and Coastal Squeeze Compensation Outside Designated Areas

With respect to timing and coastal habitat gains outside designated areas, the scales of coastal squeeze losses predicted by the Greater Thames CHaMP within the first epoch are greater than the potential Coastal Habitat gains in suitable undesignated areas within the whole SMP area. As such, both the Competent Authority and Natural England agree that the least damaging alternative will have to change the current composition of the Natura sites effected by the SMP. In turn, both parties agree that the SMP is likely to have an adverse effect in the first and latter epochs of the plan.

4.2 *Imperative Reasons of Overriding Public Interest (IROPI) & Compensation*

4.2.1 Imperative Reasons of Overriding Public Interest (Managed Realignment with a Controlled Extent: Adverse Effect Justification)

The least damaging alternative for implementing this plan is likely to cause adverse effect either through freshwater habitat displacement or coastal squeeze. As such, the competent authority need to consider whether the plan is necessary and needs to be implemented for 'IROPI.'

The aim of a Shoreline Management Plan is to 'identify the best approach or approaches to managing risks over the next 100years from flooding and coastal erosion (including cliff instability) both for individual areas and the wider coast.'

In the absence of this plan, these issues would be managed in a less coordinated way which would increase the risk of:

- Less sustainable long term action to manage coastal erosion and flooding in the face of climate change.
- Increased risk of flooding and erosion to assets (nationally, regionally and locally important) that would have significant socio-economic impacts
- Mismanagement of the coastal environment (including coastal squeeze problems)

The Greater Thames CHaMP has forecast major coastal squeeze problems if these estuaries continue to be managed as they currently are and change in management practices is necessary. The least damaging SMP policies identify the best way of changing management practices over the next 100 years in the least damaging way.

For these reasons the lead authority considers that the Shoreline Management Plan is necessary and has the following 'Imperative Reasons of Overriding Public Importance:'

- A need to address a serious risk to human health and public safety (uncoordinated and uncontrolled flood and erosion risks to large residential populations and major infrastructure);
- Where failure to proceed would have unacceptable social and/or economic consequences (loss of economic infrastructure, commercial property and community areas) through coastal flood and erosion damage;

- Whilst this is a damaging plan, it is the least damaging option for the designated sites in adjusting to the climate change impacts of sea level rise. This SMP therefore has beneficial consequences of primary importance for the environment.

4.2.2 Compensation

Compensation provisions were developed in partnership with Natural England using the best available information. The partnership agreed that, at SMP level, it was appropriate to

- follow Defra Policy Guidance on Coastal Squeeze and consider compensatory habitat ‘secured’ if it is suitably programmed and resourced within the Regional Habitat Creation Programme, and
- Use the Greater Thames CHaMP predictions of coastal squeeze loss to develop precautionary compensation quotas.

Table 6 below summarises the management of coastal squeeze and freshwater habitat compensation within the SMP and the Regional Habitat Creation Programme (RHCP).

Table 6 Medway Estuary & Swale SMP Habitat Balance Sheet

| Epoch (yrs) | Greater Thames CHaMP Intertidal Losses in SMP Area (Ha) | SMP Intertidal Gains (MR) in Undesignated areas (Ha) | SMP Intertidal Gains(MR) in Designated areas (Ha) | SMP Designated Freshwater Displacement (Ha) | RHCP Intertidal Habitat Compensation for SMP (Ha) | RHCP Freshwater Habitat Compensation for SMP (Ha) |
|---------------|---|--|---|---|---|---|
| 0-20 | 370 | <113 | 257<370 | -257<-370 | 0 | 370 |
| 20-50 | + 295 | +32 | +295 | -295 | 0 | +295 |
| 50-100 | +1035 | +0 | +435 | -195 | <600 (tbc) | +195 |
| TOTAL | <u>1700</u> | <u>145</u> | <u>987<1100</u> | <u>860</u> | <u><600 (tbc)</u> | <u>860</u> |

In interpreting the table, the following notes should be considered:

- The table presents the additional change in habitat in each epoch, cumulative values are only presented in the total.

2. There is a difference of 240 Ha between the SMP intertidal gains and freshwater/terrestrial habitat compensation as some of the defended freshwater areas can change as acceptable modification to the site. (Urban, Littoral Rock, Improved grassland etc.).
3. The table presents a range of values as we currently do not know the suitability of the undesignated areas of managed realignment as coastal squeeze intertidal habitat compensation. This may reduce the need for compensation within designated sites and corresponding freshwater habitat displacement.
4. The Greater Thames CHaMP has low confidence in the timing and scale of later coastal squeeze predictions. The SMP recommends a scale of realignment that best benefits estuarine processes. This is less than the CHaMP prediction and we have not considered it in the best interests of the estuary to increase the managed realignment areas to cater for the full 50-100 year epoch losses. Also, as there is low confidence in this later prediction and it will be refined many times before the compensatory habitat is required, we only highlight that up to 600 Ha may be required.

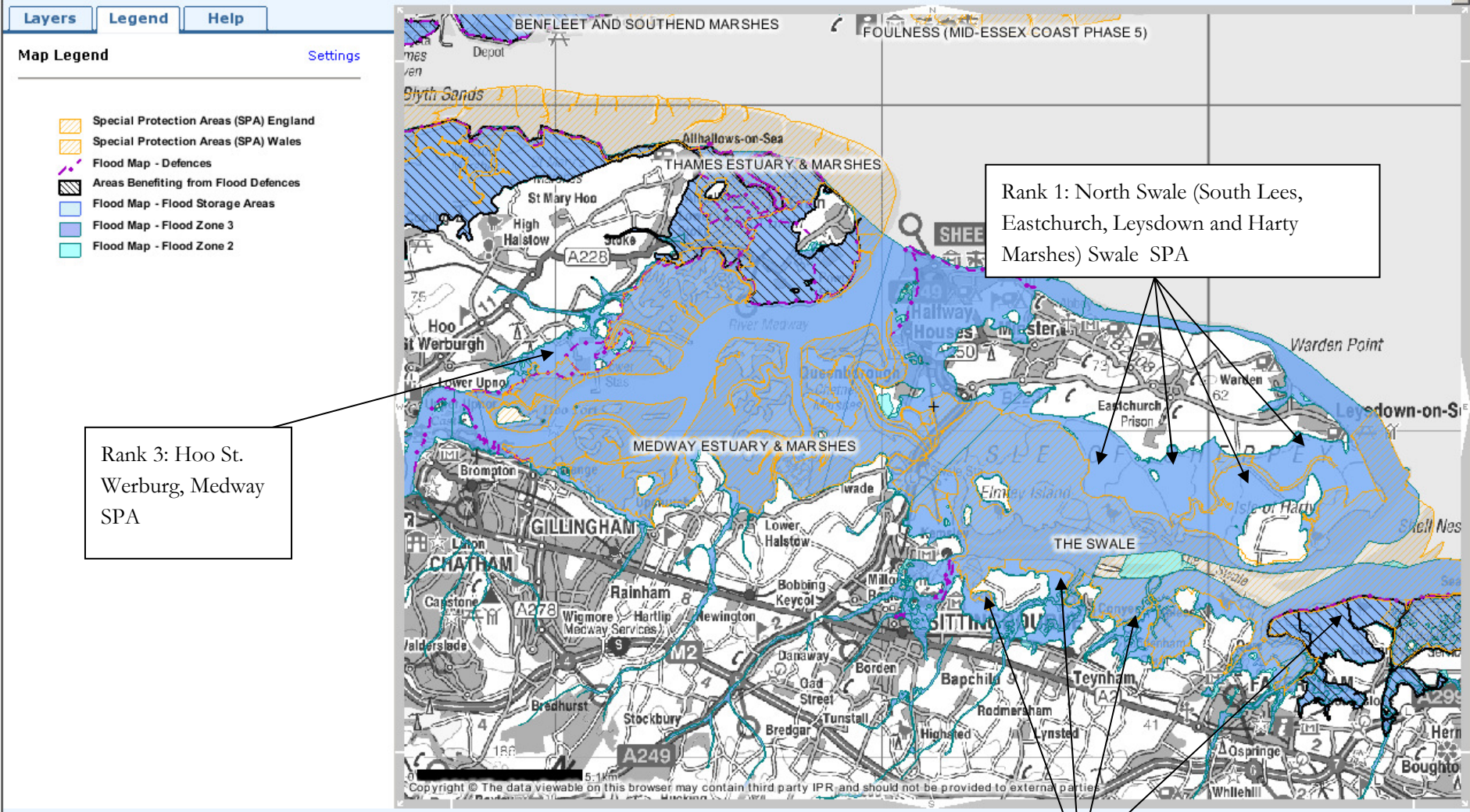
There are areas of undesignated grazing marsh adjacent and inland of the designated sites habitat which, if managed properly, could compensate for the Adverse Effect on Freshwater Habitats arising from this SMP. These areas are summarised in the table below and correspond to the entries for Freshwater Habitat Compensation in the Regional Habitat Creation Programme. Figure 1 overleaf illustrates the locations of the potential compensation.

Table 7 Proposed Freshwater Compensation Sites for Habitat Creation Programme

| Epoch (yrs) | Location | Habitat | Cumulative Habitat Area (Ha) |
|-------------|-------------------------|--------------------------------|------------------------------|
| 0-20 | Rank 1 – North Swale | Grazing Marsh & Standing Water | 370 |
| 20-50 | Rank 2 - South Swale | | 665 |
| 50-100 | Rank3 - Hoo St. Werburg | | 860 |

Should sufficient areas not be available within these sites, the RHCP will secure investigate locations increasingly further afield until suitable sites are found.

Figure 1 – Map of Potential Freshwater Habitat Compensation Areas



Rank 3: Hoo St. Werburg, Medway SPA

Rank 1: North Swale (South Lees, Eastchurch, Leysdown and Harty Marshes) Swale SPA

Rank 2: South Swale (Murston, Luddenham & Graveney marshes) Swale SPA

5.0 Conditions, Limitations & Future Work

5.1 *Conditions*

To best control the conclusion of this HRA and to deliver the least damaging plan, the Natural England/ Environment Agency partnership have identified the following conditions to be implemented to inform subsequent work:

- a. investigations (ecological survey & monitoring) to increase understanding of the site, its interest features and the conditions necessary to best maintain site integrity;
- b. investigations (geomorphological study) to increase the understanding of sediment flux and habitat change through sea level rise.
- c. informed mitigation and;
- d. modification of the realignment extent to best manage the estuary and cause least adverse effect.

Executing conditions a) & b) will enable controls c) & d) to be best informed. Currently there is limited information in these areas on which to base scientific decisions on c) & d).

These conditions shall be executed in partnership between the Environment Agency and Natural England.

5.2 *Limitations*

5.1.1 Intertidal Habitat Change Predictions

The predictions of estuary evolution are based on a short dataset of information and have many caveats to their use. The trend of the 2002 North Kent CHaMP shows accretion in both the Medway and the Swale saltmarsh habitats whereas the 2008 Greater Thames CHaMP predicts significant losses.. As such confidence in the scale of change is not high. Better monitoring of habitat change, sea level rise and sediment input is

required within the sites. An increase in relevant future monitoring has been included in the SMP Action Plan.

5.1.2 Securing Compensation via Regional Habitat Creation Programme

Defra guidance on coastal squeeze guides the use of a Regional Habitat Creation Programme to secure compensatory habitat. This guidance has been followed and it is agreed that habitat is secured. The Southern Region Environment Agency have a programme in development and the information from Stage 4 of this assessment has been integrated into it.

5.1.3 Status of Adjacent In Combination Studies

Many of the In Combination studies are yet to be completed or to have undertaken Habitats Regulations Assessments or have ephemeral/intangible recommendations. To appropriately manage in combination effects over time, we shall share this HRA with those teams and monitor the outputs of these projects and the impact on our assumptions.

5.3 Future Works

5.2.1 Undertake all works required to execute the conditions required under Section 5.1 of this assessment.

In executing conditions a) & b), involvement, information and support should be sought from relevant partners involved in local ecological management such as the RSPB, Kent Wildlife Trust, British Trust for Ornithology, Kent County Council, Kent Biological Records Centre, Elmley Conservation Trust and Friends of North Kent Marshes (Not an exhaustive list)

The RSPB provided detailed information on each policy unit during consultation which will benefit the start of works.

5.2.2 Establish funding mechanisms for the RHCP to provide precursor compensation to maintain site integrity in advance of coastal defence works.

5.2.3 Share this HRA with professional partners and strategic planners.

- 5.2.4 Monitor the In Combination Assessments of other strategic plans to ensure that they use this HRA and to reassess the validity of the assumptions of this HRA.
- 5.2.5 Revisit this HRA at subsequent stages of work (Coastal Flood and Erosion Strategy & Scheme Development) to ensure expansion, reassurance and compliance with this HRA or reassessment.
- 5.2.6 Work with landowners likely to be affected by Managed Realignment and/ or habitat compensation to enable best adaption to changes over time.

These actions translate into the SMP Action Plan as illustrated in Table 8 below:

Table 8 – HRA Actions within SMP Action Plan

| | Policy Unit | Strategy | Works in Short Term | Strategy Review/ Devp. Required | Priority | Specific Monitoring Requirements | Priority | Specific Study Requirements | Priority | Responsibility |
|-----|-------------|--|--|---|----------|--|----------|---|----------|----------------|
| All | All | Upper Tidal Medway Estuary (UTME) /Faversham to Seasalter (F2S) Medway Basin & Swale (MB&S)/ Thames Tidal Walls East Strategy (TTWE) | Execute Habitats Regulations Assessment Conditions through the Medway Estuary & Swale Habitat & Process Study (MESHPS) | UTME & F2S to start 08/09 MB&S&TTWE to await >3 years research & TE2100 2011/12 | VH | Monitor Ecology of Natura 2000 site interest features and habitats | VH | Surveys and investigations to determine least damaging managed realignment extent | VH | EA & NE |
| All | All | Open Coast SMP/ TE2100/ CHaMP/ RHCP/ RBMP/ SE Plan/ LDFs/UTME/ MB&S/TTWE/ F2S | Share findings of SMP with partner bodies and strategic plans to ensure links to planning and other HIRAs | Maybe | VH | Monitor Geomorphology and habitat change in estuary | VH | Sediment Flux study & change prediction. Verification Habitat Surveys | VH | EA & NE |
| All | All | | | | VH | Monitor integration of SMP into other strategic plans | VH | None | n/a | EA |

References

1. Medway Estuary & Swale Shoreline Management Plan (South East Coastal Group, 2008)
2. Isle of Grain to South Foreland Shoreline Management Plan 1st Review (South East Coastal Group, 2008)
3. Thames Estuary 2100 Early Conceptual Options (Environment Agency, 2006)
4. North Kent CHaMP (English Nature, 2002)
5. Greater Thames Estuary CHaMP (EA, 2008)
6. CHaMP Lessons Learned (English Nature)
7. Environment Agency Habitats Directive Handbook
8. Defra Coastal Squeeze Policy
9. Natural England Guidance on Coastal Management
10. River Tyne to Flamborough Head Appropriate Assessment
11. Environment Agency TAG Reports on Appropriate Assessment
12. Environment Agency Work Instruction – Appropriate Assessment of FRM Plans & Projects
13. European Site Citations & Regulation 33 Packages
14. South Coast Regional Monitoring Programme

Glossary

| <u>Acronym</u> | <u>Full Title</u> | <u>Meaning</u> |
|----------------|--|---|
| ATL | Advance the Line | The construction of a new flood management scheme in front of existing flood defences. |
| ChaMP | Coastal Habitat Management Plan | A document prepared to ensure compliance of future SMP's and Flood Management Strategies with the Habitats and Birds Directives. |
| SAC | Special Area of Conservation | An internationally important habitat or species designated under the EC Habitats Directive. |
| | Epoch | A period of time. |
| Ha | Hectares | 10000 square metres |
| HTL | Hold the Line | Maintaining the existing flood defences and control structures in their present positions and increase the standard of protection against flooding in some areas |
| IROPI | Imperative Reasons of Overriding Public Interest | Reasons where the interests of a Natura 2000 site are overridden by other concerns – listed on Defra Website. |
| MR | Managed Realignment | The policy of Managed Realignment involves the placement of a new Managed Realignment flood defence landward of the existing flood defences or realignment to higher ground. |
| | Natura 2000 | A term used to commonly refer to SPAs, SACs & Ramsar Sites. |
| NAI | No Active Intervention | There would be no further active intervention by Authorities. Without intervention the defences would eventually fail and areas currently protected from flooding would no longer be protected. |

| | | |
|-------|---|---|
| NE | Natural England | Nature Conservation Body for England |
| ncpms | National Capital Programme Management Service | Environment Agency Department |
| | Ramsar Site | Wetlands designated under the Ramsar Convention, due to their importance, especially as waterfowl habitat. |
| SLR | Sea Level Rise | The rise of sea levels in relation to land levels throughout time in response to global climate and local tectonic changes. |
| SMP | Shoreline Management Plan – | A national initiative for the future planning of the coastline taking a holistic approach to include all coastal authorities. The document brings together information pertaining to coastal issues such as flooding, erosion, coastal process and human and environmental needs. |
| SPA | Special Protection Area | Internationally important nature conservation sites designated under the EEC Wild Birds Directive. All SPAs are also SSSIs. |
| SSSI | Site of Special Scientific Interest | The Wildlife and Countryside Act bestows a duty on the Government to designate land as an SSSI if the land is important in scientific terms due to its flora and fauna or geological features. |

Annex A: Appropriate Assessment Method

Final Appropriate Assessment Guidance for the Medway & Swale SMP

1st Draft: 31st July 06

Current Draft: 26 February 2007

Author : Mark Smith

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1.0 Introduction

This method describes a proposal, as developed by Mark Smith of Southern Region NCPMS, for undertaking an Appropriate Assessment of the effect of a Shoreline Management Plan (SMP) on Natura 200 sites as now required by the Environment Agency and its partners in approving such plans. The method has been developed in advance of the production of National Guidance to enable the assessment of the Medway & Swale SMP in North Kent and avoid significant programme effect.

1.1 Background

SMPs are policy setting documents that determine one of four ways of managing the shoreline and its coastal defences over the next 100 years; Hold the Line, Advance the Line, Managed Realignment or No Active Intervention. There are two subsequent appraisal stages before any intervention can be taken on the shoreline, Coastal Defence Strategy and Scheme Development. The strategy level appraises

the options for implementing the SMP Policy for sections of shoreline e.g. brick wall or sheet piles. At scheme stage the detailed design and third party (Statutory) approvals are determined. Dependant on the level of variation from the assessed and approved SMP, each of these stages will require appropriate assessment.

The Environment Agency deemed this a requirement in the 2006/07 financial year, coinciding with significant cuts within their available budgets.

1.2 Reliances/Limitations of method

It is worth stating the following at the outset:

- a) The method has been derived to reflect what is considered to be an 'Appropriate' level of assessment at Policy setting stage. Further detail may be required as advised by Natural England.
- b) The method is systematic and sequential to make it practical and auditable but may be exclusive. Examples are provided to assist interpretation.
- c) The method has been developed so that it can be achievable within the 06/07 financial constraints whilst delivering a responsible assessment.
- d) The method will rely on the understanding of Coastal/ Estuary processes developed to inform the SMP to assess the affect of these processes on the Natura 2000 sites e.g. Quantify Coastal Squeeze Effects & Define the most sustainable long term coastal/ estuary alignment. Natural England will agree the level of detail at Stage 1 of the assessment.
- e) The method should assist subsequent appraisal stages.
- f) The SMP sets policy not the scale of the policy nor how the policy will be implemented. To progress, some hazards to the site will not be assessed at this level unless they would preclude implementation of the SMP policy, i.e. if it is possible to implement the policy without causing the hazard then the detailed assessment is required at more detailed stages. Natural England will agree the level of detail of the SMP assessments prior to commencement.
- g) A level of detail of impacts on species needs to be agreed with Natural England. Considering the nature of the plans being assessed, we recommend that

detailed species assessments are made at subsequent more detailed appraisal stages.

To meet these requirements, the method is fundamentally reliant on agreement between the Lead Maritime Authority (Environment Agency in MESFRMP) and Natural England on the 'Appropriate' level for a policy setting document at Stage 1 of the Appropriate Assessment. This method requires agreement of the following:

1. Natural England and the lead Authority (and others) to agree the designated features/ level of assessment of impacts on designated features at this policy setting level. All parties should agree to the level of assessment at Shoreline Management Plan (Policy Setting) stage e.g if the habitat network is maintained and the site managed in favourable condition, then some/ all reliant designated species are provided for.
2. Natural England work as a partner in actively providing the best available information on the site (e.g. habitat maps behind the site designations, conservation objectives) and to agree that the information they hold is an acceptable level of information on which to make the habitat assessments.
3. Natural England and the Lead Authority to agree all the sufficiency of methods proposed (e.g. quantification of habitat change) prior to the assessment.
4. Natural England consider and provide detail to inform viable site modification.

1.3 Method

The flowchart overleaf illustrates the process of undertaking the assessment. Stage 1 is straightforward and current methodologies should be followed. Stages 2, 3 & 4 (Next Steps) are discussed in detail in the following section of the document.

2.0 Flowchart of SMP Appropriate Assessment Process

| | | |
|---------|---|---|
| Stage 1 | Clarify whether Plan is 'Necessary' for the site management | <ul style="list-style-type: none"> Query Natural England Representative |
| | Set out responsibilities | <ul style="list-style-type: none"> Competent Authority (EA, Coastal Authority), <ul style="list-style-type: none"> Site Administrator (NE), DEFRA & Secretary of State |
| | Agree Limits/ Info for Assessment & Obtain Site Information | <ul style="list-style-type: none"> Lead Authority & Natural England Citation – Current version from JNCC website Conservation Objectives – Natural England Reg 33 Package (Where they exist) – Natural England Stages 1&2 of EA Review of Consents |
| Stage 2 | Assessment of Policies for 'Likely Significant Effect' | <ul style="list-style-type: none"> Test each of the 4 SMP Policies to see if they would cause likely significant effect on the site Apply these generic assessments to the units to screen out/ include units for Stage 3. <ul style="list-style-type: none"> Complete Appendix 11 & send to NE |
| Stage 3 | Assessment of Units & Overall Strategy | <ul style="list-style-type: none"> Apply the generic assessment from Task 3 to each policy unit and the associated final policy. <ul style="list-style-type: none"> Assess the overall net of adverse effect against gains from all the policy units to determine SMP wide effect. Assess in combination effects/ mitigation measures |
| | Agree Appropriate Assessment | <ul style="list-style-type: none"> Complete Appendix 12 for whole plan Discuss, refine and seek sign off from Natural England. If Adverse Effect & Compensation required move to next steps |
| Stage 4 | IROPI Test/ Identify & Secure Compensation Measures | <ul style="list-style-type: none"> Assess alternative policies & conditions as required <ul style="list-style-type: none"> Test Overriding Public Interest Identify & Secure/ Programme compensation measures with NE advice |
| | Seek Ratification of the Assessment & Compensation | <ul style="list-style-type: none"> Discuss, refine and seek sign off from Natural England Send to Defra/ Secretary of State as required. |

3.0 Stage 2 Guidance - Assessment of Generic policy options for 'Likely Significant Effect'

3.1 TEMPORARY EFFECTS – For all sites

At SMP level, investigate and record any controls required over timing of work (programme work outside bird nesting season/ migration period) or work adjacent to site (set working area to remove/ minimise effect). List the potential temporary impacts that have been identified and the mitigating controls that would enable a conclusion of no adverse effect. Include these impacts and mitigating conditions into the final assessment. Highlight that any variation from these conditions will require detailed assessment and/or control of these impacts at scheme stage will be required before issue of land drainage consent & planning approval.

3.2 PERMANENT EFFECTS

To assess the likely significant permanent effect of the SMP Policies, the generic assessments in Table 1 are sequentially tested against each policy unit for each Natura 2000 site (see Table 2, Task A for example). This will enable neutral (no) effect policy units to be screened out of future assessments. Policy units with likely significant beneficial or negative effects will be recorded on an Appendix 11 form for each Natura 2000 site.

The Stage 3 Action column is included to guide the reader on how the Stage 2 assessment moves into Stage 3.

Please note that the scenarios for intertidal habitats will have been sufficiently established within the coastal & estuarine processes investigations (desk study and research) undertaken during SMP development. Please see glossary to expand abbreviations.

Table 1 –Stage 2 Assessment Of Permanent Effect Of Generic Policies Under Typical Site Scenarios

| HABITAT | TYPICAL SCENARIO | POLICY | STAGE 2 ASSESSMENT | STAGE 3 ACTION |
|-----------------------|--|---------------|---|--|
| A - INTERTIDAL | 1. Intertidal habitat accreting – accretion rate is greater than or equal to sea level rise for 100 yrs. | 1 - HTL | No significant effect as no habitat is lost | Quantify gain/ balance |
| | | 2 - ATL | Significant effect due to footprint of habitat lost | Quantify losses |
| | | 3 - MR | Beneficial effect as more habitat is created (Note 1) | Quantify gains |
| | | 4 - NAI | Beneficial effect as more habitat is created (Note 1) | Quantify gains |
| | 2. Intertidal habitat accreting – accretion rate is less than sea level rise i.e. SLR to overtake accretion rate in year X | 1 - HTL | No significant effect until year X by which time there will be a significant effect | Quantify year X Quantify losses from year X |
| | | 2 - ATL | Significant effect due to footprint of habitat lost then in year X further significant effect | Quantify year X Quantify direct footprint losses + losses from year X |
| | | 3 - MR | Beneficial effect as more habitat is created (Note 1) | Quantify gains |
| | | 4 - NAI | Beneficial effect as more habitat is created (Note 1) | Quantify gains |
| | 3. Intertidal habitat eroding / subject to sea level rise | 1 - HTL | Significant effect | Quantify losses |
| | | 2 - ATL | Significant effect | Quantify all losses |
| | | 3 - MR | Beneficial effect as more habitat is created (Note 1) | Quantify gains |
| | | 4 - NAI | Beneficial effect as more habitat is created (Note 1) | Quantify gains |
| r / T e r | 1. Freshwater/ Terrestrial habitat in coastal | 1 - HTL | No significant effect | None |

| | | | | |
|-------------------|---|---------|--|---|
| | floodplain/ on and behind cliffs protected from damage by current coastal or estuarine defences | 2 - ATL | Beneficial effect if habitat created otherwise no significant effect | Quantify any gains |
| | | 3 - MR | Significant effect unless – See Note 2 | See Note 2 |
| | | 4 - NAI | Significant effect unless – See Note 2 | See Note 2 |
| C –ERODING CLIFFS | 1. Eroding Cliffs where erosion is a) Controlled & b) Uncontrolled | 1 - HTL | Significant Effect | Quantify Losses |
| | | 2 - ATL | Significant Effect | Quantify Losses |
| | | 3 - MR | a) Potential no effect or beneficial effect b) Significant Effect | a) Quantify Habitat Balance b) Quantify Losses |
| | | 4 - NAI | No Significant Effect | None |

Table 1 - Notes

1. This policy scenario may not benefit features outside the immediate coastal zone e.g Islands. The location of such features should be considered in more detail in the assessment.
2. Where there is a Managed Realignment or No Active Intervention Policy proposed that will effect a Natura 2000 freshwater site the assessment is as follows, significant effect unless:
 - a) It is in the wider interest of the whole site (SPA, SAC, Ramsar) to increase the proportion of intertidal habitat by modifying the site (subject to Natural England consultation)
 - b) Through whole site/ in combination assessment, it can be demonstrated that adequate freshwater habitat is being secured in the SMP (from Advance the Line policies) or bounding CFMPs to mitigate for changes (**EA & NE to confirm whether this position is formal**).

4.0 Stage 3 Guidance – Assessment of Effects

Each unit is assessed action by action as detailed in Table 2 below:

Table 2 – Stage 3 Adverse Effect Assessment Procedure

| <u>Task No.</u> | <u>Task</u> | <u>Example</u> |
|-----------------|---|---|
| A | <p>For each policy unit that poses a ‘likely significant effect’ (Stage 2), the magnitude of habitat change is quantified (see guidance Table 1)</p> | <p>Example 1: An intertidal site is accreting at a rate greater than the effects of coastal squeeze and a Hold the Line policy is proposed for policy unit 13. The sequential test for the unit is as follows:</p> <p><u>Stage 2 Sequential Test</u></p> <p>Habitat : Intertidal = A</p> <p>Scenario: Intertidal accreting > SLR = 1</p> <p>Policy: Hold the Line (HTL) = 1</p> <p>Assessment: Significant Beneficial Effect as habitat is created, record in Appendix 11</p> |

| | | |
|---|--|--|
| | | <p><u>Stage 3, Task A</u></p> <p>Action: Quantify the gains in intertidal habitat (area of accretion – SLR losses). For example, the predicted accretion will generate 20 Ha of habitat whereas SLR will inundate 15Ha > 20-15 = 5 Ha gain in intertidal habitat for this policy unit. Quantify the gains per habitat type > +2Ha Saltmarsh, +3Ha Mudflat</p> <p><i>Policy unit 13 assessment = Significant Beneficial effect with 5Ha habitat gain (+2Ha Saltmarsh, +3Ha Mudflat)</i></p> |
| B | <p>The epoch of the policy and the effect is assessed</p> | <p>Example 2: Policy Unit 7 has a Hold the Line policy for the first 2 epochs (0-20, 20-50yrs) and a Managed Realignment policy for the 3rd epoch 50-100yrs. The policy unit bounds an intertidal site that is subject to coastal squeeze. The sequential test from Task A has determined:</p> <p>Significant Negative Effect of 0.1Ha/yr habitat loss for the policy unit for the Hold the Line epochs, and</p> <p>Significant Beneficial effect for the Managed Realignment in the 3rd epoch as 30Ha of intertidal habitat is created</p> <p>Task B assessment of Policy Unit 7 is as follows:</p> <p>Epoch 1 (0-20yr): Significant Negative effect with 2Ha habitat loss (all Saltmarsh)</p> <p><i>Epoch 2 (20-50yr): Significant Negative effect with 3Ha habitat loss (2Ha Saltmarsh, 1 Ha Mudflat)</i></p> <p>Epoch 3 (50-100yr): Significant Beneficial Effect of 30Ha of habitat creation (10 Ha Saltmarsh, 20Ha</p> |

| | | |
|---|--|---|
| | | <p>Mudflat)</p> <p>Policy Unit Assessment = Negative Effect for Epochs 1 & 2 (5 Ha), Beneficial Effect for Epoch 3 (30 Ha)</p> |
| C | <p>Across the whole Natura 2000 site for each designated habitat type, the habitat lost and habitat gained are quantified for each epoch for the life of the plan (100 years). The net effect/ epoch and the net effect of the life of the plan are calculated to determine whether the plan, as a whole, results in a loss or gain in said designated habitat.</p> | <p>Example 3: The South Downs SMP has 15 Policy Units affecting a Coastal SPA. For the whole plan, tasks 1 & 2 determined the following for Saltmarsh:</p> <p>Epoch 1 (0-20 yr): 10 units significant effect (-50 Ha); 5 units beneficial effect (+5 Ha) = Significant (-45Ha)</p> <p>Epoch 2 (20-50 yr): 8 units significant effect (-50 Ha); 7 units beneficial effect (+25 Ha) = Significant (-25Ha)</p> <p>Epoch 3 (50-100 yr): 4 units significant effect (-10 Ha); 11 units beneficial effect (+100 Ha) = Beneficial (90Ha)</p> <p>Whole Plan Life = Significant Beneficial Effect on SPA (30Ha)</p> <p>Epochs 1&2 = Significant Temporary Negative Effect, Assess effect on site integrity, considering habitat recreatability,</p> |
| D | <p>Across the whole Natura 2000 site, the units are assessed for gains and losses to determine whether the habitats supporting the site are maintained, improved or reduced by the SMP as a whole. The net effect/ epoch and the net effect of the life of the plan are</p> | <p>Example 4: The North Norfolk SMP has 15 Policy Units affecting a Coastal SPA. For the whole plan, tasks 1, 2 & 3 determined the following:</p> <p>Epoch 1 (0-20 yr): Shingle (-5Ha), Saltmarsh (-20Ha), Mudflat (0Ha), Grazing Marsh (0Ha)</p> |

| | | |
|--|--|--|
| | <p>calculated to determine whether the plan, as a whole, has an adverse effect. The conclusion is then tested in combination with other plans as per task E</p> | <p>Epoch 2 (20-50 yr): Shingle (-7Ha), Saltmarsh (-15Ha), Mudflat (-20Ha), Grazing Marsh (-5Ha)</p> <p>Epoch 3 (50-100 yr): Shingle (+15Ha), Saltmarsh (+40Ha), Mudflat (+30Ha), Grazing Marsh (-5Ha)</p> <p>Whole Plan Life > Shingle (+3Ha), Saltmarsh (+10Ha), Mudflat (+10Ha), Grazing Marsh (-10Ha)</p> <p><u>Conclusion of Task D</u></p> <p>Epoch 1 = Adverse effect for Shingle & Saltmarsh</p> <p>Epoch 2 = Adverse effect for Shingle, Saltmarsh, Mudflat & Grazing Marsh</p> <p>Epoch 3 = Beneficial effect for Shingle, Saltmarsh & Mudflat but Adverse effect for Grazing Marsh</p> <p>Whole Plan: Beneficial effect for the intertidal habitat but an Adverse effect of 10Ha Grazing Marsh loss</p> <p><u>Action</u></p> <p>Shingle, Saltmarsh & Mudflat: The temporary effect of habitat loss should be tested with Natural England to assess their sensitivity in maintaining the Natura 2000 site. If temporary losses would cause unrecoverable losses then policies should be revisited or tested in combination (Task E) with other plans/ initiatives that</p> |
|--|--|--|

| | | |
|---|---|--|
| | | <p>may create equivalent adjacent habitat. If no opportunity present then move to Stage 4.</p> <p>Grazing Marsh: SMP Policies should be revisited (particularly in the 1st epoch) to look for opportunities for Grazing Marsh creation or undertake in combination assessment (Task E) with CFMP to integrate any CFMP Grazing Marsh creation. If no opportunity present then move to Stage 4.</p> |
| E | <p>The findings of Task D are then tested in combination with other plans in the area to assess cross plan impacts / opportunities.</p> <p>Should this conclude no adverse effect , complete Appendix 12 & move to Task G.</p> <p>Should it be determined that the plan, as a whole or in combination, has an Adverse effect, move to Task F</p> | <p>Example 5: Shoreline Management Plan A determines a net loss of 15 Ha of mudflat in an intertidal site over a 100 year life whereas adjacent SMP B determines 40 Ha of mudflat gain on the same site. Therefore, in combination there is no adverse effect from the Plans.</p> <p>Example 6: SMP A determines a net loss of 20 Ha of freshwater habitat in Epoch2 whereas an adjacent Catchment Flood Management Plan determines a net gain of 22 Ha of freshwater habitat improvement adjacent to said site in Epoch 1. If Natural England and others agree to extend the site boundary in Epoch 1 following the CFMP action, in combination there is no adverse effect.</p> <p>Example 7: An SMP determines that there will be a loss of habitat although partner authorities have agreed no adverse effect as an action plan that mitigates the loss has been developed to the satisfaction of all. However, the in combination assesment highlights that an adjacent local development framework is promoting a housing development on land highlighted or allocated in the action plan for mitigation.</p> <p>Partner authorities, including NE, meet with Local Authority to revise Local Development Framework, object to LDF or seek alternative mitigation areas to address the issue and satisfy that the SMP has no adverse effect. If no resolution is found then the Action plan is invalid for this mitigation & requires rework.</p> |
| F | <p>The policies and units are revisited and mitigation conditions or alternatives policies are assessed.</p> <p>Should this iterative process conclude no adverse effect, complete Appendix</p> | <p>Example 8: The assessment highlights that the most sustainable (estuary/ coastal process, economically viable, objectives met) alignment of a Managed Realignment policy will flood a non-recreatable, priority Natura 2000 freshwater habitat with tidal water causing adverse effect. As a mitigation measure, the boundary of the priority freshwater Natura 2000 feature is used to define the alignment of Managed Realignment, protecting the feature for the period of time Natural England advise is required.</p> |

| | | |
|---|--|--|
| | <p>12 Form and progress SMP</p> <p>Should this iterative process continue to show Adverse Effect or it is clear that Adverse Effect cannot be avoided then move to Stage 4</p> | <p>Example 9: Within Epoch 1&2 of the plan, the SMP Preferred Policy of Hold the Line causes coastal squeeze losses. The Natura 2000 site doesn't extend landward of the defence and there is sufficient available defended land to allow for coastal habitat migration inland. The assessment of Policy Scenario Assessment derived Managed Realignment as the policy that met the next highest number of objectives. An alternative policy of Managed Realignment is chosen to enable a controlled change in the defence alignment and maintain site integrity whilst meeting as many objectives as possible. The policy choice is justified by the Appropriate Assessment findings and legal obligation to maintain site integrity.</p> |
| G | <p>Once the plan has been refined and the appropriate assessment determined that the plan is acceptable, all required works, policy unit linkages and other plan linkages must be clarified within the supporting text behind each unit in the SMP to make it clear for future workers.</p> | <p>Example 10: Within Epoch 1&2 of the plan, all Coastal squeeze losses are mitigated for by managed realignments in policy units 8 & 11. Unit 8 & 11 must be protected against policy change/ programme change/ change in Managed Realignment size for the Appropriate Assessment to be valid.</p> <p>Example 11: A Managed Realignment over a freshwater site requires prior habitat creation to be delivered by the Catchment Flood Management Plan. The details of the CFMP, the responsible party & the programme for implementation of the CFMP policy must be clearly included in the SMP. It must be made clear that the works have to be undertaken in accordance with the CFMP for the Appropriate Assessment to be valid.</p> |
| H | <p>The sensitivities/ mitigating conditions of the Appropriate Assessment are recorded in the SMP for clear future reference.</p> | <p>Example 12: Mudflat & Saltmarsh growth within Policy Units 9,10 & 14 of the plan is so significant that it outweighs the coastal squeeze losses against these habitats for the rest of the plan's units. The trend of growth in these areas must be allowed, monitored & the areas protected for the plan to have no adverse effect and the site to be maintained in favourable condition.</p> |

5.0 Next Steps

Should the Appropriate Assessment continue to determine Adverse Affect following the guidance in Stage 4, then the Imperative Reasons for Overriding Public Interest (IROPI) tests must be applied in line with Defra's Guidance on Coastal Squeeze (see Defra Flood & Coastal Defence Website) or reference below if current. For an SMP, Defra acknowledge that the typical IROPI case will be management of the international environmental features.

Compensatory habitat will be quantified by the lead Authority, with early advice from Natural England. This will be secured via a Regional Habitat Creation Programme.

The Lead Authority and Natural England will develop a joint case to accompany the appropriate assessment for submission to the Secretary of State with the knowledge that, if implemented, the plan would adversely effect Natura 2000 site integrity.

Imperative Reasons for Overriding Public Interest

Up to date information on these can be found at www.defra.gov.uk/wildlife-countryside/ewd/ewd09.htm

At the time of drafting, these reasons were listed as follows:

- A need to address a serious risk to human health and public safety;
- The interests of national security and defence;
- The provision of a clear and demonstrable direct environmental benefit on a national or international scale;
- A vital contribution to strategic economic development or regeneration;
- Where failure to proceed would have unacceptable social and/or economic consequences.

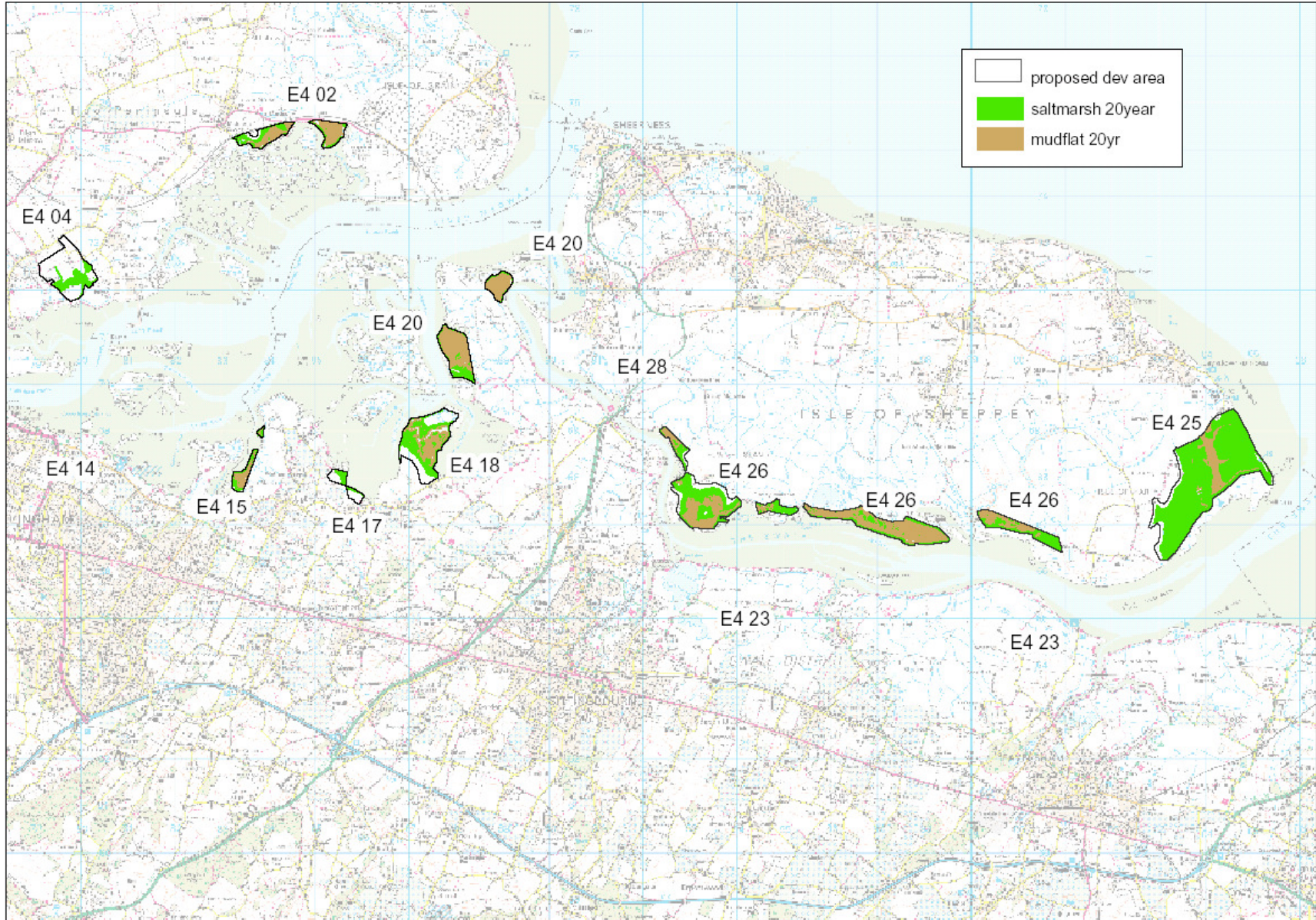
The relative importance of the SPA or SAC within the European network will also weigh in the balance of considerations. Some sites are designated for habitat types and species which are listed as priority under the Habitats Directive. These must be subject to particularly stringent scrutiny. In these cases the Directive requires considerations other than human health and public safety or overriding environmental reasons to be subject to an opinion from the European Commission. In all cases, this assessment should include close liaison with Natural England such that all parties are aware of and agree the constraints that drive such a grave conclusion.

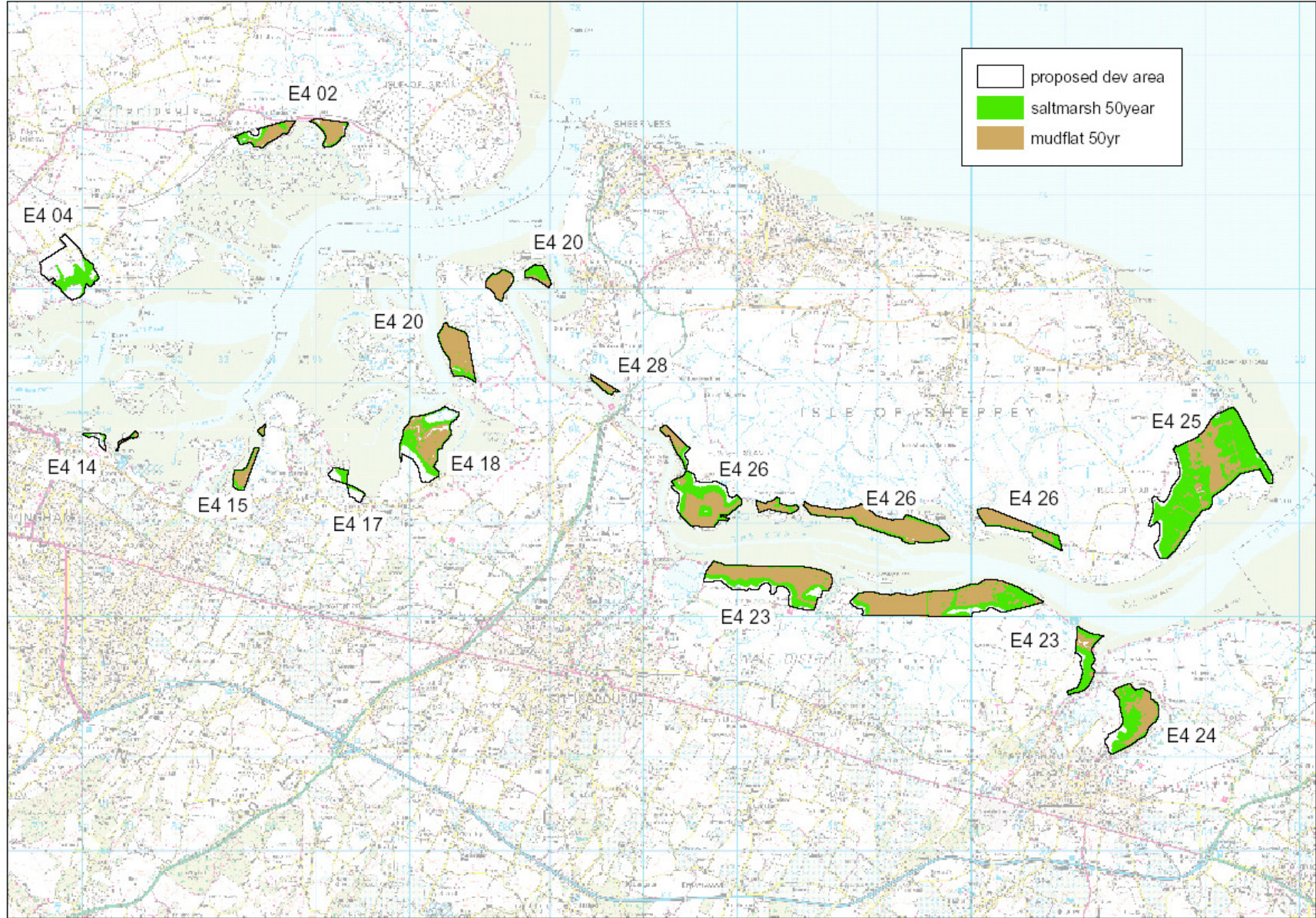
5.0 Glossary

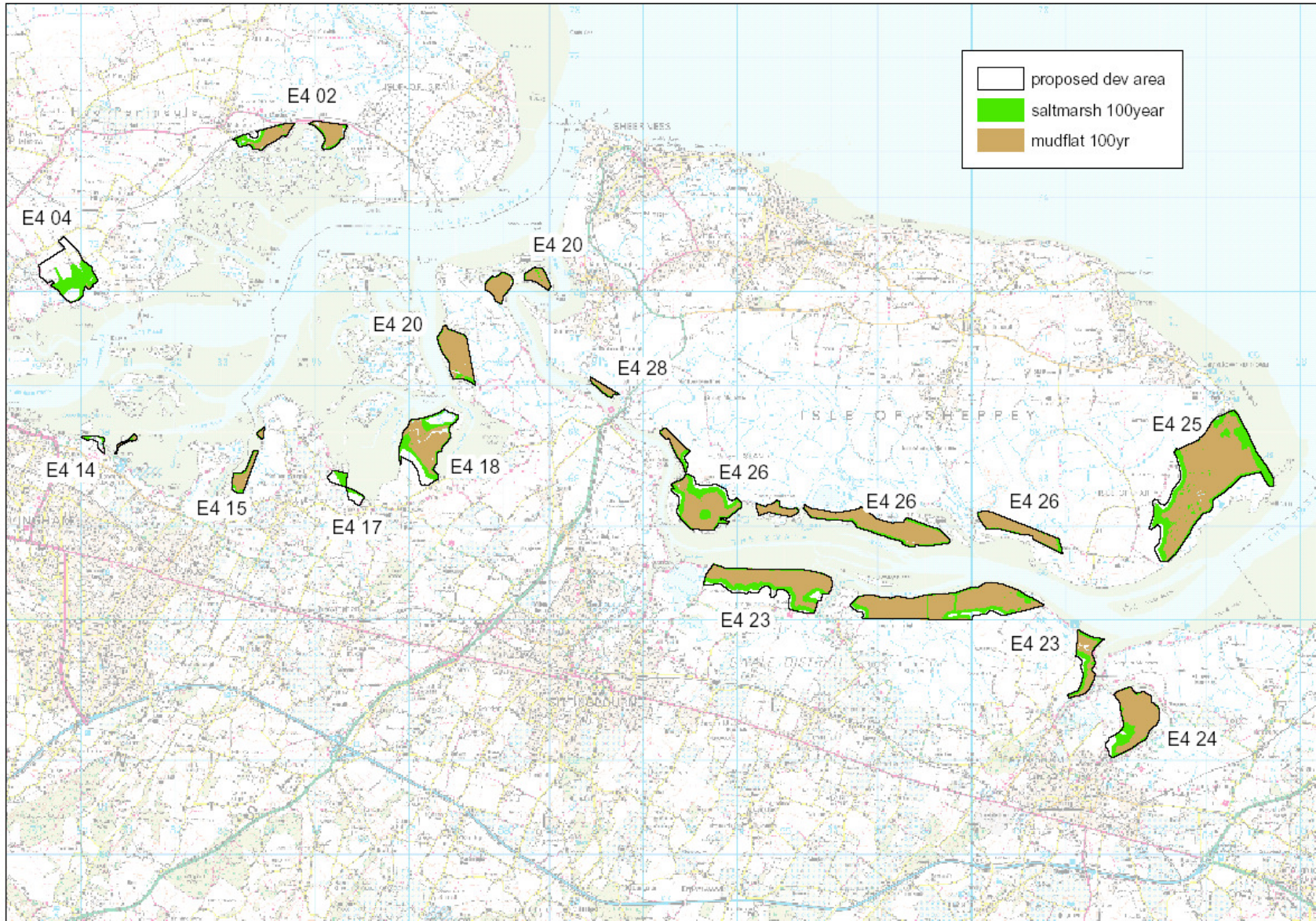
| <u>Acronym</u> | <u>Full Title</u> | <u>Meaning</u> |
|-----------------------|--|---|
| ATL | Advance the Line | The construction of a new flood management scheme in front of existing flood defences. |
| ChaMP | Coastal Habitat Management Plan | A document prepared to ensure compliance of future SMP's and Flood Management Strategies with the Habitats and Birds Directives. |
| SAC | Special Area of Conservation | An internationally important habitat or species designated under the EC Habitats Directive. |
| | Epoch | A period of time. |
| Ha | Hectares | 10000 square metres |
| HTL | Hold the Line | Maintaining the existing flood defences and control structures in their present positions and increase the standard of protection against flooding in some areas |
| IROPI | Imperative Reasons of Overriding Public Interest | Reasons where the interests of a Natura 2000 site are overridden by other concerns – listed on Defra Website. |
| MR | Managed Realignment | The policy of Managed Realignment involves the placement of a new Managed Realignment flood defence landward of the existing flood defences or realignment to higher ground. |
| | Natura 2000 | A term used to commonly refer to SPAs, SACs & Ramsar Sites. |
| NAI | No Active Intervention | There would be no further active intervention by Authorities. Without intervention the defences would eventually fail and areas currently protected from flooding would no longer be protected. |
| NE | Natural England | Nature Conservation Body for England |

| | | |
|-------|---|---|
| NCPMS | National Capital Programme Management Service | Environment Agency Department |
| | Ramsar Site | Wetlands designated under the Ramsar Convention, due to their importance, especially as waterfowl habitat. |
| SLR | Sea Level Rise | The rise of sea levels in relation to land levels throughout time in response to global climate and local tectonic changes. |
| SMP | Shoreline Management Plan – | A national initiative for the future planning of the coastline taking a holistic approach to include all coastal authorities. The document brings together information pertaining to coastal issues such as flooding, erosion, coastal process and human and environmental needs. |
| SPA | Special Protection Area | Internationally important nature conservation sites designated under the EEC Wild Birds Directive. All SPAs are also SSSIs. |
| SSSI | Site of Special Scientific Interest | The Wildlife and Countryside Act bestows a duty on the Government to designate land as an SSSI if the land is important in scientific terms due to its flora and fauna or geological features. |

Annex B: Maps of Intertidal Habitat/ epoch/ site

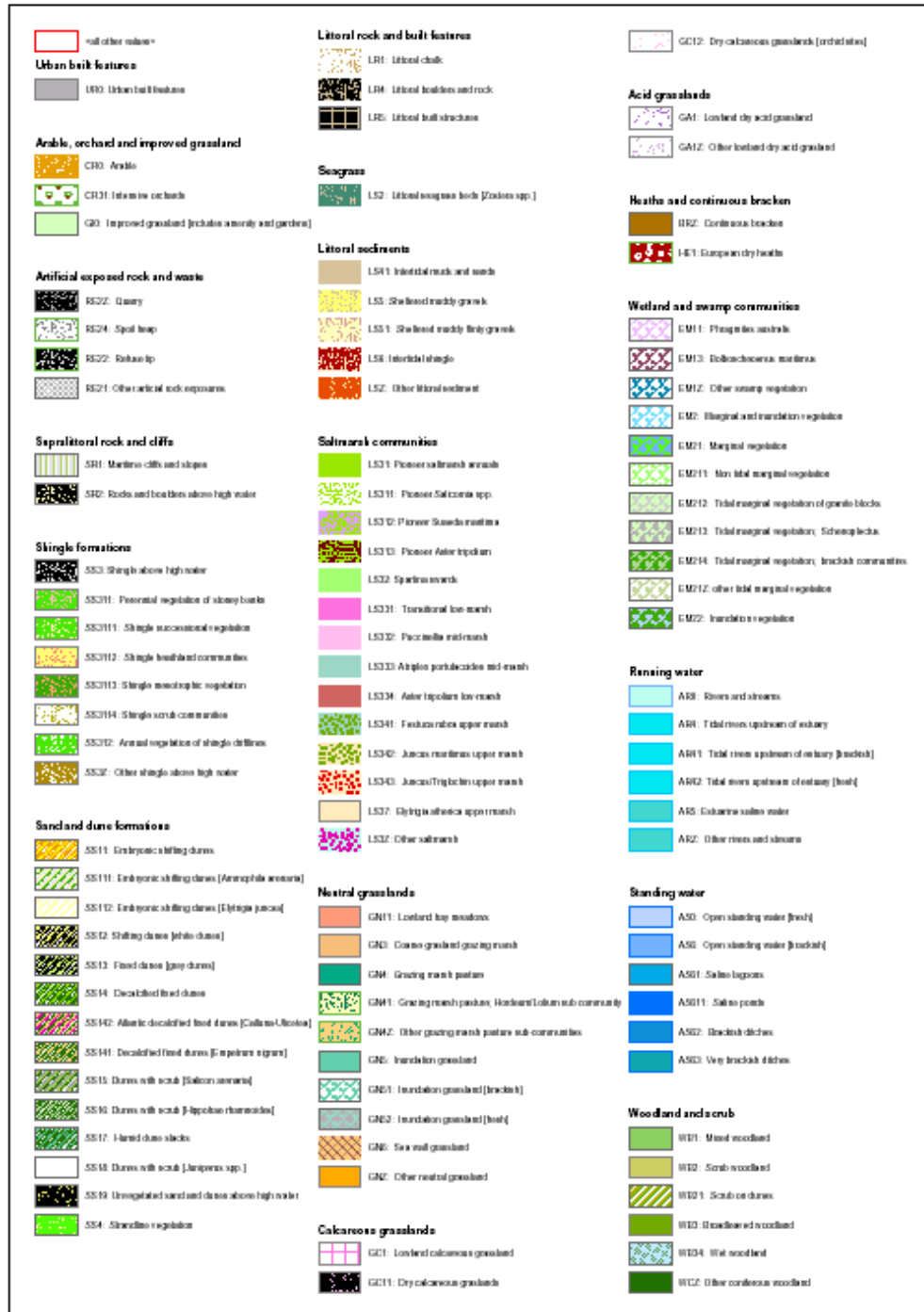




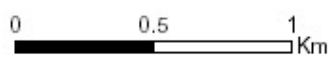
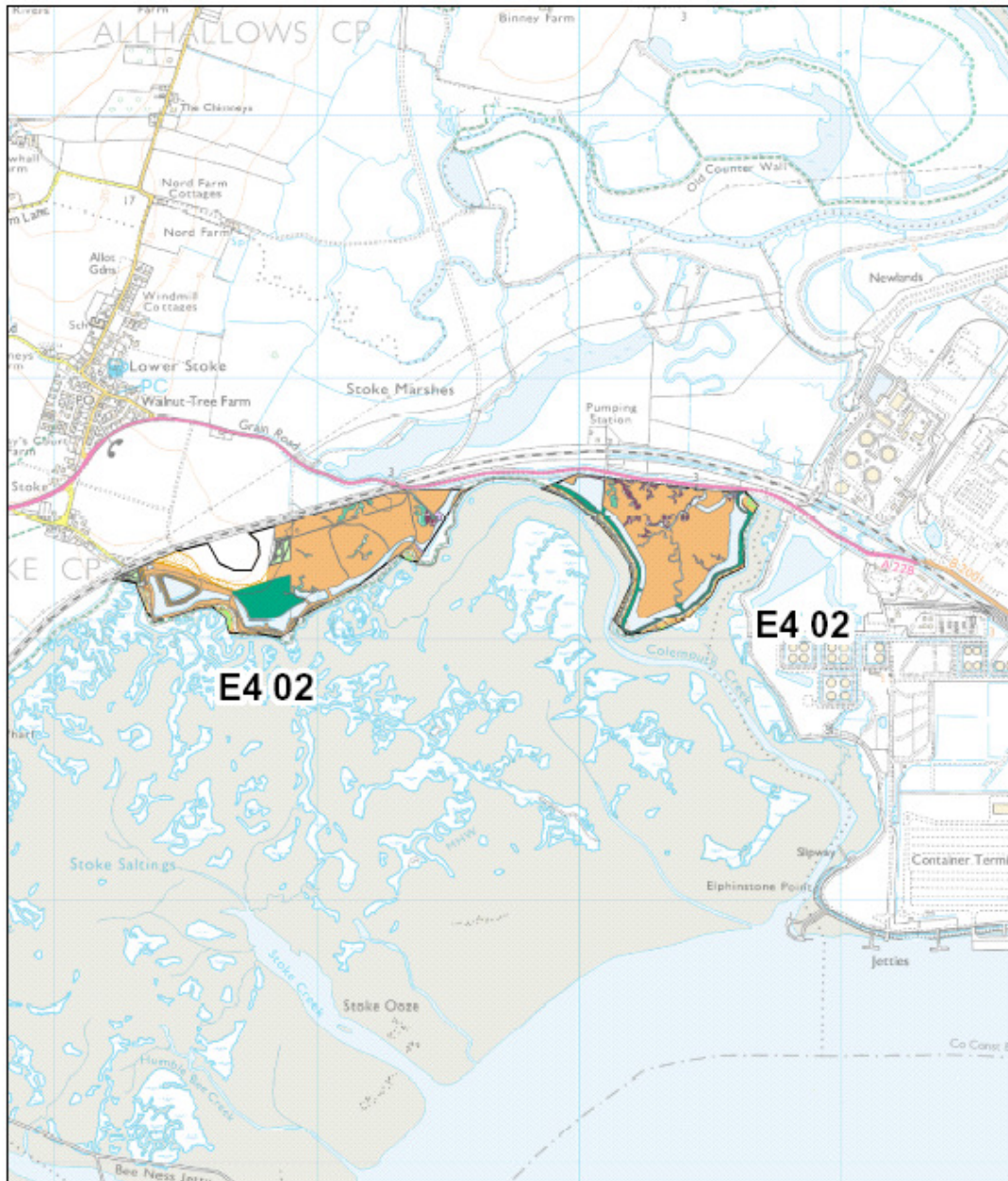


Annex C: Maps of Freshwater Habitat/ epoch/ site

Freshwater Habitat Legend

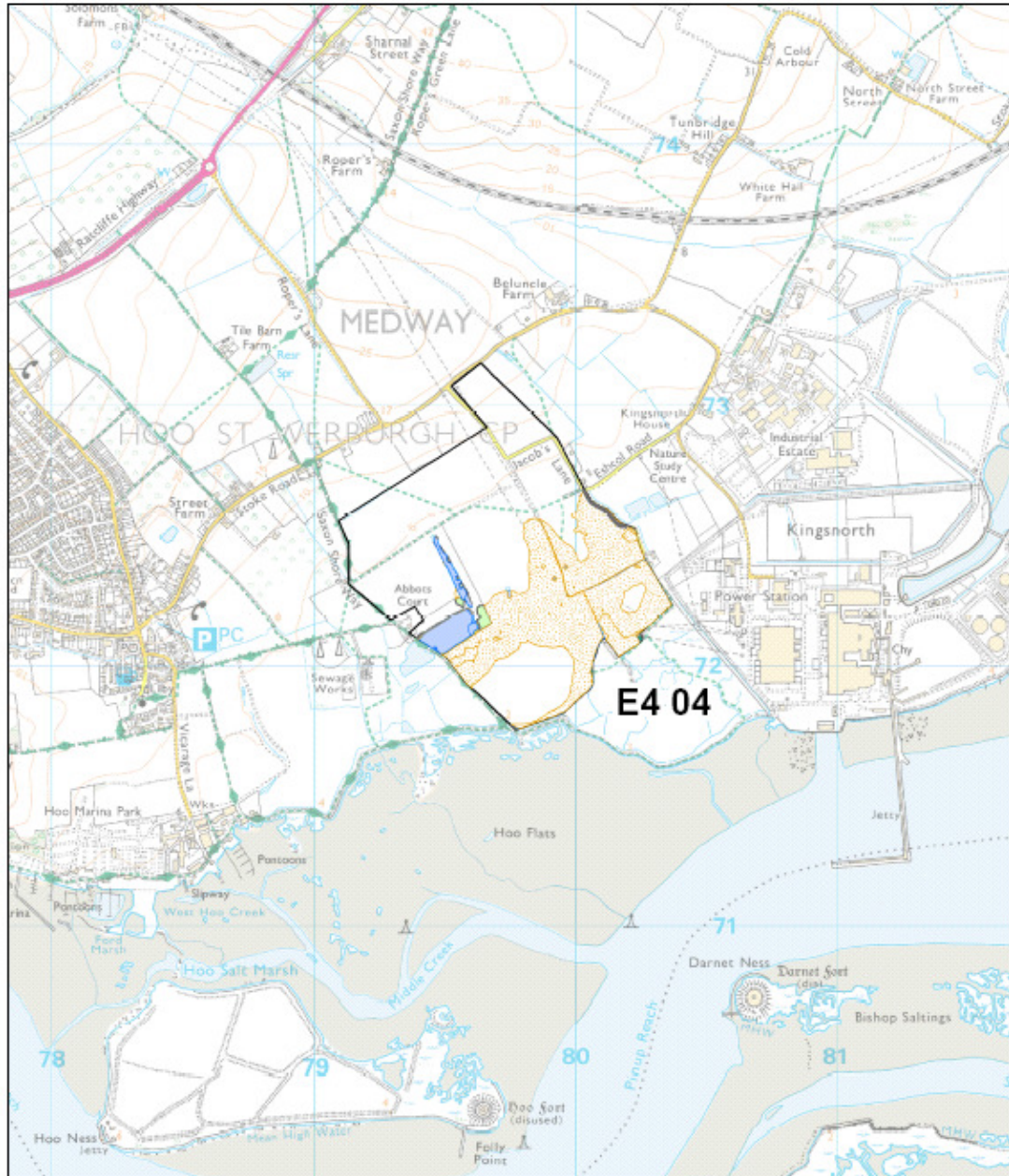


Policy Unit E4 02 - Freshwater Habitat Displaced
by SMP over 100 years



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Policy Unit E4 04 - Freshwater Habitat Displaced by SMP over 100 years



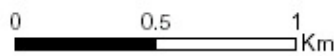
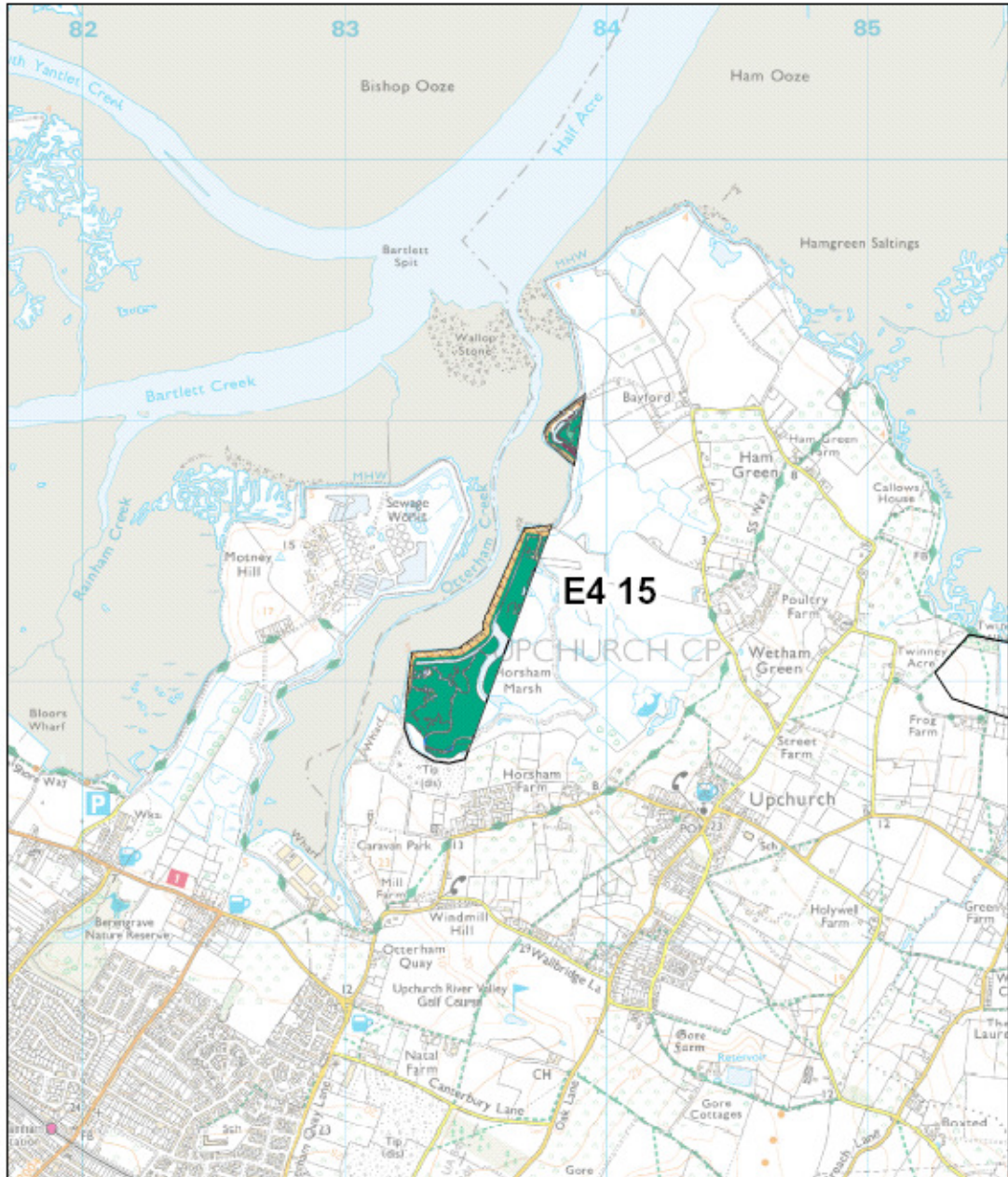
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Policy Unit E4 14 - Freshwater Habitat Displaced by SMP over 100 years



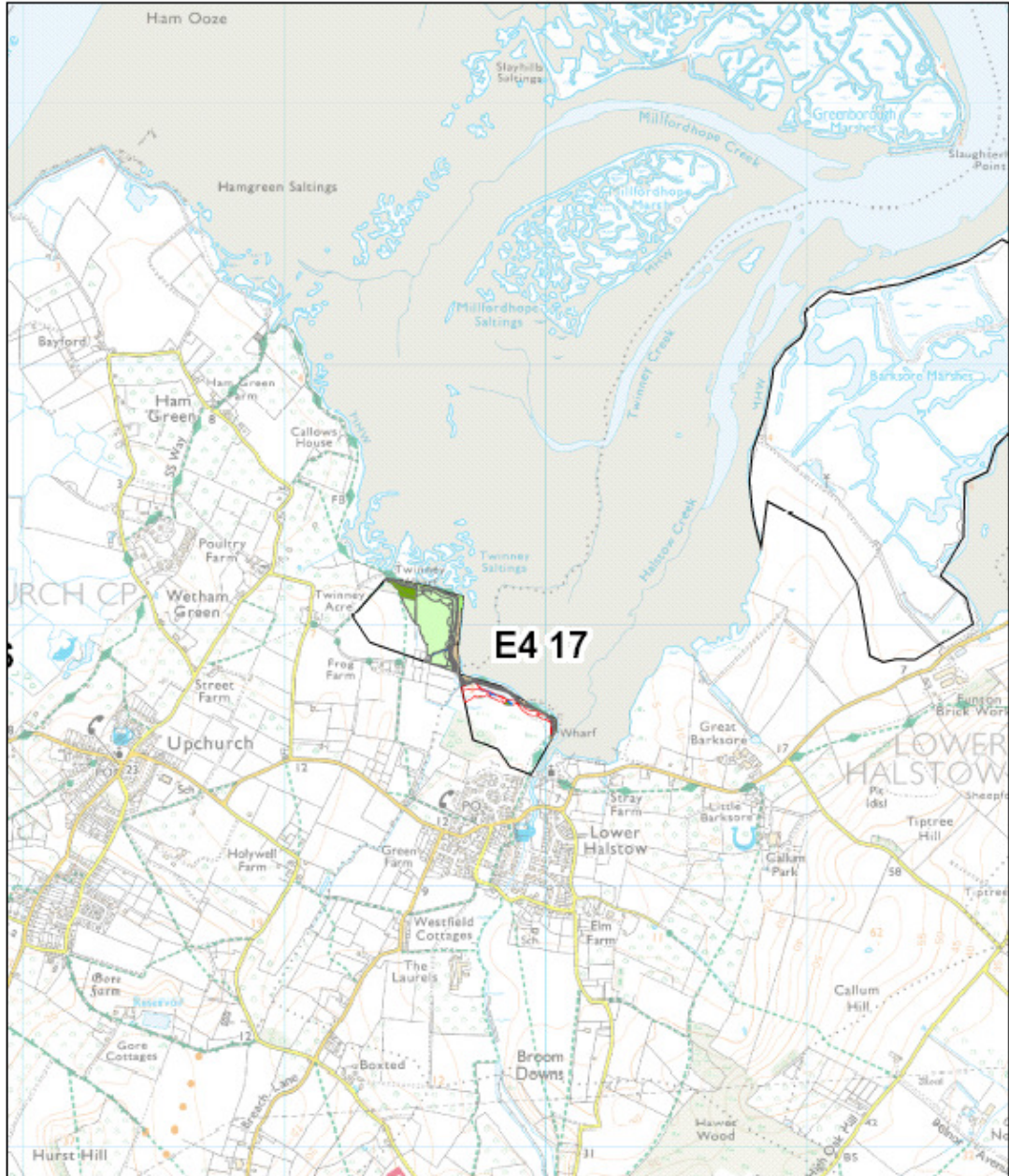
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Policy Unit E4 15 - Freshwater Habitat Displaced by SMP over 100 years



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Policy Unit E4 17 - Freshwater Habitat Displaced
by SMP over 100 years



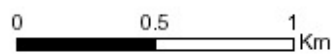
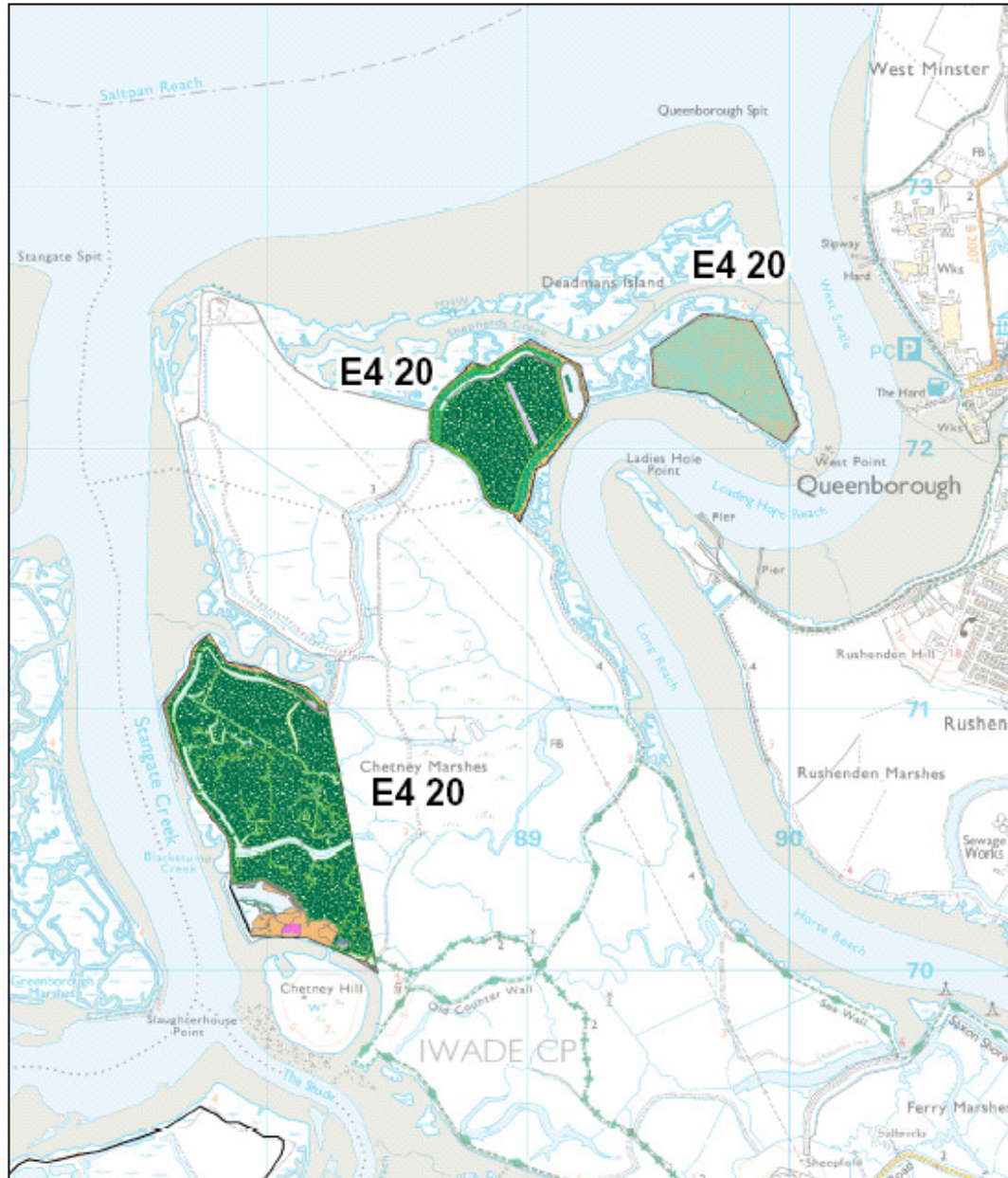
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Policy Unit E4 18 - Freshwater Habitat Displaced
by SMP over 100 years



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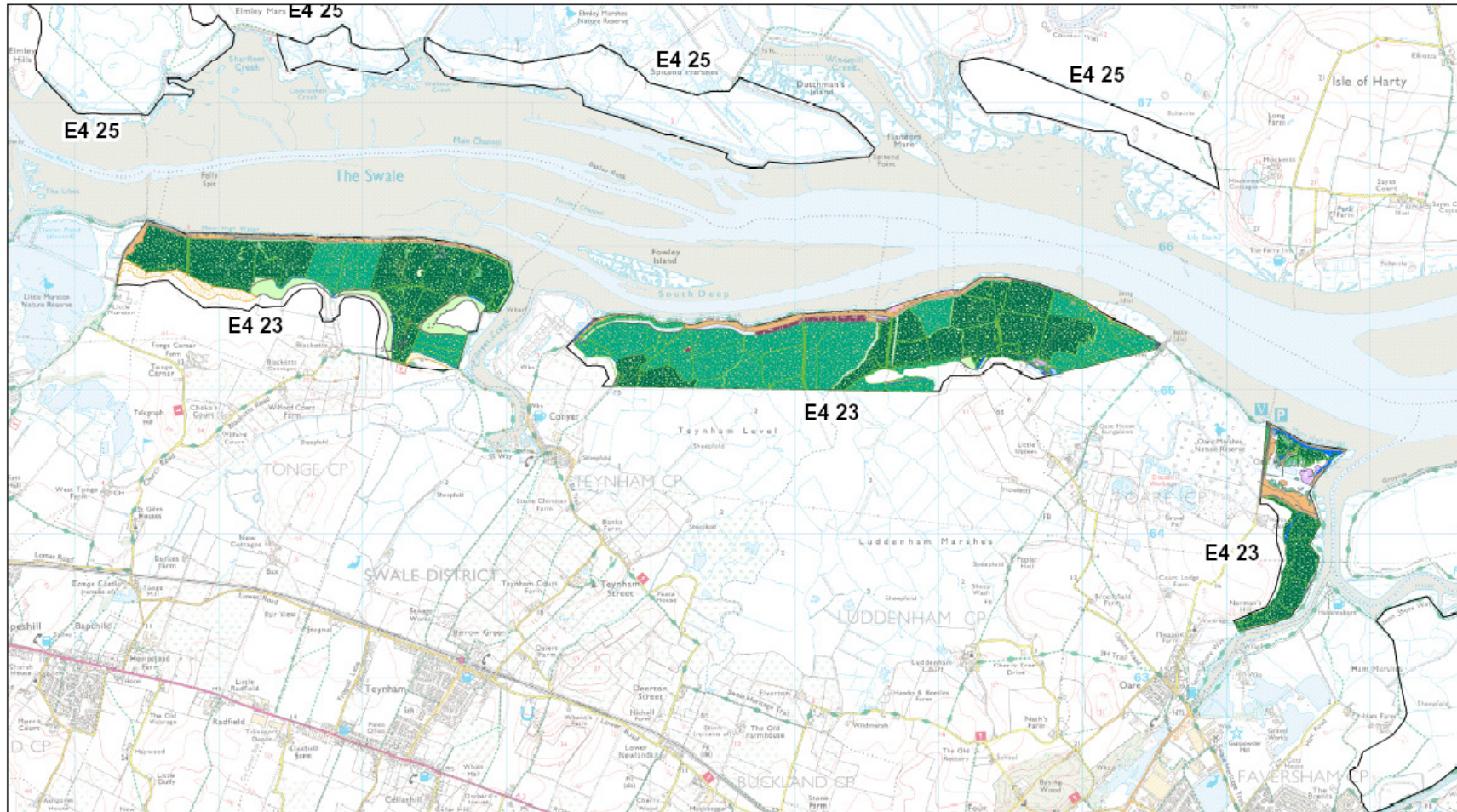
Policy Unit E4 20 - Freshwater Habitat Displaced by SMP over 100 years



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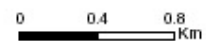
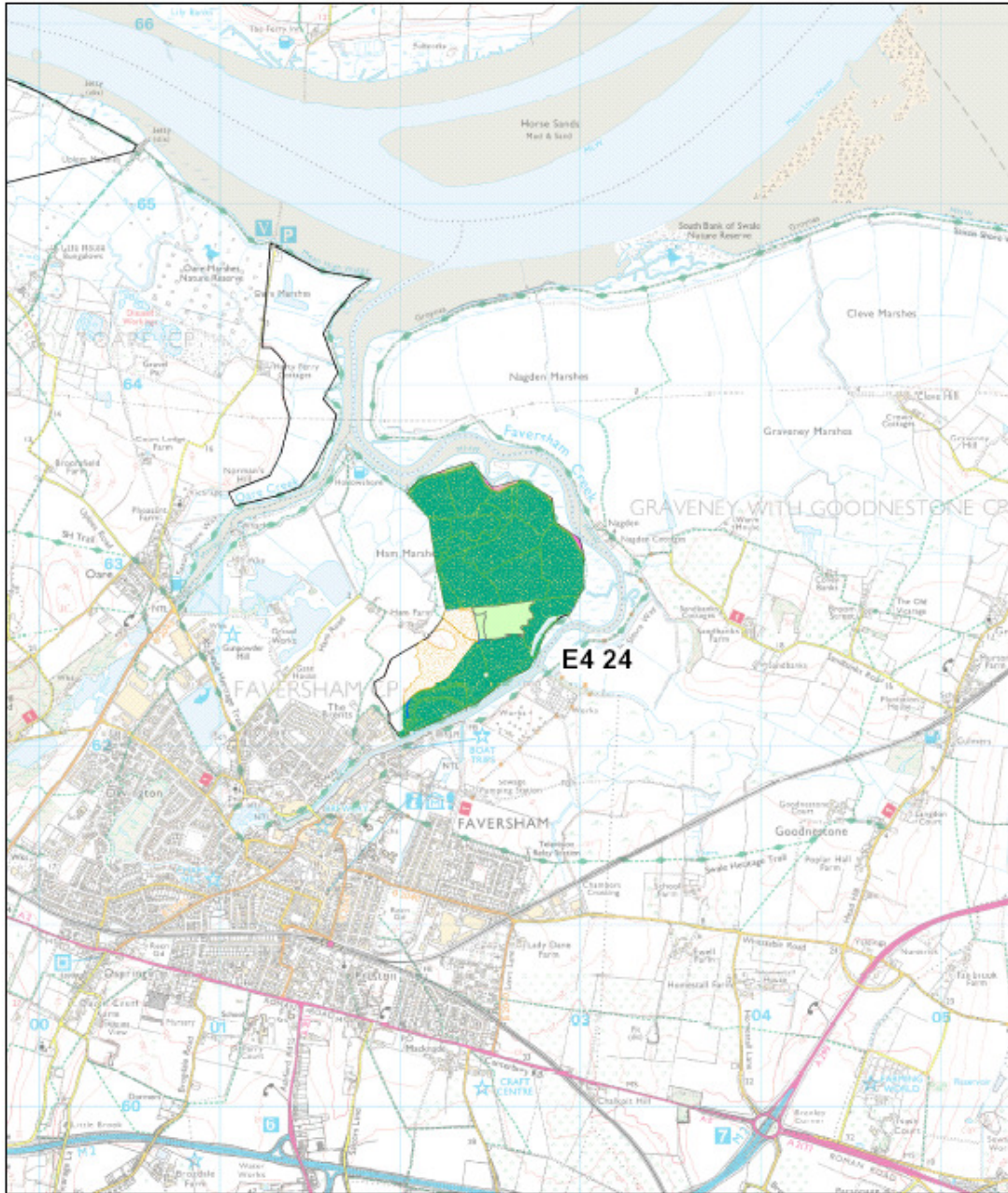


Policy Unit E4 23 - Freshwater Habitat Displaced by SMP over 100 years



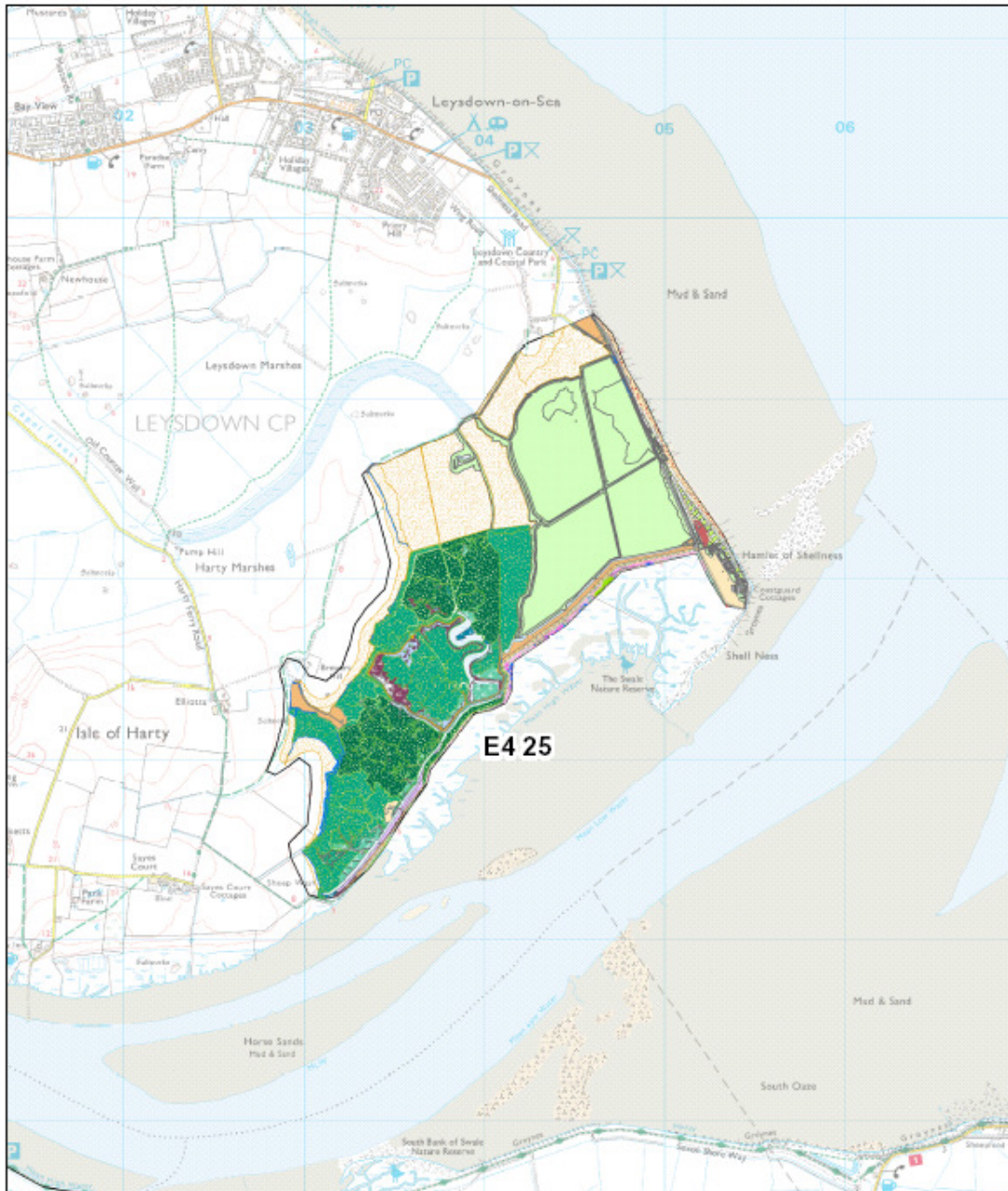
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Policy Unit E4 24 - Freshwater Habitat Displaced by SMP over 100 years



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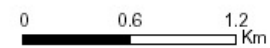
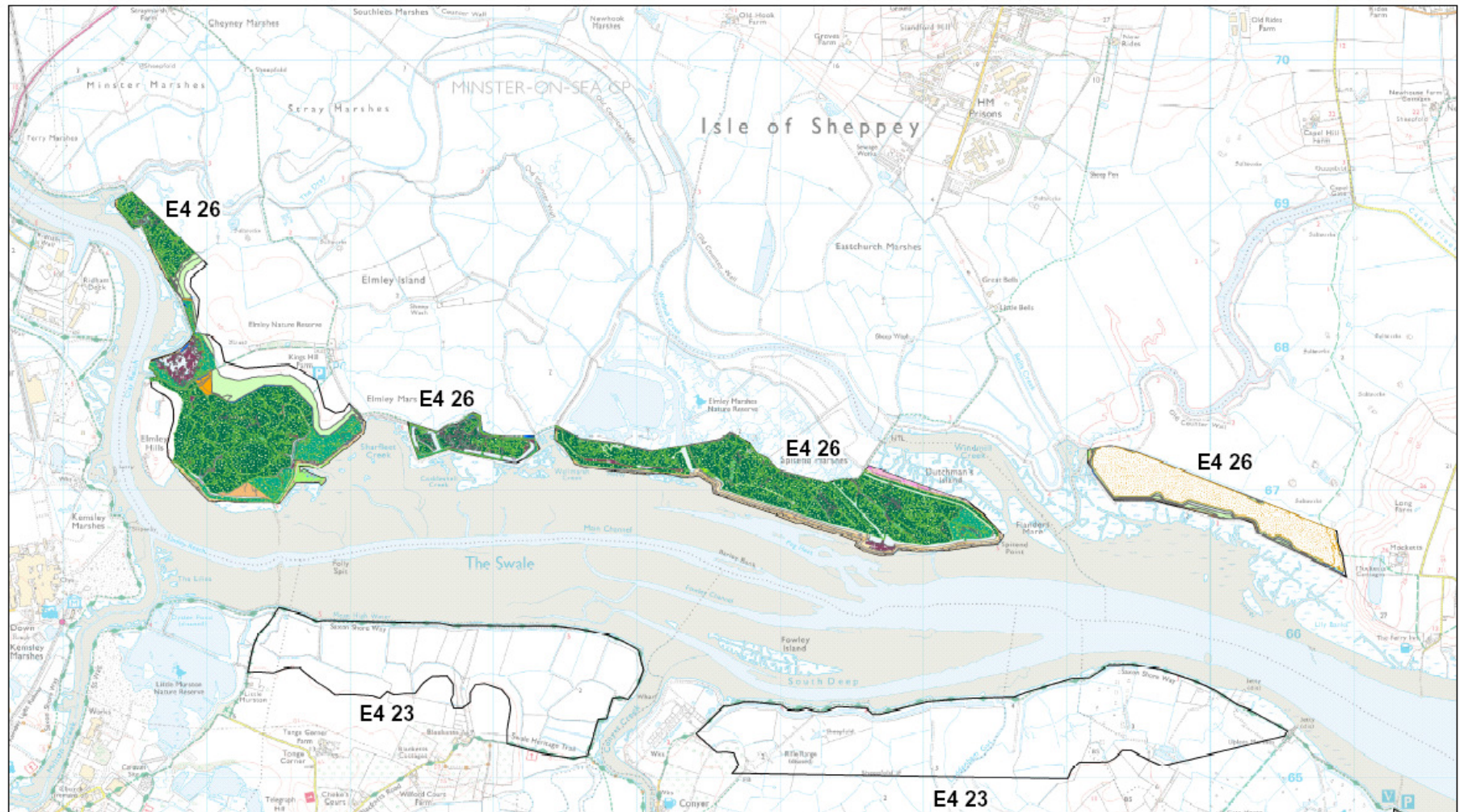
Policy Unit E4 25 - Freshwater Habitat Displaced by SMP over 100 years



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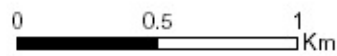
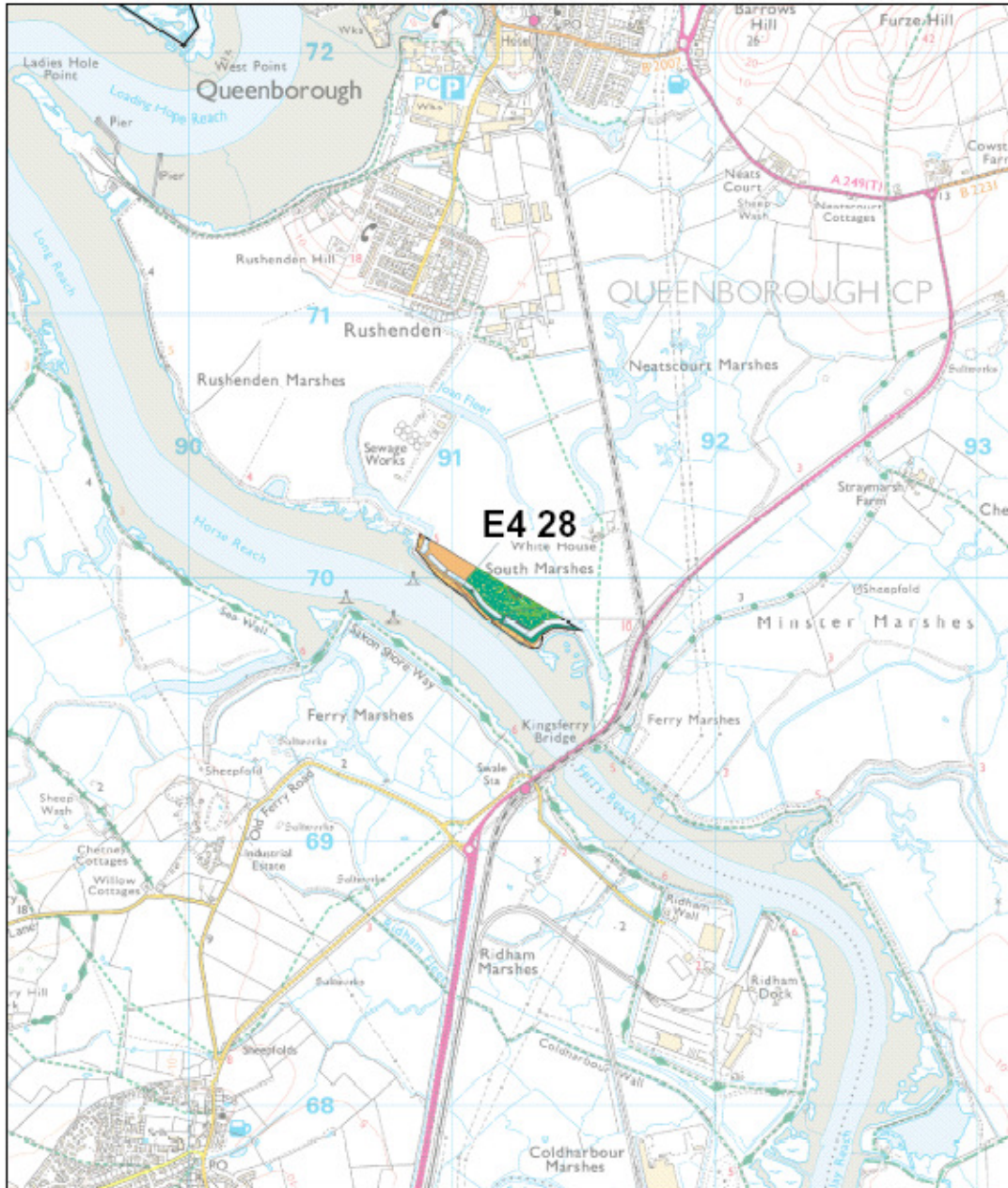
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Policy Unit E4 26 - Freshwater Habitat Displaced by SMP over 100 years



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Policy Unit E4 28 - Freshwater Habitat Displaced by SMP over 100 years



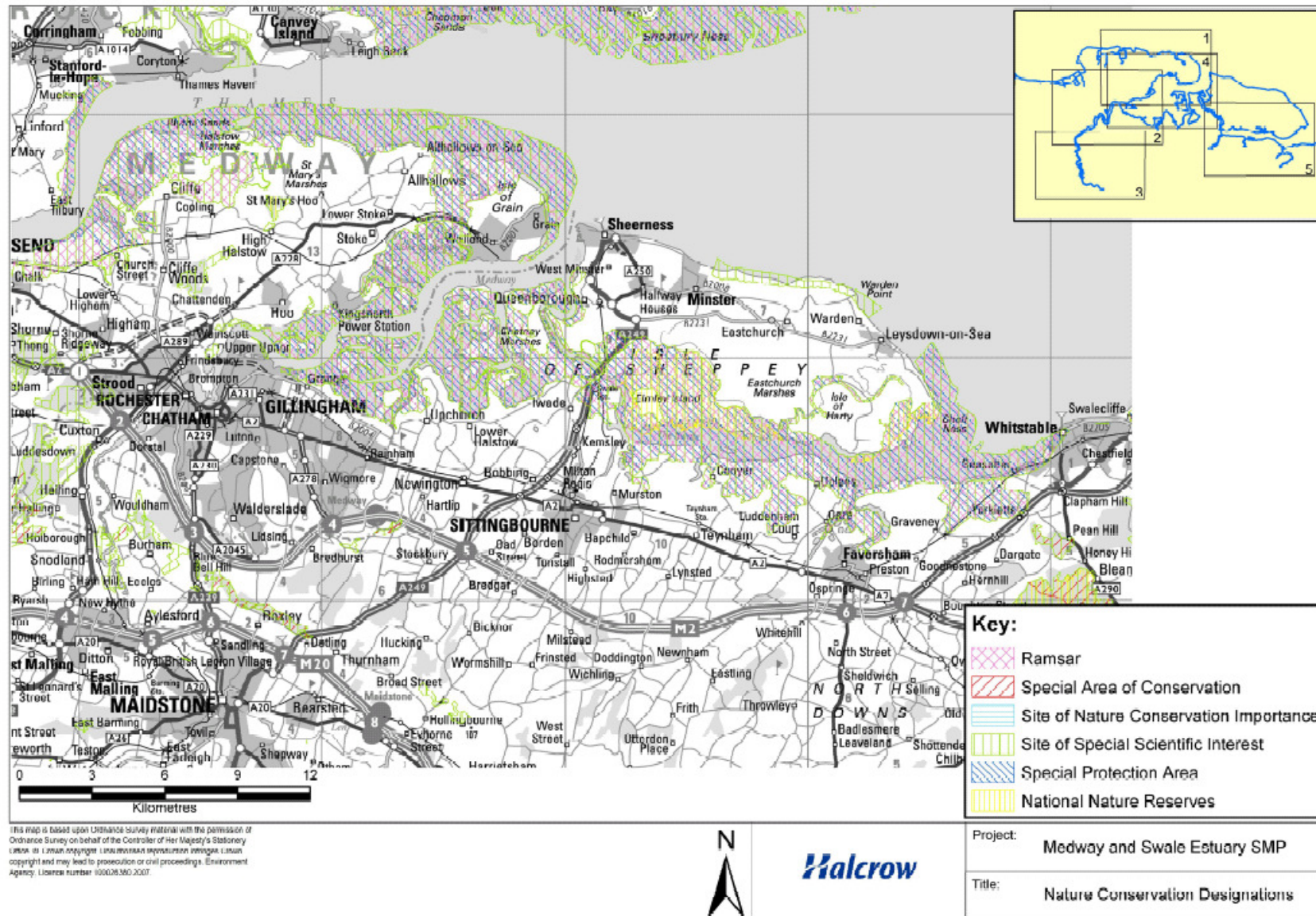
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**Annex D: HR01 Forms (Appendix 11)
Environment Agency Record of
Assessment of Likely Significant Effect
on a European Site**

**Annex E: HR02 Forms (Appendix 12)
Proforma for Stage 3 Appropriate
Assessment**

**Annex F: Stage 4 Proforma for Secretary of State
Consideration (Appendix 20)**

Annex G: Map of European Sites and Citations



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Annex H: Stage 1 Meeting Minutes

NOTES OF MEETING (draft date 01 February 2007)

Project Name: Medway Estuary and Swale SMP

Meeting Title: Appropriate Assessment Meeting **Number:**1 **File:**

Location: Leigh Barrier **Date:** 26/01/07 **Time:** .10.00am..

Attendees

Mark Smith (EA NCPMS PM)
 Carol Peirce (EA NEAS)
 Ingrid Chudleigh (Natural England)
 Rebecca Moberly (Natural England)

Apologies: Steve McFarland (Canterbury City Council)

Recorded by: MS

Circulated to: Attendees, Halcrow, Canterbury City Council (SECG Chair/ IGSF SMP2)

| Item | Notes | Action | Due Date |
|------|---|--------|----------|
| 1. | <p>Introductions / Apologies</p> <p>Steve McFarland unable to attend</p> | | |
| 2. | <p>Is the SMP necessary for the site?</p> <p>MS reaffirmed that the SMP aims to manage the coast in the most sustainable manner balancing the needs of all interest features. The SMP should not propose a policy that cannot be implemented. All attendees should be aware that the SMP may have to prescribe</p> | | |

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| <p>3.</p> | <p>a less sustainable policy to reflect the legal obligation placed by Natura 2000 legislation.</p> <p>Natural England confirmed that the SMP is not necessary for the site.</p> <p>Site Management Needs, Available Information & Future Partnering Approach</p> <p>IC provided the Citations and Regulation 33 packages for both the Medway Estuary & Marshes SPA & Swale SPA (Reg 33 one combined document).</p> <p>The attendees highlighted the following additional sites for which similar information is required from Natural England:</p> <p>THAMES ESTUARY & MARSHES SPA (Citation/ Reg33)</p> <p>PETERS PIT SAC (Citation/ Conservation Objectives)</p> <p>The attendees highlighted the following relevant available information that will be used for the appropriate assessment:</p> <p>SMP/ Medway CHaMP assessments of Coastal Processes & Most Sustainable Coast/ Estuary Alignment</p> <p>EA Review of Consents – Stage 1 information</p> <p>Phase 1 Habitat Survey GIS Data set (EA to check current available data with GT CHaMP/ KCC)</p> <p>South East Plan Site Summary Tables</p> | <p>NE</p> <p>EA</p> <p>EA</p> | <p>30/1/07</p> |
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| | <p>Kent BRC Habitat Surveys (where relevant)</p> <p>SSSI Favourable Condition Information (to inform viability of site modification/ Priority Habitats/ Ramsar features)</p> <p>MESP Website (KCC) – Bird Distribution Data</p> <p>MS outlined the roles & responsibilities:</p> <p>Competent Authority – South East Coastal Group (incl. NE), EA Lead</p> <p>Relevant Conservation Body – Natural England</p> <p>Secretary Of State - Secretary of State for Environment, Food and Rural Affairs (Defra)</p> <p><u>Future Partnering</u></p> <p>MS highlighted the need for a partnership approach to the assessment as Natural England are a part of the coastal group for whom the SMP is being developed and will be required to sign up to the plan. It thus follows that the assessment has to be developed to mutual satisfaction of the competent authority and that the conclusions and way forward are in best long term interests of the areas affected.</p> <p>MS highlighted that the partnering approach to the assessment of the SMP will require timely action and could use significant resources of both the EA and NE. EA & NE to consider and confirm available resources.</p> <p>Attendees highlighted need to meet with KWT and RSPB to manage expectation of the AA, seek assistance.</p> | <p>EA</p> <p>EA/ NE</p> <p>EA</p> <p>NE</p> <p>EA</p> | |
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| <p>4.</p> | <p>Proposed Appropriate Assessment Method</p> <p><u>Guidance/ Available Examples</u></p> <p>MS stated that the review of available guidance had only reinforced the generic nature of the guidance. Following the Stages 1 to 4 approach is preferred for consistency and his proposed methodology will be amended to reflect this.</p> <p>Levitt-Therivel Guidance (August 06) for Local Development Frameworks etc. is useful and practical guidance. This will form part of the reference material used, although it was developed for a different purpose and likely to be too detailed for a lot of SMP assessments.</p> <p>EA FRM Plans Guidance being developed – Structure of the assessment method to be followed. Team to keep abreast of developments in the guidance and refer as required.</p> <p>NECAG SMP Pilot Appropriate Assessment – More detailed than can be delivered within available resources. Lessons learned to be referred to when queries arise.</p> <p><u>Proposed Medway & Swale Method</u></p> | <p>EA/ NE</p> <p>EA/ NE</p> | |
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| | <p>MS outlined draft 2 of his proposed methodology (Medway_SwaleSMP_AA_method_guidance_NEd2).</p> <p>EA and NE agreed, to reflect the high level and low detail of the Shoreline Management Plan, the SMP Appropriate Assessment will be limited to assessing Habitat level effects only i.e. the attendees agreed that, at SMP level, the assessment will assume that the management of designated habitats will manage designated species. This judgement is based on the Phase 1 Habitat Distribution information being used in the assessment.</p> <p><u>General Comments on Method</u></p> <p>Clarify that the assessment is Natura 2000 site based not Network</p> <p>Use summary tables as per South East Plan AA</p> <p>Use Appendix 11 & 12 forms (EA), Modified as required to record the assessments for each Natura 2000 site.</p> <p><u>Detailed Comments on Method (draft 2)</u></p> <p>Page 2 - Reword point (e)</p> <p>Page 3 (Flowchart) - Rename Stages to tie into Stages 1-4. Add App 11 proforma to Significant Effect Assessment & remove from later section. Add Mitigation measures to Adverse Affect Assessment Stage. Clarify where alternatives are considered.</p> <p>Page 4 – Give examples of temporary impacts and required</p> | <p>EA</p> <p>EA</p> <p>EA</p> | |
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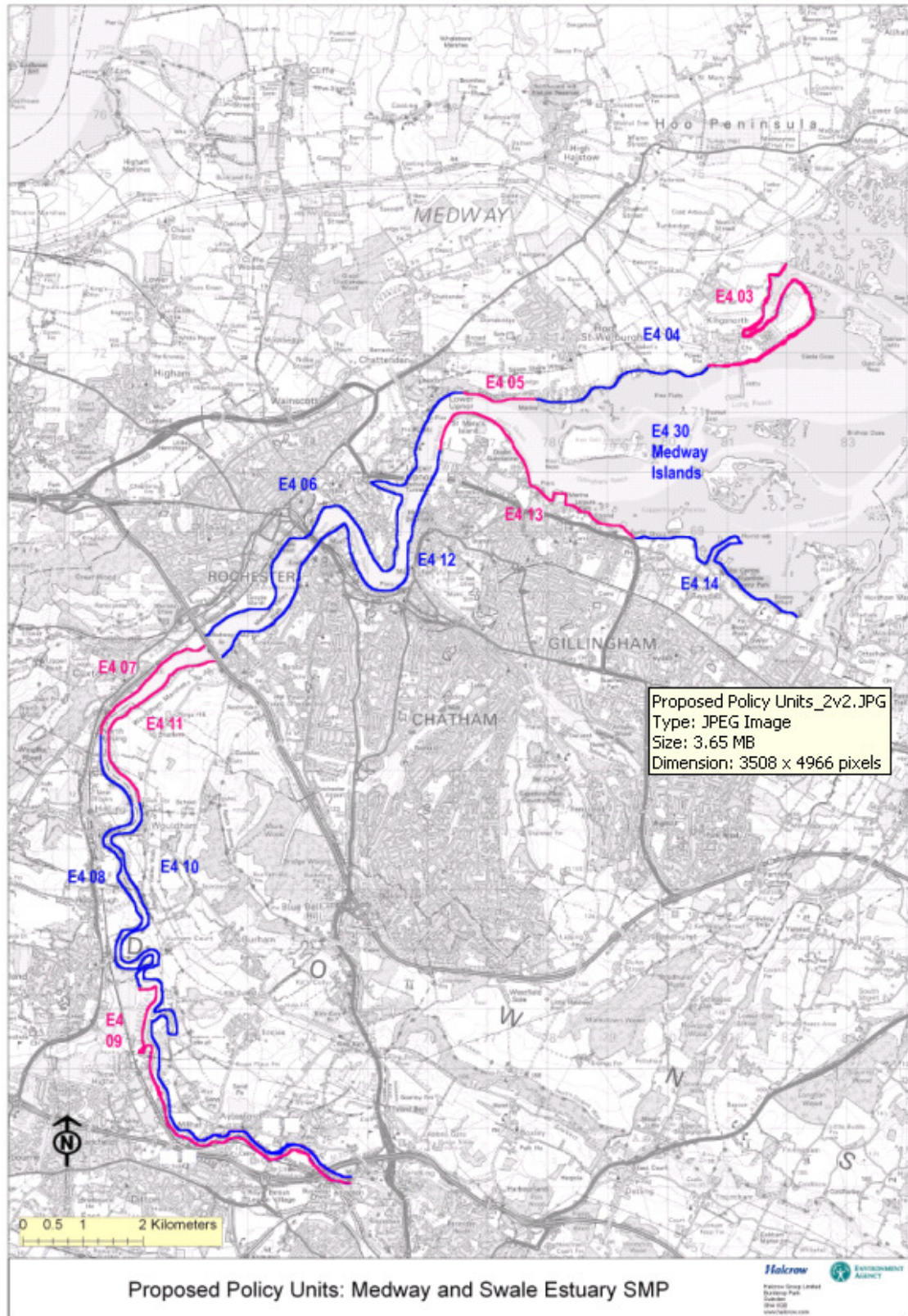
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| | <p>controls. Clarify that these will be conditions of the assessment.</p> <p>Page 5 (Table 1) – Generic Procedure doesn't apply to Policy Unit E430 Medway Islands where the islands are important features not accreting. Other units seem to tally but caution to be applied during the assessment. This process will form 'likely significant effect' assessment. Beneficial effects to be recorded as significant to aid later assessment of whole site. Neutral effects to be screened out</p> <p>The actions listed are part of the assessment of effect (Stage 3) and should be separated or clearly shown as part of this stage.</p> <p>Page 6 – Check Policy and Legality of point (b). NE and EA to check policy of i) whether freshwater migration outside of Natura site boundaries to allow for coastal rollback is compensation or mitigation; and ii) what is secured compensation/ mitigation at SMP level.</p> <p>Remove point (c) and cater for in mitigation conditions</p> <p>Page 7 – Bar the action of quantifying habitat change, Task A is the conclusion of Stage 2 assessment of 'likely significant effect' not part of stage 3. Record beneficial effects as previously noted.</p> <p>EA/ NE to agree the method of quantifying the habitat change prior to undertaking this task within the assessment. Check Nationally consistent methods.</p> <p>Page 8 – Task C: Change reference from 'whole SMP' to 'Natura 2000 Site'. This stage needs to be informed by the recreatability of habitats lost/ mitigated/ compensated – NE to provide advice on recreatability of habitats affected, their relative location and the timescales required for recreation. Temporary (0-50yrs) loss of habitat is likely to cause adverse effect, MS to change the conclusion in Task C example. NE to check policy on temporal</p> | <p>MS</p> <p>MS</p> <p>MS</p> <p>MS</p> <p>EA/NE</p> | |
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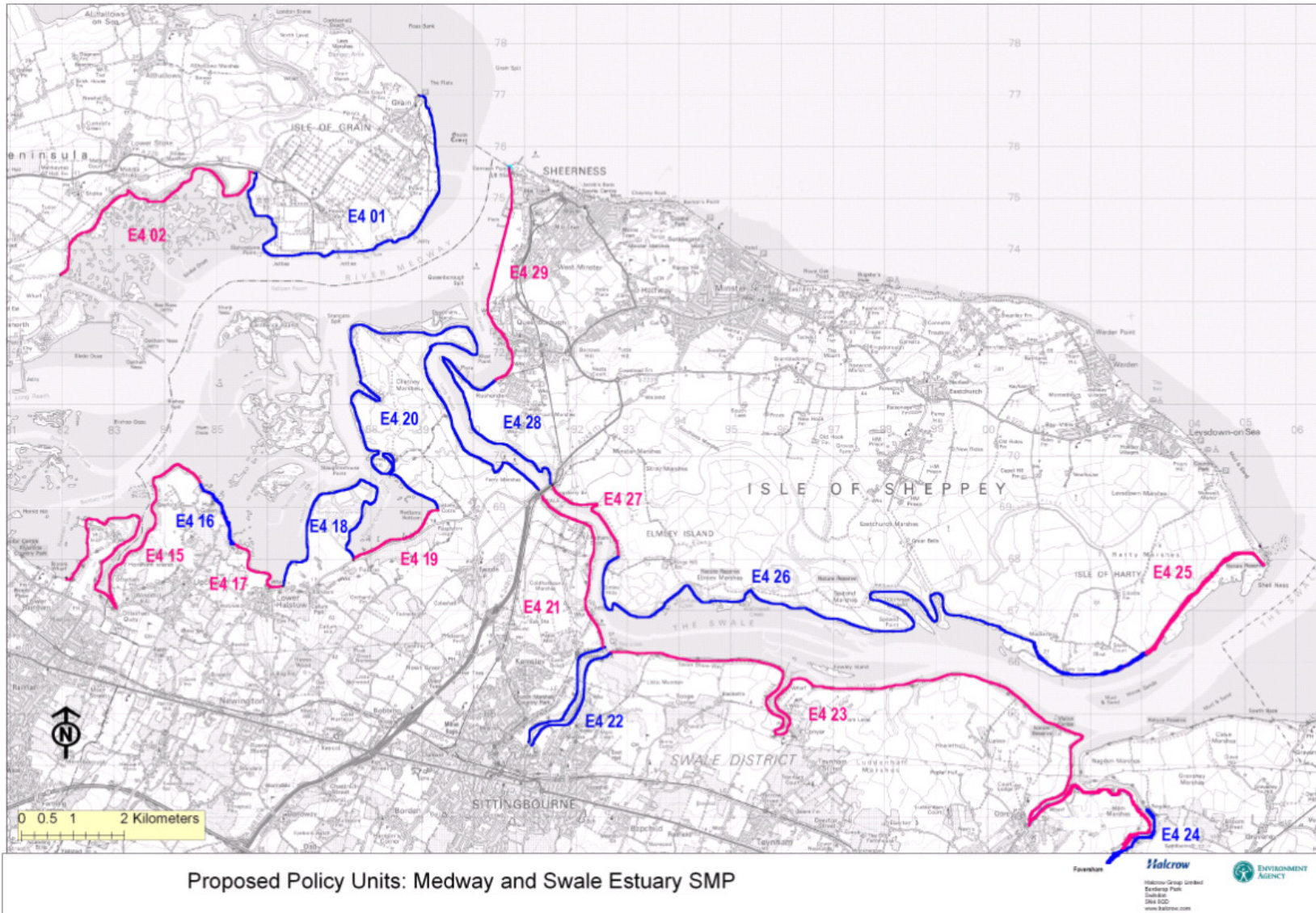
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| | <p>losses of habitat, the scale of loss and effects on site integrity.</p> <p>Page 8 – Task D: Change reference from ‘whole SMP’ to Natura 2000 site. Mitigation will be considered in this task. This task will test the skills of both the EA and NE in assessing what is acceptable site modification/ mitigation wrt the future sustainable management of the estuary and the sites. NE to investigate guidance on site modification. SSSI Favourable condition information may help inform this. Insert reference to conditions of the assessment</p> <p>Page 9 - Task E & F: Switch the order of these.</p> <p>Page 9 – Task F (when reordered): Insert Appendix 12 record. The attendees agreed that the in combination assessment should include consideration/ sensitivity assessment of current versions of the following:</p> <p>Adjacent SMPs</p> <p>Local plans/ LDFs</p> <p>Thames Gateway Proposals</p> <p>TE2100 Proposals</p> <p>GT CHaMP</p> <p>Medway Ports Proposals</p> <p>CFMP Policies</p> <p>It was agreed that the problem of Spartina Monocultures would not be part of the in combination assessment as the plan cannot control the problem.</p> <p>Page 9/10 – Insert new task following Task F (when reordered) to</p> | <p>EA/NE</p> <p>MS</p> <p>MS</p> <p>EA/NE</p> <p>EA/NE</p> <p>MS</p> <p>MS</p> <p>MS</p> <p>NE</p> <p>MS</p> | |
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| <p>5.</p> | <p>assess alternatives.</p> <p>Page 11 – Next Steps: Explain link to alternatives tests in previous tasks</p> <p>Stages after Appropriate Assessment</p> <p>Note comments on Pages 9 to 11 of MS' method under item 4</p> <p>MS tabled Defra coastal squeeze policy – MS to supply to NE</p> <p>MS highlighted that the need for Secretary of State notification of negative assessments of strategic plans is as yet, unclear. MS to clarify.</p> <p>EA/ NE will have to provide a unified case for any negative assessment that will typically be derived on grounds of long term sustainability of coastal management approach.</p> <p>Future Agreement to SMP/ Mechanisms for Accepting Adverse Effects</p> <p>All attendees reaffirmed a unified partnership approach is required to derive the best balance for managing the estuary and its Natura 2000 sites into the future.</p> | <p>NE</p> | |
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Annex I: Maps of Policy Units





Proposed Policy Units: Medway and Swale Estuary SMP