

# Appendix C - Baseline Process Understanding

Baseline Process Understanding: determination of baseline conditions (e.g. coastal processes, condition and performance of coastal and flood defence assets, etc.) to assess No Active Intervention (NAI) and With Present Management (WPM) scenarios.

Since the completion of the original Western Solent and Southampton Water, and East Solent SMPs, there is now significant new information on coastal processes and defence assets, resulting from Coastal Defence Strategic studies and Schemes, the Regional Coastal Monitoring Programme, as well as changes in environmental designations and legislation.

Furthermore, there have been significant nationally-focused studies such as FutureCOAST, the development of the National Flood and Coastal Defence Database (NFCDD), National Coastal Erosion Risk Mapping (NCERM) and new flood zone mapping that need to be taken into consideration. Defra have also produced updated guidance on production of Shoreline Management Plans, and revised the predicted sea level rise allowances.

This Appendix comprises an assessment of shoreline dynamics, geology, Holocene evolution, wave climate, tidal currents, extreme water levels, sea level rise, sediment transport pathways and budgets. An assessment of existing defences, detailing condition, residual life, defence type, standard of protection, purpose of defence, etc has been undertaken that covers public and privately owned and maintained defences, and natural defences (such as saltmarsh, spits, etc).

In order to determine how the shoreline may behave, and identify areas and assets potentially at risk from tidal flooding and coastal erosion, the baseline assessments are determined for two scenarios:

The 'No Active Intervention' (NAI) policy scenario assumes there is no expenditure on maintaining or improving existing coastal and flood defences throughout the North Solent SMP area, and that therefore defences will fail at a time dependent upon their residual life and the condition of the fronting beaches and inter-tidal areas.

This assessment has enabled predictions of shoreline evolution to be produced, areas at risk from tidal flooding and coastal erosion to be identified and mapped, and an estimate of the number of properties to be quantified.

The 'With Present Management' (WPM) policy scenario considers that all existing defence practices are continued, defences are maintained to provide a similar level of protection to that provided at present. The assessment also identified practices that would become technically impossible in the future, e.g. due to sea level rise, or when the practice becomes ineffective.

This assessment has enabled predictions of shoreline evolution to be produced assuming that existing defences are maintained, areas at risk from tidal flooding and coastal erosion to be identified and mapped.

The Scenario Assessment Table presents a statement per SMP epoch (Epoch 0 - 20 years (to 2025); Epoch 20-50 years (to 2055); and Epoch 50-100 years (to 2105) under the two scenarios.