North Norfolk Shoreline Management Plan (SMP)
Strategic Environmental Assessment (SEA)
Addendum to environmental report

Contents

1 Introduction and background

1.1 The Norfolk Shoreline Management Plan (SMP)

This document is an addendum to the Strategic Environmental Assessment (SEA) environmental report for the second North Norfolk Shoreline Management Plan (SMP). The North Norfolk SMP2 runs from Old Hunstanton to Kelling Hard and covers about 44 kilometres of coastline.

1.2 The SMP context for the SEA

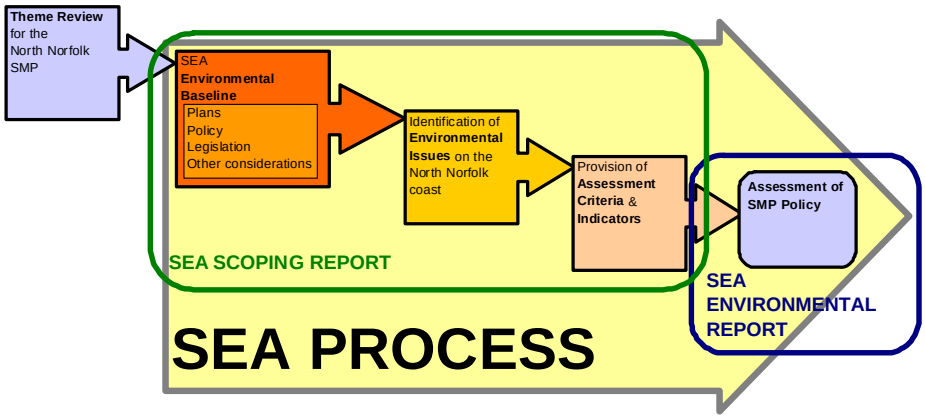
The SEA process to accompany the SMP is intended to ensure that considering the environmental issues relating to the coast is central to developing and evaluating policy. The **environmental report** provides the means to support a structured evaluation of the environmental issues relating to the north Norfolk coast based on using the assessment criteria developed in the **scoping report** (see appendix L of the SMP – Environment Agency, 2009). Within this SEA environmental report, the preceding scoping report and in the same way as that used throughout the SMP process (Defra, 2006), the term 'environment' is used to cover the following **receptors** (as defined by SI 1633):

Receptors

- Biodiversity, fauna and flora
- Population and communities (including human health, critical infrastructure etc)
- Material assets
- Soil
- Water
- Air
- Climatic factors
- Cultural heritage, including architectural and archaeological heritage and
- Landscape

This document provides additional information required in the environmental report. The role of the environmental report within the SMP SEA process is presented in **Figure 1.1**.

Figure 1.1 SEA process within the development of a SMP



1.3 Why we are producing an addendum to the Strategic Environmental Assessment (SEA)?

This report is provided as an addendum to the environmental report (appendix L of the SMP, Environment Agency, 2009) for the North Norfolk SMP.

After the environmental report was published, ongoing discussions with Natural England and the Environment Agency sought to ensure that the assessment of the SMP under the Habitats Regulations accounted for the uncertainties within a long term strategic plan. This meant that the Habitats Regulations Assessment (HRA) (also known as the Appropriate Assessment) was finalised after the SEA environmental report was published. This addendum seeks to update the environmental report following these discussions and the output of the HRA. This addendum therefore provides an up-to-date and complete account of the assessment tables where they relate to matters influenced by the HRA (assessing the effects on coastal processes, determining effects on the integrity of international sites (sites designated under the Habitats and the Birds Directive and also the Ramsar Convention) and the effects on SSSIs.

This addendum should therefore be read in conjunction with the previous environmental report (Environment Agency, 2009).

This addendum provides an update of the following elements of the assessment:

<u>Assessment Unit F1</u>
A revision of the assessment of the effects of the plan on coastal processes, international sites and sites of special scientific interest. Changes to the assessment tables of the environmental report.

Assessment Unit F2a
A revision of the assessment of the effects of the plan on coastal processes, international sites and sites of special scientific interest. Changes to the assessment tables of the environmental report.

Assessment Unit F2b
A revision of the assessment of the effects of the plan on international sites and sites of special scientific interest. Changes to the assessment tables of the environmental report.

Assessment Unit F3b
A revision of the assessment of the effects of the plan on international sites. Changes to the assessment tables of the environmental report.

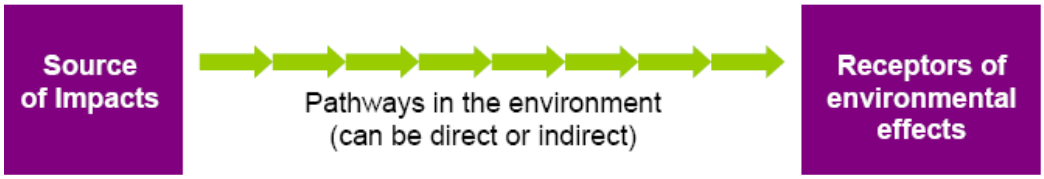
Where the assessment has been updated, the assessment tables provided in appendix 1a include text in italics to show where changes have been made. This addendum also provides additional text to explain more fully how effects of the SMP were considered and their significance determined (see section 1.4 below).

1.4 Prediction and evaluation method

The updated assessment in this addendum has been provided using the same method as in the environmental report. This is provided below, with some additional text intended to make it clearer how the significance of effects has been established.

The method is provided below for context. Some additional text has also been provided to assess the environmental effects of implementing the SMP. This approach is based on the widely-accepted source-pathway-receptor model (SPR) (**figure 1.2**).

Figure 1.2 The source-pathway-receptor model as applied to SEA



The appraisal provided was a qualitative exercise based on professional judgement and supported by peer-reviewed literature where possible. It is important to stress that, given the nature of SMP policy (which is high-level and therefore lacks the detail of an actual scheme), the assessment was based on established effects wherever possible, but also relied heavily on expert judgement of anticipated effects. The performance of each SMP policy grouping against each assessment criterion was given a significance classification as well as a short descriptive summary (for example,

widespread negative effects with no uncertainty). For each SMP policy grouping, the assessment table also included a fuller reasoning of the judgement process used to determine the environmental effects and likely significance of each area. In particular, the following considerations were most important in determining environmental effects and likely significance:

Assessing the significance of effects

- Value and sensitivity of the receptors
- Is the effect permanent / temporary?
- Is the effect positive / negative?
- Is the effect probable / improbable?
- Is the effect frequent / rare?
- Is the effect direct / indirect?
- Will there be secondary, cumulative and / or synergistic effects?

As well as the criteria listed above, the intent of policy was actively considered in actually assessing the policy units. SMP policy, as has been stated, is strategic-level directional policy intended to support the provision of management actions over the next 100 years. The SMP itself does not provide any specific actions. In this context, the intent of policy must form a central consideration in assessing its environmental effects. In simple terms, the questions that were asked in addition to the criteria above were:

1) Will SMP policy have any effect on environmental receptors?
2) Will the SMP policy simply lead to existing impacts continuing?
3) Will SMP policy lead to a significant worsening or improvement of existing environmental impacts? Will the intent of the policy lead to a shift in management where the significance of the effect will change?

As well as the actual level or significance of the effect, the intent of policy (due to its strategic nature) needs to be considered, as the actual level of effect and the nature of impacts will, to a large degree, rely on the schemes that respond to SMP policy. These schemes will be subject to environmental assessment (under national and international legislation). This combined approach of assessing the significance of effects manifests itself as follows in relation to the environmental criteria identified in the SEA:

1.4.1 Threats to biodiversity

As well as the issues relating specifically to significance (effects in space and time etc), the assessment was based on a consideration of whether the policy area would either continue to have positive or negative effects on habitat or species or would lead to an improvement or worsening of such effects.

If the effects of policy were assessed as being significant and that the policy would continue the trend of existing management (for example to hold the

line) then a score of either minor positive or negative would be likely. If the effects were considered extremely significant and/or if the policy would lead to an active shift in management direction (for example from hold the line to managed realignment), a major positive or negative score would be likely. The actual assessment is therefore a composite of significance as defined by the nature of the effects and the direction of management.

Assessment of international sites. With regard to the assessment of effects on international sites (under the Habitats Regulations), the assessment needs to be informed by the separate Habitats Regulations Assessment (HRA).

International sites in the context of this assessment are determined as:

- Special Areas of Conservation (SACs) under the Habitats Directive.
- Special Protection Areas (SPAs) under the Birds Directive.
- Sites designated under the terms of the Ramsar Convention.

This part of the SEA is unique, as the assessment needs to be based on a firm requirement in law to comply with the Habitats Regulations in determining the effect of policy on the integrity of international sites. Policy areas that would have an adverse effect on the integrity of a site are therefore considered to have a major negative effect, as the unique driver under the regulations is clearly defined as the decision-making mechanism (either we are having an adverse effect on integrity, or we are not). If the policy is to continue existing management which is expected to have no effect on the integrity of sites (but is maintaining such integrity – for example by a hold the line policy that protects a freshwater feature), then a minor positive score would be provided. If the policy provides for a shift in management to avoid adverse effects on integrity (for example from hold the line to managed realignment to offset adverse effects) then a major positive effect would be provided. A further factor in this particular assessment is the fact that the assessment under the Habitats Regulations must be on the plan as a whole, alone or in combination with other plans and projects. This factor is reflected in the assessment tables provided, which link directly to the HRA.

This additional element of the assessment (missing from the previous environmental report) is provided in this addendum.

UK Biodiversity Action Plan (BAP) habitat. With regard to effects on BAP habitat, similar provisions applied (the basis of continuation or shifts in management coupled with the actual effects). A key factor in assessing BAP habitat was, however, the nature of BAP habitat on this coast. The range of habitats along the coastal zone of this SMP are all priority BAP habitat and include:

- Coastal flood plain and grazing marsh
- Coastal saltmarsh

- Coastal sand dunes
- Coastal vegetated shingle
- Intertidal mudflats
- Reedbeds
- Saline lagoons
- Seagrass beds
- Subtidal sands and gravels
- Tide swept channels.

Within the context of a dynamic coast and the intent to ensure that there is a natural development of coastal habitat, the principle applied to the coast is therefore one of no net loss of BAP habitat in the plan area. The habitat types are all priority habitat and it would not be appropriate at the BAP level to provide any further assessment of the relative importance of habitats within this list. The assessment was therefore based on an assessment at the policy unit level of whether there would be a net loss of BAP habitat. Again, this decision was supported by the significance of continued management or active shifts in management (and effects) within the SMP.

Sites of Special Scientific Interest (SSSI). The key factor in the assessment of the SMP was whether the SMP would lead to SSSIs falling into or moving towards unfavourable condition. This assessment (through discussion with Natural England) was then evaluated with regard to the direction of management outlined above. Minor scores were provided where the plan provided a continuation of existing conditions and major scores were reserved for where shifts in management would lead to a significant change in the scale of effects.

The principles described above also shaped the assessment of other biodiversity criteria through a combination of the nature of the effect and the direction of management (and the scale of its effects).

The Water Framework Directive

The assessment provided in the environmental report was guided by the assessment provided for the SMP (appendix K of the SMP). The overall WFD assessment undertaken for the SMP was based on a summary of the effects established within the WFD assessment rather than individual parts of that assessment.

1.4.2 Protection of coastal settlements

The assessment of coastal settlements is provided on the basis described above with regard to the direction and scale of effects of policy. The additional considerations related to the loss or retention of features that are considered important to coastal communities, their sustainable existence and the quality of life provided. The assessment not only considered how significant a given feature or range/collection of features were (based on their

local, national or international significance) but also considered the extent of the feature and the degree to which communities depend on it. The assessment also included a consideration of the overall effects within the policy unit. If, for example, a given policy unit (through a hold the line policy) protected a community and the features it contained, but also led to the loss of an identified feature (such as a footbridge through a managed realignment policy) – the assessment would include an appraisal of the overwhelming positive effects in the unit with the one loss. Equally, the loss would be considered in this context in terms of its function, how important the bridge was, what access it provided, what activities it supported and whether a new bridge could be built to provide the same function. It did not follow therefore, that the loss of a feature would automatically lead to a negative assessment as the other positive effects within the unit would be considered.

1.4.3 Protection of historic assets

The assessment of historic assets followed the same logic as that of the assessment of coastal settlements outlined above. The additional factor here, however, relates to the need to have regard to both known, designated features (listed buildings, scheduled monuments etc) and unknown archaeological assets. The approach taken was to offer a precautionary assessment (based on the likely presence of unknown assets) and to offer a minor negative score if a designated asset was lost. The outstanding matter of unknown assets will be addressed in the action plan for the SMP, where any managed realignment site will be undertaken in consultation with English Heritage to ensure that time and resources are provided for site investigation. The driver within the SMP to protect designated heritage assets did, however, restrict the loss (with one exception of an excavated site) within the plan.

1.4.4 Impacts on the coastal landscape.

The assessment of effects on the coastal landscape was provided by a qualitative consideration of the features and factors (such as dynamic coastal change) that were considered important to the local coastal landscape (based on a management review for the AONB and supporting planning documents). The intent was to determine whether the loss of a feature was important in the context of the landscape and how important the requirement to include a dynamic coast was to the landscape of north Norfolk. Within this, natural and man-made features were considered with regard to their contribution to the landscape – a landscape typified by historic settlements, modified creeks and dynamic natural features such as dunes or shingle habitat. The appraisal provided minor scores based on the direction of management and the actual effect, with major scores being reserved for where the SMP took the form of the landscape in a different direction (either through the loss of features or changes to the degree of dynamism on the coast).

On the basis of this approach to the assessment, the scoring was provided in the assessment tables as follows:

Table 1.1 Environmental impact significance categorisation

Significance of SMP policy	
	SMP policy is likely to result in a significant positive effect on the environment.
	SMP policy is likely to have a positive or minor positive effect on the environment (depending on scheme specifics at implementation).
	SMP policy is likely to have a neutral or negligible effect on the environment.
	SMP policy is likely to have a negative or minor negative effect on the environment (depending on scheme specifics at implementation).
	SMP policy is likely to have a significant negative effect on the environment.
	The relationship between the SMP policy and the environment is unknown or unquantifiable.
	The assessment criterion does not apply to the SMP policy.

This addendum concerns itself with the additional assessment of the effects of the plan on international sites (under the Habitats Regulations) and some finalised issues relating to the effects on SSSIs. This information is available following the completion of the HRA and is provided in the following section. As outlined in section 1.3, where the assessment tables have been updated, entries are provided in italics.

1.5 Primary analysis – a detailed assessment of SMP policy in each SMP assessment unit for the effects on international sites

The detailed assessment of SMP policy in each SEA assessment unit is provided in **appendix 1** of the environmental report (Appendix L of the SMP - Environment Agency, 2009). This section provides an account of the effects of the SMP on international sites, as defined under the Habitats Regulations. An additional appendix is provided here as **appendix 1A** to include the updated elements of the assessment.

As mentioned previously, the Habitats Regulations require that the assessment is provided at the plan level. It is not the intent of the SEA to reproduce the assessment under the Habitats Regulations. For the purposes of this addendum, a summary is provided of the findings of the Habitats Regulations assessment insofar that this relates to the assessment criteria in the SEA. The following is provided in this assessment:

- An updated assessment table for the SEA to include the findings of the Habitats Regulations assessment.
- A summary of the effects in each assessment unit.
- An overall assessment of the effects of the SMP on international sites and an indication of measures to address this.

Taking each area in turn, the effects on the integrity of international sites are as follows:

1.5.1 Assessment unit F1

The proposed policy within this unit will lead to the loss of freshwater marshes and reedbeds through managed realignment (MR) policies. This habitat is essential for bittern and marsh harrier (reedbed) and geese species (grazing marsh). This is considered to have an adverse effect on the integrity of the North Norfolk Coast and the Wash SPA and Ramsar sites.

Although the intent of the policy is to provide a balanced approach to allow the coast to develop naturally, no options were identified during policy appraisal that would give no adverse effect on the integrity of international sites. It is the nature of management of the coast in dynamic areas with established man-made freshwater habitat protected by defences, that adverse effects are often unavoidable. The most appropriate action is to develop a policy suite that allows the natural development of the coast, protects public interests and offers a long-term dynamic environment for coastal habitat. Although assessed as a minor negative effect, the habitats were a central driver in policy development and the preferred policy suite provides for the 'least worst' case.

1.5.2 Assessment unit F2a

In seeking to protect established coastal communities, policies in this frontage have been developed to offer a hold the line approach and secure the long-term viability of these communities. In holding this line however, coastal squeeze will be an issue for intertidal habitats as sea level rise squeezes out intertidal habitat (mudflat and saltmarsh) seaward of existing defences. This would have an adverse effect on the integrity of the North Norfolk Coast SPA and Ramsar site (where this habitat is important for designated bird species) and the North Norfolk Coast SAC (where intertidal habitat is a designated feature). Accordingly, this unit has been assessed as having a major negative effect.

The alternative option would involve losing established coastal communities and existing freshwater designated (or important off-site) habitat.

The hold the line policies in this unit are, however, offset to some degree by proposed managed realignments elsewhere in the SMP area. Due to the uncertainty relating to whether the realignments elsewhere in the plan will offset the adverse effect through squeeze in this unit, a major negative assessment remains appropriate.

The loss through squeeze in this area is also likely to have a minor negative effect on SSSI units in this frontage. A major negative score is not, however, considered appropriate for the anticipated loss, due to the managed realignments proposed elsewhere.

1.5.3 Assessment unit F2b

This unit provides for managed realignment to help offset coastal squeeze elsewhere in the plan area and to increase the tidal prism to ensure that existing tidal creeks are maintained in the long-term (avoiding siltation). Tidal creeks are also important in maintaining stability for nearshore barrier dunes and spits. This realignment is, however, considered to have an adverse effect on the integrity of the North Norfolk Coast SPA and Ramsar site due to the loss of farmland and reedbed. These are important for geese (which use farmland as offsite foraging habitat) and bittern (which use reedbed for feeding). This unit has therefore scored major negative due to this adverse effect.

Alternative options considered were based on avoiding realignment. However, this would lead to the loss of coastal creeks through siltation which are important for the livelihood of coastal communities. It is also expected that the loss of the creeks would lead to the loss of areas of dune habitat they would be expected to roll back (in the absence of the creeks) and be squeezed against higher ground or defences. The option remains the most

beneficial to local communities and the wider features of international sites in this area.

The effect on SSSIs is expected to be neutral under this option as the realignment provides for stability of overall features within the SSSI units in a dynamic context.

1.5.4 Assessment unit F3a

The proposed policies in this unit are not considered to have an adverse effect on the integrity of any international site. The score is therefore neutral.

1.5.5 Assessment unit F3b

This unit contains a complex pattern of freshwater and intertidal habitat containing a dynamic mix of features. The intent of the proposed policy suite is to allow the natural development of this area of coast within this context. This issue is complicated by the location of freshwater reedbed and farmland landward of defences or natural features (such as shingle ridges – themselves a designated (North Norfolk Coast) SAC feature and a feature important for (North Norfolk Coast) SPA bird species). In the context of providing a system that can develop naturally, freshwater reedbed would be lost including an element of farmland. As stated previously, this habitat is important for bittern and geese species and an adverse effect on the integrity of the site has been concluded.

The requirements of the Habitats Directive were a key driver in developing policy on this frontage and no alternative was identified that would avoid any adverse effects on the integrity of international sites. Any attempts to intervene to protect freshwater habitat would lead to extensive effects on shingle habitat and intertidal area.

1.6 Secondary analysis – the overall effects of the plan on the integrity of international sites.

If it is concluded that one policy will have an adverse effect on an international site, the plan as a whole must be concluded as having an adverse effect on site integrity.

Only one of the assessment units in this draft SMP has been assessed as having no adverse effect on the integrity of international sites, the remaining units have identified adverse effects. The draft SMP has therefore been considered as having an adverse effect on the integrity of international sites and the process will now begin to demonstrate the lack of viable alternatives (that would not have an adverse effect) and then the need to consider imperative reasons of overidding public interest.

This process (and a more detailed account of the above summary of the assessment) is provided in the Habitat Regulation assessment for the draft SMP.

1.7 Next steps

This addendum seeks to provide an update to the environmental report published as appendix L to the draft North Norfolk SMP. In providing both the environmental report and this addendum for consultation, the intent is to establish whether the assessment has provided an accurate account of the environmental impacts of the draft SMP on the environment of north Norfolk.

Any comments on this update or the environmental report should be provided to:

Sue Brown
Environment Agency
Iceni House
Cobham Road
Ipswich
Suffolk
IP3 9JD

The consultation period runs from 4th January to 19th February 2010. All comments about this addendum should be received by 5pm on Friday 19th February 2010.

This addendum does not take account of any comments received during the four month consultation period for the draft North Norfolk SMP. It is only updating the information that appeared in that document.

2 References

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

Environment Agency (2009). North Norfolk Shoreline Management Plan – Draft.

Appendix 1A

Environmental assessment

(Updated to include the effects on international sites as informed by the Habitats Regulations assessment for the SMP)

Text in *italics* indicates the assessment that has been updated since the issue of the original North Norfolk SMP2 Strategic Environmental Assessment environmental report, following the production of the North Norfolk SMP2 Habitats Regulations Assessment (Appropriate Assessment) report

Assessment unit F1 (PDZ 1A to 1D)				
SEA receptor (based on SI 1633)	**SEA assessment criteria**	**Assessment**	**Feature identified in the SEA scoping report baseline**	**SEA indicator (blue shading is where there is a directly equivalent SMP indicator)**
Threat to biodiversity on a dynamic coast and the interactions between various coastal habitat types				
Maintenance of coastal processes required to maintain the integrity of critical coastal habitat and species				
Biodiversity, fauna, flora (including geomorphology)	Does SMP policy provide a sustainable approach to habitat management on the north Norfolk coast?	PDZ1A provides a sustainable approach to habitat management by minimising the need for intervention in the dune system (while retaining the option for management if needed). PDZ1B provides for the continued management of the dune system/frontage to provide sustainable management based on monitoring. PDZ1C provides for realignment in epoch 2 to offer a more sustainable line of defence (based on topography). PDZ1D takes an approach of NAI which offers totally sustainable defence for this frontage. Overall, the management in this super-frontage provides for a more sustainable approach to management based on moving the coastline towards a less managed, more natural system.	Vulnerable freshwater / terrestrial sites	Area of habitat determined as being either sustainable or unsustainable in the face of rising sea levels
	Will the SMP policy result in a change in how natural coastal processes operate?	As described above the overall intent of the frontage is to move towards natural development of the frontage, allowing the development of natural processes especially during epoch 2.	Geomorphology	Proportion of hard elements relative to the total defences
				Effect on neighbouring sections (judgement)
	Will the SMP policy result in a change in the condition of international sites?	*The SMP policy in this super-frontage allows for the natural development of the frontage (dune habitat) while allowing the landward migration of intertidal habitat (through realignment in 1C). Also, the realignment at Holme will increase the tidal prism in Thornham harbour channel and help to maintain a mosaic of sublittoral and intertidal habitats. The managed realignment units within this unit would, however, lead to the loss of reedbed and grazing marsh habitat that is essential habitat for geese species. This unit would have an adverse effect on the North Norfolk Coast SPA and the Wash SPA and Ramsar sites and the effect is considered major negative.*	International sites and SSSI	Condition of designated features based on Habitats Regulations assessment
	Will the SMP policy result in a change to SSSI condition?	*The effects of the SMP overall in this unit promotes the natural development of the coastline - enabling natural change. The effect is considered minor positive.*		Predicted condition assessment of SSSI units
	Will the SMP policy result in a net change in priority BAP habitat area?	The overall effect of SMP policy across this frontage will be to provide no net loss of BAP habitat. However, realignment at Holme will provide the creation of BAP habitat over existing non-BAP habitat – leading to a gain of BAP habitat. The overall effect is therefore considered to be major positive.		Area of priority BAP habitats for each epoch and scenario.

Assessment unit F1 (PDZ 1A to 1D)				
SEA receptor (based on SI 1633)	**SEA assessment criteria**	**Assessment**	**Feature identified in the SEA scoping report baseline**	**SEA indicator (blue shading is where there is a directly equivalent SMP indicator)**
Maintenance of environmental conditions to support biodiversity and the quality of life				
Population, human health	Will the SMP policy result in a change in flood risk to coastal communities?	Across the super-frontage there will be no increased flood risk as a result of this suite of policies. The realignment in 1C at Holme will bring defences closer to communities but at no increased level of flood risk. The overall effect is therefore neutral.	Coastal communities	Number of properties within the tidal flood zone compared to the current number.
Protection of coastal towns and settlements and the maintenance of features that support tourism and local commerce				
Material assets	Will the SMP policy result in a change to identified key tourism or recreation activities and locations?	In PDZ 1A the policy, coupled with rising sea level, may lead to the encroachment of the beach into Holme dunes which currently contains a golf course. However, time is provided for adaptation and response to this scenario. Other activities are considered to be unaffected. The overall effect is therefore neutral.	Tourism and recreation features	Number of locations where tourism or recreation activity will be affected.
	Will the SMP policy result in a change to identified key economic activities and locations?	The loss of part of the golf course may lead to the loss of some economic activity from tourism etc. The realignment would also lead to the loss of grade 4 agricultural land which in itself is not considered a significant effect on the local economy. The overall effect is therefore negligible and considered a neutral effect.		Number of locations where economic activity will be affected.
Soil	Will the SMP policy result in a change in the quality of agricultural soils?	As above, some grade 4 agricultural land will be lost by the realignment at Holme. This is considered to be a minor negative effect.	Soil	Impact on area and grade of agricultural land
Water	Will the SMP policy result in changes to features covered by local WFD objectives?	No changes are anticipated that will cause failure to meet surface water good ecological status or potential, or result in a deterioration of surface water ecological status or potential. The effect is therefore neutral.	Water	To be determined
Threats to coastal communities, traditional activities and culture from inappropriate coastal management				
Material assets	Will the SMP policy result in a change to existing shellfish classifications?	No adverse effect is anticipated and the effect is therefore neutral.	Shellfish classification	Predicted impact on shellfish classification.
	Will SMP policy result in a loss of critical infrastructure required for the viability of coastal communities?	No anticipated loss of any critical infrastructure and a neutral overall effect.	Infrastructure	Critical infrastructure lost
	Will the SMP policy result in changes affecting the A149?	No effect and therefore neutral overall effect.		Extent and frequency of A149 flooding.
	Will the SMP policy change the quality or security of abstraction for PWS or irrigation?	The licensed abstraction point within PDZ 1C is to support the current agricultural use of the land. In light of the planned realignment, the land use would change and this abstraction point would therefore no longer be required. The overall effect is therefore neutral.	Abstraction	Number of abstraction points affected.

Assessment unit F1 (PDZ 1A to 1D)				
SEA receptor (based on SI 1633)	**SEA assessment criteria**	**Assessment**	**Feature identified in the SEA scoping report baseline**	**SEA indicator (blue shading is where there is a directly equivalent SMP indicator)**
Need to maintain a balance of providing navigation and access to channels behind barrier islands while recognising their value to local communities				
Material assets	Will the SMP policy change the ability to navigate within the existing channels and/or the operation of harbours?	The managed realignment at PDZ 1C is predicted to increase the tidal prism through the Thornham harbour channel which will reverse the existing regime of accretion in this channel and aid navigation. The overall effect is therefore major positive.		Length of navigable channel and number of operable harbours.
Protection of historic and archaeological features on a dynamic coastline				
Cultural heritage, including architectural and archaeological heritage	Will the SMP policy result in changes to historic features identified through the RCZAS?	The super-frontage does not lead to any increased risk to known heritage features. The overall effect is therefore neutral.	Historic environment	Qualitative judgement
Threats from inappropriate coastal management on the coastal landscape and AONB, with regard to the provision of a mosaic of landscape features which is characteristic of the north Norfolk coast				
Landscape	Will the SMP policy result in changes in the quality of the coastal landscape?	The overall effect of this super-frontage is to allow for a more natural development of the frontage while not losing any features that contribute significantly to the coastal landscape. The overall effect is therefore minor positive.	Landscape	Extent and overall balance of features identified as fundamental in supporting the AONB designation.

Assessment unit F2a– PDZ 2A, B, C, E, F, H, J, K & M				
SEA receptor (based on SI 1633)	**SEA assessment criteria**	**Assessment**	**Feature identified in the SEA scoping report baseline**	**SEA indicator (blue shading is where there is a directly equivalent SMP indicator)**
Threat to biodiversity on a dynamic coast and the interactions between various coastal habitat types				
Maintenance of coastal processes required to maintain the integrity of critical coastal habitat and species				
Biodiversity, fauna, flora (including geomorphology)	Does SMP policy provide a sustainable approach to habitat management on the north Norfolk coast?	This suite of policies provides a strategic approach to allowing the natural development of the coast on open coastal areas whilst holding the line on defended frontages or frontages that protect key assets (communities, tourism features, freshwater habitats etc). The intent is to provide a balanced approach of allowing the natural evolution of the coast while ensuring that coastal communities are maintained in a sustainable manner. The policies therefore actively seek to provide a sustainable approach to habitat management and the effect is minor positive.	Vulnerable freshwater / terrestrial sites	Area of habitat determined as being either sustainable or unsustainable in the face of rising sea levels
	Will the SMP policy result in a change in how natural coastal processes operate?	*These policies continue to hold the line at existing communities or defended assets. The approach in open coastal areas is to allow the natural coastal processes to drive the development of the coast. These hold the line policies would, however, lead to the loss of intertidal habitat which is essential for bird species in the North Norfolk Coast SPA and Ramsar site and is a designated feature of the North Norfolk Coast SAC. Overall the effect is considered minor negative.*	Geomorphology	Proportion of hard elements relative to the total defences Impact on neighbouring section (judgement)
	Will the SMP policy result in a change in the condition of international sites?	*The effects of the SMP in this unit have the potential to lead to loss of intertidal habitat through coastal squeeze. Squeeze against the defences under the hold the line policy is not natural change and the effect of policy would be to move SSSI units into unfavourable condition. The effect of the loss through squeeze may be offset based on the managed realignments provided elsewhere in the plan. Due to the lack of certainty relating to the degree to which the realignments will offset loss through squeeze, a major negative score remains appropriate.*	International sites & SSSI	Condition of designated features based on Habitats Regulations assessment
	Will the SMP policy result in a change to SSSI condition?	*The effects of the SMP overall in this unit promotes the natural development of the coastline - enabling natural change. The effect is considered minor positive.*		Predicted condition assessment of SSSI units
	Will the SMP policy result in a net change in priority BAP habitat area?	The policies provide a balance of holding the line and allowing natural coastal evolution (as stated above). The overall effect on BAP habitat is expected to provide a shift in habitat but no overall loss, with an overall neutral assessment.		Area of priority BAP habitats per epoch and scenario.

Assessment unit F2a– PDZ 2A, B, C, E, F, H, J, K & M				
SEA receptor (based on SI 1633)	**SEA assessment criteria**	**Assessment**	**Feature identified in the SEA scoping report baseline**	**SEA indicator (blue shading is where there is a directly equivalent SMP indicator)**
Maintenance of environmental conditions to support biodiversity and the quality of life				
Population, human health	Will the SMP policy result in a change in flood risk to coastal communities?	The policies will hold the line adjacent to existing communities or their assets through hold the line policies. The effect is therefore minor positive.	Coastal communities	Number of properties within the tidal flood zone compared to the current number.
Protection of coastal towns and settlements and the maintenance of features that support tourism and local commerce				
Material assets	Will the SMP policy result in a change to identified key tourism or recreation activities and locations?	The hold the line policies provide protection for both communities and the assets that are important to the local tourism industry (the Titchwell reserve, North Norfolk golf club and the tourist centres at Brancaster, Wells etc). The NAI polices also support the maintenance of sediment to the area's beaches. The overall effect is therefore a significant contribution towards maintaining key tourism assets and the effect is considered major positive.	Tourism and recreation features	Number of locations where tourism or recreation activity will be affected.
	Will the SMP policy result in a change to identified key economic activities and locations?	As outlined above, key economic assets in this area are mainly tourism or agriculture-related. This suite of policies seeks to maintain the sustainable location of features to support this. The overall effect is therefore major positive.		Number of locations where economic activity will be affected.
Soil	Will the SMP policy result in a change in the quality of agricultural soils?	This suite of policies will maintain existing agricultural land landward of defences. It will not lead to any loss of agricultural land as the NAI frontages are not considered likely to lead to the loss of significant areas of agricultural land. The effect is therefore neutral.	Soil	Impact on area and grade of agricultural land
Water	Will the SMP policy result in changes to features covered by local WFD objectives?	No changes are anticipated that will cause failure to meet surface water good ecological status or potential, or result in a deterioration of surface water ecological status or potential. Nor are any changes anticipated that will permanently prevent or compromise the environmental objectives being met in other water bodies or that will cause failure to meet good groundwater status or result in deterioration in groundwater status. Policies in 2K and 2M have, however, been identified as having the potential to affect ecological status or potential, to compromise the environmental objectives being met in other water bodies and to potentially affect groundwater. The effect is therefore minor negative.	Water	To be determined
Threats to coastal communities, traditional activities and culture from inappropriate coastal management				
Material assets	Will the SMP policy result in a change to existing shellfish classifications?	No anticipated effects on shellfisheries and the effect is therefore neutral.	Shellfish classification	Predicted impact on shellfish classification.
	Will SMP policy result in a loss of critical infrastructure required for the viability of	The policies provide for the protection of key coastal assets that have been previously defended and the effect is therefore minor positive.	Infrastructure	Critical infrastructure lost

Assessment unit F2a– PDZ 2A, B, C, E, F, H, J, K & M				
SEA receptor (based on SI 1633)	**SEA assessment criteria**	**Assessment**	**Feature identified in the SEA scoping report baseline**	**SEA indicator (blue shading is where there is a directly equivalent SMP indicator)**
	coastal communities			
	Will the SMP policy result in changes affecting the A149?	The A149 will be maintained in this section of the coast by this suite of policies and the effect is therefore minor positive.		Extent and frequency of A149 flooding.
	Will the SMP policy change the quality or security of abstraction for PWS or irrigation?	No licensed abstraction locations within any of the PDZs in this assessment area. The effect is therefore neutral.	Abstraction	Number of abstraction points affected.
Need to maintain a balance of providing navigation and access to channels behind barrier islands whilst recognising their value to local communities				
Material assets	Will the SMP policy change the ability to navigate within the existing channels and/or the operation of harbours?	The policies will have a negligible effect on the evolution of channels and the effect is considered neutral.		Length of navigable channel and number of operable harbours.
Protection of historic and archaeological features on a dynamic coastline				
Cultural heritage, including architectural and archaeological heritage	Will the SMP policy result in changes to historic features identified through the RCZAS?	The existing coastal settlements (which include various listed buildings, a large registered park and garden and numerous scheduled monuments) will be maintained under this suite of policies. The overall effect is therefore minor positive.	Historic environment	Qualitative judgement
Threats from inappropriate coastal management on the coastal landscape and AONB, with regard to the provision of a mosaic of landscape features which is characteristic of the north Norfolk coast				
Landscape	Will the SMP policy result in changes in the quality of the coastal landscape?	The policies seek to maintain the sustainable location of historic coastal communities that are a key feature of the coastal landscape. The NAI policies also provide for the natural development of the coast. The combined effect is considered minor positive.	Landscape	Extent and overall balance of features identified as fundamental in supporting the AONB designation.

Assessment unit F2b– PDZ 2D, G, I & L				
SEA receptor (based on SI 1633)	**SEA assessment criteria**	**Assessment**	**Feature identified in the SEA scoping report baseline**	**SEA indicator** (blue shading is where there is a directly equivalent SMP indicator)
Threat to biodiversity on a dynamic coast and the interactions between various coastal habitat types				
Maintenance of coastal processes required to maintain the integrity of critical coastal habitat and species				
Biodiversity, fauna, flora (including geomorphology)	Does SMP policy provide a sustainable approach to habitat management on the north Norfolk coast?	This suite of PDZs seeks to provide managed realignment to increase the tidal prism behind dunal systems in order to provide stability to both dunes and the actual channels. Policy 2I does not actually provide a MR relating to a creek system but does provide for the sustainable management of the dunal system. It is considered that the approach of using MR policies as a tool in coastal and habitat management represents a sustainable approach – using natural processes to maintain a diverse range of coastal habitats. The approach therefore is considered to be major positive.	Vulnerable freshwater / terrestrial sites	Area of habitat determined as being either sustainable or unsustainable in the face of rising sea levels
	Will the SMP policy result in a change how natural coastal processes operate?	The policies will provide a balance of allowing natural processes to drive areas of MR that would, without defence, have evolved into intertidal areas. The effects of the MR (increased tidal prism) will allow a more natural evolution of the coastline, where existing defences are believed to have reduced the tidal prism and may be leading to a weakening of tidal flow and a destabilisation of the fronting dunes. The overall approach is therefore major positive.	Geomorphology	Proportion of hard elements relative to the total defences Impact on neighbouring section (judgement)
	Will the SMP policy result in a change in the condition of international sites?	*The policies in this unit seek to provide a balance of hold the line and managed realignment to protect key assets while allowing the coast to develop in a dynamic manner. Within this policy suite, however, HTL policy is expected to lead to the loss of intertidal habitat required for bird species in the North Norfolk SPA. The MR, however, will also lead to the loss of reedbed and offsite agricultural land that is essential for marsh harrier and bittern and geese species respectively. The loss of intertidal habitat has the potential to have an adverse effect on the Wash and North Norfolk Coast SAC. However, it has been agreed that this loss will be offset by mitigation through the MR at Wells east bank in PDZ2L. Overall, the effect of this unit would have an adverse effect on the integrity of international sites and the effect is considered major negative.*	International sites & SSSI	Condition of designated features based on Habitats Regulations assessment
	Will the SMP policy result in a change to SSSI condition?	*The approach within this unit provides for some stabilisation of fixed features and the natural development of others through MR policy. Across the unit, the effect of the policy is considered to allow a natural development of the system and the units of the SSSI. The effect is therefore considered minor positive.*		Predicted condition assessment of SSSI units

Assessment unit F2b– PDZ 2D, G, I & L				
SEA receptor (based on SI 1633)	**SEA assessment criteria**	**Assessment**	**Feature identified in the SEA scoping report baseline**	**SEA indicator (blue shading is where there is a directly equivalent SMP indicator)**
	Will the SMP policy result in a net change in priority BAP habitat area?	The policies provide MR over either freshwater habitat or agricultural land. Although freshwater BAP habitat is being lost by these realignments, the overall area of BAP habitat is increasing due to realignment into undesignated habitat/agricultural land. The overall effect is considered to lead to an overall net increase in BAP habitat and the effect is therefore considered minor positive.		Area of priority BAP habitats per epoch and scenario.
Maintenance of environmental conditions to support biodiversity and the quality of life				
Population, human health	Will the SMP policy result in a change in flood risk to coastal communities?	The MR policies adjacent to existing communities will lead to the high water mark being nearer to properties than it is at present. The nature and wording of the policies will, however, ensure that the actual level of risk is not increased. The policies are intended to stabilise the fronting dunes (Scolt Head etc) and this habitat provides a significant defence for communities such as Brancaster, Wells etc. The increased stability of the natural defences is significant and the overall effect is considered to be minor positive.	Coastal communities	Number of properties within the tidal flood zone compared to the current number.
Protection of coastal towns and settlements and the maintenance of features which support tourism and local commerce				
Material assets	Will the SMP policy result in a change to identified key tourism or recreation activities and locations?	Increasing the tidal prism to existing channels is conducive to maintaining tourism activities (such as fishing, seal watching, sailing etc) that rely on navigable access to the sea. Also, the stabilisation offered by this approach is intended to bring stability to systems at Brancaster bay and Holkham (two major tourist destinations). This suite of policies is therefore actively seeking to assist in offering a long-term sustainable future for tourism in this area.	Tourism and recreation features	Number of locations where tourism or recreation activity will be affected.
	Will the SMP policy result in a change to identified key economic activities and locations?	As stated above, the policies will maintain assets relating to tourism along tidal creeks. This will also support commercial activities such as fishing etc. Also, as outlined above, the stability of the dune systems in this area provides defence for coastal communities. The overall effect of policies is therefore considered to be major positive.		Number of locations where economic activity will be affected.
Soil	Will the SMP policy result in a change in the quality of agricultural soils?	The MR policies in this suite (apart from 2I) provide for a loss of agricultural land to intertidal. This loss, although only leading to the loss of grade 3 or 4 agricultural land, would reduce the amount of agricultural land along this frontage. The effect is therefore considered minor negative.	Soil	Impact on area and grade of agricultural land

Assessment unit F2b– PDZ 2D, G, I & L				
SEA receptor (based on SI 1633)	**SEA assessment criteria**	**Assessment**	**Feature identified in the SEA scoping report baseline**	**SEA indicator (blue shading is where there is a directly equivalent SMP indicator)**
Water	Will the SMP policy result in changes to features covered by local WFD objectives?	No changes are anticipated that will cause failure to meet surface water good ecological status or potential, or result in a deterioration of surface water ecological status or potential. Nor are any changes anticipated that will permanently prevent or compromise the environmental objectives being met in other water bodies. Policies in 2D 2G and 2I have a relatively greater potential to affect groundwater status here (or result in a deterioration in groundwater status). The overall effect is therefore neutral.	Water	To be determined
Threats to coastal communities, traditional activities and culture from inappropriate coastal management				
Material assets	Will the SMP policy result in a change to existing shellfish classifications?	No expected effect on shellfisheries is anticipated as a result of this suite of policies and the effect is therefore neutral.	Shellfish classification	Predicted impact on shellfish classification.
	Will SMP policy result in a loss of critical infrastructure required for the viability of coastal communities	The MR policies have been designed and located so as not to lead to any loss of critical coastal infrastructure. Indeed, the policies support navigation of coastal channels which requires a range of harbourside infrastructure, moorings, port facilities etc. The effect is therefore major positive.	Infrastructure	Critical infrastructure lost
	Will the SMP policy result in changes affecting the A149?	The A149 is not threatened by any of the MR policies in this area and the effect is therefore neutral.		Extent and frequency of A149 flooding.
	Will the SMP policy change the quality or security of abstraction for PWS or irrigation?	The licensed abstraction point in PDZs 2D, 2G and 2L is to support the current agricultural use of the land. In light of the planned realignments, the land use would change and this abstraction point would therefore no longer be required. The licensed abstraction point at Holkham will not be affected and can continue to be used as present. In light of this, the overall effect is neutral.	Abstraction	Number of abstraction points affected.
Need to maintain a balance of providing navigation and access to channels behind barrier islands whilst recognising their value to local communities				
Material assets	Will the SMP policy change the ability to navigate within the existing channels and/or the operation of harbours?	As stated above, the MR policies have a primary driver of maintaining the access and navigation of the coastal channels. The effect is therefore major positive.		Length of navigable channel and number of operable harbours.
Protection of historic and archaeological features on a dynamic coastline				
Cultural heritage, including architectural and archaeological heritage	Will the SMP policy result in changes to historic features identified through the RCZAS?	The MR policies would not lead to the loss of any scheduled monuments or listed buildings. Most of these features (including conservation areas and registered parks and gardens) are located on this coast in or near to established communities such as Brancaster. These communities are afforded higher levels of protection through these policies by stabilising the coastal dunal system. The overall effect should therefore be considered minor positive.	Historic environment	Qualitative judgement

Assessment unit F2b– PDZ 2D, G, I & L				
SEA receptor (based on SI 1633)	**SEA assessment criteria**	**Assessment**	**Feature identified in the SEA scoping report baseline**	**SEA indicator** (blue shading is where there is a directly equivalent SMP indicator)
Threats from inappropriate coastal management on the coastal landscape and AONB, with regard to the provision of a mosaic of landscape features which is characteristic of the north Norfolk coast				
Landscape	Will the SMP policy result in changes in the quality of the coastal landscape?	The policies will maintain the key structural elements of this coast (sand bars such as Scolt Head, sandy beaches such as Holkham and a network of tidal channels with associated settlements). There will be some transitional loss of foreshore habitat, but this is considered to offer a dynamic coastal landscape. It is not considered sufficient to offset the benefits of maintaining large-scale coastal structures. The effect is therefore considered minor positive	Landscape	Extent and overall balance of features identified as fundamental in supporting the AONB designation.

Assessment unit F3a – PDZ 3Ai, Aiv, B, C & D				
SEA receptor (based on SI 1633)	**SEA assessment criteria**	**Assessment**	**Feature identified in the SEA scoping report baseline**	**SEA indicator (blue shading is where there is a directly equivalent SMP indicator)**
Threat to biodiversity on a dynamic coast and the interactions between various coastal habitat types				
Maintenance of coastal processes required to maintain the integrity of critical coastal habitat and species				
Biodiversity, fauna, flora (including geomorphology)	Does SMP policy provide a sustainable approach to habitat management on the north Norfolk coast?	The PDZs in this policy suite provide for either a NAI approach (at 3B) or a HTL approach at 3Ai, Aiv and D adjacent to outfalls or defended communities (Blakeney). The MR policy at 3D is simply intended to monitor and realign the frontage only if required to protect communities at Cley and Salthouse. Overall, these policies seek to allow for the natural development of the coast while maintaining areas important for coastal communities. The overall effect in respect to habitat is therefore to allow the development of open coast (which is sustainable and beneficial to habitat), but holding areas that may lead to squeeze of habitat. The overall effect is therefore neutral.	Vulnerable freshwater / terrestrial sites	Area of habitat determined as being either sustainable or unsustainable in the face of rising sea levels
	Will the SMP policy result in a change in how natural coastal processes operate?	The overall effect of this suite of policies provides for management on previously-defended frontages and does not increase levels of defence. The effect is therefore considered to be neutral.	Geomorphology	Proportion of hard elements relative to the total defences
				Impact on neighbouring section (judgement)
	Will the SMP policy result in a change in the condition of international sites?	The HTL policies may lead to the loss of intertidal designated habitat (which would be considered an adverse effect). However, policies of NAI and also the MR lead more towards the more natural evolution of the shingle ridge at Cley and have the potential to lead to an increase in habitat, which may partly offset this. In the context of levels of loss and gain and natural change across this unit, no adverse effect on integrity is evident. The overall effect is therefore considered to be neutral.	International sites & SSSI	Condition of designated features based on Habitats Regulations assessment
	Will the SMP policy result in a change to SSSI condition?	As above, the anticipated effect is considered neutral.		Predicted condition assessment of SSSI units
	Will the SMP policy result in a net change in priority BAP habitat extent?	The policies of HTL may lead to loss through squeeze (as stated above). However, the policies of NAI and MR may lead to increased provision of habitat. The overall effect will depend on how the coast responds over the course of the plan, but an overall net increase in BAP habitat is anticipated. The overall effect is therefore considered to be neutral.		Area of priority BAP habitats per epoch and scenario.
Maintenance of environmental conditions to support biodiversity and the quality of life				
Population, human health	Will the SMP policy result in a change in flood risk to coastal communities?	There is considered to be no increase in flood risk as a result of this suite of policies. The overall effect therefore is considered to be neutral.	Coastal communities	Number of properties within the tidal flood zone compared to the current number.

Assessment unit F3a – PDZ 3Ai, Aiv, B, C & D				
SEA receptor (based on SI 1633)	**SEA assessment criteria**	**Assessment**	**Feature identified in the SEA scoping report baseline**	**SEA indicator (blue shading is where there is a directly equivalent SMP indicator)**
Protection of coastal towns and settlements and the maintenance of features which support tourism and local commerce				
Material assets	Will the SMP policy result in a change to identified key tourism or recreation activities and locations?	No change in any tourism facilities is anticipated. The HTL policy at 3C provides for the defence of a key tourism-based area at Blakeney, so the effect is considered minor positive.	Tourism and recreation features	Number of locations where tourism or recreation activity will be affected.
	Will the SMP policy result in a change to identified key economic activities and locations?	No change in any economic assets is anticipated. However as stated above, HTL policy at 3C provides ongoing defence of key economic assets and the effect is considered minor positive.		Number of locations where economic activity will be affected.
Soil	Will the SMP policy result in a change in the quality of agricultural soils?	No loss of any agricultural land is anticipated and the effect is therefore neutral.	Soil	Impact on area and grade of agricultural land
Water	Will the SMP policy result in changes to features covered by local WFD objectives?	No changes are anticipated that will cause failure to meet surface water good ecological status or potential, or result in a deterioration of surface water ecological status or potential. The effect is therefore neutral.	Water	To be determined
Threats to coastal communities, traditional activities and culture from inappropriate coastal management				
Material assets	Will the SMP policy result in a change to existing shellfish classifications?	Blakeney is a designated shellfish water. However, as the WFD assessment for this SMP determined, there will be no adverse effect on this fishery. The overall effect is therefore minor positive.	Shellfish classification	Predicted impact on shellfish classification.
	Will SMP policy result in a loss of critical infrastructure required for the viability of coastal communities	No loss of infrastructure is anticipated and the effect is therefore neutral.	Infrastructure	Critical infrastructure lost
	Will the SMP policy result in changes affecting the A149?	No increased threat to the A149 and the effect is therefore neutral.		Extent and frequency of A149 flooding.
	Will the SMP policy change the quality or security of abstraction for PWS or irrigation?	No licensed abstraction locations within any of the PDZs within this assessment area. The effect is therefore neutral.	Abstraction	Number of abstraction points affected.
Need to maintain a balance of providing navigation and access to channels behind barrier islands whilst recognising their value to local communities				
Material assets	Will the SMP policy change the ability to navigate within the existing channels and/or the operation of harbours?	The PDZs in this suite will not in themselves have any effect on channels and the effect is therefore neutral.		Length of navigable channel and number of operable harbours.

Assessment unit F3a – PDZ 3Ai, Aiv, B, C & D				
SEA receptor (based on SI 1633)	**SEA assessment criteria**	**Assessment**	**Feature identified in the SEA scoping report baseline**	**SEA indicator** (blue shading is where there is a directly equivalent SMP indicator)
Protection of historic and archaeological features on a dynamic coastline				
Cultural heritage, including architectural and archaeological heritage	Will the SMP policy result in changes to historic features identified through the RCZAS?	The hold the line policies defend areas that contain listed buildings at Blakeney and Morston. No features are known adjacent to the Cley ridge or the NAI frontage, 3B. The overall effect is therefore minor positive.	Historic environment	Qualitative judgement
Threats from inappropriate coastal management on the coastal landscape and AONB, with regard to the provision of a mosaic of landscape features which is characteristic of the north Norfolk coast				
Landscape	Will the SMP policy result in changes in the quality of the coastal landscape?	This suite of policies will provide a mixture of holding key elements of the coast that have been historically defended and allowing the provision of a natural coast through NAI or MR. The effect is therefore minor positive.	Landscape	Extent and overall balance of features identified as fundamental in supporting the AONB designation.

Assessment unit F3b – PDZ 3Aii, Aiii and Av.				
SEA receptor (based on SI 1633)	**SEA assessment criteria**	**Assessment**	**Feature identified in the SEA scoping report baseline**	**SEA indicator (blue shading is where there is a directly equivalent SMP indicator)**
Threat to biodiversity on a dynamic coast and the interactions between various coastal habitat types				
Maintenance of coastal processes required to maintain the integrity of critical coastal habitat and species				
Biodiversity, fauna, flora (including geomorphology)	Does SMP policy provide a sustainable approach to habitat management on the north Norfolk coast?	PDZ3Aii. The realignment at Morston in epoch 1 promotes a sustainable approach to habitat management by allowing landward migration of intertidal habitats under rising relative sea levels. The habitat over which this realignment will occur is not currently designated under national or international legislation. PDZ3Aiii. Despite the proposed loss of Blakeney Freshes as a result of realignment in epoch 2 (and the freshwater habitats that it supports), the conversion of this freshwater habitat to intertidal will ensure that less future management is required. This will ensure that the management of this area is more sustainable than at present. However, this realignment depends on monitoring and study in epoch 1. PDZ3Av. The loss of Cley marshes as a result of realignment in epoch 3 depends on a programme of monitoring and study in epochs 1 and 2. However, should the realignment proceed, it would offer a more sustainable approach to habitat management than the current regime. Overall, SMP policy across these three PDZs (if all realignments are to proceed) would be assessed as major positive.	Vulnerable freshwater / terrestrial sites	Area of habitat determined as being either sustainable or unsustainable in the face of rising sea levels
	Will the SMP policy result in a change in the operation of natural coastal processes?	The three proposed realignments are predicted to increase the tidal prism in the area behind Blakeney spit, so ensuring that the harbour channels are maintained. As a result, should these realignments proceed, SMP policy will result in a change in how the natural coastal processes operate. The length of hard defences in these three units will decrease in proportion. The effect is therefore minor positive.	Geomorphology	Proportion of hard elements relative to the total defences Impact on neighbouring section (judgement)
	Will the SMP policy result in a change in the condition of international sites?	*The overall approaches to coastal defence and habitat management across this unit provide many benefits to features of international sites (the development of shingle banks etc). However, against the wider attempts to provide appropriate management across the range of international sites in this area, the loss of reedbed has the potential to lead to the loss of bittern (a feature of the North Norfolk Coast SPA) and farmland used for foraging of geese species (a feature of the North Norfolk Coast Ramsar site). Despite the benefits to the management of SAC features, the proposed policies*	International sites & SSSI	Condition of designated features based on Habitats Regulations assessment

Assessment unit F3b – PDZ 3Aii, Aiii and Av.				
SEA receptor (based on SI 1633)	**SEA assessment criteria**	**Assessment**	**Feature identified in the SEA scoping report baseline**	**SEA indicator (blue shading is where there is a directly equivalent SMP indicator)**
		would have an adverse effect on bittern and geese species and the impact is therefore major negative.		
	Will the SMP policy result in a change to SSSI condition?	The proposed realignments in PDZs 3Aiii and 3Av would lead to a shift in habitat type from mainly freshwater (grazing marsh, reedbed and eutrophic standing water) to coastal habitat (saltmarsh, mudflat and sublittoral sediment). This shift would lead to the SSSI units being assessed as being in failing condition until re-notification occurs. However, these realignments will prevent the squeeze of coastal habitats against hard defences, which itself will lead to an adverse condition being recorded in the SSSI units as sea levels rise. When coupled with the realignment at Morston (3Aiii), which involves realignment into an undesignated area and will therefore prevent squeeze against existing defences, SMP policy in these PDZs is therefore assessed as being minor positive.		Predicted condition assessment of SSSI units
	Will the SMP policy result in a net change in priority BAP habitat area?	Overall, most of the proposed realignments will involve a conversion from mainly freshwater UKBAP habitats (grazing marsh, reedbed and eutrophic standing water) to coastal UKBAP habitat (saltmarsh, mudflat and sublittoral sediment). There will therefore be no net loss of UKBAP habitat, but conversion from one habitat type to another. However, the land over which the realignment at 3Aii is planned is not currently designated as UKBAP habitat so this realignment will create UKBAP habitat. Overall, therefore, there will be a gain in UKBAP habitat as a result of these realignments and SMP policy is therefore assessed as being minor positive.		Area of priority BAP habitats per epoch and scenario.
Maintenance of environmental conditions to support biodiversity and the quality of life				
Population, human health	Will the SMP policy result in a change in flood risk to coastal communities?	No more properties will be within the tidal flood zone as a result of SMP policy, nor will flood risk to coastal communities increase or decrease. The effect of SMP policy is therefore assessed as neutral.	Coastal communities	Number of properties within the tidal flood zone compared to the current number.
Protection of coastal towns and settlements and the maintenance of features which support tourism and local commerce				
Material assets	Will the SMP policy result in a change to identified key tourism or recreation activities and locations?	The policies will support activities that depend on the stability of the channel and spit (fishing, bird watching, sailing etc). The realignments are central to this, as is policy to defend existing tourism locations such as Blakeney and Cley. The effect of this policy is therefore considered major positive.	Tourism and recreation features	Number of locations where tourism or recreation activity will be affected.
	Will the SMP policy result in a change to identified key economic activities and locations?	The key economic activities in this area relate to tourism and the factors outlined above therefore apply. The effect is major positive.		Number of locations where economic activity will be affected.

Assessment unit F3b – PDZ 3Aii, Aiii and Av.				
SEA receptor (based on SI 1633)	**SEA assessment criteria**	**Assessment**	**Feature identified in the SEA scoping report baseline**	**SEA indicator (blue shading is where there is a directly equivalent SMP indicator)**
Soil	Will the SMP policy result in a change in the quality of agricultural soils?	This loss, although only leading to the loss of grade 4 agricultural land, would reduce the amount of agricultural land on this frontage. The effect is therefore considered minor negative.	Soil	Impact on area and grade of agricultural land
Water	Will the SMP policy result in changes to features covered by local WFD objectives?	No changes are anticipated that will cause failure to meet surface water good ecological status or potential, or result in a deterioration of surface water ecological status or potential. The effect is therefore neutral.	Water	To be determined
Threats to coastal communities, traditional activities and culture from inappropriate coastal management				
Material assets	Will the SMP policy result in a change to existing shellfish classifications?	Blakeney is a designated shellfish water. However, as the WFD assessment for this SMP determined, there will be no effect on this fishery. The overall effect is therefore neutral.	Shellfish classification	Predicted impact on shellfish classification.
	Will SMP policy result in a loss of critical infrastructure required for the viability of coastal communities	The policies in this area seek to maintain the access and navigation along the channels behind Blakeney spit. The policies therefore have a major positive effect.	Infrastructure	Critical infrastructure lost
	Will the SMP policy result in changes affecting the A149?	The A149 would not be at any increased risk and the effect is therefore neutral.		Extent and frequency of A149 flooding.
	Will the SMP policy change the quality or security of abstraction for PWS or irrigation?	The licensed abstraction point within PDZ 3D is to support the current agricultural use of the land. In light of the planned realignment, the land use would change and this abstraction point would therefore no longer be required. The overall effect is therefore neutral.	Abstraction	Number of abstraction points affected.
Need to maintain a balance of providing navigation and access to channels behind barrier islands whilst recognising their value to local communities				
Material assets	Will the SMP policy change the ability to navigate within the existing channels and/or the operation of harbours?	As stated above, the managed realignment policies here are intended to increase the tidal prism and therefore strengthen these channels. The effect is therefore major positive.		Length of navigable channel and number of operable harbours.
Protection of historic and archaeological features on a dynamic coastline				
Cultural heritage, including architectural and archaeological heritage	Will the SMP policy result in changes to historic features identified through the RCZAS?	The managed realignments in this area will lead to the loss of one listed building – the ruins of Blakeney chapel. This matter requires the attention of English Heritage to establish if a site investigation is necessary. Overall the effect therefore is minor negative.	Historic environment	Qualitative judgement

Assessment unit F3b – PDZ 3Aii, Aiii and Av.				
SEA receptor (based on SI 1633)	**SEA assessment criteria**	**Assessment**	**Feature identified in the SEA scoping report baseline**	**SEA indicator (blue shading is where there is a directly equivalent SMP indicator)**
Threats from inappropriate coastal management on the coastal landscape and AONB, with regard to the provision of a mosaic of landscape features which is characteristic of the north Norfolk coast				
Landscape	Will the SMP policy result in changes in the quality of the coastal landscape?	The policies will maintain the presence of the channels which are a key historical and social feature in the landscape. The managed realignments will lead to a shift in the appearance of the coastal landscape to reflect the provision of a more dynamic system. Overall the combined effect is considered minor positive.	Landscape	Extent and overall balance of features identified as fundamental in supporting the AONB designation.