North Solent
Shoreline Management Plan

Addendum to Appendix K Strategic
Environmental Assessment

Contents

List of Tables

List of Figures

K1 INTRODUCTION AND BACKGROUND

K1.1 Purpose and structure of document

This document is an Addendum to the Strategic Environmental Assessment Environmental Report (SEA ER) relating to the North Solent Shoreline Management Plan (SMP2). The requirement for this document follows review of the SMP2 and appendices by the national Quality Review Panel (QRP). QRP comments on the SMP2 included the requirement to update sections of the SEA ER; this Addendum provides the additional information and analysis requested by the QRP.

For ease of reference, this Addendum has the same structure as the original SEA ER and should be read alongside the SEA ER. Where no changes were made, this is indicated under each section heading.

Key points raised by the QRP and addressed in this Addendum are as follows:

- Information on additional consultation required for this Addendum (Section K4)
- Additional information relating to how Water Framework Directive assessment has been considered within the SEA. This includes updates to; Section K5, Tables 1 & 2 (p 3 & 4) to include information on key WFD objectives, Section K7 inclusion of a new summary table (Table 8, p 34) and updated assessment of water receptor in Annex K3 assessment matrix
- Further integration of the Appropriate Assessment into the SEA with additional information included under biodiversity/flora/fauna receptor in Annex K3 assessment matrix
- An expanded account to clarify the options appraisal process undertaken as part of the SMP process (Section K6) and inclusion of an additional assessment matrix to summarise options appraisal per frontage type (Table 5, p 9)
- Inclusion of additional impacts and mitigation measures for draft policies for consultation and changes post-appraisal in Section K6.2 (Table 6, p 23)
- A clear summary table included in Section K7 to highlight impacts and detailed mitigation measures per policy unit (Table 8, p 34)
- Section K7.3 updated to include a high-level summary of significant impacts and mitigation measures for the SMP

K2 SEA APPROACH

No change to SEA Environmental Report (Appendix K)

K3 RELEVANT PLANS AND POLICIES

No change to SEA Environmental Report (Appendix K)

K4 CONSULTATION

This section has been added to provide information on additional consultation to be undertaken on this Addendum, and subsequent consultation steps.

SEA regulations require that SEA Environmental Reports are consulted on widely to provide transparency of assessment and maximize SEA effectiveness. The original SEA ER was subject to a three-month public consultation alongside substantive SMP2 documentation. This SEA ER Addendum will be subject to targeted consultation for a period of three weeks. Consultees will comprise the North Solent Environmental sub-group, statutory consultees and those stakeholders that provided comments on the original SEA ER. NS Environmental sub-group members are as follows:

- Environment Agency
- Natural England
- Isle of Wight Council
- Hampshire and Isle of Wight Wildlife Trust
- Hampshire County Council
- RSPB
- Chichester Harbour Conservancy
- West Sussex County Council

This Addendum will be available on the North Solent SMP website http://www.northsolentsmp.co.uk and hard copies will be available on request.

K4.1 Next steps

The SEA Directive requires responses to consultation to be taken into account in preparation of the final plan to be adopted. Comments from public consultation on the SEA ER and this Addendum will be taken into account in preparing the final SMP2 and documented in the Statement of Environmental Particulars and Post-Adoption Statement.

K5 ENVIRONMENTAL BASELINE AND APPRAISAL OBJECTIVES

Review comments required that additional information be provided with respect to the Water receptor, and in particular regarding compliance with objectives and measures for water bodies under the Water Framework Directive (WFD). There is no change to other sections in K5 of SEA ER (Appendix K).

5.7 Water

The following section provides a summary of the key issues and future trends associated with water quality.

K5.7.1 Surface and Ground Water Quality

The WFD is implemented in the UK through River Basin Management Plans. The North Solent SMP is covered by the South East RBMP (EA, 2008b). Individual water bodies (rivers, lakes, coastal waters, transitional (estuarine) waters and groundwaters) have been characterised with respect to a series of biophysical parameters. These include their chemical, ecological, biological, physico-chemical and hydromorphological status. Depending on status, an objective for improved status has been set for each water body and parameter, to be achieved by 2015 or 2027. A detailed WFD assessment of SMP2 policies is documented in Appendix L of the main SMP.

There are 6 transitional, 8 coastal and 6 groundwater bodies within the North Solent SMP study area that could be impacted by SMP policy. All of the coastal and transitional water bodies have been classified as Highly Modified or Artificial, due to human interference. The current status of the 23 water bodies covered by the North Solent SMP area is presented in Table K5.11 below.

Table 1 Surface water bodies and their status in north Solent SMP study area

Water Body	Ecological Status	Ecological objective
Coastal water bodies		
Chichester Harbour	Moderate	*Good Potential by 2027*
Great Deep	Moderate	*Good Status by 2015*
Dorset/Hampshire	Good	*Good Potential by 2015*
Solent	Moderate	*Good Status by 2015*
Isle of Wight East	Good	*Good Potential by 2015*
Langstone Harbour	Moderate	*Good Potential by 2027*
Langstone Oysterbeds	Moderate	*Good Potential by 2027*
Portsmouth Harbour	Moderate	*Good Potential by 2027*
Transitional water bodies		
Beaulieu River	Moderate	*Good Potential by 2027*
Black Water Lagoons	Moderate	*Good Potential by 2027*

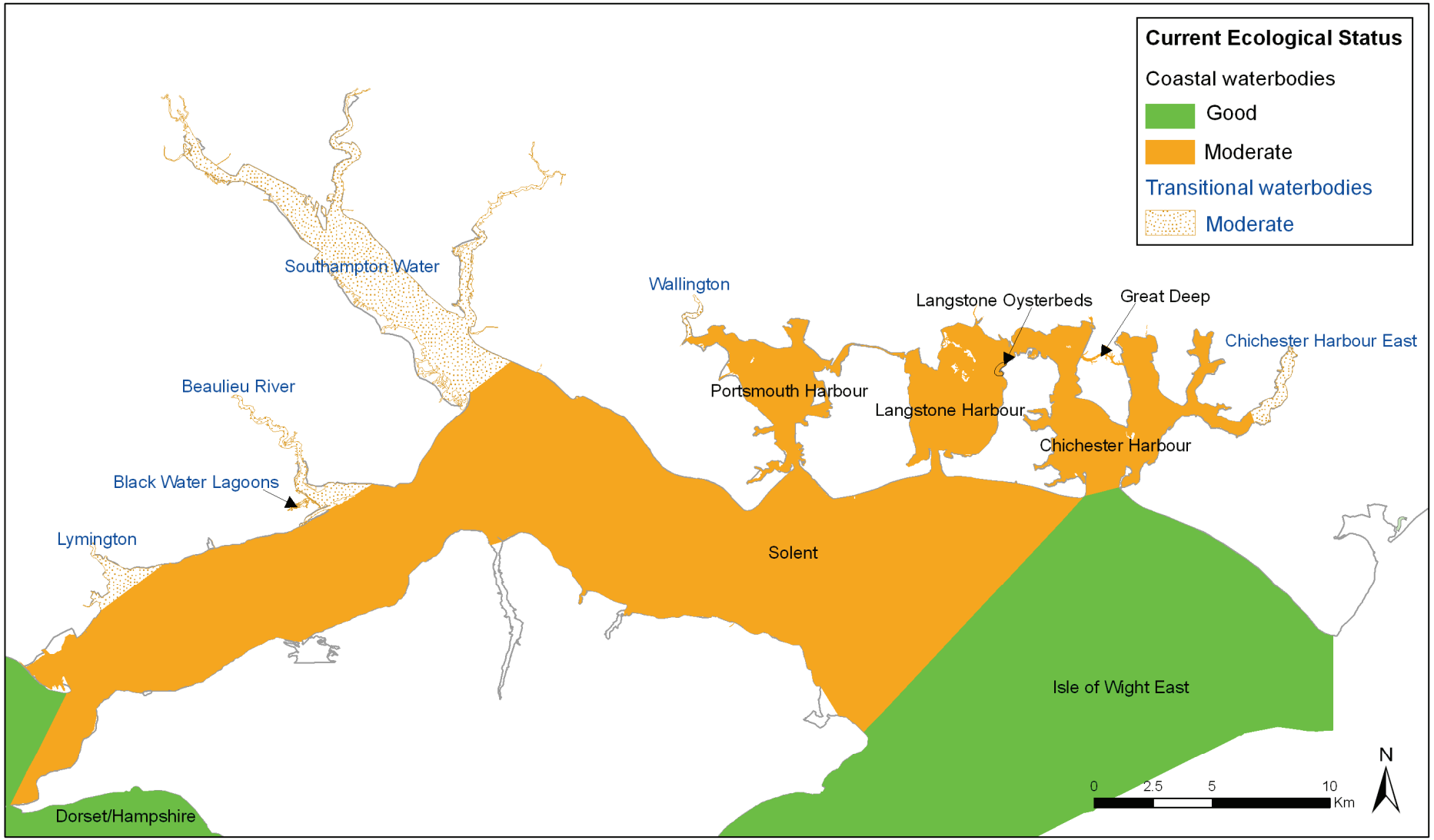
Chichester Harbour East	Moderate	*Good Potential by 2027*
Lymington	Moderate	*Good Potential by 2027*
Southampton Water	Moderate	*Good Potential by 2027*
Wallington	Moderate	*Good Potential by 2027*

Table 2 Groundwater bodies and their status in north Solent SMP study area

Water body name	**Overall status objective**
Central Hants Bracklesham Group	*Good status by 2015*
Chichester-Worthing-Portsdown Chalk	*Good status by 2027*
East Hants Chalk Group	*Good status by 2027*
South East Hants Bracklesham Group	*Good status by 2015*
South Hants Lambeth Group	*Good status by 2027*
South West Hants Barton Group	*Good status by 2015*

The location and current status of surface water bodies in the north Solent study area are mapped in Figure 1. The location of groundwater bodies are mapped in Figure 2.

North Solent Shoreline Management Plan North Solent



Transitional and Coastal Water Bodies

Figure 1 Current status of Coastal and Transitional Waterbodies

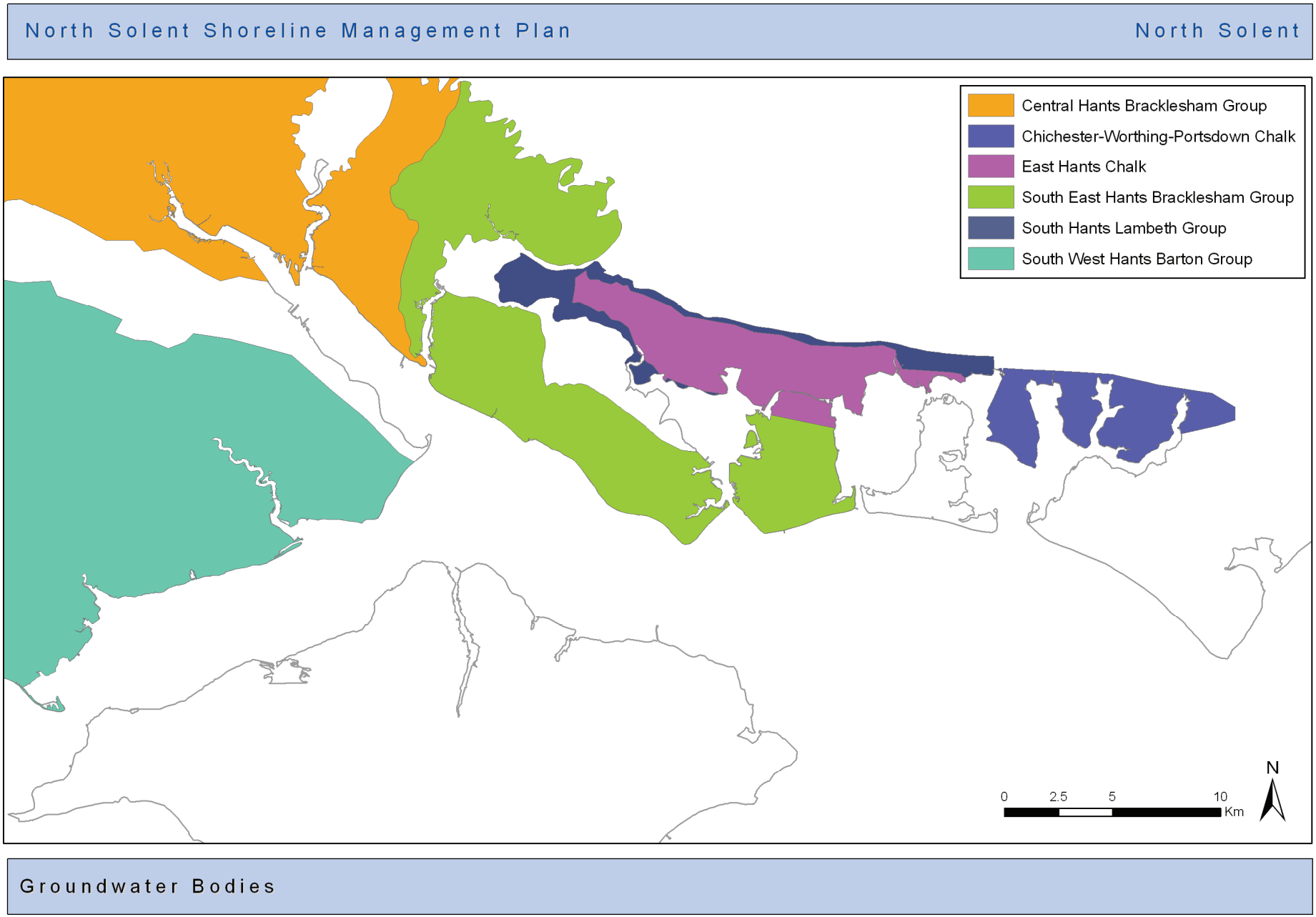


Figure 2 Location of Groundwater Bodies

K6 OPTIONS APPRAISAL

K6.1 Environmental Appraisal of Policy Options

This section has been updated in response to review comments which required a clearer indication of SEA input into options appraisal.

A detailed assessment of the impacts of the draft SMP polices and alternative options is set out in Appendix G2 of the substantive SMP. Further information is provided here to represent this options appraisal in SEA terms. To avoid including a highly repetitive and extremely long table with over 7000 assessments a pragmatic approach has been taken to group frontages by key features and to appraise these groups against SEA receptors. This assessment identifies significant impacts as illustrated in Table 3 below and includes required mitigation measures. MR policy was only appraised where it was considered a reasonable option in any frontage within a group.

Significant beneficial impact	Moderate beneficial impact	Minor beneficial impact	No impact/ negligible impact	Mixed impacts	Minor adverse impact	Moderate adverse impact	Significant adverse impact

Table 3 Assessment matrix text colour coding and scale of impacts

The grouped frontages and corresponding policy units are listed in Table 4 and the appraisal of policy options by frontage group is set out below in Table 5.

Table 4 Frontage groups and corresponding policy units

Type	Number of Assets at risk	International & national conservation designations	Contaminated Land and /or Agricultural land	Policy Units
1	High	Yes	No	5A02, 5A03, 5A04, 5A12, 5A13, 5A14, 5A15, 5A16, 5A19, 5A20, 5A21, 5A23, 5A24, 5A25, 5C07, 5C11, 5C15, 5C21, 5F01, 5AHI05
2	High	No	No	5B01, 5C03, 5API02
3	High	No	Yes	5C12
4	High	Yes	Yes	5A19, 5C14, 5C22, 5API01, 5AHI04
5	Low	Yes	No	5A02, 5B02, 5C01, 5C02, 5C05, 5C06, 5C08, 5C09, 5C13, 5C17, 5C18, 5C20, 5AHI06
6	Low	Yes	Yes	5A05, 5A06, 5A07, 5A08, 5A09, 5A10, 5A11, 5A17, 5A22, 5B03, 5C04, 5C10, 5C16, 5C19, 5AHI01, 5AHI02, 5AHI03, 5AHI07, 5AHI08

Table 5 Appraisal of policy options by coastal frontage type

Type	Policy	Summary of environmental impacts on SEA receptors	Mitigation/opportunities
1	**HTL**	***Biodiversity***: HTL will have a **significant adverse** impact on designated intertidal habitats and vegetated shingle resulting in the loss of habitats through coastal squeeze and sea level rise. HTL will in contrast also have a **significant beneficial** impact on designated freshwater habitats protected by current defences. ***Geology***: Many sites designated for their geological and geomorphological interest require natural coastal processes to maintain their features. HTL may interrupt coastal processes and therefore have a **moderate adverse** impact on designated features. ***Water:*** HTL may result in foreshore steepening and lowering which could potentially impact on phytoplankton and macroalgae Biological Quality Elements (BQE's) through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential. HTL will not compromise the environmental objectives being met in other water bodies or cause deterioration to groundwater status. Overall HTL will have a **mixed** impact on meeting WFD objectives. ***Landscape***: HTL in the short/medium term where there are current defences will have a **negligible impact** on landscape quality and visual amenity. However, in the long term there is the potential for extensive defence works to have a **moderate adverse** impact on landscape quality and character and **significant adverse** impact for designated landscapes. ***Cultural Heritage***: HTL will have a **significant beneficial** impact protecting cultural heritage sites both designated and non-designated located behind coastal defences. ***Material Assets***: HTL will have a **significant beneficial** impact providing protection to residential, community, commercial assets and infrastructure. ***Population and Human Health***: HTL will have a **significant beneficial** impact providing protection to residential properties and recreation facilities.	***Biodiversity***: The whole SMP will look at opportunities for intertidal habitat creation through MR policies. New intertidal habitat created within European designated sites can be used as mitigation to offset loses. Net intertidal losses will require compensation habitat to be secured through the Regional Habitats Creation Programme (RHCP). ***Geology***: Consider the type of defences to implement at the scheme level to allow some natural coastal processes where earth heritage sites are present. ***Water***: Consider options to maintain foreshore when considering engineering measures for local management. ***Landscape***: Sensitive management required when upgrading defences in the long-term and consider opportunities to improve the existing landscape character at strategy and scheme level.

Type	Policy	Summary of environmental impacts on SEA receptors	Mitigation/opportunities
1	NAI	***Biodiversity***: NAI will have a **significant beneficial** impact on designated intertidal habitats and vegetated shingle allowing the natural roll back. NAI may result in the loss of freshwater habitats when defences fail resulting in a **significant adverse** impact. ***Geology***: HTL will have a **significant beneficial** impact on designated sites of geology and geomorphology allowing natural coastal processes to maintain the features of interest. ***Water:*** NAI policy supports natural development of the frontage. Hence, there should be no significant changes to physical or hydro-morphological parameters that could affect BQE's. As such deterioration in Ecological Potential is not considered likely. The impact of NAI on Groundwater bodies is uncertain at this scale and dependant on geology. Overall, the impact of WFD objectives is **mixed**. ***Landscape***: NAI will have **no impact** on landscape quality and visual amenity, it will allow for the natural development of the coastal landscape and coastal views. ***Cultural Heritage***: NAI will result in the loss/damage of statutory designated heritage features through coastal flooding and /or erosion. This will have a **significant adverse** impact on cultural heritage. ***Material Assets***: NAI will result in the uncontrolled loss /damage of economic, community, residential and infrastructure assets. This will have a **significant adverse** impact. ***Population and Human Health***: NAI will result in the uncontrolled loss /damage residential properties and recreation facilities. There will be increased erosion risk to coastal footpaths. This will have a **significant adverse** impact.	***Biodiversity***: Compensation for losses of freshwater habitats to be secured through the RHCP. ***Cultural Heritage:*** Survey, monitor and record any finds. ***Material Assets***: Consider localised coastal defences for highly populated areas including property level defences. Develop public awareness and agreement of appropriate exit strategies from affected properties. ***Population and Human Health***: Compensate for the loss of coastal footpaths by re-routing affected footpaths further inland.
1	MR	***Biodiversity***: MR will allow landward migration of coastal habitat under rising sea levels therefore will have a **significant beneficial** impact on European designated intertidal habitats. However, MR will change the condition or reduce the areas of terrestrial/freshwater habitat landward of defences. This will have a **significant adverse** impact on terrestrial/freshwater habitat. ***Geology:*** MR will promote natural coastal processes and contribution towards a more natural management of the coast. This will have a **significant beneficial** impact on designated sites of geology and	***Biodiversity***: Compensation for losses of freshwater habitats to be secured through the RHCP.

Type	Policy	Summary of environmental impacts on SEA receptors	Mitigation/opportunities
		geomorphology. ***Water:*** MR policy supports natural development of the frontage. Hence, there should be no significant changes to physical or hydro-morphological parameters that could affect BQE's. As such deterioration in Ecological Potential is not considered likely as a result of the SMP2 policy. There is potential for minor adverse impact on groundwater status dependant on geology and scale of MR. Overall the impact of WFD objectives is **mixed**. ***Landscape***: MR will provide a change in the existing landscape and natural habitats but will have **negligible impact** on landscape quality and visual amenity. ***Cultural Heritage:*** MR may result in the loss of some heritage and cultural features. However, new secondary defences may also provide protection to some heritage and cultural features from costal flooding and erosion. Overall, there will be a **mixed impact** on cultural heritage. ***Material Assets***: MR may result in the loss of some assets in hinterland of defences (e.g. residential, industrial, agricultural and commercial assets) but will also reduction of flood/erosion risk to other areas. MR will have a **mixed impact** on material assets. ***Population and Human Health***: MR may result in the loss of some recreation facilities e.g. coastal footpaths this will have a **significant adverse** impact on recreation.	***Material Assets***: Consider localised coastal defences for highly populated areas including property level defences. Develop public awareness and agreement of appropriate exit strategies from affected properties. ***Population and Human Health***: Compensate for the loss of coastal footpaths by re-routing affected footpaths further inland.
2	**HTL**	***Biodiversity***: HTL will have a **moderate adverse** impact on un-designated vegetated shingle lost through coastal squeeze and rising sea levels. HTL will in contrast also have a **moderate beneficial** impact on freshwater habitats protected by current defences. This will result in **mixed** impacts. ***Water:*** HTL may result in foreshore steepening and lowering which could potentially affect phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential. HTL will not compromise the environmental objectives being met in other water bodies or cause deterioration to groundwater status. Overall HTL will have a **mixed** impact on meeting WFD I objectives. ***Landscape***: HTL in the short/medium term where there are current defences will have a **negligible impact** on landscape quality and visual	***Biodiversity***: Implement scheme-level design such that temporary and other impacts on biodiversity are minimised. ***Water***: Consider options to maintain foreshore when considering engineering measures for local management. ***Landscape***: Sensitive management required when upgrading defences in the long-term and consider opportunities to improve the existing landscape

Type	Policy	Summary of environmental impacts on SEA receptors	Mitigation/opportunities
		amenity. However, in the long term there is the potential for extensive defence works to have a **moderate adverse** impact on landscape quality and character. ***Cultural Heritage***: HTL will have a **significant beneficial** impact protecting cultural heritage sites both designated and non-designated located behind coastal defences. ***Material Assets***: HTL will have a **significant beneficial** impact providing protection of communities, residential, industrial assets and infrastructure. ***Population and Human Health***: HTL will have a **significant beneficial** impact providing protection to residential properties and recreation facilities	character at strategy and scheme level
2	**NAI**	***Biodiversity***: NAI will have a **moderate beneficial** impact on vegetated shingle and intertidal habitats allowing natural roll back. ***Water:*** NAI policy supports natural development of the frontage. Hence, there should be no significant changes to physical or hydro-morphological parameters that could affect BQE's. As such deterioration in Ecological Potential is not considered likely as a result of the SMP2 policy. The impact on Groundwater bodies is uncertain at this scale and dependant on geology. Overall, the impact of NAI on WFD objectives is **mixed**. ***Landscape***: NAI will have **no impact** on landscape quality and visual amenity, it will allow for the natural development of the coastal landscape and coastal views. ***Cultural Heritage***: NAI will result in the loss and /or damage of cultural and heritage features through coastal flooding and /or erosion. This will have a **significant adverse** impact on cultural heritage. ***Material Assets***: NAI will result in the uncontrolled loss /damage of economic, community, residential and infrastructure assets. This will have a **significant adverse** impact. ***Population and Human Health***: NAI will result in the uncontrolled loss /damage residential properties and recreation facilities. There will be increases erosion risk to coastal footpaths. This will have a **significant adverse** impact	***Cultural Heritage****:* Survey, monitor and record any finds. ***Material Assets***: Consider localised coastal defences for highly populated areas including property level defences. Develop public awareness and agreement of appropriate exit strategies from affected properties. ***Population and Human Health***: Compensate for the loss of coastal footpaths by re-routing affected footpaths further inland.
3	**HTL**	***Biodiversity***: HTL will have a **minor adverse** impact on un-designated intertidal habitat lost through coastal squeeze and rising sea levels. ***Soil/ Land Use:*** HTL will have a **significant beneficial** on contaminated	***Biodiversity***: Implement scheme-level design such that temporary and other impacts on biodiversity are minimised.

Type	Policy	Summary of environmental impacts on SEA receptors	Mitigation/opportunities
		land surrounding water bodies and prevent mobilisation of contaminants. ***Water:*** HTL may result in foreshore steepening and lowering which could affect phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential. HTL will not compromise the environmental objectives being met in other water bodies or cause deterioration to groundwater status. HTL will prevent pollution from contaminated land. Overall HTL will have a **mixed** impact on meeting WFD objectives. ***Landscape***: HTL in the short to medium term where there are current defences will have a **negligible impact** on landscape quality and visual amenity. However, in the long term there is the potential for extensive defence works to have a **moderate adverse** impact on landscape quality and character. ***Cultural Heritage***: HTL will have a **significant beneficial** impact protecting cultural heritage sites both designated and non-designated located behind coastal defences. ***Material Assets***: HTL will have a **significant beneficial** impact providing protection to communities, residential, commercial assets and infrastructure. ***Population and Human Health***: HTL will have a **significant beneficial** impact providing protection to residential properties and recreation facilities	***Water***: Consider options to maintain foreshore when considering engineering measures for local management. ***Landscape***: Sensitive management required when upgrading defences in the long-term and consider opportunities to improve the existing landscape character at strategy and scheme level
3	**NAI**	***Biodiversity***: NAI will have a **moderate beneficial** impact on un-designated intertidal habitats allowing natural roll back. ***Soil/ Land Use:*** NAI will have a **significant adverse** impact on contaminated land that will be at increased risk from coastal flooding and erosion leading to the potential for pollution. ***Water:*** NAI policy supports natural development of the frontage. Hence, there should be no significant changes to physical or hydro-morphological parameters that could impact on BQE's. As such deterioration in Ecological Potential is not considered likely as a result of the SMP2 policy. There is potential for pollution from contaminated land and may cause deterioration to groundwater status Overall the impact of NAI on WFD objectives is **mixed**. ***Landscape***: NAI will have **no impact** on landscape quality and visual	

Type	Policy	Summary of environmental impacts on SEA receptors	Mitigation/opportunities
		amenity, it will allow for the natural development of the coastal landscape and coastal views. ***Cultural Heritage***: NAI will result in the loss and /or damage of cultural and heritage features through coastal flooding and /or erosion. This will have a **significant adverse** impact on cultural heritage. ***Material Assets***: NAI will result in the uncontrolled loss /damage of economic, community, residential and infrastructure assets. This will have a **significant adverse** impact. ***Population and Human Health***: NAI will result in the uncontrolled loss /damage residential properties and recreation facilities. There will be increases erosion risk to coastal footpaths. This will have a **significant adverse** impact	***Cultural Heritage****:* Survey, monitor and record any finds. ***Material Assets***: Consider localised coastal defences for highly populated areas including property level defences. Develop public awareness and agreement of appropriate exit strategies from affected properties. ***Population and Human Health***: Compensate for the loss of coastal footpaths by re-routing affected footpaths further inland.
4	**HTL**	***Biodiversity***: HTL will have a **significant adverse** impact on designated intertidal habitats resulting in the loss of habitats through coastal squeeze and sea level rise. HTL will in contrast also have a **significant beneficial** impact on designated freshwater habitats protected by current defences. ***Soil/ Land Use:*** HTL will have a **significant beneficial** agricultural land providing protection from coastal flooding and erosion. HTL will also provide protection to contaminated land and prevent pollution to coastal waters. ***Water:*** HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential. HTL will not compromise the environmental objectives being met in other water bodies or cause deterioration to groundwater status. HTL will prevent pollution from contaminated land. Overall HTL will have a **mixed** impact on meeting WFD objectives. ***Landscape***: HTL in the short to medium term where there are current defences will have a **negligible impact** on landscape quality and visual amenity. However, in the long term there is the potential for extensive defence works to have a **moderate adverse** impact on landscape quality and character. ***Cultural Heritage***: HTL will have a **significant beneficial** impact protecting cultural heritage sites both designated and non-designated located behind coastal defences.	***Biodiversity***: The whole SMP will look at opportunities for intertidal habitat creation through MR policies. New intertidal habitat created within European designated sites can be used as mitigation to offset loses. Net intertidal losses will require compensation habitat to be secured through the RHCP. ***Water***: Consider options to maintain foreshore when considering engineering measures for local management. ***Landscape***: Sensitive management required when upgrading defences in the long-term and consider opportunities to improve the existing landscape character at strategy and scheme level.

Type	Policy	Summary of environmental impacts on SEA receptors	Mitigation/opportunities
		Material Assets: HTL will have a **significant beneficial** impact providing protection to communities, residential, industrial assets and infrastructure. ***Population and Human Health***: HTL will have a **significant beneficial** impact providing protection to residential properties and recreation facilities.	
4	**NAI**	***Biodiversity***: NAI will have a **significant beneficial** impact on designated intertidal habitats and vegetated shingle allowing the natural roll back. NAI may result in the loss of freshwater habitats when defences fail resulting in a **significant adverse** impact. There will be a **mixed** impact. ***Soil/ Land Use:*** NAI will have a **significant adverse** impact on agricultural land through uncontrolled flood/erosion risk. There will be an increased risk of pollution to coastal waters as a result of flooding to contaminated land. ***Water:*** NAI policy supports natural development of the frontage. Hence, there should be no significant changes to physical or hydro-morphological parameters that could impact on BQE's. As such deterioration in Ecological Potential is not considered likely. There is potential for pollution from contaminated land and may cause deterioration to groundwater status Overall the impact of NAI on WFD objectives is **mixed**. ***Landscape***: NAI will have **no impact** on landscape quality and visual amenity, it will allow for the natural development of the coastal landscape and coastal views. ***Cultural Heritage***: NAI will result in the loss and /or damage of cultural and heritage features through coastal flooding and /or erosion. This will have a **significant adverse** impact on cultural heritage. ***Material Assets***: NAI will result in the uncontrolled loss /damage of economic, community, residential and infrastructure assets. This will have a **significant adverse** impact. ***Population and Human Health***: NAI will result in the uncontrolled loss /damage residential properties and recreation facilities. There will be increases erosion risk to coastal footpaths. This will have a **significant adverse** impact.	***Biodiversity***: Compensation for losses of freshwater habitats to be secured through the RHCP. ***Cultural Heritage:*** Survey, monitor and record any finds. ***Material Assets***: Consider localised coastal defences for highly populated areas including property level defences. Develop public awareness and agreement of appropriate exit strategies from affected properties. ***Population and Human Health***: Compensate for the loss of coastal footpaths by re-routing affected footpaths further inland.
5	**HTL**	***Biodiversity***: HTL will have a **significant adverse** impact on designated intertidal habitats and vegetated shingle resulting in the loss of habitats through coastal squeeze and sea level rise. HTL will in contrast also have a **significant beneficial** impact on designated freshwater habitats protected by current defences.	***Biodiversity***: The whole SMP will look at opportunities for intertidal habitat creation through MR policies. New intertidal habitat created within European designated sites can be used as mitigation to offset loses. Net intertidal losses will require compensation habitat to be

Type	Policy	Summary of environmental impacts on SEA receptors	Mitigation/opportunities
		Geology: Many sites designated for their geological and geomorphological interest require natural coastal processes to maintain their features. HTL may interrupt coastal processes and therefore have a **moderate adverse** impact on earth heritage features. ***Water:*** HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential. HTL will not compromise the environmental objectives being met in other water bodies or cause deterioration to groundwater status. Overall HTL will have a **mixed** impact on meeting WFD objectives. ***Landscape***: HTL in the short to medium term where there are current defences will have a **negligible impact** on landscape quality and visual amenity. However, in the long term there is the potential for extensive defence works to have a **moderate adverse** impact on landscape quality and character. ***Cultural Heritage***: HTL will have a **minor beneficial** impact protecting cultural heritage sites both designated and non-designated located behind coastal defences. ***Material Assets***: HTL will have a **minor beneficial** impact providing protection to communities, residential, industrial assets and infrastructure. ***Population and Human Health***: HTL will have a **minor beneficial** impact providing protection to residential properties and recreation facilities.	secured through the RHCP. ***Earth Heritage***: Consider the type of defences to implement at the scheme level to allow some natural coastal processes where earth heritage sites are present. ***Water***: Consider options to maintain foreshore when considering engineering measures for local management. ***Landscape***: Sensitive management required when upgrading defences in the long-term and consider opportunities to improve the existing landscape character at strategy and scheme level.
5	**NAI**	***Biodiversity***: NAI will have a **significant beneficial** impact on designated intertidal habitats and vegetated shingle allowing the natural roll back. NAI may result in the loss of freshwater habitats when defences fail resulting in a **significant adverse** impact. ***Geology***: NAI will have a **moderate beneficial** impact on designated sites of geology and geomorphology allowing natural coastal processes to maintain the features of interest. ***Water:*** NAI policy supports natural development of the frontage. Hence there should be no significant changes to physical or hydro-morphological parameters that could impact on BQE's. As such deterioration in Ecological Potential is not considered likely as a result of the SMP2 policy. The impact of NAI on Groundwater bodies is uncertain at this scale and dependant on	***Biodiversity***: Compensation for losses of freshwater habitats to be secured through the RHCP.

Type	Policy	Summary of environmental impacts on SEA receptors	Mitigation/opportunities
		geology. Overall, the impact of NAI on WFD objectives is **mixed**. ***Landscape***: NAI will have **no impact** on landscape quality and visual amenity, it will allow for the natural development of the coastal landscape and coastal views. ***Cultural Heritage***: NAI will result in the loss and /or damage of cultural and heritage features through coastal flooding and /or erosion. This will have a **moderate adverse** impact on cultural heritage. ***Material Assets***: NAI will result in the uncontrolled loss /damage of economic, community, residential and infrastructure assets. This will have a **minor adverse** impact. ***Population and Human Health***: NAI will result in the uncontrolled loss /damage residential properties and recreation facilities. There will be increases erosion risk to coastal footpaths. This will have a **minor adverse** impact.	***Cultural Heritage:*** Survey, monitor and record any finds. ***Material Assets***: Consider localised coastal defences for highly populated areas including property level defences. Develop public awareness and agreement of appropriate exit strategies from affected properties. ***Population and Human Health***: Compensate for the loss of coastal footpaths by re-routing affected footpaths further inland.
5	**MR**	***Biodiversity***: MR will allow landward migration of coastal habitat under rising sea levels this will have a **significant beneficial** impact on European designated intertidal habitats. However, MR will change the condition or reduce the areas of terrestrial/freshwater habitat landward of defences. This will have a **significant adverse** impact on terrestrial/freshwater habitat. ***Geology:*** MR will promote natural coastal processes and contribution towards a more natural management of the coast. This will have a **significant beneficial** impact on designated sites of geology and geomorphology. ***Water:*** MR policy supports natural development of the frontage. Hence there should be no significant changes to physical or hydro-morphological parameters that could impact on BQE's. As such deterioration in Ecological Potential is not considered likely as a result of the SMP2 policy. There is potential for minor adverse impact on groundwater status for Groundwater bodies dependant on geology and scale of MR. Overall the impact of NAI on WFD objectives is **mixed**. ***Landscape***: MR will provide a change in the existing landscape and natural habitats but will have **negligible impact** on landscape quality and visual amenity. ***Cultural Heritage:*** MR may result in the loss of some heritage and cultural features. However, realignment defences may also provide protection to	***Biodiversity***: Compensation for losses of freshwater habitats to be secured through the RHCP.

Type	Policy	Summary of environmental impacts on SEA receptors	Mitigation/opportunities
		some heritage and cultural features from costal flooding and erosion. Overall there will be a **mixed impact** on cultural heritage. ***Material Assets***: MR may result in the loss of some assets in hinterland of defences (e.g. residential, industrial, agricultural and commercial assets) but will also a reduction of flood/erosion risk to some areas. MR will have a **mixed impact** on material assets. ***Population and Human Health***: MR may result in the loss of some recreation facilities e.g. coastal footpaths this will have a **significant adverse** impact on recreation.	***Material Assets***: Consider localised coastal defences for highly populated areas including property level defences. Develop public awareness and agreement of appropriate exit strategies from affected properties. ***Population and Human Health***: Compensate for the loss of coastal footpaths by re-routing affected footpaths further inland.
6	**HTL**	***Biodiversity***: HTL will have a **significant adverse** impact on designated intertidal habitats and vegetated shingle resulting in the loss of habitats through coastal squeeze and sea level rise. HTL will in contrast also have a **significant beneficial** impact on designated freshwater habitats protected by current defences. ***Geology***: Many sites designated for their geological and geomorphological interest require natural coastal processes to maintain their features. HTL may interrupt coastal processes and therefore have a **moderate adverse** impact on earth heritage features. ***Soil/ Land Use:*** HTL will have a **significant beneficial** agricultural land providing protection from coastal flooding and erosion. HTL will also provide protection to contaminated land and prevent pollution to coastal waters. ***Water:*** HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential. HTL will not compromise the environmental objectives being met in other waterbodies or cause deterioration to groundwater status. HTL will prevent pollution from contaminated land. This will have a **mixed** impact on meeting WFD e objectives. ***Landscape***: HTL in the short to medium term where there are current defences will have a **negligible impact** on landscape quality and visual amenity. However, in the long term there is the potential for extensive defence works to have a **moderate adverse** impact on landscape quality and character. ***Cultural Heritage***: HTL will have a **significant beneficial** impact protecting	***Biodiversity***: The whole SMP will look at opportunities for intertidal habitat creation through MR policies. New intertidal habitat created within European designated sites can be used as mitigation to offset loses. Net intertidal losses will require compensation habitat to be secured through the RHCP. ***Earth Heritage***: Consider the type of defences to implement at the scheme level to allow some natural coastal processes where earth heritage sites are present. ***Water***: Consider options to maintain foreshore when considering engineering measures for local management. ***Landscape***: Sensitive management required when upgrading defences in the long-term and consider opportunities to improve the existing landscape character at strategy and scheme level.

Type	Policy	Summary of environmental impacts on SEA receptors	Mitigation/opportunities
		cultural heritage sites both designated and non-designated located behind coastal defences. ***Material Assets***: HTL will have a **minor beneficial** impact providing protection to communities, residential, industrial assets and infrastructure. ***Population and Human Health***: HTL will have a **minor beneficial** impact providing protection to residential properties and recreation facilities.	
6	**NAI**	***Biodiversity***: NAI will have a **significant beneficial** impact on designated intertidal habitats and vegetated shingle allowing the natural roll back. NAI may result in the loss of freshwater habitats when defences fail resulting in a **significant adverse** impact. ***Geology***: NAI will have a **significant beneficial** impact on designated sites of geology and geomorphology allowing natural coastal processes to maintain the features of interest. ***Soil/ Land Use:*** NAI will have a **significant adverse** impact on agricultural land through uncontrolled flood/erosion risk. There will also be a risk of pollution to coastal waters through flooding to contaminated land. ***Water:*** NAI policy supports natural development of the frontage. Hence there should be no significant changes to physical or hydro-morphological parameters that could impact on BQE's. As such deterioration in Ecological Potential is not considered likely as a result of the SMP2 policy. There is potential for pollution from contaminated land that may cause deterioration to groundwater status Overall the impact on WFD objectives is **mixed**. ***Landscape***: NAI will have **no impact** on landscape quality and visual amenity, it will allow for the natural development of the coastal landscape and coastal views. ***Cultural Heritage***: NAI will result in the loss and /or damage of cultural and heritage features through coastal flooding and /or erosion. This will have a **significant adverse** impact on cultural heritage. ***Material Assets***: NAI will result in the uncontrolled loss /damage of economic, community, residential and infrastructure assets. This will have a **significant adverse** impact. ***Population and Human Health***: NAI will result in the uncontrolled loss /damage residential properties and recreation facilities. There will be increases erosion risk to coastal footpaths. This will have a **significant adverse** impact.	***Biodiversity***: Compensation for losses of freshwater habitats to be secured through the RHCP. ***Cultural Heritage:*** Survey, monitor and record any finds. ***Material Assets***: Consider localised coastal defences for highly populated areas including property level defences. Develop public awareness and agreement of appropriate exit strategies from affected properties. ***Population and Human Health***: Compensate for the loss of coastal footpaths by re-routing affected footpaths further inland.

Type	Policy	Summary of environmental impacts on SEA receptors	Mitigation/opportunities
6	**MR**	***Biodiversity***: MR will allow landward migration of coastal habitat under rising sea levels this will have a **significant beneficial** impact on European designated intertidal habitats. However, MR will change the condition or reduce the areas of terrestrial/freshwater habitat landward of defences. This will have a **significant adverse** impact on terrestrial/freshwater habitat. ***Geology:*** MR will promote natural coastal processes and contribution towards a more natural management of the coast. This will have a **significant beneficial** impact on designated sites of geology and geomorphology. ***Soil/ Land Use:*** MR may result in the loss of agricultural land resulting in a **significant adverse** impact on current land use. ***Water:*** MR policy supports natural development of the frontage. Hence there should be no significant changes to physical or hydro-morphological parameters that could impact on BQE's. As such deterioration in Ecological Potential is not considered likely as a result of the SMP2 policy. There is potential for minor adverse impact on groundwater status for Groundwater bodies dependant on geology and scale of MR. Overall the impact of NAI on WFD environmental objectives is **mixed**. ***Landscape***: MR will provide a change in the existing landscape and natural habitats but will have **negligible impact** on landscape quality and visual amenity. ***Cultural Heritage:*** MR may result in the loss of some heritage and cultural features. However, realignment defences may also provide protection to some heritage and cultural features from costal flooding and erosion. Overall there will be a **mixed** impact on cultural heritage. ***Material Assets***: MR may result in the loss of some assets in hinterland of defences (e.g. residential, industrial, agricultural and commercial assets) but will also reduction of flood/erosion risk to some areas. MR will have a **mixed** impact on material assets. ***Population and Human Health***: MR may result in the loss of some recreation facilities e.g. coastal footpaths this will have a **minor adverse** impact on recreation.	***Biodiversity***: Compensation for losses of freshwater habitats to be secured through the RHCP. ***Material Assets***: Consider localised coastal defences for highly populated areas including property level defences. Develop public awareness and agreement of appropriate exit strategies from affected properties. ***Population and Human Health***: Compensate for the loss of coastal footpaths by re-routing affected footpaths further inland.

K6.2 Preferred Policy Options

This section has been updated in response to review comments which required a clearer explanation about changes to policies through the SMP process. Where changes to policies resulted in additional impacts, these have been listed together with additional mitigation required to offset any negative impacts.

The SMP options appraisal process undertaken by the North Solent SMP is shown below indicating where the information can be found in the substantive SMP document.

SMP Options Appraisal Process		**SMP Documents**
Step 1	Initial policy appraisal	Appendix F
Step 2	Shoreline response assessment against policy scenarios	Appendix G1
Step 3	Policy appraisal against agreed environmental, social, technical objectives leading to proposed objective-led policies	Appendix G2 & G3
Step 4	Economic appraisal of policy options	Appendix H
Step 5	Stakeholder group consultation and additional	Appendix G4
Step 6	Public consultation leading to preferred policies	Final Main SMP

From an SEA perspective, steps 2, 3, 5 and 6 of the above are relevant and contribute to making the SMP process compliant with the SEA Directive. Preferred policies emerging from policy appraisal (step 3) should effectively reflect the most environmentally preferred option per policy unit. These policies resulting from the SMP options appraisal are documented as objective-led policies in Appendix G3 of the substantive SMP. Table 5 of this Addendum provides an appraisal of SMP policy options per SEA receptor, summarising SMP options appraisal (Appendix G2). However, for a number of policy units, subsequent consultation steps, including changes in advice for habitat recreation and economic appraisal, altered the preferred policy option with the result that the draft policy option for consultation was different to that selected in options appraisal (step 3). These changes emphasise the iterative nature of SMP development and of SEA. The draft policies for consultation are therefore the most environmentally acceptable options and any negative impacts will require mitigation. Table 6 provides a list of the draft policies showing changes from the appraisal preferred option (step 3) and any additional impacts or mitigation measures as result of these changes.

Table 6 Proposed draft policies and changes post-appraisal

Policy Unit	Appraisal preferred option	Policy for public consultation	Reasons for change	Summary of Additional Impacts	Additional Mitigation Measures
5A01	MR/MR/MR	MR/MR/MR	No change		
5A02	HTL/HTL/HTL	HTL/HTL/HTL	No change		
5A03	HTL/MR/MR	HTL/MR/MR	No change		
5A04	AM/AM/AM localised MR at West Wittering (epoch3)	AM/AM/AM	Localised MR at West Wittering was found to be not economically viable at the SMP level.	There is the potential for an estimated 13.6 ha of new intertidal habitat to be created within the Chichester and Langstone SPA/Ramsar site. This could have been used as mitigation to offset predicted losses of 210 ha of intertidal habitat over 100 years in Chichester and Langstone SPA/Ramsar site.	Additional intertidal compensation habitat will be required to offset losses to the Chichester and Langstone SPA/Ramsar site through the Regional Habitat Creation Programme (RHCP). To highlight the potential for localised MR at West Wittering to be considered at the strategy and scheme level through more detailed feasibility studies.
5A05	HTL/HTL/HTL	HTL/HTL/HTL localised MR at Ella Nore (epoch 2) & Horse Pond (epoch 3)	Localised MR could not be included in the objective-led assessment (Appendix G2). However, these localised intertidal habitat creation sites have been considered as part of the SMP policy.	An estimated 10.9 ha of new intertidal habitat will be created within the Chichester and Langstone SPA/Ramsar site. This can be been used as mitigation to offset predicted losses of 210 ha of intertidal habitat over 100 years in Chichester and Langstone SPA/Ramsar site. However, these localised MR will result in loss of designated transitional freshwater habitat.	Compensation will be required for losses to designated transitional freshwater habitat to be secured through RHCP.

Policy Unit	Appraisal preferred option	Policy for public consultation	Reasons for change	Summary of Additional Impacts	Additional Mitigation Measures
5A06	HTL/HTL/MR	HTL/HTL*/MR	* for epoch 2 to reflect requirement for more detailed study required for management of site that recognises uncertainties regarding the site specific requirements and timescale for recreating compensatory habitats.	No additional impacts.	No additional mitigation.
5A07	HTL/HTL/HTL	HTL/HTL/HTL localised MR at East Chidham & Bosham (epoch 1)	Localised MR could not be included in the objective-led assessment (Appendix G2). However, these localised intertidal habitat creation sites have been considered as part of the SMP policy.	An estimated 9.4 ha of new intertidal habitat will be created within the Chichester and Langstone SPA/Ramsar site. This can be been used as mitigation to offset predicted 210 ha loss of intertidal habitat over 100 years in Chichester and Langstone SPA/Ramsar site. However, these localised MR will result in loss of designated transitional freshwater habitat.	Compensation will be required for losses to designated transitional freshwater habitat to be secured through RHCP.
5A08	MR/MR/MR	MR/MR/MR	No change		
5A09	HTL/HTL/HTL	HTL/HTL/HTL	No change		
5A10	MR/MR/MR	MR/MR/MR	No change		
5A11	HTL/HTL/HTL	HTL/HTL/HTL	No change		
5A12	HTL/HTL/MR	HTL/HTL/HTL	Existing flood defences will continue to be maintained by the MOD to protect the operational capabilities of their facilities for as long as they occupy the site.	The change of policy from MR to HTL in epoch 3 will result in further intertidal losses as a result of coastal squeeze and contribute to the overall predicted losses of 113 ha. The removal of MR will reduce	Additional intertidal compensation habitat will be required to offset losses to the Chichester and Langstone SPA/Ramsar site through the RHCP. To highlight the potential for

Policy Unit	Appraisal preferred option	Policy for public consultation	Reasons for change	Summary of Additional Impacts	Additional Mitigation Measures
				the amount of new intertidal habitat available for mitigation. MR at Thorney Island would have created an estimated 190 ha of new intertidal habitat. HTL for epoch 3 will provide protection to 190 ha of designated coastal grazing marsh and reedbeds from saline intrusion. These habitats also provide important roost and feeding areas for European designated bird species.	MR to be considered at the strategy and scheme level through more detailed feasibility studies.
5A14	MR/MR/MR	HTL/HTL/HTL	Existing flood defences will continue to be maintained by the MOD to protect the operational capabilities of their facilities for as long as they occupy the site.	The change in policy for HTL for all 3 epochs will result in further intertidal losses and contribute to the overall predicted losses of 210ha of intertidal habitat for 100 years in Chichester and Langstone SPA/Ramsar site. MR at this site would have created an estimated 63ha of new intertidal habitat. This habitat could have been used as compensation to offset losses for Chichester to Langstone SPA/Ramsar site. HTL for all three epochs will provide protection to undesignated coastal grazing.	Additional intertidal compensation habitat will be required to offset losses to the Chichester and Langstone SPA/Ramsar site through the RHCP. To highlight the potential for MR to be considered at the strategy and scheme level through more detailed feasibility studies.

Policy Unit	Appraisal preferred option	Policy for public consultation	Reasons for change	Summary of Additional Impacts	Additional Mitigation Measures
5A15	HTL/HTL/MR	HTL/HTL/HTL	Existing flood defences will continue to be maintained by the MOD to protect the operational capabilities of their facilities for as long as they occupy the site.	The change of policy from MR to HTL in epoch 3 will result in further intertidal losses and contribute to the overall predicted losses for Chichester and Langstone SPA/Ramsar site. The removal of MR will reduce the amount of new intertidal habitat available for mitigation. MR at Thorney Island could potentially create an estimated 190 ha of new intertidal habitat. However, HTL for epoch 3 will provide protection to approximately 190 ha of designated coastal grazing marsh and reedbeds from saline intrusion. These habitats also provide important roost and feeding areas for European designated bird species.	Additional intertidal compensation habitat will be required to offset losses to the Chichester and Langstone SPA/Ramsar site through the RHCP. To highlight the potential for MR to be considered at the strategy and scheme level through more detailed feasibility studies.
5A16	HTL/HTL/HTL	HTL/HTL/HTL	No change		
5A17	HTL/HTL/HTL	HTL/HTL/HTL	No change		
5A18	HTL/HTL/HTL localised MR at Southmoor (epoch 2)	HTL/HTL/HTL	Localised MR at Southmooor was found to be not economically viable at SMP level.	There is the potential for an estimated 14 ha of new intertidal habitat to be created within the Chichester and Langstone SPA/Ramsar site. This could have been used as mitigation to offset predicted losses of 210 ha loss of	Additional intertidal compensation habitat will be required to offset losses to the Chichester and Langstone SPA/Ramsar site through the RHCP. To highlight the potential for MR to be considered at the

Policy Unit	Appraisal preferred option	Policy for public consultation	Reasons for change	Summary of Additional Impacts	Additional Mitigation Measures
				intertidal habitat over 100 years in Chichester and Langstone SPA/Ramsar site.	strategy and scheme level through more detailed feasibility studies.
5A19	HTL/HTL/HTL	HTL/HTL/HTL	No change		
5A20	HTL/HTL/MR	HTL/HTL*/MR	* for epoch 2 to reflect requirement for more detailed study required for management of site that recognises uncertainties regarding the site specific requirements and timescale for recreating compensatory habitats.	No additional impacts.	No additional mitigation.
5A21	HTL/HTL/HTL	HTL/HTL/HTL	No change		
5A22	HTL/HTL/HTL	HTL/HTL*/HTL*	* for epochs 2 & 3 to reflect requirement for more detailed study for management of site to be determined following contaminated land investigations.	No additional impacts.	No additional mitigation.
5A23	HTL/HTL/HTL	HTL/HTL/HTL	No change		
5A24	HTL/HTL/HTL	HTL/HTL/HTL	No change		
5A25	HTL/HTL/HTL	HTL/HTL/HTL	No change		
5B01	HTL/HTL/HTL	HTL/HTL/HTL	No change		
5B02	HTL/HTL/HTL localised Regulated Tidal Exchange (RTE) Titchfield Haven	HTL/HTL/HTL	Localised RTE at Titchfield found to be not economically viable at SMP level.	There is the potential for an estimated 170 ha of new intertidal habitat partly within the Solent and Southampton Water Spa/Ramsar site. A proportion of this could have been used as mitigation to offset predicted losses of 71 ha for Solent and Southampton Water	Additional intertidal compensation habitat will be required to offset losses to the Solent and Southampton Water Spa/Ramsar site through the RHCP. RTE could be considered at the strategy and scheme level through more detailed feasibility

Policy Unit	Appraisal preferred option	Policy for public consultation	Reasons for change	Summary of Additional Impacts	Additional Mitigation Measures
				Spa/Ramsar site over 100 years.	studies.
5B03	NAI/NAI/NAI	NAI/NAI/NAI with localised HTL to protect cross-Solent infrastructure.	To protect cross-Solent infrastructure	No additional impacts.	No additional mitigation.
5C01	HTL//MR/MR	NAI/MR/MR	Policies taken from recommended River Itchen, Weston Shore, Netley and River Hamble CDS states no risk of over topping in short term due to topography.	No additional impacts.	No additional mitigation.
5C02	NAI/NAI/NAI	NAI/NAI/NAI	No change		
5C03	HTL/HTL/HTL	HTL/HTL/NAI	Policies taken from recommended River Itchen, Weston Shore, Netley and River Hamble CDS.	Flood risk to assets upstream of Burlsedon Bridge in the long-term.	Consider property-level defences in long-term.
5C04	NAI/NAI/NAI	NAI/NAI/NAI	No change		
5C05	NAI/NAI/NAI	NAI/NAI/NAI with localised HTL along the Quay and Rope Walk	To protect residential properties, industrial and commercial developments.	Provide increased protection to properties and infrastructure at Quay and Rope Walk.	No additional mitigation.
5C06	NAI/NAI/NAI	NAI/NAI/NAI	No change		
5C07	HTL/HTL/NAI	HTL/HTL/NAI	No change		
5C08	NAI/NAI/NAI	NAI/NAI/NAI	No change		
5C09	HTL/HTL/NAI	HTL/HTL*/NAI	* to reflect requirement for more detailed study for management of site that addresses the economic, environmental, social and amenity factors, to recognise	No additional impacts.	No additional mitigation.

Policy Unit	Appraisal preferred option	Policy for public consultation	Reasons for change	Summary of Additional Impacts	Additional Mitigation Measures
			coastal change and risks.		
5C10	HTL/HTL/HTL	HTL/HTL/HTL	No change		
5C11	HTL/HTL/NAI	HTL/HTL/NAI*	* to reflect requirement for more detailed study for management of site that addresses the economic, environmental, social and amenity factors, to recognise coastal change and risks.	No additional impacts.	No additional mitigation.
5C12	HTL/HTL/HTL	HTL/HTL/HTL	No change		
5C13	NAI/NAI/NAI	NAI/NAI/NAI	No change		
5C14	HTL/HTL/HTL	HTL/HTL/HTL	No change		
5C15	HTL/HTL/NAI	HTL/HTL/NAI	No change		
5C16	NAI/NAI/NAI	NAI/NAI/NAI	No change		
5C17	NAI/NAI/NAI	NAI/NAI/NAI	No change		
5C18	HTL/HTL/MR	HTL/HTL*/MR	* for epoch 2 to reflect requirement for more detailed study required for management of site that recognises uncertainties regarding the site specific requirements and timescale for recreating compensatory habitats.	No additional impacts.	No additional mitigation.
5C19	HTL/HTL/HTL	HTL/HTL/HTL*	* for epoch 3 to reflect requirement for more detailed study required for management of this and adjacent frontages that considers longer-term risk of coastal flooding and recognises uncertainties regarding the site specific requirements and timescale for recreating compensatory habitats following	No additional impacts.	No additional mitigation.

Policy Unit	Appraisal preferred option	Policy for public consultation	Reasons for change	Summary of Additional Impacts	Additional Mitigation Measures
			realignment of neighbouring defences.		
5C20	NAI/NAI/NAI	NAI/NAI/NAI	No change		
5C21	HTL/HTL/HTL	HTL/HTL/HTL localised MR at Lymington reedbeds (epoch 3)	Localised MR could not be included in the objective-led assessment (Appendix G2). However, these localised intertidal habitat creation sites have been considered as part of the SMP policy.	An estimated 36 ha of new intertidal habitat will be created within the Southampton and Solent SPA/Ramsar. This can be been used as mitigation to offset predicted losses. However, this localised MR will result in loss of reedbeds.	Compensation will be required for losses to designated reedbeds to be secured through RHCP.
5C22	HTL/HTL/HTL localised MR Saltgrass Lane (epoch 1) & RTE Avon Water (epoch 2)	HTL/HTL/HTL	Localised MR at Saltgrass Lane and RTE at Avon Water found to be not economically viable at SMP level.	There is the potential for an estimated 16 ha of new intertidal habitat through MR at Saltgrass Lane partly within the Solent and Southampton Water SPA/Ramsar site and 40ha at Avon Water through RTE. A proportion of this could have been used as mitigation to offset predicted losses of 71 ha for Solent and Southampton Water Spa/Ramsar site over 100 years. The removal of RTE at Avon Water provides protection to 40 ha of reedbeds from saline intrusion.	Additional intertidal compensation habitat will be required to offset losses to the Solent and Southampton Water Spa/Ramsar site through the RHCP. Highlight potential for RTE and MR to be considered at the strategy and scheme level through more detailed feasibility studies.
5F01	HTL/HTL/HTL	HTL/HTL/HTL	No change		
5API01	HTL/HTL/HTL	HTL/HTL/HTL	No change		
5API02	HTL/HTL/HTL	HTL/HTL/HTL	No change		
5AHI01	HTL/HTL/HTL	HTL/HTL/HTL	No change		

Policy Unit	Appraisal preferred option	Policy for public consultation	Reasons for change	Summary of Additional Impacts	Additional Mitigation Measures
5AHI02	HTL/HTL/MR	HTL/HTL/MR	No change		
5AHI03	HTL/HTL/MR	HTL/HTL*/MR	* for epoch 2 to reflect requirement for more detailed study required for management of site that recognises uncertainties regarding the site specific requirements and timescale for recreating compensatory habitats.	No additional impacts.	No additional mitigation.
5AHI04	HTL/HTL/HTL	HTL/HTL/HTL	No change		
5AHI05	HTL/HTL/HTL	HTL/HTL/HTL	No change		
5AHI06	HTL/HTL/HTL	HTL/HTL/HTL	No change		
5AHI07	NAI/NAI/NAI	NAI/NAI/NAI with localised HTL at Newtown	To protect residential properties at Newtown.	Provide increased protection to properties and infrastructure at Newtown.	No additional mitigation.
5AHI08	HTL/HTL/HTL	HTL/HTL/HTL locaised MR at Stoke and West Northney (epoch 3)	Localised MR could not be included in the objective-led assessment (Appendix G2) however, the potential for localised intertidal habitat creation is considered as part of the SMP.	Estimated 11.6 ha of new intertidal habitat through MR at Stoke and West Northney.	No additional mitigation.

K7 EVALUATION OF ENVIRONMENTAL EFFECTS OF PROPOSED POLICIES

This section has been updated in response to review comments requiring a clearer summary of the likely effects of the plan and how these will be offset by mitigation measures. Annex K3 of the SEA ER provides an assessment per policy unit and by SEA receptor. This assessment has been summarised in Table 8 to provide an overview of significant impacts per policy unit. In addition, a conclusion has been added to section K7.3 to provide a final summary of impacts incurred by the plan and the required mitigation measures.

Additional text has been included in section K7.1 to explain the assessment matrix Annex K3 of SEA ER and Annex K3 to this Addendum. Annex K3 of this report provides further detail with respect to water and biodiversity/flora/fauna receptors, integrating results from the Water Framework Assessment (Appendix L) and Appropriate Assessment (Appendix J).

K7.1 Assessment of Impacts

Annex K3 of the SEA ER and this Addendum provide a detailed assessment of the SMP per policy unit to give an indication of the significance of environmental impacts over the short-term (0-20 years), medium-term (20-50 years) and long-term (50-100 years). The SEA Directive requires that predicted impacts are evaluated for significance to facilitate targeting of mitigation and monitoring measures. The assessment identifies the impact significance for both positive and negative in terms of minor, moderate or significant as illustrated in Table 7 below.

Significant beneficial impact	Moderate beneficial impact	Minor beneficial impact	No impact/ negligible impact	Mixed impacts	Minor adverse impact	Moderate adverse impact	Significant adverse impact

Table 7 Assessment matrix text colour coding

Table 8 Summary of impacts and mitigation measures per policy unit

Policy Unit	Draft Policy	Summary of Environmental Impacts of Proposed Draft Policies	Mitigation /Opportunities
5A01	MR/MR/MR	• **Beneficial impact** on landscape, water, material assets, population and human health • **Mixed impact** on biodiversity	Mitigate for losses in coastal grazing marsh (SSSI)
5A02	HTL/HTL/HTL	• **Beneficial impact** on soil/land use, heritage, material assets, population and human health • **Negative impact** on biodiversity, earth heritage, water and landscape	Recommend scheme-level design such that any temporary and other impacts on biodiversity and landscape are minimised.
5A03	HTL/MR/MR	• **Beneficial impact** biodiversity, material assets, population and human health • **Mixed impact** on landscape and water	Recommend scheme-level design such that impacts to landscape are minimised.
5A04	AM/AM/AM	• **Significant beneficial impact** on cultural heritage • **Beneficial impact** on biodiversity, water, population, human health, material assets, landscape, cultural heritage and soil/land	No mitigation required.
5A05	HTL/HTL/HTL (Localised MR at Ella Nore epoch 2 and Horse Pond epoch 3)	• **Significant beneficial impact** on soil/land use, cultural heritage and material assets • Potential **significant adverse impact** on landscape in long-term • **Beneficial impact** on population and human health • **Mixed impact** on biodiversity and water	Compensatory habitat to be secured through the Environment Agency (EA) Regional Habitats Creation Programme (RHCP) for coastal grazing marsh habitat, net European designated intertidal losses and wildfowl feeding sites. Further detailed studied required to provide more information on the impact of MR at the strategic level. Recommend scheme-level design such that impacts to landscape are minimised.
5A06	HTL/HTL*/MR	• **Significant beneficial impact** on soil/land use in short term • **Beneficial impact** on cultural heritage and material assets	Compensatory habitat to be secured through the RHCP for fresh pasture grazing marsh habitat, reedbeds, coastal grazing marsh, bird feeding/ high tide roosting

		• **Adverse impact** on soil/land use in long term • **Mixed impact** on biodiversity, water and population and human health	sites and net European designated intertidal losses. Further detailed studied required to provide more information on the impact of MR at the strategic level. Re-route the coastal footpath to maintain recreation facility.
5A07	HTL/HTL/HTL (Localised MR at East Chidham and Bosham in epoch 1)	• **Significant beneficial impact** on soil/land use and cultural heritage • Potential **significant adverse impact** on landscape in long-term • **Beneficial impact** on material assets, population and human health • **Mixed impact** on biodiversity and water	Compensatory habitat to be secured through the EA RHCP for coastal grazing marsh habitat and net European designated intertidal losses Further detailed studied required to provide more information on the impact of MR at the strategic level. Recommend scheme-level design such that impacts to landscape are minimised.
5A08	MR/MR/MR	• **Beneficial impact** on water and material assets • **Mixed impact** on soil/land use, biodiversity, landscape, population and human health	Recommend scheme-level design such that impacts to landscape are minimised. Re-route the coastal footpath to maintain recreation facility. Further detailed studied required to provide more information on the impact of MR at the strategic level. Provide mitigation for loss of feeding areas for Brent Geese.
5A09	HTL/HTL/HTL	• **Significant beneficial impact** on soil/land use in long-term • Potential **significant adverse impact** on landscape in long-term • **Beneficial impact** on material assets, population and human health • **Mixed impact** on biodiversity and water	Compensatory habitat to be secured through the EA RHCP for net European designated intertidal losses. Recommend scheme-level design such that impacts to landscape are minimised.
5A10	MR/MR/MR	• **Beneficial impact** on water, material assets, population and human health • **Adverse impact** on population and human health (recreation) • **Mixed impact** on soil/land use, biodiversity, and landscape	Recommend scheme-level design such that impacts to landscape are minimised. Further detailed studied required to provide more information on the impact of MR at the strategic level.

			Mitigation for loss of SSSI coastal grazing marsh, wet grassland and function as bird roost sites.
5A11	HTL/HTL/HTL	• **Beneficial impact** on soil/ land use, cultural heritage, material assets, population and human health • Potential **significant adverse impact** on landscape in long-term • **Mixed impact** on biodiversity and water	Compensatory habitat to be secured through the EA for net European designated intertidal losses. Recommend scheme-level design such that impacts to landscape are minimised.
5A12/ 5A13/ 5A14	HTL/HTL/HTL	• **Significant beneficial impact** on population, human health, material assets and soil/land use • Potential **significant adverse impact** on landscape in long-term • **Mixed impact** on biodiversity and water	Recommend scheme-level design such that impacts to landscape are minimised. Compensatory habitat to be secured through the RHCP for net European designated intertidal losses.
5A15	HTL/HTL/HTL	• **Significant beneficial impact** on population, human health, material assets and soil/land use • Potential **significant adverse impact** on landscape in long-term • **Beneficial impact** on cultural heritage • **Mixed impact** on biodiversity and water	Recommend scheme-level design such that impacts to landscape are minimised. Compensatory habitat to be secured through the RHCP for net European designated intertidal losses.
5A16	HTL/HTL/HTL	• **Significant beneficial impact** on cultural heritage • Potential **significant adverse impact** on landscape in long-term • **Beneficial impact** on population, human health and material assets • **Mixed impact** on biodiversity and water	Recommend scheme-level design such that impacts to landscape are minimised. Compensatory habitat to be secured through the RHCP for net European designated intertidal losses.
5A17	HTL/HTL/HTL (Localised MR at Conigar epoch 1 & Warblington epoch 3)	• **Significant beneficial impact** on cultural heritage, population and human health • Potential **significant adverse impact** on landscape in long-term • **Adverse impact** on water, soil/ land use and cultural heritage (for localised MR)	Recommend scheme-level design such that impacts to landscape are minimised. Compensatory habitat to be secured through the RHCP for net intertidal losses. Mitigate for SSSI coastal grazing marsh and function as bird high tide roost sites. Further detailed studied required to provide more

		• **Mixed impact** on biodiversity and water	information on the impact of MR at the strategic level.
5AHI01	HTL/HTL/HTL	• **Significant beneficial impact** on soil/ land use and material assets • Potential **significant adverse impact** on landscape in long-term • **Beneficial impact** on cultural heritage, population and human health • **Adverse impact** on water • **Mixed impact** on biodiversity	Recommend scheme-level design such that impacts to landscape are minimised. Compensatory habitat to be secured through the RHCP for net European designated intertidal losses. Further detailed studied required to provide more information on the impact of MR at the strategic level.
5AHI02	MR/MR/MR	• **Significant beneficial impact** on cultural heritage and soil/ land use (long-term) • **Significant adverse impact** on soil/ land use (short-term) • **Beneficial impact** on water and material assets • **Adverse impact** on population and human health (recreation) • **Mixed impact** on biodiversity and landscape	Recommend scheme-level design such that impacts to landscape are minimised. Compensatory habitat to be secured through the RHCP for European designated coastal grazing marsh habitat and function as bird roost/feeding areas. Provide new mitigation for loss of local recreation site. Further detailed studied required to provide more information on the impact of MR at the strategic level.
5AHI03	HTL/HTL*/MR	• **Significant beneficial impact** on cultural heritage, material assets, soil/ land use (short/medium term), population and human health • **Adverse impact** on soil/ land use (long-term) • **Mixed impact** on biodiversity, water and landscape	Compensatory habitat to be secured through the RHCP for European designated coastal grazing marsh habitat, fresh to brackish fresh grazing marsh and function as bird high tide roost sites. Further detailed studied required to provide more information on the impact of MR at the strategic level.
5AHI04	HTL/HTL/HTL	• **Significant beneficial impact** on material assets, soil/ land use, population and human health • Potential **significant adverse impact** on landscape in long-term • **Beneficial impact** on cultural heritage • **Adverse impact** on water • **Mixed impact** on biodiversity	Recommend scheme-level design such that impacts to landscape are minimised. Compensatory habitat to be secured through the RHCP for net European designated intertidal losses. Mitigate for losses in undesignated coastal grazing marsh and function as bird high tide roost sites.

5AHI05	HTL/HTL/HTL	• **Significant beneficial impact** on cultural heritage, material assets, population and human health • **Adverse impact** on water and biodiversity (long-term) • Potential **adverse impact** on landscape in long-term	Recommend scheme-level design such that impacts to landscape are minimised. Mitigate for losses in vegetated shingle in the long-term
5AHI06	HTL/HTL/HTL	• **Beneficial impact** on cultural heritage, material assets, population and human health • **Adverse impact** on water • Potential **adverse impact** on landscape in long-term • **Mixed impact** on biodiversity	Recommend scheme-level design such that impacts to landscape are minimised. Compensatory habitat to be secured through the RHCP for net European designated intertidal losses.
5AHI07	NAI /NAI /NAI (Localised HTL at Newtown)	• **Beneficial impact** on water, material assets (HTL at Newtown), soil/ land use (short-term) and landscape • **Adverse impact** on population and human health (recreation) and soil/land use (long-term) • **Mixed impact** on biodiversity	Re-route the coastal footpath to maintain recreation facility. Compensatory habitat to be secured through the RHCP for net European designated intertidal losses until end of existing defences residual life.
5AHI08	HTL/HTL/HTL (Localised MR at Stoke & West Northney in epoch 1)	• **Significant beneficial impact** on soil/ land use, population and human health • Potential **significant adverse impact** on landscape in long-term • **Beneficial impact** on material assets and cultural heritage • **Adverse impact** on water • **Mixed impact** on biodiversity	Recommend scheme-level design such that impacts to landscape are minimised. Compensatory habitat to be secured through the RHCP for net European designated intertidal losses. Further detailed studied required to provide more information on the impact of MR at the strategic level.
5A18	HTL/HTL/HTL	• **Significant beneficial impact** on soil/ land use and cultural heritage • **Significant adverse impact** on biodiversity • **Beneficial impact** on population and human health • Potential **adverse impact** on landscape in long-term • **Mixed impact** on water	Recommend scheme-level design such that impacts to landscape are minimised. Compensatory habitat to be secured through the RHCP for net European designated intertidal losses.
5A19	HTL/HTL/HTL	• **Significant beneficial impact** on soil/ land use and material assets	Recommend scheme-level design such that impacts to landscape are minimised.

		• **Significant adverse impact** on biodiversity • **Beneficial impact** on cultural heritage, population and human health • Potential **adverse impact** on landscape in long-term • **Mixed impact** on water	Compensatory habitat to be secured through the RHCP for net European designated intertidal losses.
5A20	HTL/HTL*/MR	• **Significant beneficial impact** on material assets, population and human health (short/medium-term) • **Significant adverse impact** on population and human health (recreation- long-term) • **Mixed impact** on water, biodiversity and landscape	Recommend scheme-level design such that impacts to landscape are minimised. Compensatory habitat to be secured through the RHCP for net European designated intertidal losses and brackish, coastal grazing marsh, saline lagoons and function as valuable bird roost site. Further detailed studied required to provide more information on the impact of MR at the strategic level. Mitigate for loss of important recreation facility for Portsmouth and re-route coastal footpath.
5API01	HTL/HTL/HTL	• **Significant beneficial impact** on soil/ land use, cultural heritage, material assets, population and human health • **Adverse impact** on water • Potential **adverse impact** on landscape in long-term • **Mixed impact** on biodiversity	Recommend scheme-level design such that impacts to landscape are minimised. Compensatory habitat to be secured through the RHCP for net European designated intertidal losses.
5API02	HTL/HTL/HTL	• **Significant beneficial impact** on soil/ land use, cultural heritage, material assets, population and human health • **Adverse impact** on water • **Beneficial impact** on biodiversity • Potential **adverse impact** on landscape in long-term	Recommend scheme-level design such that impacts to landscape are minimised.
5A21	HTL/HTL/HTL	• **Significant beneficial impact** on soil/ land use, cultural heritage, material assets, population and human health • Potential **adverse impact** on landscape in long-term • **Mixed impact** on biodiversity and water	Recommend scheme-level design such that impacts to landscape are minimised. Compensatory habitat to be secured through the RHCP for net European designated intertidal losses.

5A22	HTL/HTL/HTL	• **Beneficial impact** on soil/ land use, cultural heritage, population and human health • Potential **adverse impact** on landscape in long-term • **Mixed impact** on biodiversity and water	Recommend scheme-level design such that impacts to landscape are minimised. Compensatory habitat to be secured through the RHCP for net European designated intertidal losses.
5A23	HTL/HTL/HTL	• **Significant adverse impact** on biodiversity • **Beneficial impact** on cultural heritage, material assets, population and human health • Potential **adverse impact** on landscape in long-term • **Mixed impact** on water	Recommend scheme-level design such that impacts to landscape are minimised. Compensatory habitat to be secured through the RHCP for net European designated intertidal losses.
5A24	HTL/HTL/HTL	• **Significant beneficial impact** on soil/ land use • **Beneficial impact** on material assets • Potential **adverse impact** on landscape in long-term • **Mixed impact** on biodiversity and water	Recommend scheme-level design such that impacts to landscape are minimised. Compensatory habitat to be secured through the RHCP for net loss of European designated intertidal habitat.
5A25	HTL/HTL/HTL	• **Significant adverse impact** on biodiversity • **Significant beneficial impact** on soil/ land use and material assets (long-term) • **Beneficial impact** on cultural heritage, material assets (short/medium-term), population and human health • **Mixed impact** on water • Potential **adverse impact** on landscape in long-term	Recommend scheme-level design such that impacts to landscape are minimised. Compensatory habitat to be secured through the RHCP for net European designated intertidal.
5B01	HTL/HTL/HTL	• **Significant beneficial impact** on biodiversity and cultural heritage • **Beneficial impact** on material assets, population and human health • **Mixed impact** on water • Potential **adverse impact** on landscape in long-term	Recommend scheme-level design such that impacts to landscape are minimised.
5B02	HTL/HTL/HTL	• **Significant adverse impact** on biodiversity • **Significant beneficial impact** on soil/ land use	Compensatory habitat to be secured through the RHCP for net European designated intertidal losses. Mitigate for losses of vegetated shingle at Browndown SSSI.

		• **Beneficial impact** on cultural heritage, material assets, population and human health • **Adverse impact** on earth heritage • Potential **adverse impact** on landscape in long-term • **Mixed impact** on water	Recommend scheme-level design such that impacts to landscape are minimised.
5B03	NAI/NAI/NAI (Localised HTL for cross-Solent infrastructure)	• **Significant beneficial impact** on landscape • **Beneficial impact** on water material assets • **Adverse impact** on soil/ land use, population and human health • **Mixed impact** on biodiversity	Property level defences for protection from coastal flooding. Mitigate for loss of open amenity space at Hook Park. Provide mitigation for loss of bird roost and feeding sites, this could be in the form of platforms and islands.
5C01	NAI/MR/MR	• **Significant adverse impact** on population and human health (recreation) • **Beneficial impact** on water, material assets, population and human health • **Mixed impact** on biodiversity and landscape	Re-route Solent way coastal path. Compensatory habitat to be secured through the RHCP for European designated fresh flood plain, reedbeds, open water losses and function as bird high tide roost sites. Further detailed studied required to provide more information on the impact of MR at the strategic level.
5C02	NAI/NAI/NAI	• **Significant beneficial impact** on biodiversity • **Beneficial impact** on water and landscape • **Adverse impact** on material assets, population and human health	Property level defences for protection from coastal flooding. Re-route access to Bunny Meadows.
5C03	HTL/HTL/NAI	• **Significant beneficial impact** on cultural heritage (short/medium-term) • **Significant adverse impact** on cultural heritage (long-term) • **Beneficial impact** in short/medium term on landscape, material assets population and human health • **Adverse impact** in long-term on material assets • **Mixed impact** on water	Survey, monitor and record historic/archaeological sites. Relocate assets further inland in the long-term.
5C04	NAI/NAI/NAI	• **Significant beneficial impact** on biodiversity	Survey, monitor and record historic/archaeological sites.

		• **Beneficial impact** on water and landscape • **Adverse impact** on soil/land use, cultural heritage, material assets, population and human health	Property level defences for protection from coastal flooding.
5C05	NAI/NAI/NAI (Localised HTL for Rope Walk & the Quays)	• **Significant beneficial impact** on biodiversity • **Significant adverse impact** on cultural heritage • **Beneficial impact** on water, landscape and material assets (localised HTL) • **Adverse impact** on population and human health (recreation)	Survey, monitor and record historic/archaeological sites. Compensate for loss of amenity open space at Hamble Common (SSSI). Property level defences for protection from coastal flooding in long-term.
5C06	NAI/NAI/NAI	• **Significant beneficial impact** on biodiversity • **Beneficial impact** on water and landscape • **Adverse impact** on soil/land use, cultural heritage, material assets, population and human health • **Mixed impact** on water	Survey, monitor and record historic/archaeological sites. Re-route local footpath.
5C07	HTL/HTL/NAI	• **Significant beneficial impact** on soil/land use and material assets in short/medium term • **Significant beneficial impact** on biodiversity in long-term • **Significant adverse impact** on biodiversity in short/medium term • **Beneficial impact** on landscape, population and human health • **Mixed impact** on water	Compensatory habitat to be secured through the RHCP for net European designated intertidal losses.
5C08	NAI/NAI/NAI	• **Beneficial impact** on water, landscape and biodiversity • **Adverse impact** on population and human health	Re-route local footpath and slipways.
5C09	HTL/HTL/MR	• **Significant beneficial impact** on cultural heritage, population and human health (short/medium term) and biodiversity (long-term) • **Significant adverse impact** on biodiversity (short/medium term), cultural heritage (long-term), population and human health (long-term)	Compensatory habitat to be secured through the RHCP for net European designated intertidal losses. Re-route access to Royal Victoria County Park. Survey, monitor and record historic/archaeological sites. Plan relocation of assets away from coastline in long-term.

		• **Beneficial impact** on landscape and material assets (short/medium term) • **Adverse impact** on material assets (long-term) • **Mixed impact** on water	
5C10	HTL/HTL/HTL	• **Significant beneficial impact** on soil/land use • **Beneficial impact** on material assets, population and human health • Potential **adverse impact** on landscape in long-term • **Mixed impact** on biodiversity and water	Recommend scheme-level design such that impacts to landscape are minimised.
5C11	HTL/HTL/NAI	• **Significant beneficial impact** in short/medium term on cultural heritage, soil/land use, material assets, population and human health • **Significant adverse impact** in short/medium term on biodiversity • **Significant adverse impact** in long-term on cultural heritage, soil/land use • **Significant beneficial impact** on biodiversity in long-term • **Mixed impact** on water	Compensatory habitat to be secured through the RHCP for net European designated intertidal losses. Survey, monitor and record historic/archaeological sites. Plan relocation of assets away from coastline in long-term.
5C12	HTL/HTL/HTL	• **Significant beneficial impact** on cultural heritage, soil/land use, material assets, population and human health • Potential **adverse impact** on landscape in long-term • **Adverse impact** on biodiversity • **Mixed impact** on water	Recommend scheme-level design such that impacts to landscape are minimised.
5C13	NAI/NAI/NAI	• **Beneficial impact** on landscape and biodiversity • **Adverse impact** on cultural heritage, material assets, population and human health (recreation)	Survey, monitor and record historic/archaeological sites. Re-route Solent way coastal path in long-term Plan relocation of assets away from coastline in long-term.
5C14	HTL/HTL/HTL	• **Significant beneficial impact** on cultural heritage, soil/land use, material assets, population and human health	Recommend scheme-level design such that impacts to landscape are minimised.

		• Potential **adverse impact** on landscape in long-term • **Mixed impact** on biodiversity and water	Compensatory habitat to be secured through the RHCP for net European designated intertidal losses.
5C15	HTL/HTL/NAI	• **Significant beneficial impact** on landscape, cultural heritage (short/medium-term), population and human health short/medium-term) and biodiversity (long-term) • **Significant adverse impact** on biodiversity (short/medium-term), cultural heritage (long-term), population and human health (long-term) • **Mixed impact** on water	Compensatory habitat to be secured through the RHCP for net European designated intertidal losses. Survey, monitor and record historic/archaeological sites. Plan relocation of assets away from coastline in long-term. Re-route Solent way coastal path in long-term
5C16 & 5C17	NAI/NAI/NAI	• **Significant beneficial impact** on landscape and biodiversity • **Adverse impact** on soil/land use, cultural heritage, material assets, population and human health • **Beneficial impact** on earth heritage and water	Survey, monitor and record historic/archaeological sites. Property level defences for protection from coastal flooding in long-term.
5C18	HTL/HTL/MR	• **Significant beneficial impact** on soil/land use in short/medium term • **Significant adverse impact** on soil/land use • **Beneficial impact** on cultural heritage, material assets, population and human health in short/medium term • **Mixed impact** on biodiversity and water	Compensatory habitat to be secured through the RHCP for net European designated intertidal losses, coastal grazing marsh and saline lagoons losses and their function as important bird high tide roost sites.
5C19	HTL/HTL/HTL	• **Significant adverse impact** on biodiversity • Potential **significant adverse impact** on landscape in long-term • **Beneficial impact** on water, soil/ land use, material assets, population and human health	Compensatory habitat to be secured through the RHCP for net European designated intertidal losses.
5C20	NAI/NAI/NAI	• **Significant beneficial impact** on landscape and biodiversity • **Significant adverse impact** on cultural heritage • **Beneficial impact** on water • **Adverse impact** on population and human health (recreation)	Survey, monitor and record historic/archaeological sites. Compensate for losses to local SINC and function as recreation facilities.

5C21	HTL/HTL/HTL (Regulated Tidal Exchange at Lymington Reedbeds)	• **Significant beneficial impact** on soil/ land use, cultural heritage, material assets, population and human health • Potential **significant adverse impact** on landscape in long-term • **Mixed impact** on biodiversity and water	Recommend scheme-level design such that impacts to landscape are minimised. Compensatory habitat to be secured through the RHCP for net European designated intertidal losses.
5C22	HTL/HTL/HTL	• **Significant beneficial impact** on soil/ land use, material assets, population and human health • Potential **significant adverse impact** on landscape in long-term • **Mixed impact** on biodiversity and water	Recommend scheme-level design such that impacts to landscape are minimised. Compensatory habitat to be secured through the RHCP for net European designated intertidal losses.
5F01	HTL/HTL/HTL	• **Significant beneficial impact** on soil/ land use, landscape, cultural heritage, material assets, population and human health • **Beneficial impact** on water • **Mixed impact** on biodiversity and earth heritage	Compensatory habitat to be secured through the RHCP for net European designated intertidal losses.

K7.1.1 to K7.1.8

No change to SEA Environmental Report (Appendix K)

K7.2 Cumulative Impacts

No change to SEA Environmental Report (Appendix K)

K7.3 Conclusion and Mitigation Measures

In general, the key driver for the development of this SMP is to provide protection to people and the developed, historic and natural environment in a sustainable way. To ensure these assets are protected in a sustainable way also involves promoting natural coastal processes. However, this may result in conflicting requirements. The following section provides a high-level summary of the significant impact of the draft SMP including mitigation measures required to reduce adverse impacts.

The SMP will have a significant beneficial impact on coastal communities, material assets, agricultural land, contaminated land and the historic environment through HTL policies providing protection from coastal flooding and erosion. The SMP will provide a better standard of protection to communities and material assets through assessing the long-term risks and providing guidance for spatial planning.

Overall, the SMP through HTL policies will result in significant loss of important intertidal habitats and species associated with SPA, SAC and Ramsar sites in particular within the harbours and west Solent. The loss of intertidal habitats will occur due to rising sea levels and lack of area available for natural adaption. Through MR and NAI policies, the SMP will create new intertidal areas some of which will be used as mitigation for the loss of habitats to reduce the overall adverse impact of the SMP. However, despite mitigation measures there will still be a significant net loss of saltmarsh habitat.

The SMP through NAI and MR policies will result in significant losses to freshwater habitats, coastal grazing marsh and its function as a roost and feeding area for important European bird species.

To mitigate for the adverse impacts to important European designated habitats and associated species, the SMP will need approval for Imperative Reasons of Overriding Public Interest (IROPI) and secure compensation through the Regional Habitat Creation Programme. A summary of the requirements taken from the draft Appropriate Assessment* are listed below:

- Freshwater habitats (75ha) and function as bird roost/feeding site
- Coastal grazing marsh (372 ha) and function as bird roost/feeding site

* It should be noted that these compensation requirements will change as a result of changes to the SMP after public consultation and they will be updated in the final Appropriate Assessment.

- Saline lagoons (44 ha)
- Saltmarsh (212 ha for SPA/Ramsar and 385 ha for SAC)

The SMP has the potential to have significant adverse impact on the surrounding landscape in the long-term through HTL policies resulting from upgrades to defences to maintain the level of protection with rising sea levels. This could have a detrimental impact on the surrounding landscape and visual amenity in particular within Chichester AONB and New Forest National Park. The requirement to upgrade defences will provide benefits to the surrounding area in terms of protection from flooding. The potential adverse impact can be reduced through sensitive scheme-level design so that impacts to landscape are minimised.

The SMP through MR and NAI policies will result in disruption and loss of some coastal footpaths including the Solent Way. The adverse impact to these recreation facilities can be mitigated against through adaption planning, including measures to move footpaths further inland.

The SMP through NAI policies may have an adverse impact on a small number of statutory designated heritage features which will be at increased risk from coastal flooding and erosion. To mitigate against losing valuable historic data, the sites should be surveyed, monitored and recorded.

The SMP through HTL policies may result in foreshore steepening and lowering. This could impact on phytoplankton and macroalgae Biological Quality Elements (BQE) through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential. Possible mitigation measures include ensuring local management options to maintain the foreshore are incorporated into engineering measures to defend the frontage where appropriate.

The draft SMP tries to provide a sustainable balance between both socio-economic and environmental issues associated with the North Solent coastline. Many of the adverse impacts associated with the plan can be mitigated against as outlined above. However, the impact on European designated habitats and associated species will require compensation. There is a need to implement the SMP for reasons of overriding public interest to address the serious risk to public safety from coastal flooding and erosion. Failure to do so would have unacceptable social and economic consequences.

K8 IMPLEMENTATION AND MONITORING

No change to SEA Environmental Report (Appendix K)

ANNEX K1: NORTH SOLENT STRATEGIC ENVIRONMENTAL ASSESSMENT METHOD

No change to SEA Environmental Report (Appendix K)

ANNEX K2 REVIEW OF PLANS AND POLICIES

No change to SEA Environmental Report (Appendix K)

ANNEX K3 EVALUATION OF ENVIRONMENTAL EFFECTS OF PROPOSED POLICIES FOR WATER AND BIODIVERSITY

The following matrix has been updated from the SEA Environmental Report (Appendix K to main SMP) to provide further details with respect to water and biodiversity/flora/fauna receptors.

HTL = Hold The Line, MR = Managed Realignment, NAI = No Active Intervention

PU	Draft policy			SEA Receptors	
	0-20	20-50	50-100	Biodiversity Flora & Fauna	Water
Selsey Bill to West Wittering					
Policy units 5A01, 5A02 & 5A03 covered by Pagham to East Head CDS SEA					
5A01	**MR**	**MR**	**MR**	MR will result in loss of designated coastal grazing marsh (SSSI) but also the creation of new intertidal habitat. The secondary defences, depending on their location, may have an adverse effect on vegetated shingle within *Bracklesham Bay SSSI*, as natural roll back of shingle will be prevented. Over the 3 epochs there will be **mixed** impacts on biodiversity.	MR policy supports natural development of the frontage. Hence there should be no significant changes to physical or hydro-morphological parameters that could impact on Biological Quality Elements (BQE's). As such, deterioration in Ecological Potential is not considered likely as a result of the SMP2 policy. MR will not compromise the environmental objectives being met in other water bodies. This will result in a **minor beneficial** impact.
5A02	**HTL**	**HTL**	**HTL**	HTL in the short-term will have **negligible impacts** on vegetated shingle within *Bracklesham Bay SSSI*. In the long-term HTL will have a **minor adverse** on vegetated shingle due to coastal squeeze and rising sea levels.	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential because of the SMP2 policy. HTL will not compromise the environmental objectives being met in other water bodies. This will have a **minor adverse** impact.
5A03	**HTL**	**MR**	**MR**	HTL in the short-term will have a **negligible impact**. MR in epoch 2 will create a small area of intertidal habitat. This will have a **moderate beneficial** impact on biodiversity.	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion

					(associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy in the short-term. MR in the longer term will support natural development of the frontage. Hence, there should be no significant changes to physical or hydro-morphological parameters that could impact on Biological Quality Elements (BQE's). This will result in a **mixed** impact over 3 epochs.
Mitigation Measures				Compensate for losses of vegetated shingle and coastal grazing marsh.	Ensure local management options to maintain foreshore are incorporated into engineering measures to defend the frontages 5A04 & 5A03.
Chichester Harbour					
Policy unit 5A04 covered by Pagham to East Head CDS SEA					
5A04	**AM**	**AM**	**AM**	There is the potential opportunity for enhancement and creation of vegetated and sand dune habitats. There may be losses and gains of designated intertidal habitats within Chichester and Langstone SPA/Ramsar site depending on how the coastline develops within this complex coastal zone. Over 3 epochs there will be **minor beneficial** impact on biodiversity.	The AM policy supports natural development of the frontage. Hence, there should be no significant changes to physical or hydro-morphological parameters that could impact on BQE's. As such, deterioration in Ecological Potential is not considered likely as a result of the SMP2 policy. AM will not compromise the environmental objectives being met in other water bodies. This will result in a **minor beneficial** impact.
5A05	HTL	HTL[1]	HTL[2]	Existing defences will result in the loss of intertidal habitats through coastal squeeze as sea levels rise and *contribute to the predicted 210 ha loss of intertidal habitat over 100 years in Chichester and Langstone SPA/Ramsar site.* Some of these defences provide protection to important waterfowl feeding sites and ancient woodland. Localised MR at Ella Nore and Horse Pond will create *an estimated 11 ha* of new intertidal habitat in epochs 2/3. However, MR at Horse Pond in epoch 3 will result in loss of an *estimated 6 ha* of European designated coastal grazing marsh and wildfowl feeding sites. Over the 3 epochs there will be **mixed** impacts on biodiversity.	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy, however the policy would not prevent obtaining good groundwater status or result in deterioration in groundwater status. The small area of MR at Ella Nore and Horse Pond will not have significant impact on WFD water quality status. This will result in a **mixed** impact.

[1] localised MR at Ella Nore [2] localised MR at Horse Pond

5A06	HTL	HTL*	MR	HTL will result in the loss of European designated intertidal habitats through coastal squeeze as sea levels rise *and contribute to the predicted 210 ha loss of intertidal habitat over 100 years in Chichester and Langstone SPA/Ramsar site.* HTL will have a significant beneficial impact on *an estimated 3 ha of designated (Chichester and Langstone SPA/Ramsar) fresh pasture grazing marsh and additional non-designated grazing mars.* Both habitats provide feeding areas for waterfowl. MR in the long-term at Fishbourne will create an *estimated 22ha of* new intertidal habitat. However, this will result in the loss of existing coastal grazing marsh, *designated fresh pasture grazing marsh* reedbeds, wader high tide roost and waterfowl feeding sites. Over the 3 epochs there will be **mixed** impacts on biodiversity.	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy in the short-term. MR in the long-term will support natural development of the frontage. Hence, there should be no significant changes to physical or hydro-morphological parameters that could impact on BQE's. There is a risk of deterioration in groundwater status through MR as the area lies within Source Protection Zone 1.This will result in a **mixed** impact.
5A07	HTL[3]	HTL	HTL	Existing defences will have an adverse impact on European designated intertidal habitats resulting in a loss through coastal squeeze as sea levels rise *and contribute to the predicted 210 ha loss of intertidal habitat over 100 years in Chichester and Langstone SPA/Ramsar site*. However, this will have a beneficial impact on waterfowl feeding areas and locally designated SNCIs proving protection from coastal flooding. Localised MR Bosham & East Chidham will create *an estimated 10 ha of new undesignated intertidal habitat* but result in the loss of *un-designated* coastal grazing marsh. Over the 3 epochs there will be **mixed** impacts on biodiversity.	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. A HTL will not prevent obtaining good groundwater status or result in deterioration in groundwater status. The small amount of MR at East Chidham and Bosham is not to have a significant impact on water quality status due to the small size of the MR sites. This will result in a **mixed** impact.
5A08	MR	MR	MR	MR policy will create an *estimated 37 ha of new non-designated* intertidal habitat. However, this will result in the loss of arable land used as feeding areas for waterfowl and Brent geese. This will result in **mixed** impacts on biodiversity.	MR policy supports natural development of the frontage. Hence, there should be no significant changes to physical or hydro-morphological parameters that could impact on BQE's. As such, deterioration in Ecological Potential is not considered likely as a result of the SMP2

* Requirement for further detailed studies
[3] Localised MR at East Chidham and Bosham

					policy. MR will not compromise the environmental objectives being met in other water bodies or prevent obtaining good groundwater status or result in deterioration in groundwater status. There will be **minor beneficial** impact.
5A09	HTL	HTL	HTL	HTL policy will have an adverse impact on European designated intertidal habitats resulting in a loss through coastal squeeze as sea levels rise *and contribute to the predicted 210 ha loss of intertidal habitat over 100 years in Chichester and Langstone SPA/Ramsar site*. However, this will have a beneficial impact on important wader roost/feeding sites for waterfowl and Brent geese protecting them from coastal flooding. Therefore, impacts to biodiversity are **mixed.**	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. HTL will not result in deterioration in groundwater status. This will result in a **mixed** impact.
5A10	MR	MR	MR	MR policy will create an *estimated 26ha of mostly undesignated* new intertidal habitat. However, this will have an adverse impact *on Chichester and Langstone* SSSI designated coastal grazing marsh and wet grassland. These habitats provide important roost sites for waders. This will result in **mixed** impacts on biodiversity over 3 epochs.	MR policy supports natural development of the frontage. Hence, there should be no significant changes to physical or hydro-morphological parameters that could impact on BQE's. As such deterioration in Ecological Potential is not considered likely as a result of the SMP2 policy. MR will not compromise the environmental objectives being met in other water bodies or result in deterioration in groundwater status. This will result in a **minor beneficial** impact.
5A11	HTL	HTL	HTL	HTL policy will have an adverse impact on European designated intertidal habitats resulting in a loss through coastal squeeze as sea levels rise *and contribute to the predicted 210 ha loss of intertidal habitat over 100 years in Chichester and Langstone SPA/Ramsar site*. However, this will have an adverse impact on coastal grazing marsh and wet grassland that provide important roost sites for waders. There will be **mixed** impacts on biodiversity.	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy however the policy would not prevent obtaining good groundwater status or result in deterioration in groundwater status. This will result in a **mixed** impact.
5A12	HTL	HTL	HTL	HTL policy will have an adverse impact on European designated intertidal habitats resulting in a loss through coastal squeeze as sea levels rise *and contribute to the predicted 210 ha loss of intertidal*	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion

				habitat over 100 years in Chichester and Langstone SPA/Ramsar site. In contrast, HTL will have a beneficial impact on European (*Chichester and Langstone SPA/Ramsar*) designated coastal grazing marsh, reed beds and open water protecting these features from coastal flooding. These habitats provide important feeding and roost sites for waders and wildfowl. This will result in **mixed** impacts on biodiversity.	(associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. HTL will not result in deterioration in groundwater status. This will result in a **mixed** impact.
5A13	HTL	HTL	HTL	HTL policy will have an adverse impact on European designated intertidal habitats resulting in a loss through coastal squeeze as sea levels rise *and contribute to the predicted 210 ha loss of intertidal habitat over 100 years in Chichester and Langstone SPA/Ramsar site.* In contrast, HTL will have a beneficial impact on roosting/feeding sites for waders and wildfowl. This will result in **mixed** impacts on biodiversity.	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. HTL will not result in deterioration in groundwater status. This will result in a **mixed** impact.
5A14	HTL	HTL	HTL	HTL policy will have an adverse impact on European designated intertidal habitats resulting in a loss through coastal squeeze as sea levels rise *and contribute to the predicted 210 ha loss of intertidal habitat over 100 years in Chichester and Langstone SPA/Ramsar site.* In contrast, HTL will have a beneficial impact on roosting/feeding sites for waders and wildfowl. This will result in **mixed** impacts on biodiversity.	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. HTL will not result in deterioration in groundwater status. This will result in a **mixed** impact.
5A15	HTL	HTL	HTL	HTL policy will have an adverse impact on European designated intertidal habitats resulting in a loss through coastal squeeze as sea levels rise *and contribute to the predicted 210 ha loss of intertidal habitat over 100 years in Chichester and Langstone SPA/Ramsar site.* In contrast, HTL will provide protection to locally designated habitats from coastal flooding. These habitats provide important feeding/roost sites for waders and wildfowl. This will result in **mixed** impacts on biodiversity.	HTL will result in foreshore steepening and lowering this could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. HTL will not result in deterioration in groundwater status. This will result in a **mixed** impact.
Policy units 5A16 & 5A17covered by Porchester to Emsworth CDS SEA					

5A16	**HTL**	**HTL**	**HTL**	HTL policy will have an adverse impact on European designated intertidal habitats resulting in a loss through coastal squeeze as sea levels rise *and contribute to the predicted 210 ha loss of intertidal habitat over 100 years in Chichester and Langstone SPA/Ramsar site,* but will have a beneficial impact on locally designated saline lagoons. This will result in **mixed** impacts on biodiversity.	HTL will result in foreshore steepening and lowering this could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. HTL will not result in deterioration in groundwater status. This will result in a **mixed** impact.
5A17	**HTL**[4]	**HTL**	**HTL**[5]	HTL policy will have an adverse impact on European designated intertidal habitats resulting in a loss through coastal squeeze as sea levels rise *and contribute to the predicted 210 ha loss of intertidal habitat over 100 years in Chichester and Langstone SPA/Ramsar site*. Localised MR at Conigar and Warblington will create an *estimated 9 ha* new intertidal habitat. This will result in an adverse impact to an *estimated 5 ha* SSSI designated coastal grazing marsh at Warblington and non-designated high tide wader roost sites. This will result in **mixed** impacts on biodiversity.	HTL will result in foreshore steepening and lowering this could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. HTL will not result in deterioration in groundwater status. This will result in a **mixed** impact.
Mitigation Measures				*An estimated 90 ha of saltmarsh* habitats will be required as compensation habitat to offset losses caused by coastal squeeze and sea level rise *with Chichester and Langstone SPA/Ramsar sites*. Additional compensation habitat will be required for the *loss of 36 ha of fresh water habitats, 119 ha of coastal grazing marsh and 7 ha of saline lagoons* through MR policies. *Additional mitigation measures to* create new opportunities for alternative high tide wader roost sites and Brent geese feeding areas through habitat management and artificial platforms *will be required to mitigate for losses in the function of habitats for the designated European bird species. These compensation requirements will be secured through the RCHP. The identification of the potential*	Ensure local management options to maintain foreshore are incorporated into engineering measures to defend HTL frontages were appropriate.

[4] Localised MR at Conigar [5] Localised MR at Warblington

				for localised MR identified at West Wittering (5A04) would create 14 ha of new intertidal habitat which could contribute towards mitigation for intertidal losses within the Chichester and Langstone SPA/Ramsar site. However, this would result in the loss of designated coastal grazing marsh and reedbeds.	
Hayling Island					
5AHI01	HTL	HTL	HTL	HTL policy will have an adverse impact on European designated intertidal habitats resulting in a loss through coastal squeeze as sea levels rise *and contribute to the predicted 210 ha loss of intertidal habitat over 100 years in Chichester and Langstone SPA/Ramsar site*. In contrast, it will have a beneficial impact on waterfowl feeding areas protecting them from coastal flooding. This will result in **mixed** impacts on biodiversity.	HTL may cause the erosion and lowering of intertidal foreshore habitats This could impact on the phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. Will result in **minor adverse** impact.
5AHI02	MR	MR	MR	MR at Northney Farm will create *an estimated 46 ha* of new intertidal habitat but will result in the loss of *an estimated 30 ha* European designated coastal grazing marsh. This will have an adverse impact on important wader roosts and waterfowl feeding sites on the grazing marsh and arable fields. This will have **mixed** impacts on biodiversity.	MR policy supports natural development of the frontage. Hence, there should be no significant changes to physical or hydro-morphological parameters that could impact on BQE's. As such, deterioration in Ecological Potential is not considered likely as a result of the SMP2 policy. MR will not compromise the environmental objectives being met in other water bodies. This will result in a **minor beneficial** impact.
5AHI03	HTL	HTL*	MR	HTL in the short/medium term will have an adverse impact on European designated intertidal habitats resulting in a loss through coastal squeeze as sea levels rise *and contribute to the predicted 210 ha loss of intertidal habitat over 100 years in Chichester and Langstone SPA/Ramsar site*. However, have a beneficial impact on European designated coastal grazing marsh and brackish to fresh coastal grassland with ditches. These habitats provide important high tide roost sites for waders. This will have **mixed** impacts on biodiversity in the short to	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy in the short-term. MR in the longer term will support natural development of the frontage. Hence, there should be no significant changes to physical or hydro-morphological parameters that could impact on BQE's. This will result

* Requirement for further detailed studies

				medium term. In the long-term MR will create an *estimated 50 ha* new intertidal habitat but result in the loss of *approx. 50 ha designated coastal grazing marsh* and high tide wader roost sites. This will have **mixed** impacts on biodiversity in the long-term.	in a **mixed** impact over 3 epochs.
5AHI04	HTL	HTL	HTL	HTL policy will have an adverse impact on European designated intertidal habitats resulting in a loss through coastal squeeze as sea levels rise *and contribute to the predicted 210 ha loss of intertidal habitat over 100 years in Chichester and Langstone SPA/Ramsar site*. However, this will also provide protection to *un-designated* coastal grazing marsh at Selsmore that provides important areas for high tide wader roosts. This will result in **mixed** impacts on biodiversity.	HTL may cause erosion and lowering of intertidal foreshore habitats This could impact on the phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. This will result in **minor adverse** impact.
5AHI05	HTL	HTL	HTL	Sand dunes (SSSI) at Sinah Common are currently defended therefore HTL will have a **negligible impact.** HTL in the short term will have a **negligible impact** on vegetated shingle (SSSI) at Sinah Common if beach nourishment/accretion is in line with sea level rise. However, in the long-term HTL will result in some loss of vegetated shingle as it will be difficult to maintain the coastline in current position through renourishment. This will have a **minor adverse** impact.	HTL may cause erosion and lowering of intertidal foreshore habitats This could impact on the phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. This will result in **minor adverse** impact.
5AHI06	HTL	HTL	HTL	HTL policy will have an adverse impact on European designated intertidal habitats resulting in a loss through coastal squeeze as sea levels rise *and contribute to the predicted 210 ha loss of intertidal habitat over 100 years in Chichester and Langstone SPA/Ramsar site*. In contrast, HTL will provide protection to important wader high tide roost sites on playing fields. This will have **mixed** impacts on biodiversity	HTL may cause the erosion and lowering of intertidal foreshore habitats This could impact on the phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. This will result in **minor adverse** impact.
5AHI07	NAI[6]	NAI[6]	NAI[6]	Current defences in the short term will cause loss of intertidal habitats through coastal squeeze *and*	This policy supports natural development of the frontage. Hence, there should be no significant changes

[6] Localised HTL at Newtown

				contribute to the predicted 210 ha loss of intertidal habitat over 100 years in Chichester and Langstone SPA/Ramsar site but will provide protection to locally designated sites (SINC/SNCI). This will have a **mixed** impact on biodiversity. In the long-term as defences come to the end of their residual lives this will allow intertidal habitats to migrate inland. This will have a **significant beneficial** impact on biodiversity.	to physical or hydro-morphological parameters that could impact on BQE's. As such, deterioration in Ecological Potential is not considered likely as a result of the SMP2 policy. The scale of localised HTL at Newtown will not have a significant impact on WFD status. This will result in a **minor beneficial** impact.
5AHI08	HTL[7]	HTL[7]	HTL[7]	HTL policy will have an adverse impact on European designated intertidal habitats resulting in a loss through coastal squeeze as sea levels rise *and contribute to the predicted 210 ha loss of intertidal habitat over 100 years in Chichester and Langstone SPA/Ramsar site.* However, localised MR at Stoke Common will create an *estimated 5 ha* new intertidal habitat. This will result in **mixed** impacts on biodiversity.	HTL may cause the erosion and lowering of intertidal foreshore habitats This could impact on the phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. The small scale of MR at Stoke and West Northney will not have a significant impact on WFD status. This will result in **minor adverse** impact.
Mitigation Measures				*An estimated 90 ha of saltmarsh* habitat will be required as compensation habitat to offset losses caused by coastal squeeze and sea level rise *with Chichester and Langstone SPA/Ramsar site. 80 ha of compensation habitat will be required to offset losses to reedbeds, coastal grazing marsh and wet grassland through MR policies at 5AHI02& 5AHI03. Additional mitigation measures to* create new opportunities for alternative high tide wader roost sites and Brent geese feeding areas through habitat management and artificial platforms *will be required to offset for losses in the function of habitats for the designated European bird species. These compensation requirements will be secured through the RHCP.*	Ensure local management options to maintain foreshore are incorporated into engineering measures to defend HTL frontages were possible.
Langstone Harbour					
Policy units 5A18, 5A19 & 5A20 covered by Porchester to Emsworth CDS SEA					

[7] Localised MR at Stoke and West Northney

5A18	**HTL**	**HTL**	**HTL**	HTL policy will have a **significant adverse** impact on European designated intertidal habitats resulting in a loss through coastal squeeze as sea levels rise *and contribute to the predicted 210 ha loss of intertidal habitat over 100 years in Chichester and Langstone SPA/Ramsar site.*	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. HTL will not result in deterioration in groundwater status. This will result in a **mixed** impact.
5A19	**HTL**	**HTL**	**HTL**	HTL policy will have a **significant adverse** impact on European designated intertidal habitats resulting in a loss through coastal squeeze as sea levels rise *and contribute to the predicted 210 ha loss of intertidal habitat over 100 years in Chichester and Langstone SPA/Ramsar site.*	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. HTL will not result in deterioration in groundwater status. This will result in a **mixed** impact.
5A20	**HTL**	**HTL***	**MR**	HTL policy in the short to medium term will have an adverse impact on European designated intertidal habitats resulting in a loss through coastal squeeze as sea levels rise *and contribute to the predicted 210 ha loss of intertidal habitat over 100 years in Chichester and Langstone SPA/Ramsar site.* In the medium to long-term MR at Farlington will create *an estimated 74 ha* new intertidal habitat but will result in the loss of *an estimated 33ha of designated brackish to fresh grazing marsh, 33ha of costal grazing marsh and 7ha of saline lagoons*. This site is a valuable high tide roost site used during storm events and is an important part of the network or sites in the Solent. This will have **mixed** impacts on biodiversity.	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy in the short-term. MR in later epochs will support natural development of the frontage hence there should be no significant changes to physical or hydro-morphological parameters that could impact on BQE's in the long-term. As such, deterioration in Ecological Potential is not considered likely as a result of the SMP2 policy. MR is not considered likely to result in deterioration in groundwater status. This will result in a **mixed** impact.
Mitigation Measures				*An estimated 90 ha of saltmarsh* habitat will be required as compensation habitat to offset losses caused by coastal squeeze and sea level rise *within*	Ensure local management options to maintain foreshore are incorporated into engineering measures to defend HTL frontages were possible.

* Requirement for further detailed studies

				Chichester and Langstone SPA/Ramsar site. 74 ha of compensation habitat will be required to offset losses to reedbeds, coastal grazing marsh and wet grassland through MR policies at Farlington Marshes (5A20). Additional mitigation measures to create new opportunities for alternative high tide wader roost sites and Brent geese feeding areas through habitat management and artificial platforms *will be required to mitigate for losses in the function of habitats for the designated European bird species.* *These compensation requirements will be secured through the RHCP.* The potential for localised MR at Southmoor (5A18) could provide *14 ha of new intertidal as mitigation to help offset losses too intertidal habitat within Chichester and Langstone SPA/Ramsar.* However, this will result in a loss of designated fresh and brackish marshes and open water. Further investigations required at strategy level.	
Portsea Island					
5API01 & 5API02 covered by Portsea Island CDS SEA					
5API01	**HTL**	**HTL**	**HTL**	HTL will have an adverse impact on European designated intertidal habitats resulting in a loss through coastal squeeze as sea levels rise. This would contribute to *the predicted 210 ha loss of intertidal habitat over 100 years in Chichester and Langstone SPA/Ramsar site and 194 ha of intertidal habitat over 100 years in Portsmouth SPA/ Ramsar*. HTL will however have a beneficial impact on locally designated SINCs and on grassland providing protection from coastal flooding. These areas provide important feeding areas for Brent Geese. This will have **mixed** impacts on biodiversity.	HTL may continue to cause the erosion and lowering of intertidal foreshore habitats This could impact on the phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. This will result in **minor adverse** impact.
5API02	**HTL**	**HTL**	**HTL**	HTL policy will provide protection from coastal flooding to locally designated SINCs and grassland important for Brent Geese. HTL will not have an impact on vegetated shingle if beach nourishment	HTL may continue to cause the erosion and lowering of intertidal foreshore habitats This could impact on the phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth,

				inline with sea level rise. Overall, there will be a **moderate beneficial** impact on biodiversity.	residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. This will result in **minor adverse** impact.
Mitigation Measures				*An estimated 90 ha of saltmarsh habitat for Chichester and Langstone SPA/Ramsar and 194 ha of intertidal habitat for Portsmouth SPA/Ramsar* will be required as compensation habitat to offset losses caused by coastal squeeze and sea level rise. *These compensation requirements will be secured through the RHCP.*	Ensure local management options to maintain foreshore are incorporated into engineering measures to defend HTL frontages.
Portsmouth Harbour					
5A21	**HTL**	**HTL**	**HTL**	HTL policy will have an adverse impact on European designated intertidal habitats resulting in a loss through coastal squeeze as sea levels rise and *contribute to the overall estimate of 194 ha of intertidal habitat over 100 years in Portsmouth SPA/ Ramsar*. HTL will also have a beneficial impact on a number of locally designated SINCs many of these areas also provide important roost and feeding sites for designated bird species. This will have **mixed** impacts on biodiversity.	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. HTL will not result in deterioration in groundwater status. This will result in a **mixed** impact.
5A22	HTL	HTL	HTL	HTL policy will have an adverse impact on European designated intertidal habitats resulting in a loss through coastal squeeze as sea levels rise and *contribute to the overall estimate of 194 ha of intertidal habitat over 100 years in Portsmouth SPA/ Ramsar*. However, it will provide protection to open grassland important roost and feeding sites for designated bird species. This will have **mixed** impacts on biodiversity.	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. HTL will not result in deterioration in groundwater status. This will result in a **mixed** impact.
5A23	HTL	HTL	HTL	HTL policy will have an adverse impact on European designated intertidal habitats resulting in a loss through coastal squeeze as sea levels rise and *contribute to the overall estimate of 194 ha of intertidal habitat over 100 years in Portsmouth SPA/ Ramsar*. This will have a **significant adverse** impact on biodiversity.	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. HTL will not

					result in deterioration in groundwater status. This will result in a **mixed** impact.
5A24	HTL	HTL	HTL	HTL policy will have an adverse impact on European designated intertidal habitats resulting in a loss through coastal squeeze as sea levels rise and *contribute to the overall estimate of 194 ha of intertidal habitat over 100 years in Portsmouth SPA/ Ramsar*. However, it will provide protection to open grassland important roost and feeding sites for designated bird species. This will have **mixed** impacts on biodiversity	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. HTL will not result in deterioration in groundwater status. This will result in a **mixed** impact.
5A25	HTL	HTL	HTL	HTL policy will have an adverse impact on European designated intertidal habitats resulting in a loss through coastal squeeze as sea levels rise *contribute to the overall estimate of 194 ha of intertidal habitat over 100 years in Portsmouth SPA/ Ramsar*. This will have a **significant adverse** impact on biodiversity.	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. HTL will not result in deterioration in groundwater status. This will result in a **mixed** impact.
Mitigation Measures				*An estimated 194 ha of intertidal* habitat will be required as compensation habitat to offset losses caused by coastal squeeze and sea level rise over 100 years. *These compensation requirements will be secured through the RHCP.*	Ensure local management options to maintain foreshore are incorporated into engineering measures to defend HTL frontages.
Hook Spit to Portsmouth Harbour Entrance					
5B01	HTL	HTL	HTL	HTL policy will have a **significant beneficial** impact on saline lagoons designated as part of Solent and Isle of Wight Lagoons SAC.	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. HTL will not result in deterioration in groundwater status. This will result in a **mixed** impact.
5B02	HTL	HTL	HTL	HTL will result in the loss of European designated intertidal habitats through loss by coastal squeeze and sea level rise at Hill Head. *This will contribute to*	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water

				predicted loss of 71ha of intertidal habitat over 100 years in Solent and Southampton Water SPA/Ramsar. This will have a **significant adverse** impact. HTL is not likely to have an impact on vegetated shingle (Browndown SSSI).	depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. HTL will not result in deterioration in groundwater status. This will result in a **mixed** impact.
5B03	NAI[8]	NAI[8]	NAI[8]	NAI policy will have a beneficial impact on European designated intertidal habitats and vegetated shingle enabling habitats to migrate inland. However, NAI policy will have an adverse impact on important wader roost and waterfowl feeding sites at Hook park through coastal flooding. This will have **mixed** impacts on biodiversity.	The NAI policy supports natural development of the frontage. Hence, there should be no significant changes to physical or hydro-morphological parameters that could impact on BQE's. As such, deterioration in Ecological Potential is not considered likely as a result of the SMP2 policy. Groundwater status is not likely to deteriorate due to geology and topography of this frontage. This will result in a **minor beneficial** impact.
Mitigation Measures				*88ha of saltmarsh will be required as compensation to offset losses caused by coastal squeeze and sea level rise within Solent and Southampton Water SPA/Ramsar site. Additional mitigation measures to* create new opportunities for alternative high tide wader roost sites and Brent geese feeding areas through habitat management and artificial platforms *will be required to mitigate for losses in the function of habitats for the designated European bird species. These compensation requirements will be secured through the RHCP.* Potential Regulated Tidal Exchange (RTE) has been identified at Titchfield. *This could potentially create 170ha* of new intertidal habitat but also result in the loss of existing European designated habitats including fresh flood plain wet grassland, reed beds and open water. Further investigations required at strategy level.	Ensure local management options to maintain foreshore are incorporated into engineering measures to defend HTL frontages where appropriate. Monitoring/further investigation of potential impacts on groundwater from contaminated land at 5B03.
River Hamble					
5C01, 5C02, 5C03, 5C04 & 5C05 covered by River Itchen, Weston Shore, Netley and River Hamble CDS SEA					
5C01	**NAI**	**MR**	**MR**	NAI in the short-term will allow the natural retreat of	The policies support natural development of the

[8] Localised HTL for cross Solent infrastructure

				the coastline. This will have a **significant beneficial** impact. MR in the medium to long-term will create an *estimated 46 ha* of new intertidal habitat but will have an adverse impact on European designated fresh flood plain wet grassland, reed beds and open water. This will also result in the loss of high tide roost sites for waders. This will result in **mixed** impacts on biodiversity.	frontage. Hence, there should be no significant changes to physical or hydro-morphological parameters that could impact on BQE's. As such, deterioration in Ecological Potential is not considered likely as a result of the SMP2 policy. Groundwater status is not likely to deteriorate due to geology and topography of this frontage. This will result in a **minor beneficial** impact.
5C02	**NAI**	**NAI**	**NAI**	NAI policy will allow the river Hamble to adapt to natural environmental change and will result in a **significant beneficial** impact.	This policy supports natural development of the frontage. Hence, there should be no significant changes to physical or hydro-morphological parameters that could impact on BQE's. As such, deterioration in Ecological Potential is not considered likely as a result of the SMP2 policy. Groundwater status is not likely to deteriorate due to geology and topography of this frontage. This will result in a **minor beneficial** impact.
5C03	**HTL**	**HTL**	**NAI**	The proposed policies will have **No impact** on biodiversity.	HTL in epoch 1 & 2 may result in foreshore steepening and lowering this could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy in the short-term. NAI in the longer term will support natural development of the frontage. Hence, there should be no significant changes to physical or hydro-morphological parameters that could impact on BQE's. Groundwater status is not likely to deteriorate due to geology and topography of this frontage through NAI policy in the long-term. This will result in a **mixed** impact over 3 epochs.
5C04	**NAI**	**NAI**	**NAI**	NAI policy will allow the river Hamble to adapt to natural environmental change and will result in a **significant beneficial** impact. This will have a beneficial impact on high tide wader roost sites on intertidal saltmarsh.	This policy supports natural development of the frontage. Hence, there should be no significant changes to physical or hydro-morphological parameters that could impact on BQE's. As such, deterioration in Ecological Potential and Groundwater status are not considered likely as a result of the SMP2 policy. This will result in a **minor beneficial** impact.

5C05	**NAI**[9]	**NAI**[9]	**NAI**[9]	NAI policy will allow the river Hamble to adapt to natural environmental change and will have a **significant beneficial** impact on high tide wader roost sites on intertidal saltmarsh.	This policy supports natural development of the frontage. Hence, there should be no significant changes to physical or hydro-morphological parameters that could impact on BQE's. As such, deterioration in Ecological Potential and Groundwater status are not considered likely as a result of the SMP2 policy. This will result in a **minor beneficial** impact.
Mitigation Measures				*An estimated 39 ha of fresh water pasture, 3 ha of saline lagoon and 4 ha of reedbeds will be required as compensation as a result of losses due to MR at Hook Lake (5C01). Additional mitigation measures to create new opportunities for alternative high tide wader and roost sites through habitat management and artificial platforms will be required to mitigate for losses in the function of habitats for the designated European bird species. These compensation requirements will be secured through the RHCP.*	No mitigation identified.
Southampton Water (including River Itchen)					
5C06, 5C07, 5C08, 5C09, 5C10 & 5C11 covered by River Itchen, Weston Shore, Netley and River Hamble CDS SEA					
5C06	**NAI**	**NAI**	**NAI**	NAI policy will allow the coastline to adapt to natural environmental change and will result in a **significant beneficial** impact.	This policy supports natural development of the frontage. Hence, there should be no significant changes to physical or hydro-morphological parameters that could impact on BQE's. As such deterioration in Ecological Potential and Groundwater status are not considered likely as a result of the SMP2 policy. This will result in a **minor beneficial** impact.
5C07	**HTL**	**HTL**	**NAI**	HTL in the short to medium term will have a **significant adverse** impact on European designated mudflats and sandflats through loss by coastal squeeze and sea level rise. *This will contribute to predicted loss of 71ha of intertidal habitat over 100 years in Solent and Southampton Water SPA/Ramsar*. In the long-term, a NAI policy will allow these habitats to migrate landward and have a **significant beneficial** impact.	HTL in epoch 1 & 2 may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy in the short-term. NAI in the longer term will support natural development of the frontage. There should be no significant changes to physical or hydro-

[9] Localised HTL for Rope Walk and the Quay

					morphological parameters that could impact on BQE's. Groundwater status is not likely to deteriorate due to geology and topography of this frontage through NAI policy in the long-term. This will result in a **mixed** impact over 3 epochs
5C08	**NAI**	**NAI**	**NAI**	NAI policy will allow the coastline to adapt to natural environmental change and will result in a **minor beneficial** impact.	This policy supports natural development of the frontage. Hence, there should be no significant changes to physical or hydro-morphological parameters that could impact on BQE's. As such, deterioration in Ecological Potential and Groundwater status are not considered likely as a result of the SMP2 policy. This will result in a **minor beneficial** impact.
5C09	**HTL**	**HTL***	**NAI**	HTL in the short to medium term will have a **significant adverse** impact on European designated mudflats and sandflats through loss by coastal squeeze and sea level rise. *This will contribute to predicted loss of 71ha of intertidal habitat over 100 years in Solent and Southampton Water SPA/Ramsar*. In the long-term NAI, policy will allow the coastline to adapt to natural environmental change and will result in a **significant beneficial** impact.	HTL in epoch 1 & 2 may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy in the short-term. NAI in the longer term will support natural development of the frontage. Hence, there should be no significant changes to physical or hydro-morphological parameters that could impact on BQE's. Groundwater status is not likely to deteriorate due to geology and topography of this frontage through NAI policy in the long-term. This will result in a **mixed** impact over 3 epochs
5C10	**HTL**	**HTL**	**HTL**	HTL will result in the loss of European designated intertidal habitat. *This will contribute to predicted loss of 71ha of intertidal habitat over 100 years in Solent and Southampton Water SPA/Ramsar*. New defences will provide protection to feeding and roost sites on grassland at risk from coastal flooding. This will have **mixed** impacts on biodiversity.	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. HTL will reduce the risk of contamination from landfills. This will have a beneficial impact on groundwater body status. This will

* Requirement for further detailed studies

					result in a **mixed** impact.
5C11	**HTL**	**HTL**	**NAI***	HTL in the short to medium term will have a **significant adverse** impact on European designated and local designated (Chessel Bay Local Nature Reserve) intertidal habitats through loss by coastal squeeze and sea level rise. *This will contribute to predicted loss of 71ha of intertidal habitat over 100 years in Solent and Southampton Water SPA/Ramsar*. In the long-term NAI will allow the river to adapt to natural environmental change and reduce the loss of intertidal habitats. This will have a **significant beneficial** impact.	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. HTL will reduce the risk of contamination from landfills. This will have a beneficial impact on groundwater body status. MR in the long-term will support natural development of the frontage and there should be no significant changes to physical or hydro-morphological parameters that could impact on BQE's. There is the potential for a negative impact on groundwater status from landfills and NAI policy in the long-term. This will result in a **mixed** impact.
5C12	HTL	HTL	HTL	HTL will result in the loss of intertidal habitats through loss by coastal squeeze and sea level rise. HTL will have **minor adverse** impact on biodiversity.	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. HTL will reduce the risk of contamination from landfills. This will have a beneficial impact on groundwater body status. This will result in a **mixed** impact.
5C13	NAI	NAI	NAI	NAI policy will allow the estuary to adapt to natural environmental change and will result in a **moderate beneficial** impact.	This policy supports natural development of the frontage. Hence, there should be no significant changes to physical or hydro-morphological parameters that could impact on BQE's. As such, deterioration in Ecological Potential not considered likely as a result of the SMP2 policy. There is potential for a negative impact on groundwater status from former landfills. This will result in a **mixed** impact.
5C14	HTL	HTL	HTL	HTL will have an adverse impact on European	HTL may result in foreshore steepening and lowering

* Requirement for further detailed studies

				designated intertidal habitats through loss by coastal squeeze and sea level rise. *This will contribute to predicted loss of 71ha of intertidal habitat over 100 years in Solent and Southampton Water SPA/Ramsar*. These areas of saltmarsh are utilised by waders as roost sites at Eling Marsh, Bury Marsh, lee of Calshot and in front of Fawley. HTL will also provide protection from coastal flooding to important high tide roost sites and wildfowl feeding areas on Dibden Bay reclaim area and locally designated SINCs. There will be **mixed** impacts on biodiversity.	which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. HTL will reduce the risk of contamination from landfills. This will have a beneficial impact on groundwater body status. This will result in a **mixed** impact.
5C15	HTL	HTL	NAI	HTL will have a **significant adverse** impact on European designated intertidal habitats and vegetated shingle through loss by coastal squeeze and sea level rise. *This will contribute to predicted loss of 71ha of intertidal habitat over 100 years in Solent and Southampton Water SPA/Ramsar*. In the long-term loss through coastal squeeze will be reduces and have a **significant beneficial** impact on intertidal habitats.	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. MR in the long-term will support natural development of the frontage. Hence, there should be no significant changes to physical or hydro-morphological parameters that could impact on BQE's. This will result in a **mixed** impact over 3 epochs
Mitigation Measures				*88ha of saltmarsh will be required as compensation to offset losses caused by coastal squeeze and sea level rise within Solent and Southampton Water SPA/Ramsar site. Additional mitigation measures to create new opportunities for alternative high tide wader, roost sites and feeding areas through habitat management and artificial platforms will be required to mitigate for losses in the function of habitats for the designated European bird species. These compensation requirements will be secured through the RHCP.*	Investigation of the potential contamination from the landfills for frontages 5C10, 5C11, 5C13 and 5C14. Ensure local management options to maintain foreshore are incorporated into engineering measures to defend HTL frontages where appropriate.
West Solent					
5C16	NAI	NAI	NAI	NAI policy will allow the coastline to adapt to natural environmental change. This will have a beneficial effect on European designated intertidal habitats	This policy supports natural development of the frontage. Hence, there should be no significant changes to physical or hydro-morphological parameters that

				reducing loss through coastal squeeze but also a change in partly designated brackish and freshwater fen, grassland and reedbeds. This will result in **significant beneficial** impacts on biodiversity.	could impact on BQE's. As such, deterioration in Ecological Potential and Groundwater status are not considered likely as a result of the SMP2 policy. This will result in a **minor beneficial** impact.
5C17	NAI	NAI	NAI	NAI policy will allow the estuary to adapt to natural environmental change and will result in a **significant beneficial** impact.	This policy supports natural development of the frontage. Hence, there should be no significant changes to physical or hydro-morphological parameters that could impact on BQE's. As such, deterioration in Ecological Potential and Groundwater status are not considered likely as a result of the SMP2 policy. This will result in a **minor beneficial** impact.
5C18	HTL	HTL*	MR	In the short/medium term there will be loss of European designated intertidal habitats and vegetated shingle through coastal squeeze. *This will contribute to predicted loss of 71ha of intertidal habitat over 100 years in Solent and Southampton Water SPA/Ramsar*. However, will provide protection to designated landward habitats. In the long-term MR will create an *estimated 237ha* new intertidal habitat but this will result in the *loss of an estimated 114ha designated coastal grazing marsh and 23 ha of saline lagoons which provide important high tide roost sites.* There will be **mixed** impacts on biodiversity.	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy in the short-term. MR in epoch 3 will support natural development of the frontage hence there should be no significant changes to physical or hydro-morphological parameters that could impact on BQE's in the long-term. As such, deterioration in Ecological Potential is not considered likely as a result of the SMP2 policy. HTL would not prevent obtaining good groundwater status or result in deterioration in groundwater status. Impact of MR on groundwater status is uncertain. This will result in a **mixed** impact.
5C19	HTL	HTL	HTL*	HTL policy will have an adverse impact on European designated intertidal habitats resulting in a loss through coastal squeeze as sea levels rise. *This will contribute to predicted loss of 71ha of intertidal habitat over 100 years in Solent and Southampton Water SPA/Ramsar*. This will have a **significant adverse** impact.	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. HTL will reduce the risk of contamination from landfills. This will have a

* Requirement for further detailed studies

					beneficial impact on groundwater body status. This will result in a **mixed** impact
5C20	NAI	NAI	NAI	NAI policy will allow the coastline to adapt to environmental coastal change and result in a **significant beneficial** impact.	This policy supports natural development of the frontage. Hence, there should be no significant changes to physical or hydro-morphological parameters that could impact on BQE's. As such, deterioration in Ecological Potential and Groundwater status are not considered likely as a result of the SMP2 policy. This will result in a **minor beneficial** impact.
5C21	HTL	HTL	HTL[10]	HTL policy will have an adverse impact on European designated intertidal habitats resulting in a loss through coastal squeeze as sea levels rise. *This will contribute to predicted loss of 71ha of intertidal habitat over 100 years in Solent and Southampton Water SPA/Ramsar*. HTL will have a **significant adverse** impact. Localised regulated tidal exchange (RTE) at Lymington reedbeds in epoch 3 will create *an estimated 36 ha* of new intertidal habitat but will result in the loss of designated reedbeds. This will have **mixed** impacts on biodiversity.	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. HTL will reduce the risk of contamination from landfills. This will have a beneficial impact on groundwater body status. This will result in a **mixed** impact
5C22	HTL	HTL	HTL	HTL policy will have an adverse impact on European designated intertidal habitats resulting in a loss through coastal squeeze as sea levels rise. *This will contribute to predicted loss of 71ha of intertidal habitat over 100 years in Solent and Southampton Water SPA/Ramsar*. However, HTL will also have a beneficial impact on designated coastal grazing marsh and saline lagoons and important feeding and high tide roosts sites by protecting them from coastal flooding. There will be **mixed** impacts on biodiversity.	HTL may result in foreshore steepening and lowering which could impact on phytoplankton and macroalgae BQEs through potential changes in turbidity, water depth, thermal depth, residence time, abrasion (associated with velocity) and salinity. Hence, there is potential for deterioration in surface water Ecological Potential as a result of the SMP2 policy. HTL will reduce the risk of contamination from landfills. This will have a beneficial impact on groundwater body status. This will result in a **mixed** impact
5F01	HTL	HTL	HTL	HTL policy will have an adverse impact on European designated intertidal habitats resulting in a loss through coastal squeeze as sea levels rise. *This will contribute to predicted loss of 71ha of intertidal*	North Point will be allowed to develop naturally, while continuing to provide a source of shingle for recycling, along with continued maintenance of the rock structures. Hence, there should be no significant

[*] Requirement for further detailed studies
[10] RTE Lymington Reedbeds

				habitat over 100 years in Solent and Southampton Water SPA/Ramsar. However, this will also provide protection to saltmarshes in the west Solent. Maintaining Hurst spit will potentially have an adverse impact on some vegetated shingle habitat due to changes in the current position of the spit through maintenance works. This will have **mixed** impacts on biodiversity.	changes to physical or hydro-morphological parameters that could impact on BQE's. As such, deterioration in Ecological Potential and Groundwater status are not considered likely as a result of the SMP2 policy. This will result in a **minor beneficial** impact.
Mitigation Measures				*88ha of saltmarsh will be required as compensation to offset losses caused by coastal squeeze and sea level rise within Solent and Southampton Water SPA/Ramsar site. Additional mitigation measures to create new opportunities for alternative high tide wader, roost sites and feeding areas through habitat management and artificial platforms will be required to mitigate for losses in the function of habitats for the designated European bird species. Compensation habitat will be required to offset losses through MR and NAI policy for loss of costal grazing marsh, reedbeds, freshwater pasture and saline lagoons. These compensation requirements will be secured through the RHCP.* There is potential for localised regulated tidal exchange (RTE) at Avon Water and managed realignment at Saltgrass Lane (5C22). *This could create an estimated 16 ha* new intertidal habitat but result in the loss of European designated reedbeds and fresh/brackish water pasture and bird roost and feeding sites.	Ensure local management options to maintain foreshore are incorporated into engineering measures to defend HTL frontages where appropriate.