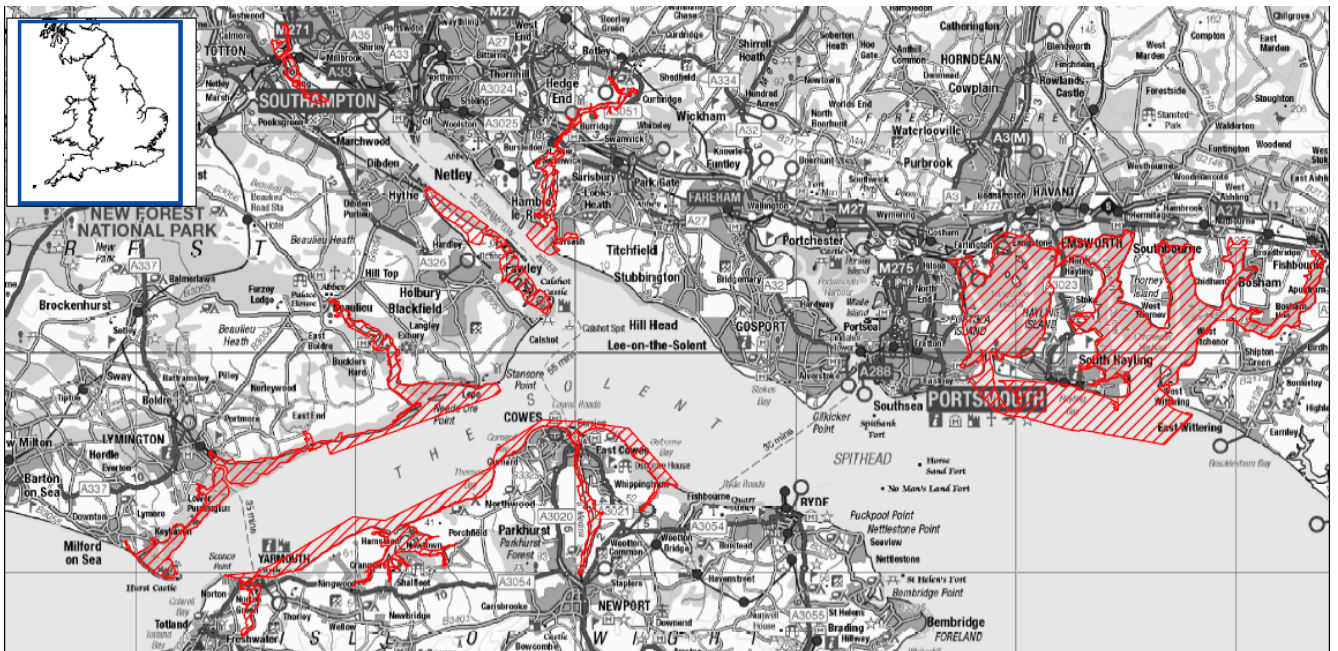


# Solent Maritime Special Area of Conservation (SAC)



June 2018



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## Executive Summary

Using an updated methodology for reporting site condition based on our previously published Supplementary Advice Tables for the site, Natural England have assessed the condition of Solent Maritime Special Area of Conservation. This meets our requirement to report condition under Article 17 of the Habitats Directive.

Summary assessments, together with the qualifying subfeature assessments, are given for the site's marine qualifying features:

- Estuaries;
- Mudflats and sandflats not covered by seawater at low tide;
- Sandbanks which are slightly covered by sea water all the time; and
- Coastal Lagoons.

The process is not yet defined for terrestrial features and therefore SSSI Favourable Condition Tables (FCTs) should be used for the following features.

- Annual vegetation of drift lines;
- Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*);
- Desmoulin's whorl snail (*Vertigo moulinsiana*);
- Perennial vegetation of stony banks;
- Salicornia and other annuals colonising mud and sand;
- Shifting dunes along the shoreline with *Ammophila arenaria* ("White dunes"); and
- Spartina swards (*Spartinion maritimae*).

The features Mudflats and Sandflats, Sandbanks and Estuaries have all been assessed as unfavourable condition due to a few key factors:

- Elevated nutrient levels;
- Low infaunal quality index (IQI) in intertidal and subtidal sediments;
- Elevated aqueous contaminants, most notably Tributyl tin (TBT);
- Continued decline in extent of saltmarsh; and
- Decrease in extent when compared with historic extent of both intertidal and subtidal seagrass beds.

The Coastal Lagoons feature has been assessed as favourable condition for both lagoons designated as part of the SAC (Newtown Quay Lagoon and Yar Bridge Lagoon).

# 1. Introduction

## Assessment and reporting obligations

Under the Habitats Directive the UK is obliged to report on the Favourable Conservation Status of Annex I and Annex II features every 6 years (Article 17). There are similar reporting requirements under the Birds Directive. Under the Marine Coastal Access Act there is also a need to assess the achievement of conservation objectives for MCZs.

Alongside national reporting requirements the ability to provide a current view of feature condition within protected sites is crucial to underpin advice on site management and casework.

With multiple reporting obligations across different designation types and a key overarching requirement to provide assessments which can support local level advice, the need for a transparent, robust and practical condition assessment process for marine features is clear, but the task of putting this in place is complex.

## The need for a revised approach to marine condition assessments

A revision to the methods used to assess marine features for the last round of reporting for Article 17 was prompted by several factors. A key element was the set of recommendations made by an Internal Review Panel in 2013. The panel made several suggestions as to how the process should be made more robust and more transparent. In particular they identified the need to improve our approach to quantifying the size of features and their ecological components, known as 'subfeatures' and made recommendations regarding how to support decision making in order to avoid classifying features as 'not assessed'.

In addition to this review, the marine condition assessment process needed to be amended to take account of changes brought about by our revised approach to marine Conservation Advice (under the Habitats Regulation Review, 2012). This includes updates to the categorisation of subfeatures and the attributes used to describe their integrity within our Conservation Advice packages for Marine Protected Areas. In addition the process utilises improvements in the evidence base; in particular relating to the availability of much improved mapping at the subfeatures level, and the availability of evidence from partners.

## Overview of the revised marine condition assessment process.

By taking account of the recommendations and required updates and adding capacity to make better use of all available evidence relating to feature condition - direct and indirect information - the revised process should deliver more robust and complete assessments. The basis of the method is still rooted in Common Standards Monitoring Guidance<sup>1</sup> but has built on lessons learnt to create a more comprehensive approach that facilitates better integration of qualitative and quantitative evidence. This process will eventually be used to assess condition of all features in Marine Protected Areas.

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<sup>1</sup> Common Standards Monitoring Guidance: <http://jncc.defra.gov.uk/page-2236>

The data used to inform this assessment includes bespoke surveys designed to answer specific questions about site condition, indirect evidence from other relevant surveys or assessments (e.g. Water Framework Directive monitoring or project specific environmental condition assessments), citizen science data and expert judgement. All evidence used to inform this survey is referenced in Annex II of this assessment.

All data will be recorded in Natural England's Designated Sites Database, the system which will hold all information regarding all marine and terrestrial protected sites. Marine site information will be available from our website later this year.

The revised assessment process can be summarised as a series of 6 steps, these are set out below.

**Step 1: Evidence for condition assessments-** Information on the site was collated, including the Supplementary Advice on Conservation Objectives (SACOs), feature maps and relevant evidence for condition assessments (including survey reports, SSSI unit assessments and Marine recorder data).

**Step 2: Attribute assessment-** The evidence base was used to determine if attributes for each subfeature and feature had met the targets stipulated in the SACOs. A pass or fail result was provided for each of the condition attributes (a sub set of the attributes in the SACOs). Rationale was recorded for each assessment along with references to the evidence used. A confidence category was also provided for each assessment, based on the quality and availability of evidence. Where necessary, recommendations on suitability of targets and evidence gaps were also noted.

**Step 3: Subfeature assessment-** The attribute assessments for the subfeatures were reviewed and taking account of attribute categorisation (Principal<sup>2</sup> and Secondary<sup>3</sup>) and the 'One out - all out'<sup>4</sup> principle, a single condition category<sup>5</sup> was recorded for each subfeature. The rationale for the judgement and any key evidence used to support the decision were also captured in the assessment form. At the same time a confidence score in the judgement was also recorded. When possible, further detailed information relating to the subfeature assessment was recorded in the form, to feed into the feature level assessments, by quantifying the spatial area of the subfeature which may be in favourable / unfavourable condition. These data were fed into the overall feature assessment. The results of the subfeature assessments are shown in Annex 1 to this report.

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<sup>2</sup> **Principal attribute:** are physical descriptions of the feature / subfeature, and directly inform on the condition of the feature. These mainly describe their extent, distribution and structure (categories of the attributes in the SATs) but for some feature could include other types of attributes

<sup>3</sup> **Secondary attribute:** describe aspects of the feature which are indirectly related to feature condition, or which could pose a significant risk to the condition of the feature if not managed. These will include supporting processes or functions of the feature. Where such attributes are not being met it does not necessarily mean that the feature is already unfavourable, but they do indicate issues which need to be managed to prevent deterioration.

<sup>4</sup> This is a default based approach to assessments, set out in Common Standard Monitoring Guidance, whereby if one principal attribute fails to meet its target, the feature should be considered to be in unfavourable condition, subject to expert judgement.

<sup>5</sup> Favourable; Unfavourable: recovering; Unfavourable; Unfavourable: declining; Part destroyed; Destroyed.

**Step 4: Condition threats-** The evidence, particularly information on management measures and activities, was used to determine the condition threats and adverse condition reasons for the subfeature.

**Step 5: Feature level assessments-** Feature level condition assessments were conducted by aggregating the outputs from the subfeature level, as well as taking account of attributes applying across the feature as a whole (Feature Wide Attributes). Where available, feature level assessments took into account any more detailed spatial breakdown of condition available at the subfeature level. For sites containing multiple Estuaries or Large Shallow Inlet & Bays features, each example of the feature e.g. each estuary was assessed separately, using the results of the component features and subfeatures. For example, Estuary condition was comprised of an aggregation of FWA plus results for component features such as Mudflats and Sandflats, Sandbanks and Saltmarsh. As there were eight Estuaries present, evidence for component features and subfeatures was reviewed, where possible, on a spatial basis, using the Estuary boundaries.

Saltmarsh features within Estuaries complex feature were assessed using direct evidence and assessment information from SSSI surveys, stored on and available from the Designated Sites View.

Results for all features and complex features are delivered by proportion of area of feature by condition category, e.g. 80% of the feature Favourable; 20% of the feature Unfavourable Recovering. This is partly calculated based on condition category assigned to the subfeatures which make up the feature or complex feature. This representation by proportion as opposed to a single, blanket category is due to the large spatial area of many features. By providing options for multiple condition categories at the feature level, information can be more specific and allow for better targeting of advice and management measures.

The results for the feature level assessments are shown in section 3, Table 1.

**Step 6: Using the assessments-** All of the fields in the assessment forms were reviewed and cross checked. The tables summarising the data were completed and summaries on feature condition were created for the report. Gaps in the evidence base that could be fulfilled by monitoring programmes were noted.

## 2. Site information

### Qualifying marine features:

- Estuaries;
- Mudflats and sandflats not covered by seawater at low tide;
- Sandbanks which are slightly covered by sea water all the time; and
- Coastal Lagoons.

### Qualifying terrestrial features:

- Annual vegetation of drift lines;
- Atlantic salt meadows (*Glauco-Puccinellietalia maritima*);
- Desmoulin's whorl snail (*Vertigo moulinsiana*);
- Perennial vegetation of stony banks;
- Salicornia and other annuals colonising mud and sand;
- Shifting dunes along the shoreline with *Ammophila arenaria* ("White dunes"); and
- Spartina swards (*Spartinion maritimae*).

### Site and feature maps:

Natural England's mapping layers including habitats, species and other marine designations can be found at <http://www.magic.gov.uk/>.

These maps are based on the best available evidence and are updated with new evidence when it becomes available.

### Notes on this condition assessment:

The condition assessment for Solent Maritime SAC has been undertaken as part of a programme of rolling assessments to inform casework and advice and will contribute to national level reporting against conservation objectives.

Attributes and their targets as well as the subfeatures used for this assessment have been taken from the supplementary advice on conservation objectives (SACOs) tables in the Conservation Advice Package for Solent Maritime SAC and therefore may not have been surveyed directly as part of past monitoring programmes. In these cases, proxy information and site knowledge including activity information has been used to assess the attributes against their targets. The attributes can be found in the site's [conservation advice package](#).

Not all attributes from the SACOs have been used to form the assessments, only those that will most efficiently and directly help to define condition. These attributes should be clearly capable of identifying a change in condition.

Where possible we have identified potential threats to future condition for all subfeatures and species present within the site. These can be found in Annex I subfeature assessment table.

There are knowledge gaps in the dataset for all features resulting from a lack of data on certain attributes, details of which can be found in Annex 1 subfeature assessment table.

The subfeature assessments supporting this assessment can be found annexed to this document.

The principal reasons contributing to the unfavourable status of habitats and species within the site are:

- Elevated nutrient levels;
- Low infaunal quality index (IQI) in intertidal and subtidal sediments;
- Elevated aqueous contaminants, most notably TBT;
- Continued decline in extent of saltmarsh; and
- Decrease in extent when compared with historic extent of both intertidal and subtidal seagrass beds.



## 4. Feature level condition summary

The following text details a summary of condition of each Annex I habitat. In addition a brief explanation of the rationale for each subfeature's favourable or unfavourable status has been provided. All figures are based on best available evidence on feature and subfeature areas. The data underpinning the feature and subfeature areas are taken from a variety of data sources which contribute to our mapping as available through MAGIC.

### Estuaries

*Condition: Unfavourable – no change (100%)*

*Confidence: Moderate*

The estuary complex feature within Solent Maritime SAC is considered to be in unfavourable condition primarily due to continued loss of saltmarsh, elevated nutrient levels, and elevated aqueous contaminants levels.

All component subfeatures are also considered to be in unfavourable condition due to low IQI scores, continued elevated nutrient levels and elevated aqueous contaminants levels, most notably TBT.

Elevated levels of Heavy metals (Mercury, Copper, Lead, and Zinc), poly-aromatic hydrocarbons (PAHs) and poly-chlorinated biphenyls (PCBs) have been recorded within subtidal sediments, although we have no recent monitoring data and therefore it is difficult to conclude if the main source of chemical pollutants within the estuarine sediments is from historic or current activities.

High levels of Invasive Non-Native Species have also been recorded across the site, however, further survey is needed to determine whether or not these are impacting native populations and therefore this has not been used as a reason to put the feature into unfavourable condition.

### Mudflats and sandflats not covered by seawater at low tide

*Condition: Unfavourable – no change (100%)*

*Confidence: Moderate*

The Annex I feature Mudflats and sandflats not covered by seawater at low tide is considered to be in unfavourable condition primarily due to elevated nutrient levels, elevated aqueous contaminant levels and low IQI scores.

Intertidal mud, intertidal sand and muddy sand and intertidal coarse sediment are also all considered to be in unfavourable condition at an overall site level due to low IQI scores, continued elevated nutrient levels and elevated aqueous contaminants levels, most notably TBT. The source of this is most likely to be historic use of antifouling paint rather than current activities.

Intertidal seagrass is considered to be in unfavourable: unknown condition, primarily due to continued decrease in extent and distribution when compared with historic figures. However, anecdotal evidence suggests that there may have been increases in some areas and therefore further data is required to determine whether or not the beds are showing signs of recovery. There are also continued signs of abrasion pressures from bait digging, trampling and moor and dredge scars in several beds within the site.

High levels of Invasive Non-Native Species have also been recorded across the site, however, further survey is needed to determine whether or not these are impacting native populations and therefore this has not been used as a reason to put the feature into unfavourable condition.

### **Sandbanks which are slightly covered by sea water all the time**

*Condition: Unfavourable: no change (100%)*

*Confidence: Moderate*

The Annex 1 feature Sandbanks which are slightly covered by sea water all the time is considered to be in unfavourable condition primarily due to elevated nutrient levels, elevated aqueous contaminant levels and low IQI scores.

The component subfeatures of the Annex 1 feature, subtidal sand, subtidal mixed and subtidal coarse sediments, are all considered to be in unfavourable condition.

The unfavourable status of the subtidal sand, mixed and coarse sediments is based on elevated nutrient levels, low IQI scores, and elevated aqueous contaminant levels including TBT. The source of this is most likely to be historic use of antifouling paint rather than current activities.

High levels of Invasive Non-Native Species have also been recorded across the site, most notably the slipper limpet *Crepidula fornicata*, however, although listed as an adverse condition reason this has not been used as a primary driver for putting the feature into unfavourable condition.

Subtidal seagrass beds also have unfavourable status primarily based on reduced extent when compared with historical extent and distribution and signs of abrasion pressures, however several of the beds have not been surveyed for many years and therefore further monitoring is required to determine condition.

Elevated levels of Heavy metals (Mercury, Copper, Lead, and Zinc), poly-aromatic hydrocarbons (PAHs) and poly-chlorinated biphenyls (PCBs) have been recorded within sandbanks feature, although we have no recent monitoring data and therefore it is difficult to conclude if the main source of chemical pollutants within the estuarine sediments is from historic or current activities.

## Coastal Lagoons

*Condition: Favourable (100%)*

*Confidence: Moderate*

Both Coastal Lagoons within the SAC, Newtown Quay Lagoon and Yar Bridge Lagoon, are considered to be in favourable condition because all attributes have passed against the targets set out in the Conservation Advice package with little or no change from baseline conditions.

However the appearance of the non-native amphipod *Grandidierella japonica* at Yar Bridge Lagoon and the non-native polychaete *Desdemona ornata* at Newtown Quay Lagoon could be of concern if numbers increase in the future and begin to displace key lagoonal species. There is also a continued decline of the lagoonal cockle *Cerastoderma glaucum*. Both of these condition threats should be monitored.

The confidence of this assessment has been placed as moderate, however, there are several factors which could increase the confidence. These include quantitative sediment particle size analysis, further monitoring and assessment of lagoonal species for INNS / effects on community composition and sampling of nutrient and contaminant levels.

**Saltmarsh Features: Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*), *Salicornia* and other annuals colonising mud and sand, *Spartina* swards (*Spartinion maritimae*)**

Saltmarsh features have not been assessed as part of this condition assessment, therefore, the condition of all saltmarsh features should be assessed using SSSI Favourable Condition Tables (FCTs) that were in place prior to the construction of the SATs. This is so that past assessments conducted for this feature as part of the underpinning SSSI assessments can be used directly. More information is available on the Designated Sites View about the SSSI units and their condition.

**Vegetated Shingle Features: Annual vegetation of drift lines, Perennial vegetation of stony banks**

Vegetated Shingle features have not been assessed as part of this condition assessment, therefore, the condition of both vegetated shingle features should be assessed using SSSI Favourable Condition Tables (FCTs) that were in place prior to the construction of the SATs. This is so that past assessments conducted for this feature as part of the underpinning SSSI assessments can be used directly. More information is available on the Designated Sites View about the SSSI units and their condition.

For further information including the evidence and attributes underpinning this assessment please contact Jessica Taylor ([Jessica.Taylor@naturalengland.org.uk](mailto:Jessica.Taylor@naturalengland.org.uk)).

**Annex I: Subfeature assessments**

Feature	Subfeature	Condition	Confidence	Rationale For Judgement	Rationale For Confidence	Adverse Condition Reasons	Condition Threats	Comments On Condition Threats	Actions to Improve Accuracy of Assessment
<b>Sandbanks which are slightly covered by sea water all the time</b>	Subtidal coarse sediment	Unfavourable No Change	Medium	<p>The condition of the subtidal coarse sediment subfeature within the feature: Sandbanks which are slightly covered by sea water all the time of the Solent Maritime SAC is considered to be 'Unfavourable - no change' because 1 principal attribute (Structure: species composition of component communities) and 3 secondary attributes (Structure: non-native species and pathogens; Supporting processes: water quality - nutrients and Supporting processes: water quality - contaminants) have been assessed as fail using mostly direct evidence and some expert judgement. There are some management measures in place to improve water quality, however, these would not currently be enough to deliver a full recovery.</p> <p>The secondary attribute, Structure: non-native species and pathogens, has failed against its target due to the high numbers of non-native species recorded, most notably the slipper limpet <i>Crepidula fornicata</i>. <i>C. fornicata</i> is the dominant species within the subtidal communities of Solent Maritime SAC. All other principal and secondary attributes that could be assessed have passed against the targets set out in the Conservation Advice package with little or no change from baseline conditions. There is also no contradiction between evidence sets.</p>	Weight of evidence is good, however there is only medium confidence in some of the underlying data due to the poor spread of sampling stations both across the site and sediment types. There is limited turbidity data and we are using Environment Agency WFD classifications as a proxy for dissolved oxygen and nutrient levels. There is also limited sediment contaminant level data. Overall the condition category has been determined using mostly direct evidence with high or medium confidence but expert judgement has been used for some attributes.	Nutrient enrichment; Transition elements & organo-metal (e.g. TBT) contamination; Introduction or spread of invasive non-indigenous species (INIS)	Physical change (to another sediment type)	The non-native slipper limpet <i>Crepidula fornicata</i> continues to be the dominant taxa in subtidal sediments of the Solent Maritime SAC and its presence and distribution should be monitored to ensure it does not alter the sediment type to subtidal mixed sediments.	Further sampling is required to fully map the extent and distribution of subfeature. Further sampling is required to fully assess IQI for species composition attribute, especially in Hamble, Lymington, Medina, Western Yar and Beaulieu. Further monitoring and assessment of communities for INNS / effects on community composition. Sampling of turbidity. Sampling of contaminant levels in sediment and water.
<b>Sandbanks which are slightly covered by sea water all the time</b>	Subtidal mixed sediments	Unfavourable No Change	Medium	<p>The condition of the subtidal mixed sediments subfeature within the feature: Sandbanks which are slightly covered by sea water all the time of the Solent Maritime SAC is considered to be 'Unfavourable - no change' because 1 principal attribute</p>	Weight of evidence is good, however there is only medium confidence in some of the underlying data due to the poor spread of sampling stations both across the site and sediment types. There is limited turbidity data and	Nutrient enrichment; Transition elements & organo-metal (e.g. TBT) contamination;			Further sampling is required to fully map the extent and distribution of subfeature. Further

Feature	Subfeature	Condition	Confidence	Rationale For Judgement	Rationale For Confidence	Adverse Condition Reasons	Condition Threats	Comments On Condition Threats	Actions to Improve Accuracy of Assessment
				<p>(Structure: species composition of component communities) and 3 secondary attributes (Structure: non-native species and pathogens; Supporting processes: water quality - nutrients and Supporting processes: water quality - contaminants) have been assessed as fail using mostly direct evidence and some expert judgement. There are some management measures in place to improve water quality, however, these would not currently be enough to deliver a full recovery.</p> <p>The secondary attribute, Structure: non-native species and pathogens, has failed against its target due to the high numbers of non-native species recorded, most notably the slipper limpet <i>Crepidula fornicata</i>. <i>C. fornicata</i> is the dominant species within the subtidal communities of Solent Maritime SAC. All other principal and secondary attributes that could be assessed have passed against the targets set out in the Conservation Advice package with little or no change from baseline conditions. There is also no contradiction between evidence sets.</p>	we are using Environment Agency WFD classifications as a proxy for dissolved oxygen and nutrient levels. There is also limited sediment contaminant level data. Overall the condition category has been determined using mostly direct evidence with high or medium confidence but expert judgement has been used for some attributes.	Introduction or spread of invasive non-indigenous species (INIS)			sampling is required to fully assess IQI for species composition attribute, especially in Hamble, Lymington, Medina, Western Yar and Beaulieu. Further monitoring and assessment of communities for INNS / effects on community composition. Sampling of turbidity. Sampling of contaminant levels in sediment and water.
<b>Sandbanks which are slightly covered by sea water all the time</b>	Subtidal sand	Unfavourable No Change	Medium	The condition of the subtidal sand subfeature within the feature: Sandbanks which are slightly covered by sea water all the time of the Solent Maritime SAC is considered to be 'Unfavourable - no change' because 1 principal attribute (Structure: species composition of component communities) and 3 secondary attributes (Structure: non-native species and pathogens; Supporting processes: water quality - nutrients and Supporting processes: water quality - contaminants) have been	Weight of evidence is good, however there is only medium confidence in some of the underlying data due to the poor spread of sampling stations both across the site and sediment types. There is no turbidity data and we are using Environment Agency WFD classifications as a proxy for dissolved oxygen and nutrient levels. There is also limited sediment contaminant level data. Overall the condition category has been determined using mostly	Nutrient enrichment; Transition elements & organo-metal (e.g. TBT) contamination; Introduction or spread of invasive non-indigenous species (INIS)	Physical change (to another sediment type)	The non-native slipper limpet <i>Crepidula fornicata</i> continues to be the dominant taxa in subtidal sediments of the Solent Maritime SAC and its	Further sampling is required to fully map the extent and distribution of subfeature. Further sampling is required to fully assess IQI for species composition attribute, especially in

Feature	Subfeature	Condition	Confidence	Rationale For Judgement	Rationale For Confidence	Adverse Condition Reasons	Condition Threats	Comments On Condition Threats	Actions to Improve Accuracy of Assessment
				<p>assessed as fail using mostly direct evidence and some expert judgement. There are some management measures in place to improve water quality, however, these would not currently be enough to deliver a full recovery.</p> <p>The secondary attribute, Structure: non-native species and pathogens, has failed against its target due to the high numbers of non-native species recorded, most notably the slipper limpet <i>Crepidula fornicata</i>. <i>C. fornicata</i> is the dominant species within the subtidal communities of Solent Maritime SAC. All other principal and secondary attributes that could be assessed have passed against the targets set out in the Conservation Advice package with little or no change from baseline conditions. There is also no contradiction between evidence sets.</p>	direct evidence with high or medium confidence but expert judgement has been used for some attributes.			presence and distribution should be monitored to ensure it does not alter the sediment type to subtidal mixed sediments.	Hamble, Lymington, Medina, Western Yar and Beaulieu. Further monitoring and assessment of communities for INNS / effects on community composition. Sampling of turbidity. Sampling of contaminant levels in sediment and water.
<b>Sandbanks which are slightly covered by sea water all the time</b>	Subtidal seagrass beds	Unfavourable Unknown	Medium	<p>The condition of the subtidal seagrass beds subfeature within the feature: Sandbanks which are slightly covered by sea water all the time of the Solent Maritime SAC is considered to be 'Unfavourable - no change because three primary attributes (Extent and distribution, Structure: rhizome structure and reproduction and Structure: biomass) and three secondary attributes (Distribution: presence and spatial distribution of biological communities, Supporting processes: water quality - nutrients and Supporting processes: water quality - contaminants) have been assessed as fail using mostly direct evidence and some expert judgement, however the condition does not appear to be declining. One secondary attribute (species composition of</p>	Weight of evidence is good, however there is only moderate confidence in some of the underlying data due to the poor spread of sampling stations both across the site and sediment types. There is no turbidity data and we are using Environment Agency WFD classifications as a proxy for dissolved oxygen and nutrient levels. There is also limited sediment contaminant level data. Overall the condition category has been determined using mostly direct evidence with high or moderate confidence but expert judgement has been used for some attributes.	Nutrient enrichment; Abrasion/disturbance of the substrate on the surface of the seabed; Transition elements & organo-metal (e.g. TBT) contamination	Introduction or spread of invasive non-indigenous species (INIS)	There are several records of non-native species across the SAC. Currently these do not appear to be having an adverse effect on communities present although their continued introduction and subsequent	Further sampling is required to fully map the extent and distribution of subfeature. Sampling is required to fully assess IQI for species composition across the entire site. Further monitoring and assessment of communities for INNS / effects on community composition.

Feature	Subfeature	Condition	Confidence	Rationale For Judgement	Rationale For Confidence	Adverse Condition Reasons	Condition Threats	Comments On Condition Threats	Actions to Improve Accuracy of Assessment
				component communities) could not be assessed due to lack of evidence. Some management measures are in place to improve condition, however this is not currently enough to deliver a full recovery. All other principal attributes have passed against the targets set out in the Conservation Advice package with little or no change from baseline conditions. There is also no contradiction between evidence sets.				spread should be monitored.	Turbidity sampling Sampling of contaminant levels in sediment and water
<b>Estuaries</b>	Intertidal coarse sediment	Unfavourable No Change	Medium	<p>The condition of the intertidal coarse sediment subfeature within the complex feature: Estuaries of the Solent Maritime SAC is considered to be 'Unfavourable - no change' because 1 principal attribute (Structure: species composition of component communities) and 2 secondary attributes (Supporting processes: water quality - nutrients and Supporting processes: water quality - contaminants) have been assessed as fail using mostly direct evidence and some expert judgement. There are some management measures in place to improve water quality, however, these would not currently be enough to deliver a full recovery.</p> <p>The secondary attribute, Structure: non-native species and pathogens, has failed against its target due to the high numbers of non-native species recorded, however, as these are not currently impacting the communities this attribute should be monitored but has not been used to inform the condition category. All other principal and secondary attributes that could be</p>	Weight of evidence is good, however there is only medium confidence in some of the underlying data due to the poor spread of sampling stations both across the site and sediment types. There is limited turbidity data and we are using Environment Agency WFD classifications as a proxy for dissolved oxygen and nutrient levels. There is also limited sediment contaminant level data. Overall the condition category has been determined using mostly direct evidence with high or medium confidence but expert judgement has been used for some attributes.	Nutrient enrichment; Transition elements & organo-metal (e.g. TBT) contamination	Introduction or spread of invasive non-indigenous species (INIS); Physical loss (to land or freshwater habitat)	There are several records of non-native species across the SAC. Currently these do not appear to be having an adverse effect on the communities present although their continued introduction and subsequent spread should be monitored. There is also some level of concern over the level of	Further sampling is required to fully assess IQI for species composition attribute, especially in Hamble, Lymington, Medina, Western Yar and Beaulieu. Further monitoring and assessment of communities for INNS / effects on community composition. Sampling of turbidity. Sampling of contaminant levels in sediment and water.



Feature	Subfeature	Condition	Confidence	Rationale For Judgement	Rationale For Confidence	Adverse Condition Reasons	Condition Threats	Comments On Condition Threats	Actions to Improve Accuracy of Assessment
				assessed have passed against the targets set out in the Conservation Advice package with little or no change from baseline conditions. There is also no contradiction between evidence sets.				erosion, especially along the coast of the Isle of Wight and in Western Solent which should be monitored.	
<b>Estuaries</b>	Intertidal mixed sediments	Unfavourable No Change	Medium	<p>The condition of the intertidal mixed sediments subfeature within the complex feature: Estuaries of the Solent Maritime SAC is considered to be 'Unfavourable - no change' because 2 secondary attributes (Supporting processes: water quality - nutrients and Supporting processes: water quality - contaminants) have been assessed as fail using mostly direct evidence and some expert judgement. There are some management measures in place to improve water quality, however, these would not currently be enough to deliver a full recovery.</p> <p>The secondary attribute, Structure: non-native species and pathogens, has failed against its target due to the high numbers of non-native species recorded, however, as these are not currently impacting the communities this attribute should be monitored but has not been used to inform the condition category. The principal attribute Structure: species composition of component communities could not be assessed due to a lack of evidence. All other principal and secondary attributes which have been assessed have passed against the targets set out in the Conservation Advice package with little or no change from baseline conditions.</p>	Weight of evidence is good, however there is only medium confidence in some of the underlying data due to the poor spread of sampling stations both across the site and sediment types. There is limited turbidity data and we are using Environment Agency WFD classifications as a proxy for dissolved oxygen and nutrient levels. There is also limited sediment contaminant level data and therefore this has been assessed at the feature level only. Overall the condition category has been determined using mostly direct evidence with high or medium confidence but expert judgement has been used for some attributes.	Nutrient enrichment; Transition elements & organo-metal (e.g. TBT) contamination	Introduction or spread of invasive non-indigenous species (INIS); Physical loss (to land or freshwater habitat)	There are several records of non-native species across the SAC. Currently these do not appear to be having an adverse effect on the communities present although their continued introduction and subsequent spread should be monitored. There is also some level of concern over the level of erosion, especially along the coast of the Isle of Wight and in	Further sampling is required to fully assess IQI for species composition attribute, especially in Hamble, Lymington, Medina, Western Yar and Beaulieu. Further monitoring and assessment of communities for INNS / effects on community composition. Sampling of turbidity. Sampling of contaminant levels in sediment and water.

Feature	Subfeature	Condition	Confidence	Rationale For Judgement	Rationale For Confidence	Adverse Condition Reasons	Condition Threats	Comments On Condition Threats	Actions to Improve Accuracy of Assessment
				There is also no contradiction between evidence sets.				Western Solent which should be monitored.	
<b>Estuaries</b>	Intertidal mud	Unfavourable No Change	Medium	<p>The condition of the intertidal mud subfeature within the complex feature: Estuaries of the Solent Maritime SAC is considered to be 'Unfavourable - no change' because 1 principal attribute (Structure: species composition of component communities) and 2 secondary attributes (Supporting processes: water quality - nutrients and Supporting processes: water quality - contaminants) have been assessed as fail using mostly direct evidence and some expert judgement. There are some management measures in place to improve water quality, however, these would not currently be enough to deliver a full recovery.</p> <p>The secondary attribute, Structure: non-native species and pathogens, has failed against its target due to the high numbers of non-native species recorded, however, as these are not currently impacting the communities this attribute should be monitored but has not been used to inform the condition category. All other principal and secondary attributes that could be assessed have passed against the targets set out in the Conservation Advice package with little or no change from baseline conditions. There is also no contradiction between evidence sets.</p>	Weight of evidence is good, however there is only medium confidence in some of the underlying data due to the poor spread of sampling stations both across the site and sediment types. There is limited turbidity data and we are using Environment Agency WFD classifications as a proxy for dissolved oxygen and nutrient levels. There is also limited sediment contaminant level data. Overall the condition category has been determined using mostly direct evidence with high or medium confidence but expert judgement has been used for some attributes.	Nutrient enrichment; Transition elements & organo-metal (e.g. TBT) contamination	Introduction or spread of invasive non-indigenous species (INIS); Physical loss (to land or freshwater habitat)	There are several records of non-native species across the SAC. Currently these do not appear to be having an adverse effect on the communities present although their continued introduction and subsequent spread should be monitored. There is also some level of concern over the level of erosion, especially along the coast of the Isle of Wight and in Western Solent which should be monitored.	Further sampling is required to fully assess IQI for species composition attribute, especially in Hamble, Lymington, Medina, Western Yar and Beaulieu. Further monitoring and assessment of communities for INNS / effects on community composition. Sampling of turbidity. Sampling of contaminant levels in sediment and water.

Feature	Subfeature	Condition	Confidence	Rationale For Judgement	Rationale For Confidence	Adverse Condition Reasons	Condition Threats	Comments On Condition Threats	Actions to Improve Accuracy of Assessment
Estuaries	Intertidal sand and muddy sand	Unfavourable No Change	Medium	The condition of the intertidal sand and muddy sand subfeature within the complex feature: Estuaries of the Solent Maritime SAC is considered to be 'Unfavourable - no change' because 1 principal attribute (Structure: species composition of component communities) and 2 secondary attributes (Supporting processes: water quality - nutrients and Supporting processes: water quality - contaminants) have been assessed as fail using mostly direct evidence and some expert judgement. There are some management measures in place to improve water quality, however, these would not currently be enough to deliver a full recovery. The secondary attribute, Structure: non-native species and pathogens, has failed against its target due to the high numbers of non-native species recorded, however, as these are not currently impacting the communities this attribute should be monitored but has not been used to inform the condition category. All other principal and secondary attributes that could be assessed have passed against the targets set out in the Conservation Advice package with little or no change from baseline conditions. There is also no contradiction between evidence sets.	Weight of evidence is good, however there is only medium confidence in some of the underlying data due to the poor spread of sampling stations both across the site and sediment types. There is limited turbidity data and we are using Environment Agency WFD classifications as a proxy for dissolved oxygen and nutrient levels. There is also limited sediment contaminant level data. Overall the condition category has been determined using mostly direct evidence with high or medium confidence but expert judgement has been used for some attributes.	Nutrient enrichment; Transition elements & organo-metal (e.g. TBT) contamination	Introduction or spread of invasive non-indigenous species (INIS); Physical loss (to land or freshwater habitat)	There are several records of non-native species across the SAC. Currently these do not appear to be having an adverse effect on the communities present although their continued introduction and subsequent spread should be monitored. There is also some level of concern over the level of erosion, especially along the coast of the Isle of Wight and in Western Solent which should be monitored.	Further sampling is required to fully assess IQI for species composition attribute, especially in Hamble, Lymington, Medina, Western Yar and Beaulieu. Further monitoring and assessment of communities for INNS / effects on community composition. Sampling of turbidity. Sampling of contaminant levels in sediment and water.
Estuaries	Intertidal seagrass beds	Unfavourable Unknown	Medium	The condition of the intertidal seagrass beds subfeature within the complex feature: Estuaries of the Solent Maritime SAC is considered to be 'Unfavourable - no change' because three principal attributes (Extent and	Weight of evidence is good, however there is only moderate confidence in some of the underlying data due to the poor spread of sampling stations both across the site and sediment types.	Nutrient enrichment; Abrasion/disturbance of the substrate on the surface of	Introduction or spread of invasive non-indigenous species (INIS)	Presence of <i>Sargassum muticum</i> and <i>Didemnum vexillum</i> within Solent	Assessment of biomass, including shoot density and length, and rhizome

Feature	Subfeature	Condition	Confidence	Rationale For Judgement	Rationale For Confidence	Adverse Condition Reasons	Condition Threats	Comments On Condition Threats	Actions to Improve Accuracy of Assessment
				distribution, Structure: rhizome structure and reproduction and Structure: biomass) and three secondary attributes (Distribution: presence and spatial distribution of biological communities, Supporting processes: water quality - nutrients and Supporting processes: water quality - contaminants) have been assessed as fail using mostly direct evidence and some expert judgement, however the condition does not appear to be declining. One secondary attribute (species composition of component communities) could not be assessed due to lack of evidence, Some management measures are in place to improve condition, however, this is not currently enough to deliver a full recovery. All other principal attributes have passed against the targets set out in the Conservation Advice package with little or no change from baseline conditions. There is also no contradiction between evidence sets.	There is no turbidity data and we are using Environment Agency WFD classifications as a proxy for dissolved oxygen and nutrient levels. There is also no or limited direct monitoring data for some principal attributes including biomass and rhizome structure and reproduction. Overall the condition category has been determined using mostly direct evidence with high or moderate confidence but expert judgement has been used for some attributes.	the seabed; Transition elements & organo-metal (e.g. TBT) contamination		Maritime SAC could be of concern if numbers increase in the future and begin to impact on, compete with or smother seagrass beds.	structure and reproduction to be recorded in future monitoring surveys. Further monitoring and assessment of communities for INNS / effects on community composition. Complete single survey of extent and distribution and component communities. Sampling of turbidity. Sampling of contaminant levels in sediment and water.
Estuaries	Subtidal coarse sediment	Unfavourable No Change	Medium	The condition of the subtidal coarse sediment subfeature within the complex feature: Estuaries of the Solent Maritime SAC is considered to be 'Unfavourable - no change' because 1 principal attribute (Structure: species composition of component communities) and 3 secondary attributes (Structure: non-native species and pathogens; Supporting processes: water quality - nutrients and Supporting processes: water quality - contaminants) have been assessed as fail using mostly direct evidence and some expert judgement. There are some management measures in place to improve water quality, however, these would not	Weight of evidence is good, however there is only medium confidence in some of the underlying data due to the poor spread of sampling stations both across the site and sediment types. There is limited turbidity data and we are using Environment Agency WFD classifications as a proxy for dissolved oxygen and nutrient levels. There is also limited sediment contaminant level data. Overall the condition category has been determined using mostly direct evidence with high or medium confidence but expert judgement has been used for some attributes.	Nutrient enrichment; Transition elements & organo-metal (e.g. TBT) contamination; Introduction or spread of invasive non-indigenous species (INIS)	Physical change (to another sediment type)	The non-native slipper limpet <i>Crepidula fornicata</i> continues to be the dominant taxa in subtidal sediments of the Solent Maritime SAC and its presence and distribution should be monitored to	Further sampling is required to fully map the extent and distribution of subfeature. Further sampling is required to fully assess IQI for species composition attribute, especially in Hamble, Medina, Western Yar and Beaulieu.

Feature	Subfeature	Condition	Confidence	Rationale For Judgement	Rationale For Confidence	Adverse Condition Reasons	Condition Threats	Comments On Condition Threats	Actions to Improve Accuracy of Assessment
				<p>currently be enough to deliver a full recovery.</p> <p>The secondary attribute, Structure: non-native species and pathogens, has failed against its target due to the high numbers of non-native species recorded, most notably the slipper limpet <i>Crepidula fornicata</i>. <i>C. fornicata</i> is the dominant species within the subtidal communities of Solent Maritime SAC. All other principal and secondary attributes that could be assessed have passed against the targets set out in the Conservation Advice package with little or no change from baseline conditions. There is also no contradiction between evidence sets.</p>				ensure it does not alter the sediment type to subtidal mixed sediments.	Further monitoring and assessment of communities for INNS / effects on community composition. Sampling of turbidity. Sampling of contaminant levels in sediment and water.
<b>Estuaries</b>	Subtidal mixed sediments	Unfavourable No Change	Medium	<p>The condition of the subtidal mixed sediments subfeature within the complex feature: Estuaries of the Solent Maritime SAC is considered to be 'Unfavourable - no change' because 1 principal attribute (Structure: species composition of component communities) and 3 secondary attributes (Structure: non-native species and pathogens; Supporting processes: water quality - nutrients and Supporting processes: water quality - contaminants) have been assessed as fail using mostly direct evidence and some expert judgement. There are some management measures in place to improve water quality, however, these would not currently be enough to deliver a full recovery.</p> <p>The secondary attribute, Structure: non-native species and pathogens, has failed against its target due to the high numbers of non-native species recorded, most notably the slipper limpet <i>Crepidula fornicata</i>. <i>C. fornicata</i></p>	Weight of evidence is good, however there is only medium confidence in some of the underlying data due to the poor spread of sampling stations both across the site and sediment types. There is limited turbidity data and we are using Environment Agency WFD classifications as a proxy for dissolved oxygen and nutrient levels. There is also limited sediment contaminant level data. Overall the condition category has been determined using mostly direct evidence with high or medium confidence but expert judgement has been used for some attributes.	Nutrient enrichment; Transition elements & organo-metal (e.g. TBT) contamination; Introduction or spread of invasive non-indigenous species (INIS)		Further sampling is required to fully map the extent and distribution of subfeature. Further sampling is required to fully assess IQI for species composition attribute, especially in Hamble, Medina, Western Yar and Beaulieu. Further monitoring and assessment of communities for INNS / effects on community composition.	

Feature	Subfeature	Condition	Confidence	Rationale For Judgement	Rationale For Confidence	Adverse Condition Reasons	Condition Threats	Comments On Condition Threats	Actions to Improve Accuracy of Assessment
				is the dominant species within the subtidal communities of Solent Maritime SAC. All other principal and secondary attributes that could be assessed have passed against the targets set out in the Conservation Advice package with little or no change from baseline conditions. There is also no contradiction between evidence sets.					Sampling of turbidity. Sampling of contaminant levels in sediment and water.
Estuaries	Subtidal sand	Unfavourable No Change	Medium	<p>The condition of the subtidal sand subfeature within the complex feature: Estuaries of the Solent Maritime SAC is considered to be 'Unfavourable - no change' because 1 principal attribute (Structure: species composition of component communities) and 3 secondary attributes (Structure: non-native species and pathogens; Supporting processes: water quality - nutrients and Supporting processes: water quality - contaminants) have been assessed as fail using mostly direct evidence and some expert judgement. There are some management measures in place to improve water quality, however, these would not currently be enough to deliver a full recovery.</p> <p>The secondary attribute, Structure: non-native species and pathogens, has failed against its target due to the high numbers of non-native species recorded, most notably the slipper limpet <i>Crepidula fornicata</i>. <i>C. fornicata</i> is the dominant species within the subtidal communities of Solent</p>	Weight of evidence is good, however there is only medium confidence in some of the underlying data due to the poor spread of sampling stations both across the site and sediment types. There is no turbidity data and we are using Environment Agency WFD classifications as a proxy for dissolved oxygen and nutrient levels. There is also limited sediment contaminant level data. Overall the condition category has been determined using mostly direct evidence with high or medium confidence but expert judgement has been used for some attributes.	Nutrient enrichment; Transition elements & organo-metal (e.g. TBT) contamination; Introduction or spread of invasive non-indigenous species (INIS)	Physical change (to another sediment type)	The non-native slipper limpet <i>Crepidula fornicata</i> continues to be the dominant taxa in subtidal sediments of the Solent Maritime SAC and its presence and distribution should be monitored to ensure it does not alter the sediment type to subtidal mixed sediments.	Further sampling is required to fully map the extent and distribution of subfeature. Further sampling is required to fully assess IQI for species composition attribute, especially in Hamble, Medina, Western Yar and Beaulieu. Further monitoring and assessment of communities for INNS / effects on community composition. Sampling of

Feature	Subfeature	Condition	Confidence	Rationale For Judgement	Rationale For Confidence	Adverse Condition Reasons	Condition Threats	Comments On Condition Threats	Actions to Improve Accuracy of Assessment
				Maritime SAC. All other principal and secondary attributes that could be assessed have passed against the targets set out in the Conservation Advice package with little or no change from baseline conditions. There is also no contradiction between evidence sets					turbidity. Sampling of contaminant levels in sediment and water
<b>Estuaries</b>	Subtidal seagrass beds	Unfavourable Unknown	Medium	The condition of the subtidal seagrass beds subfeature within the complex feature: Estuaries of the Solent Maritime SAC is considered to be 'Unfavourable - no change because three primary attributes (Extent and distribution, Structure: rhizome structure and reproduction and Structure: biomass) and three secondary attributes (Distribution: presence and spatial distribution of biological communities, Supporting processes: water quality - nutrients and Supporting processes: water quality - contaminants) have been assessed as fail using mostly direct evidence and some expert judgement, however the condition does not appear to be declining. One secondary attribute (species composition of component communities) could not be assessed due to lack of evidence. Some management measures are in place to improve condition, however this is not currently enough to deliver a full recovery. All other principal attributes have passed against the targets set out	Weight of evidence is good, however there is only moderate confidence in some of the underlying data due to the poor spread of sampling stations both across the site and sediment types. There is no turbidity data and we are using Environment Agency WFD classifications as a proxy for dissolved oxygen and nutrient levels. There is also limited sediment contaminant level data. Overall the condition category has been determined using mostly direct evidence with high or moderate confidence but expert judgement has been used for some attributes.	Nutrient enrichment; Abrasion/disturbance of the substrate on the surface of the seabed; Transition elements & organo-metal (e.g. TBT) contamination	Introduction or spread of invasive non-indigenous species (INIS)	There are several records of non-native species across the SAC. Currently these do not appear to be having an adverse effect on communities present although their continued introduction and subsequent spread should be monitored.	Further sampling is required to fully map the extent and distribution of subfeature. Sampling is required to fully assess IQI for species composition across the entire site. Further monitoring and assessment of communities for INNS / effects on community composition. Turbidity sampling. Sampling of contaminant levels in

Feature	Subfeature	Condition	Confidence	Rationale For Judgement	Rationale For Confidence	Adverse Condition Reasons	Condition Threats	Comments On Condition Threats	Actions to Improve Accuracy of Assessment
				in the Conservation Advice package with little or no change from baseline conditions. There is also no contradiction between evidence sets.					sediment and water
<b>Mudflats and sandflats not covered by seawater at low tide</b>	Intertidal coarse sediment	Unfavourable No Change	Medium	<p>The condition of the intertidal coarse sediment subfeature within the feature: Mudflats and sandflats not covered by seawater at low tide of the Solent Maritime SAC is considered to be 'Unfavourable - no change' because 1 principal attribute (Structure: species composition of component communities) and 2 secondary attributes (Supporting processes: water quality - nutrients and Supporting processes: water quality - contaminants) have been assessed as fail using mostly direct evidence and some expert judgement. There are some management measures in place to improve water quality, however, these would not currently be enough to deliver a full recovery.</p> <p>The secondary attribute, Structure: non-native species and pathogens, has failed against its target due to the high numbers of non-native species recorded, however, as these are not currently impacting the communities this attribute should be monitored but has not been used to inform the condition category. All other principal</p>	Weight of evidence is good, however there is only medium confidence in some of the underlying data due to the poor spread of sampling stations both across the site and sediment types. There is limited turbidity data and we are using Environment Agency WFD classifications as a proxy for dissolved oxygen and nutrient levels. There is also limited sediment contaminant level data. Overall the condition category has been determined using mostly direct evidence with high or medium confidence but expert judgement has been used for some attributes.	Nutrient enrichment; Transition elements & organo-metal (e.g. TBT) contamination	Introduction or spread of invasive non-indigenous species (INIS); Physical loss (to land or freshwater habitat)	There are several records of non-native species across the SAC. Currently these do not appear to be having an adverse effect on the communities present although their continued introduction and subsequent spread should be monitored. There is also some level of concern over the level of	Further sampling is required to fully assess IQI for species composition attribute, especially in Hamble, Lymington, Medina, Western Yar and Beaulieu. Further monitoring and assessment of communities for INNS / effects on community composition. Sampling of turbidity. Sampling of contaminant levels in sediment and water.



Feature	Subfeature	Condition	Confidence	Rationale For Judgement	Rationale For Confidence	Adverse Condition Reasons	Condition Threats	Comments On Condition Threats	Actions to Improve Accuracy of Assessment
				and secondary attributes that could be assessed have passed against the targets set out in the Conservation Advice package with little or no change from baseline conditions. There is also no contradiction between evidence sets.				erosion, especially along the coast of the Isle of Wight and in Western Solent which should be monitored.	
<b>Mudflats and sandflats not covered by seawater at low tide</b>	Intertidal mixed sediments	Unfavourable No Change	Medium	<p>The condition of the intertidal mixed sediments subfeature within the feature: Mudflats and sandflats not covered by seawater at low tide of the Solent Maritime SAC is considered to be 'Unfavourable - no change' because 2 secondary attributes (Supporting processes: water quality - nutrients and Supporting processes: water quality - contaminants) have been assessed as fail using mostly direct evidence and some expert judgement. There are some management measures in place to improve water quality, however, these would not currently be enough to deliver a full recovery.</p> <p>The secondary attribute, Structure: non-native species and pathogens, has failed against its target due to the high numbers of non-native species recorded, however, as these are not currently impacting the communities this attribute should be monitored but has not been used to inform the condition category. The principal attribute Structure: species composition of component communities could not be assessed due to a lack of evidence. All other principal and secondary attributes which have been assessed have passed against the targets set out in the Conservation Advice package with little</p>	Weight of evidence is good, however there is only medium confidence in some of the underlying data due to the poor spread of sampling stations both across the site and sediment types. There is limited turbidity data and we are using Environment Agency WFD classifications as a proxy for dissolved oxygen and nutrient levels. There is also limited sediment contaminant level data and therefore this has been assessed at the feature level only. Overall the condition category has been determined using mostly direct evidence with high or medium confidence but expert judgement has been used for some attributes.	Nutrient enrichment; Transition elements & organo-metal (e.g. TBT) contamination	Introduction or spread of invasive non-indigenous species (INIS); Physical loss (to land or freshwater habitat)	There are several records of non-native species across the SAC. Currently these do not appear to be having an adverse effect on the communities present although their continued introduction and subsequent spread should be monitored. There is also some level of concern over the level of erosion, especially along the coast of the Isle of Wight and in	Further sampling is required to fully assess IQI for species composition attribute, especially in Hamble, Lymington, Medina, Western Yar and Beaulieu. Further monitoring and assessment of communities for INNS / effects on community composition. Sampling of turbidity. Sampling of contaminant levels in sediment and water.

Feature	Subfeature	Condition	Confidence	Rationale For Judgement	Rationale For Confidence	Adverse Condition Reasons	Condition Threats	Comments On Condition Threats	Actions to Improve Accuracy of Assessment
				or no change from baseline conditions. There is also no contradiction between evidence sets.				Western Solent which should be monitored.	
<b>Mudflats and sandflats not covered by seawater at low tide</b>	Intertidal mud	Unfavourable No Change	Medium	<p>The condition of the intertidal mud subfeature within the feature: Mudflats and sandflats not covered by seawater at low tide of the Solent Maritime SAC is considered to be 'Unfavourable - no change' because 1 principal attribute (Structure: species composition of component communities) and 2 secondary attributes (Supporting processes: water quality - nutrients and Supporting processes: water quality - contaminants) have been assessed as fail using mostly direct evidence and some expert judgement. There are some management measures in place to improve water quality, however, these would not currently be enough to deliver a full recovery.</p> <p>The secondary attribute, Structure: non-native species and pathogens, has failed against its target due to the high numbers of non-native species recorded, however, as these are not currently impacting the communities this attribute should be monitored but has not been used to inform the condition category. All other principal and secondary attributes that could be assessed have passed against the targets set out in the Conservation Advice package with little or no change from baseline conditions. There is also no contradiction between evidence sets.</p>	Weight of evidence is good, however there is only medium confidence in some of the underlying data due to the poor spread of sampling stations both across the site and sediment types. There is limited turbidity data and we are using Environment Agency WFD classifications as a proxy for dissolved oxygen and nutrient levels. There is also limited sediment contaminant level data. Overall the condition category has been determined using mostly direct evidence with high or medium confidence but expert judgement has been used for some attributes.	Nutrient enrichment; Transition elements & organo-metal (e.g. TBT) contamination	Introduction or spread of invasive non-indigenous species (INIS); Physical loss (to land or freshwater habitat)	There are several records of non-native species across the SAC. Currently these do not appear to be having an adverse effect on the communities present although their continued introduction and subsequent spread should be monitored. There is also some level of concern over the level of erosion, especially along the coast of the Isle of Wight and in Western Solent which should be monitored.	Further sampling is required to fully assess IQI for species composition attribute, especially in Hamble, Lymington, Medina, Western Yar and Beaulieu. Further monitoring and assessment of communities for INNS / effects on community composition. Sampling of turbidity. Sampling of contaminant levels in sediment and water.

Feature	Subfeature	Condition	Confidence	Rationale For Judgement	Rationale For Confidence	Adverse Condition Reasons	Condition Threats	Comments On Condition Threats	Actions to Improve Accuracy of Assessment
<b>Mudflats and sandflats not covered by seawater at low tide</b>	Intertidal sand and muddy sand	Unfavourable No Change	Medium	<p>The condition of the intertidal sand and muddy sand subfeature within the feature: Mudflats and sandflats not covered by seawater at low tide of the Solent Maritime SAC is considered to be 'Unfavourable - no change' because 1 principal attribute (Structure: species composition of component communities) and 2 secondary attributes (Supporting processes: water quality - nutrients and Supporting processes: water quality - contaminants) have been assessed as fail using mostly direct evidence and some expert judgement. There are some management measures in place to improve water quality, however, these would not currently be enough to deliver a full recovery.</p> <p>The secondary attribute, Structure: non-native species and pathogens, has failed against its target due to the high numbers of non-native species recorded, however, as these are not currently impacting the communities this attribute should be monitored but has not been used to inform the condition category. All other principal and secondary attributes that could be assessed have passed against the targets set out in the Conservation Advice package with little or no change from baseline conditions. There is also no contradiction between evidence sets.</p>	Weight of evidence is good, however there is only medium confidence in some of the underlying data due to the poor spread of sampling stations both across the site and sediment types. There is limited turbidity data and we are using Environment Agency WFD classifications as a proxy for dissolved oxygen and nutrient levels. There is also limited sediment contaminant level data. Overall the condition category has been determined using mostly direct evidence with high or medium confidence but expert judgement has been used for some attributes.	Nutrient enrichment; Transition elements & organo-metal (e.g. TBT) contamination	Introduction or spread of invasive non-indigenous species (INIS); Physical loss (to land or freshwater habitat)	There are several records of non-native species across the SAC. Currently these do not appear to be having an adverse effect on the communities present although their continued introduction and subsequent spread should be monitored.	

Feature	Subfeature	Condition	Confidence	Rationale For Judgement	Rationale For Confidence	Adverse Condition Reasons	Condition Threats	Comments On Condition Threats	Actions to Improve Accuracy of Assessment
<b>Mudflats and sandflats not covered by seawater at low tide</b>	Intertidal seagrass beds	Unfavourable Unknown	Medium	The condition of the intertidal seagrass beds subfeature within the feature: Mudflats and sandflats not covered by seawater at low tide of the Solent Maritime SAC is considered to be 'Unfavourable - no change' because three principal attributes (Extent and distribution, Structure: rhizome structure and reproduction and Structure: biomass) and three secondary attributes (Distribution: presence and spatial distribution of biological communities, Supporting processes: water quality - nutrients and Supporting processes: water quality - contaminants) have been assessed as fail using mostly direct evidence and some expert judgement, however the condition does not appear to be declining. One secondary attribute (species composition of component communities) could not be assessed due to lack of evidence, Some management measures are in place to improve condition, however, this is not currently enough to deliver a full recovery. All other principal attributes have passed against the targets set out in the Conservation Advice package with little or no change from baseline conditions. There is also no contradiction between evidence sets.	Weight of evidence is good, however there is only moderate confidence in some of the underlying data due to the poor spread of sampling stations both across the site and sediment types. There is no turbidity data and we are using Environment Agency WFD classifications as a proxy for dissolved oxygen and nutrient levels. There is also no or limited direct monitoring data for some principal attributes including biomass and rhizome structure and reproduction. Overall the condition category has been determined using mostly direct evidence with high or moderate confidence but expert judgement has been used for some attributes.	Nutrient enrichment; Abrasion/disturbance of the substrate on the surface of the seabed; Transition elements & organo-metal (e.g. TBT) contamination	Introduction or spread of invasive non-indigenous species (INIS)	Presence of <i>Sargassum muticum</i> and <i>Didemnum vexillum</i> within Solent Maritime SAC could be of concern if numbers increase in the future and begin to impact on, compete with or smother seagrass beds.	Assessment of biomass, including shoot density and length, and rhizome structure and reproduction to be recorded in future monitoring surveys. Further monitoring and assessment of communities for INNS / effects on community composition. Complete single survey of extent and distribution and component communities. Sampling of turbidity. Sampling of contaminant levels in sediment and water.

## **Annex II: References used**

This list shows the key references used to complete the condition assessment broken down by feature. For some attributes expert judgement of known activities and pressures in the area was also used to make the assessment. For further information on this process please contact Natural England.

### **Estuaries**

*References provided in this list are those used to assess the feature wide attributes for the Estuaries complex feature. References used to assess the features and subfeatures that make up the complex feature can be found under the relevant headings below. Natural England's internal GI database was used to provide data on extent and distribution of saltmarsh features.*

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### **Mudflats and sandflats not covered by seawater at low tide**

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## Annex III: Glossary

**Adverse condition reasons:** the cause of the feature or subfeature to be described as being in unfavourable condition, destroyed or part destroyed.

**Attribute:** the characteristics of the feature or sub feature which can be used to determine their condition, either directly or indirectly. Attributes describe integrity for example, the quantity (extent & distribution), quality (species composition, component biotopes, structure) and supporting processes that are important in allowing a feature to function.

**Complex feature:** broad physiographic units- estuaries, large shallow inlets and bays- that contain a range of simple features as well as potentially subfeatures.

**Condition:** The condition of a designated feature or monitoring unit in England is assessed by Natural England, using categories agreed across England, Scotland, Wales, and Northern Ireland through the Joint Nature Conservation Committee. There are six condition categories:

- **Favourable:** The feature is considered to be adequately conserved, as all evidence analysed through attribute assessments result in the principal attributes for the feature meeting their targets. The Supplementary Advice on Conservation Objective sets the minimum targets for the feature and there may also still be scope for the further (voluntary) enhancement of the features, beyond the requirements of the directive.
- **Unfavourable - recovering:** Where the criteria for favourable have not been met, as such the feature is considered in part or whole to be unfavourable, but where management is in place as agreed through competent authorities and it is seen to be making progress towards the recovery of the feature. It is the expert judgement of the assessor that a recovery will occur in due course.
- **Unfavourable – no change:** Where the criteria for favourable have not been met, as such the feature is considered in part or whole, to be unfavourable. No management is in place to reverse or improve the condition. Common Standards Monitoring also discusses that even if some work is underway to make improvements with regards to some attributes – but not enough to deliver a full recovery, it should be considered as “no change” rather than recover.
- **Unfavourable – declining:** Where the criteria for favourable have not been met, as such the feature is considered in part or whole, to be unfavourable. No management is in place to reverse or improve the condition. There is either evidence from monitoring or other research that there is a continued decline in the condition of the feature, or inference made through vulnerability assessment, that damaging activity is continuing and likely to be leading to a continued decline in the condition. Recovery is possible if suitable management input is made.
- **Part destroyed:** Where the criteria for favourable have not been met and lasting damage has occurred to part of the designated feature such that it has been irretrievably lost and regardless of whether management is in place or not, there is evidence of partial, lasting damage to the feature.
- **Destroyed:** The available evidence confirms there is complete and lasting damage to the entire feature, with no chance of recovery. Ideally this will be backed up by evidence of cause and effect. Where long lasting loss of a feature is due to natural change, this should be highlighted, and a process to report such change to the EU may be a preferable option.

**Condition threats:** factors that have a reasonable chance of impacting on designated site's notified feature, causing a decline in condition or preventing it from recovering to favourable condition.

**Conservation Advice packages for Marine Protected Areas:** Natural England is producing updated conservation advice for Marine Protected Areas (MPAs) under regulation 35 of the Habitats Regulations 2010 and the Marine and Coastal Access Act 2009. The advice packages are site specific and are comprised of three documents that deliver information on the site, its features and its conservation objectives; advice on operations; supplementary advice on conserving and restoring features.

**Designated Sites System:** Natural England's web based system for managing our site based information, reporting on site condition and presenting supplementary advice to our conservation advice packages.

**Favourable Condition Tables:** table showing the attributes used to assess condition of features in: The FCT sets the minimum standard for favourable condition for the designated feature.

**Feature:** Simple features are a single but broadly defined habitat such as reef or sandbanks that may be comprised of several sub features. Complex features will normally contain a number of simple features and their sub features.

**Feature Wide Attributes:** attributes that refer to characteristics only used to inform condition at the feature level. These may be distinct to the attributes used for the feature's component sub features or they may be the same. In either case, evidence to assess FWA should be reviewed within the broader context of the feature.

**Principal attribute:** are physical descriptions of the feature / sub feature, and directly inform on the condition of the feature. These mainly describe their extent, distribution and structure (categories of the attributes in the SATs) but for some feature could include other types of attributes.

**Proxy information:** indirect information relating to attributes that can be used in place of direct, monitoring data, albeit with lower confidence. Proxy information may be from direct monitoring data that have not been collected for the attribute in question but confer information on their condition. Proxy information may also refer to evidence gathered from modelling, research or presence of activities or disturbance in the site.

**SAC:** Special Areas of Conservation.

**Secondary attribute:** describe aspects of the feature which are indirectly related to feature condition, or which could pose a significant risk to the condition of the feature if not managed. These indicators are likely to be mainly the supporting processes or functions of the feature. Where such attributes are not being met it does not necessarily mean that the feature is already unfavourable, but they do indicate issues which need to be managed to prevent deterioration of the feature.

**SSSI:** Sites of Special Scientific Interest.

**Subfeature:** distinct, ecological components of broader features. Sub features are used to break up, large, ecologically diverse features into more measurable and manageable units.

**Supplementary Advice Tables:** tables to present the attributes for the site's features and sub features, along with the targets for those attributes. The supporting and/or explanatory notes in the SAT sets out why the target was chosen and any relevant site based supporting information, based on best available evidence. SATs form part of the site's Conservation Advice package, displayed as Supplementary Advice on Conservation Objectives.

**WFD:** Water Framework Directive.