South West Flood Risk Management Plan

Habitats Regulations Assessment

December 2022

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Published by:

Environment Agency
Horizon House, Deanery Road,
Bristol BS1 5AH

www.gov.uk/environment-agency

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Table of Contents

1. Non-Technical Summary

Introduction

1.1 This is the Habitats Regulations Assessment (HRA) of the South West River Basin District (RBD) Flood Risk Management Plan (FRMP). The HRA has been undertaken in accordance with The Conservation of Habitats and Species Regulations (The Habitat Regulations) 2017 (as amended) and considers the potential implications of the FRMP on designated European conservation sites. These sites contain species and habitats that are important at a European scale.

1.2 The FRMP, covering the years between 2021 and 2027, seeks to manage significant flood-related issues in the South West RBD, including 19 specifically identified Flood Risk Area. It covers an area of 21,000km^2 in Cornwall, Devon, Dorset, the Isles of Scilly, Lundy Island, and parts of Somerset, Hampshire and Wiltshire. The South West FRMP seeks to reduce a range of flooding threats, including from rivers, the sea, surface water, groundwater and sewers / canals / reservoirs.

1.3 The need for protecting human receptors should be viewed in the context of the environmental challenges present in the South West RBD. Many geographic areas in the RBD are experiencing growth and need to mitigate climate change. Therefore, many freshwater and coastal habitats in the RBD, important in sustaining wintering wildfowl, fish populations and terrestrial species (e.g. otters), are subject to a wide range of human impacts, such as recreational pressure, reduced water flow / level, declining water quality and coastal squeeze. This HRA assesses the potential for the South West FRMP to result in Likely Significant Effects (LSEs) and, where applicable, adverse effects on the integrity of European sites (i.e. the ability of those sites to achieve their conservation objectives).

Methodology

1.4 The Habitats Regulations 2017 (as amended) set out the specific assessment steps required for the HRA process.

1.5 The first step in the sequence of tests, often referred to as HRA screening, establishes whether a more detailed analysis known as Appropriate Assessment is required. The purpose of HRA screening is to determine, in view of the best available scientific knowledge, whether a plan or project, either alone or in-combination with other plans or projects, could result in LSEs on European sites in view of their Conservation Objectives.

Test of Likely Significant Effects

1.6 All measures included in the South West RBD were assessed for LSEs on the European sites across and within 10km of the RBD. None of the measures were identified to result in LSEs on any European site for a range of reasons, including that they are too non-specific to assess meaningfully, already being implemented (thus having undergone HRA previously), being subjected to a separate consenting process (as applies to Local Flood Risk Management Plans, Shoreline Management Plans (SMPs) and Coastal Strategies), desk-based and involving no physical activity

on the ground, remote from vulnerable sites or worded such they are about 'investigating', 'reviewing' and 'identifying opportunities'.

1.7 One group of measures was found to commit to physical work on the ground by 'delivering' or 'implementing' flood management interventions, such as coastal defence structures or natural flood management approaches. The broad location of some measures, is known, enabling a broad assessment of their proximity to European sites and potential linking impact pathways. However, detailed HRA (including Appropriate Assessment) was deferred to either lower-tier plans or the planning application stage when details on the nature of proposals are available. This approach was adopted to account for the strategic (and thereby necessarily non-specific) nature of the FRMP, while also identifying the measures with the highest impact potential on European sites.

1.8 This document also identified that a range of measures in the South West FRMP have the potential to improve the hydrological condition of European sites across the RBD, particularly in the Somerset Levels and Moors SPA / Ramsar, which is increasingly subject to prolonged winter flooding. Overall, it was shown that the FRMP represents a positive framework that will help achieve the Conservation Objectives of the SPA / Ramsar, such as by fostering collaboration with land owners through the Environment Land Management Scheme, updating and delivering Water Level Management Plans, developing a new flood risk management strategy and increasing the capacity of key waterbodies within the SPA / Ramsar (e.g. River Sowy and the Kinds Sedgemoor Drain system).

Other Plans and Projects

1.9 The potential for the FRMP to result in LSEs on European sites in-combination with (i.e. when considered alongside) other plans and projects was also assessed. Many such plans are proposed across the RBD, which are associated with their own impact potential. For example, local authorities are proposing a minimum of 348,574 new dwellings and 1,360.67ha of employment land within the timescales of their current Local Plans and Core Strategies. There is also a potential for cumulative impacts with Drought Orders and Permits, the Environment Agency National Drought Plan and SMPs.

1.10 Potential in-combination LSEs with Local Plan development were excluded due to most measures not being associated with impact pathways linking to European sites, the fact that some measures are only included for completeness being driven by entirely separate plan processes, and the strategic nature of the FRMP, meaning that those measures with potential interactions with European sites depend upon considerable further development before the presence of any impact pathways can be clearly identified.

Conclusion

1.11 LSEs of the FRMP on all European sites, both alone and in-combination, were excluded for all measures and an Appropriate Assessment was not required. This was based on various factors, including some measures having already been subject to the statutory consenting process, including HRA, already implemented, not associated with impact pathways linking to European sites or too non-specific (either in terms of specific location, their nature or both) to allow for a detailed, meaningful assessment.

1.12 Notably, 24 measures were screened out at the strategic FRMP level, but recommended for down-the-line HRA since the measures are sufficiently broadly expressed that they could be delivered without adverse effects but this will need to be reassessed as actual schemes are developed. As the details of potential schemes are developed towards the planning application stage, the HRA process will ensure that adequate mitigation measures, where relevant, are incorporated and the integrity of European sites will be protected.

2. Introduction and Approach to Assessment

Background and Description of the South West River Basin District

2.1 This report forms the Habitats Regulations Assessment (HRA) of the South West River Basin District (RBD) Flood Risk Management Plan (FRMP). This FRMP seeks to manage significant flood risks in 19 identified Flood Risk Areas (FRAs) in the South West RBD. It is the second cycle FRMP, covering the years between 2021 to 2027.

2.2 The South West RBD covers an area of over 21,000km^2, including Cornwall, Devon, Dorset and parts of Somerset, Hampshire and Wiltshire. It also includes the Isles of Scilly and Lundy Island. Overall, the RBD encompasses approx. 1,000km of coastline along the Atlantic Ocean and English Channel. Low pressure systems over the Atlantic build significant weather fronts that result in increased average rainfall and short, intense rainfall events as these hit land. The RBD encompasses nine management catchments, including South and West Somerset, Hampshire Avon, Dorset, North Devon, East Devon, South Devon, Tamar, North Cornwall, Seaton, Looe and Fowey, West Cornwall and the Fal. In particular, the South West RBD FRMP seeks to address the following threats:

- river flood risk
- tidal flood risk
- coastal erosion and flood risk
- surface water and groundwater flood risk
- sewer, canal and reservoir flood risk
- land management and flooding
- managing flood risk in urban and rural areas

2.3 Protecting human receptors from flood risk should be viewed in the context of the environmental challenges present in the South West RBD. While the density of urban development in this part of England is comparatively low, many areas are experiencing growth, while also needing to accommodate the anticipated impacts of climate change. For example, flood defences along the coastline and in estuaries have potential negative impacts on coastal habitats / species, such as through the process of coastal squeeze. Freshwater habitats in the RBD fulfil a crucial role in sustaining wintering wildfowl, fish populations and terrestrial species (e.g. otters). Many waterbodies, particularly those that are heavily modified, currently fail to reach good ecological status.

2.4 The Environment Agency leads development of the Flood Risk Management Plans (FRMP) for River Basin Districts in England and delivery of flood warning services. The draft second cycle FRMP is a plan to manage significant flood risks in designated flood risk areas (FRAs). The ambition is that the FRMP is a strategic, place-based plan which shows what is happening in flood risk management across the River Basin District. FRMPs focus on the more significant areas of flooding and describe the risk of flooding now and in the future. These plans will help:

- identify actions that will reduce the likelihood and consequences of flooding update plans to improve resilience whilst informing the delivery of existing flood programmes
- work in partnership to explore wider resilience measures, including nature-based solutions for flood and water
- set longer-term, adaptive approaches to help improve the nation's resilience

2.5 This document considers the potential effects of the draft FRMP on Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar sites, either alone or in combination with other plans or projects, and in view of best scientific knowledge.

Legislative context

2.6 The National Site Network of Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) is protected via the Conservation of Habitats and Species Regulations 2017 (as amended, most recently in 2019 to reflect Brexit). These regulations also set out the process for assessing potential adverse effects on such sites, known as HRA. Paragraph 181 of the National Planning Policy Framework[1] clarifies that, in England, the HRA process is also applied to another category of internationally important wildlife site called Ramsar sites.

2.7 The legislative basis for HRA is set in the Conservation of Habitats and Species Regulations 2017 (as amended). This states that 'A competent authority, before deciding to … give any consent for a plan or project which is likely to have a significant effect on a European site … shall make an appropriate assessment of the implications for the site in view of that sites conservation objectives… The authority shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site'.

2.8 The competent authority that carries out the HRA (in this case the Environment Agency) is required to apply the precautionary principle to European sites and can only adopt a plan once it has been ascertained that it will not adversely affect the integrity of the site concerned. However, even if significant adverse effects on the designated site are predicted, and in the absence of a suitable alternative solution, the plan can still be adopted in exceptional circumstances where there are deemed sufficient imperative reasons of over-riding public interest (IROPI). In such cases, however, compensatory measures must be implemented.

Overview of HRA process

2.9 The Habitats Regulations do not prescribe a particular methodology for carrying out an appraisal of plans or projects. However, it does set out the specific assessment steps involved. In February 2021 the government provided broad guidance on the HRA process[2]. The most detailed guidance on the HRA process in the UK has been produced by Scottish Natural Heritage (now NatureScot). They outline a series of thirteen steps. However, with cognisance of recent case law (refer to Table 1) clarifying when mitigation can be taken into account in the HRA process, the process has been revised to constitute eleven stages (see Image 1).

2.10 A four-stage methodology for HRA would therefore include:

- HRA Stage 1 – screening (including a 'likely significant effect' judgement)

- HRA Stage 2 – appropriate assessment
- HRA Stage 3 – assessment of alternative solutions
- HRA Stage 4 – assessment where no alternative solutions exist and where adverse effects remain (i.e. consideration of Imperative Reasons of Overriding Public Interest (IROPI)) and identification of compensatory measures

2.11 The first step in the sequence of tests is to establish whether an appropriate assessment is required. This is often referred to as HRA screening. The purpose of HRA screening is to determine, in view of best available scientific knowledge, whether a plan or project, either alone or in combination with other plans or projects, could have likely significant effects (LSE) on a European site, in view of that site's conservation objectives.

2.12 For this purpose, and as a result of case law 'likely' means 'possible', while a 'significant' effect is one which could undermine the Conservation Objectives of a European site. To this end the HRA process applies the 'Precautionary Principle'[3] to European sites. If the competent authority determines that there are no LSE (including 'in combination' effects from other plans or projects), then no further assessment is necessary and the plan or project can, subject to any other issues, be taken forward. If, however, the competent authority determines that there are LSE, or if there is reasonable scientific doubt, then the next step in the process must be initiated and a detailed appropriate assessment undertaken. While a judgment over likely significant effects must be precautionary, the court in R (Boggis) v Natural England [2009] EWCA Civ 1061 also noted that there must be a 'real', rather than a hypothetical, risk to European sites.

2.13 This is relevant to the assessment of the FRMP measures; while many measures commit to the production, update and/or delivery of other plans (such as Water Level Management Plans, WLMPs), or the assessment of options for, or a general commitment to, flood risk management assets in certain locations, the ability to identify 'real' rather than hypothetical impacts is constrained by the fact that considerable further work is needed at lower tiers to develop the plans or schemes in question before specific impact pathways can be identified with any confidence. For example, whether a given WLMP poses a likely significant effect on a given European site will depend entirely on the proposals it contains, which are not set by FRMP measures that commit to updating WLMPs. Similarly, the potential for likely significant effects to arise from 'implementing flood risk management improvements' will vary significantly depending on what is proposed and how it is to be delivered, which may not be determined at the FRMP level; a set-back flood embankment or a flood relief channel may have no implications for a given European site compared to sheet piling in the river.

2.14 The purpose of the appropriate assessment is to carry out sufficient scientific investigation to ascertain whether the plan or project, alone or in combination with other plans or projects, will not adversely affect the integrity of European sites, in view of their conservation objectives and considering any design modifications or mitigation (but not compensatory measures, which can only be considered in exceptional circumstances when requirements for the above HRA Stages 3 and 4 have been met).

2.15 Plans and projects can only be permitted having ascertained that there will be no adverse effect on the integrity of the European site(s) in question. Plans and projects with predicted adverse impacts on European sites may still be permitted if there are

no alternatives to them and there are Imperative Reasons of Overriding Public Interest (IROPI) as to why they should go ahead. In such cases, compensation would be necessary to ensure the overall integrity of the site network. To ascertain whether or not site integrity will be affected, an Appropriate Assessment should be undertaken of the plan or project in question:

2.16 Over time the term HRA has come into wide currency to describe the overall process set out in the Regulations from screening through to IROPI. This has arisen in order to distinguish the process from the individual stage described in the law as an 'Appropriate Assessment'.

2.17 The HRA has been carried out being mindful of the implications of European case law in 2018, notably the Holohan ruling and the People over Wind ruling, both discussed below.

Image 1. Stages of the HRA process (adapted from SNH (2015))

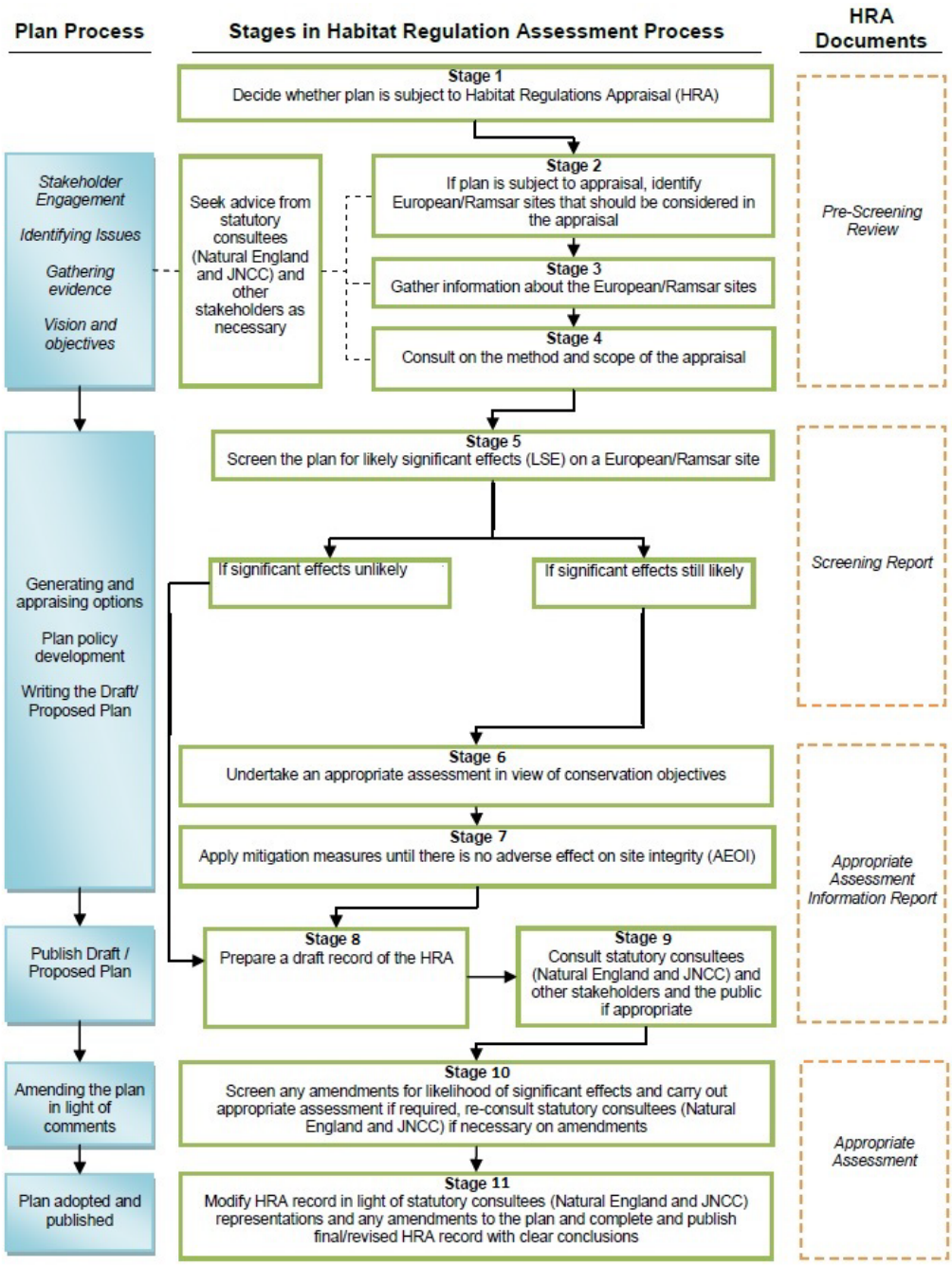


Figure 1 accessible description

Figure 1 shows the plan process, stages in Habitat Regulation Assessment process and HRA documents involved in the HRA process.

The first part of the plan process involves stakeholder engagement, identifying issues, gathering evidence and the vision and objectives. Advice may be needed from statutory consultees, such as Natural England and JNCC, and other stakeholders as necessary. The stages include:

1. Decide whether the plan is subject to Habitat Regulations Appraisal.
2. If the plan is subject to appraisal, identify European and Ramsar sites that should be considered in the appraisal.

3. Gather information about European sites and Ramsar sites.
4. Consult on the method and scope of the appraisal.

A pre-screening review document is needed for stages 1 to 4.

The second part of the plan process involves generating and appraising options, planning policy development and writing the draft/proposed plan. The stages include:

5. Screen the plan for likely significant effects (LSE) on a European or Ramsar site. If the significant effects are unlikely, then move on to stage 8. If significant effects are likely, then continue to stage 6.
6. Undertake an appropriate assessment in view of conservation objectives.
7. Apply mitigation measures until there is no adverse effect on site integrity (AEOI).

A screening report is needed for stage 5 and appropriate assessment information report is needed for stage 6 to 9.

The third part of the plan process involves publishing the draft or proposed plan. The stages include:

8. Prepare a draft record of the HRA.
9. Consult statutory consultees (Natural England and JNCC), other stakeholders and the public if appropriate.

The fourth part of the plan process involves amending the plan in light of comments. This includes stage 10:

10. Screen any amendments for likelihood of significant effects and carry out appropriate assessment if required, re-consult statutory consultees (Natural England and JNCC) if necessary, on amendments.

An appropriate assessment document is needed for stage 10 and 11 of the plan process.

In the fifth and final part of the process the plan is adopted and published. This includes stage 11:

11. Modify HRA record in light of statutory consultees (Natural England and JNCC) representations and any amendments to the plan and complete and publish final/revised HRA record with clear conclusions.

Relevant case law

2.18 As a consequence of the UK's exit from the EU, it was necessary for various amendments to be made to the Habitats Regulations. These changes were required to ensure that England and Wales (and Scotland through separate regulations) continue to maintain the same standard of protection afforded to European sites. The Habitats Regulations remain in force, including the general provisions for the protection of European sites and the procedural requirements to undertake HRA. The changes made were only those necessary to ensure that they remain operable following the UK's exit from the EU.

2.19 Although the UK is no longer part of the EU, a series of prior rulings of the Court of Justice of the European Union (CJEU) are relevant and have been considered when preparing this document. These rulings and their implications for this HRA are summarised in Table 1.

Table 1. Case law relevant to the HRA of the FRMP

Case	Ruling	Relevance to the HRA of the FRMP
People Over Wind and Sweetman v Coillte Teoranta (C-323/17)	The ruling of the CJEU in this case requires that any conclusion of 'no likely significant effect' on a European site must be made prior to any consideration of measures to avoid or reduce harm to the European site. The determination of likely significant effects should not, in the opinion of the CJEU, constitute an attempt at detailed technical analyses. This should be conducted as part of the appropriate assessment.	NatureScot has published guidance on the implications of this ruling for HRA (SNH, 2019). It will be necessary to distinguish between those measures which are intended to avoid or reduce harmful effects on a European site and those elements of the flood management plan that may incidentally provide some degree of mitigation, but which are intrinsic or essential parts of the plan itself. SNH advises that intrinsic parts of a plan can be considered at the screening stage of HRA. If it can be concluded that the Flood management plan area will have no adverse effect on any European site, in the absence of mitigation, it will be possible to conclude 'no likely significant effects', and the need for further detailed appropriate assessment will be 'screened out'.
Waddenzee (C-127/02)	The ruling in this case clarified that appropriate assessment must be conducted using best scientific knowledge, and that there must be no reasonable scientific doubt in the conclusions drawn. The Waddenzee ruling also provided clarity on the definition of 'significant effect', which would be any effect from a plan or project which is likely to undermine the conservation objectives of any European site.	Adopting the precautionary principle, a 'likely' effect in this HRA is interpreted as one which is 'possible' and cannot be objectively ruled out. The test of significance of effects has been conducted with reference to the conservation objectives of relevant European sites.

Case	Ruling	Relevance to the HRA of the FRMP
Holohan and Others v An Bord Pleanála (C-461/17)	The conclusions of the Court in this case were that consideration must be given during appropriate assessment to: • effects on qualifying habitats and/or species of a SAC or SPA, even when occurring outside of the boundary of a European site, if these are relevant to the site meeting its conservation objectives, and • effects on non-qualifying habitats and/or species on which the qualifying habitats and/or species depend and which could result in adverse effects on the integrity of the European site.	This relates to the concept of 'functionally-linked habitat', i.e. areas outside of the boundary of a European site which supports its qualifying feature(s). In addition, consideration must be given to non-qualifying features upon which qualifying habitats and/or species rely.
T.C Briels and Others v Minister van Infrastructuur en Milieu (C-521/12)	The ruling of the CJEU in this case determined that compensatory measures cannot be used to support a conclusion of no adverse effect on site integrity.	Compensation can only be considered at the relevant stage of HRA and not during appropriate assessment. Compensation must be delivered when appropriate assessment concludes that there will be adverse effects on site integrity.

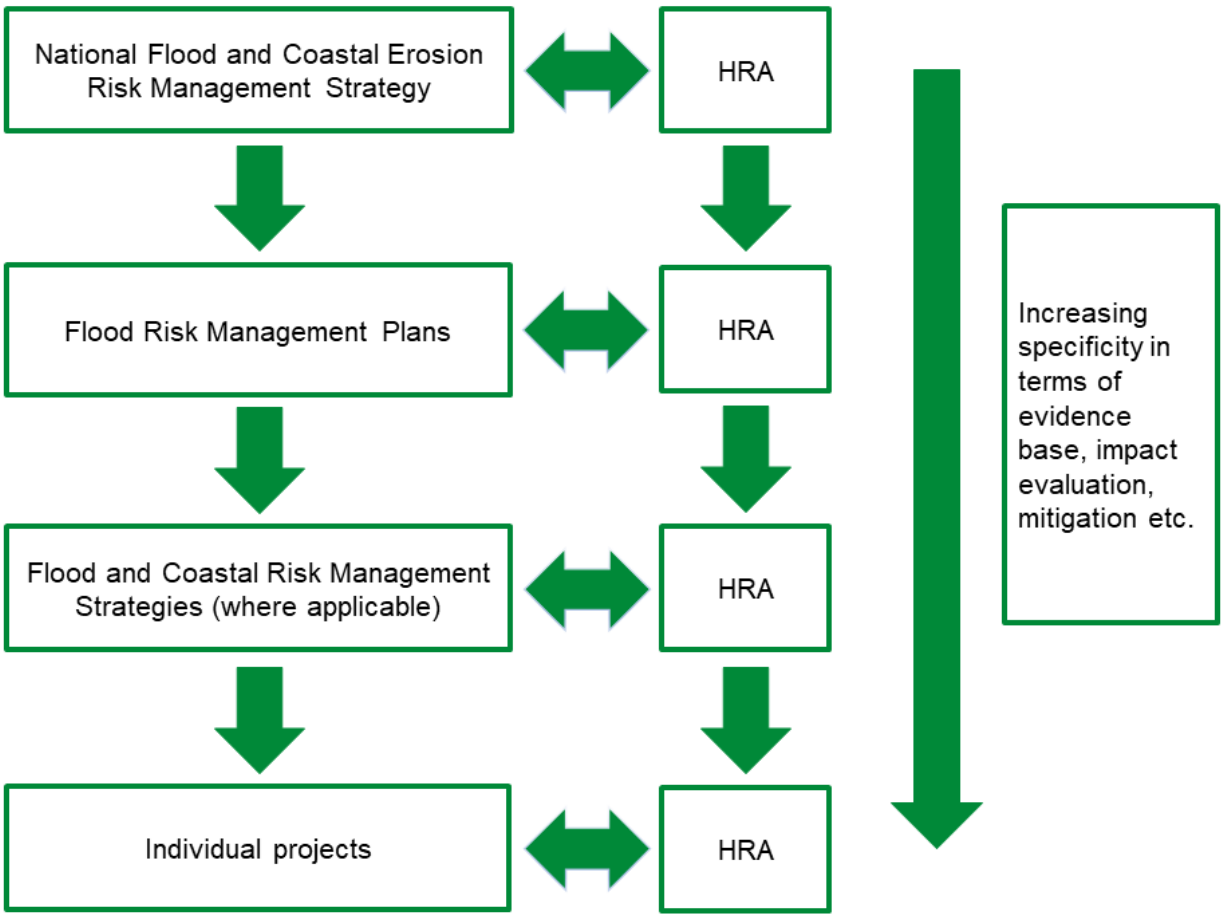
Purpose of this document

2.20 This report forms the HRA of the South West FRMP. It has been prepared with regard to best scientific knowledge and an examination of potential impacts of the Flood Risk Management Plan on European Sites.

2.21 Project-related HRA often requires bespoke survey work and novel data generation in order to accurately determine the significance of effects. In other words, to look beyond the risk of an effect to a justified prediction of the actual likely effect and to the development of avoidance or mitigation measures.

2.22 However, there is a tacit acceptance that HRA can be tiered and that all impacts are not necessarily appropriate for consideration to the same degree of detail at all tiers as illustrated in Image 2 below. Note that some measures in the FRMPs come from other plans and are reflected in the FRMP for consistency and completeness.

Figure 2. Tiering in HRA of Land Use Plans



2.23 In any strategic plan, there are numerous measures for which there is a limit to the degree of assessment that is possible at this plan level. This is because either:

- The measure in question does not contain any specific details describing what will be delivered or where so literally cannot be assessed in detail at the plan level.
- Development of a specific type is identified but the nature of the potential impacts are dependent on exactly how the development will be designed and constructed and therefore cannot be assessed in detail at the plan level but rather at the scheme level.

2.24 For example, NatureScot has published guidance[4] that indicates a measure or initiative in a higher tier plan can be screened out without further analysis if:

a. they are intended to protect the natural environment

b. they will not themselves lead to development or other change

c. they make provision for change but could have no conceivable effect on a European site

d. they make provision for change but could have no significant effect on a European site, or

e. effects on any particular European site cannot be identified because the measures are too general or lack any spatial definition

2.25 Similarly, the Habitats Regulations Assessment Handbook[5] sets out three criteria in section F.10.1.5, that it considers would make it reasonable to defer further assessment to a lower tier plan or project:

a. The higher level plan assessment cannot reasonably predict any effect on a European site in a meaningful way.

b. The lower level plan or project, which will identify more precisely the nature, timing, duration, scale or location of the measure, and thus its potential effects, will have the necessary flexibility over the exact nature, timing, duration, scale and location of the measure to enable an adverse effect on site integrity to be avoided.

c. The HRA of the lower tier plan or project is required as a matter of law or government policy.

2.26 In these cases, the HRA focusses on setting down-the-line requirements for more detailed assessment at the scheme level that can be included in the plan to ensure that whatever proposals come forward will not result in adverse effects on integrity. On these occasions the advice of Advocate-General Kokott[6] should be considered. She commented that: 'It would …hardly be proper to require a greater level of detail in preceding plans [rather than planning applications] or the abolition of multi-stage planning and approval procedures so that the assessment of implications can be concentrated on one point in the procedure. Rather, adverse effects on areas of conservation must be assessed at every relevant stage of the procedure to the extent possible on the basis of the precision of the plan. This assessment is to be updated with increasing specificity in subsequent stages of the procedure**'**.

2.27 Similarly, published EU guidance on HRA states: 'Where one or more specific projects are included in a plan in a general way but not in terms of project details, the assessment made at plan level does not exempt the specific projects from the assessment requirements of Article 6(3) at a later stage, when much more details about them are known.'[7]

2.28 It is also important to consider the approach taken regarding coastal defence schemes and strategies. The stance throughout all FRMP HRAs is that, provided measures are already covered by the SMP/Coastal Strategy process or another HRA process, then these measures are effectively included in the FRMPs for completeness. The FRMPs are not the source plans for these schemes and they are already committed elsewhere. The SMP and Coastal Strategies will be updated as part of their normal cycle and that will include revision to their HRAs which will take account of any changes in evidence. Each scheme will also have its own HRA before it is consented. In these cases, the DTA handbook states that plan elements can be screened out if they have, or will be subject to, HRA under another plan and this plan (the FRMP) would not materially change if they were omitted.

2.29 This is the approach taken in the HRA of the FRMP to avoid confusing the FRMP with other plan processes (such as Shoreline Management Plan (SMP) and Coastal Strategy processes) that have their own separate HRA, or the individual schemes that are referenced in the FRMP and will be taken forward subject to significant further work including outline design, detailed design, securing of funding, community consultation and securing of necessary consents and permits. The fact that a scheme is referenced in the FRMP does not prejudge the down-the-line permitting processes.

The ‘in Combination’ Scope

2.30 It is a requirement of the Habitats Regulations that the impacts and effects of any land use plan being assessed are not considered in isolation but in combination with other plans and projects that may also be affecting the European site(s) in question.

2.31 When undertaking this part of the assessment it is essential to bear in mind the principal intention behind the legislation, i.e. to ensure that those projects or plans which in themselves have minor impacts are not simply dismissed on that basis but are evaluated for any cumulative contribution they may make to an overall significant effect. In practice, in combination assessment is therefore of greatest relevance when the plan would otherwise be screened out because its individual contribution is inconsequential. The overall approach is to exclude the risk of there being unassessed likely significant effects in accordance with the precautionary principle. This was first established in the seminal Waddenzee[8] case.

2.32 For the purposes of this HRA, in-combination assessment is focussed on the plans and projects identified in the Strategic Environmental Assessment (SEA) Environmental Report of the FRMP. The plans and projects were identified in the SEA as having a significant interaction with the FRMP for biodiversity, flora and fauna and required consideration. The key relevant plans and projects with a potential for in-combination effects are:

Development plans for Local Authorities:

- Cornwall Local Plan (adopted November 2016)
- North Devon and Torridge Local Plan (adopted October 2018)
- Plymouth and South West Devon Joint Local Plan (adopted March 2019)
- Torbay Local Plan (adopted December 2015)
- Teignbridge Local Plan (adopted May 2014)
- Exeter Core Strategy Development Plan Document (DPD) (adopted February 2012)
- Mid Devon Local Plan Review (adopted July 2020)
- West Somerset Local Plan (adopted November 2016)
- Taunton Deane Core Strategy (adopted ???)
- East Devon Local Plan (adopted January 2016)
- West Dorset, Weymouth & Portland Local Plan (adopted October 2015)
- South Somerset Local Plan (adopted March 2015)
- Sedgemoor Local Plan (adopted February 2019)
- Mendip Local Plan Part I: Strategy and Policies (adopted December 2014)
- Mendip Local Plan Part II: Sites and Policies (adopted December 2021)
- North Somerset Site Allocations Plan (adopted April 2018)
- North Dorset Local Plan (adopted January 2016)
- Purbeck Local Plan (adopted November 2012)
- Poole Local Plan (adopted November 2018)

- Christchurch and East Dorset Local Plan (adopted April 2014)
- Bournemouth Local Plan: Core Strategy (adopted October 2012)
- Wiltshire Core Strategy (January 2015)
- Test Valley Borough Revised Local Plan (adopted January 2016)
- New Forest National Park Local Plan (adopted August 2019)

Shoreline, flood risk, drainage and wastewater management:

- National Flood and Coastal Erosion Risk Management Strategy for England (FCERM Strategy)
- South West River Basin Management Plan (RBMP)
- Catchment Flood Management Plans (CFMPs)
- Bournemouth Local Flood Risk Management Strategy
- Dorset Local Flood Risk Management Strategy
- North Somerset Local Flood Risk Management Strategy
- Somerset's Local Flood Risk Management Strategy
- Devon County Council's Local Flood Risk Management Strategy
- Torbay Council's Local Flood Risk Management Strategy
- Isle of Scilly Council's Local Flood Risk Management Strategy
- Cornwall Council's Local Flood Risk Management Strategy
- Plymouth City Council's Local Flood Risk Management Strategy
- South West Water's Drainage and Wastewater Management Plan
- Wessex Water's Drainage and Wastewater Management Plan
- Hurst Spit to Durlston Head (Poole & Christchurch Bays) Shoreline Management Plan
- Hartland Point to Anchor Head Shoreline Management Plan
- Rame Head to Hartland Point Shoreline Management Plan
- Durlston Head to Rame Head Shoreline Management Plan
- Cornwall Local Nature Recovery Pilot

2.33 The potential for 'in combination' effects between these plans and projects and the FRMP are discussed in Chapter 4 of this document.

3. Linking Impact Pathways

Direct habitat loss

3.1 Any permanent, irreversible, habitat loss from a designated site that will result in the loss of qualifying habitats and / or species, or habitats that support the designated species, will be adverse, although to affect the integrity of the site (the coherence of its structure and function) the loss must be sufficiently adverse that it materially impairs the achievement of the Conservation Objectives for the site.

3.2 Various developments can result in the loss of habitat in European Sites, either temporary or permanent. Temporary habitat loss (e.g. such as due to the need for a construction period footprint to encroach on a site) is potentially reversible depending on what the site is designated for, and there is also potential for deploying mitigation measures to avoid adverse effects on site integrity. In contrast, the permanent loss of designated habitat will result in a reduction of coverage of a potentially very rare ecosystem, with potential knock-on impacts on dependent qualifying species.

3.3 Plans or projects that result in the loss of land from a SAC can be approved in certain situations (please see Defra (2012)[9], even if the loss is sufficient to adversely affect the integrity of an SAC, if three sequential tests are met:

- no feasible alternative solutions to the plan or project exist that are less damaging
- imperative reasons of overriding public interest (IROPI)
- compensatory measures secured to ensure that the overall coherence of the European Site network is maintained

Inappropriate Coastal Management Including Coastal squeeze

3.4 Inappropriate coastal management covers any coastal management activities that would interfere with natural coastal processes to such an extent that they would potentially interfere with the ability of European sites to achieve their conservation objectives. Examples of inappropriate coastal management include:

- Reduced sediment supply to adjacent frontages, resulting in loss of habitat area. For example, defending the Holderness Coast in East Yorkshire results in a reduction in the amount of longshore sediment that would otherwise be transported into the Humber Estuary SAC/SPA/Ramsar site and this in turn could affect the persistence of features that require a continued supply of sediment, such as Spurn Point;
- Presence of flood risk management defences causing habitat erosion seawards of those defences due to wave reflection. This is more of an issue with some types of defence (such as sheet metal piling) than with other types of defence;
- Restriction of the area of intertidal habitat in front of the flood risk management defences; and
- Coastal squeeze.

3.5 Coastal squeeze is defined by government as 'the loss of natural habitats or deterioration of their quality arising from anthropogenic structures or actions, preventing the landward transgression of those habitats that would otherwise naturally occur in response to sea level rise in conjunction with other coastal processes. Coastal squeeze affects habitat on the seaward side of existing structures.'[10]

3.6 Measures which involve a 'Hold the Line' approach by establishing a hard structure or maintaining the existing standard of protection by improving the defences, have the potential to result in the loss of seaward habitats as a consequence of coastal squeeze. The process of coastal squeeze prevents the landward transgression of habitats in response to climate change and resulting sea level rise. Over time, unmitigated coastal squeeze would inevitably lead to the cumulative loss of designated habitats and supporting functionally-linked habitats. Coastal squeeze impacts due to measures have already been fully explored and mitigation or compensation quantified if necessary through the SMP and Coastal Strategy process and their HRAs, and through the Flood and Coastal Erosion Risk Management (FCERM) National Strategy 2021 and compensation delivered in the form of the Habitat Compensation Programme. Therefore, coastal squeeze is scoped out of this HRA.

3.7 All the FRMPs contain measures which refer to implementing or updating Shoreline Management Plans or Coastal Strategies or flood and coastal erosion risk management schemes that are contained within those documents. In commenting on the draft version of the HRA, Natural England advised the SMP Health Check documents will include detail on what changes to SMP HRAs will be required to account for (for example) changes in sea level rise predictions. However, these reports have not yet been completed or published, and as such this information is not yet available.

3.8 The approach taken throughout all FRMP HRAs is that, provided such schemes are already covered by the SMP/Coastal Strategy process or another HRA process, these measures are effectively included in the FRMPs for completeness. The FRMPs are not the source plans for these schemes and they are already committed elsewhere. The SMP and Coastal Strategies will be updated as part of their normal cycle and that will include revision to their HRAs which will take account of any changes in evidence. Each scheme will also have its own HRA before it is consented.

Visual and Noise Disturbance

3.9 Flood risk management construction works can result in noise or visual disturbance of qualifying species in European sites, both during the construction and operational periods. For example, noise and visual disturbance arising from construction may result in temporary behavioural changes in otters (e.g. disturbance in holts, displacement from specific stretches of the river). Piling noise during construction of defences could displace over wintering or breeding birds for which an SPA is designated. Three of the most important factors determining the magnitude of disturbance from construction schemes appear to be species sensitivity, proximity of the disturbance source and timing / duration of the disturbance.

Birds

3.10 Development schemes (such as those for flood risk management assets) can result in the disturbance of qualifying SPA / Ramsar bird species in European sites or

functionally linked habitats and this can apply whatever activity the bird is undertaking, whether nesting, foraging, loafing or roosting. Noise and visual disturbance arising from construction activities may result in behavioural changes (e.g. flight from the nest, cessation of foraging) in birds. Furthermore, post-construction disturbance from site usage, road traffic and operational lighting might also arise. Three of the most important factors determining the magnitude of disturbance appear to be species sensitivity, proximity of the disturbance source and timing / duration of the disturbance. Generally, the most disturbing visual and auditory stimuli are likely to involve irregular, infrequent, unpredictable loud noise events, movements or vibrations. Birds are least likely to be disturbed by activities that involve regular, predictable and quiet patterns of sound or movement. The further any activity is from the birds, the less likely it is to result in disturbance.

3.11 An increasing amount of research on visual and noise disturbance of waterfowl from construction (and other activities) is now available. Both visual and noise stimuli may elicit disturbance responses, potentially affecting the fitness and survival of waterfowl and waders. Noise is a complex disturbance parameter requiring the consideration of multiple parameters, including the fact that it is not described on a linear scale, its nonadditive effect and the source-receptor distance. A high level of noise disturbance constitutes a sudden noise event of over 60dB or prolonged noise of over 72dB. Bird responses to high noise levels include major flight or the cessation of feeding, both of which might affect the survival of birds if other stressors are present (e.g. cold weather, food scarcity).

3.12 Generally, research has shown that above noise levels of 84 dB waterfowl show a flight response, while at levels below 55dB there is no effect on their behaviour[11]. These two thresholds are therefore considered useful as defining two extremes. The same authors have advised that regular noise levels should be below 70 dB at the bird, as birds will habituate to noise levels below this level[12]. The Waterbird Disturbance Mitigation Toolkit published by the Institute of Estuarine & Coastal Studies in 2013, summarises the key evidence base relating to the noise disturbance impact pathway[13]. Generally, noise is attenuated by 6 dB with every doubling of distance from the source. Impact piling, the noisiest construction process of approx. 110 dB at 0.67m from source, will therefore reduce to 67-68dB by 100m away from the source. The loudest construction noise should therefore have fallen to below disturbing levels by 100m, and certainly by 200m, away from the source even without mitigation. Note that this is a rule of thumb and does not obviate the need for application-level noise modelling. However, comparison with baseline noise levels will also be important in any assessment rather than purely using comparison with the 70 dB metric (see paragraph below).

3.13 An alternative approach to assessment is to consider the relative change in the noise levels experienced by birds, rather than an absolute noise threshold. There are no formal guidelines that define a change threshold that is deemed disturbing to waterfowl and waders, but they are thought to have hearing comparable to humans. For humans a change of 3 dB defines the threshold for a change in noise to be perceptible (in other words, a change of 1 or 2 dB cannot be detected by the human ear). However, there is a significant difference between being able to notice that a noise has gotten louder and finding the increase in noise to be sufficiently intolerable that it causes displacement or otherwise significantly disrupts activity. Therefore, 3 dB may be an excessively precautionary threshold to use for judging disturbance. Due to the logarithmic nature of the decibel scale a change of 5 dB increase at the receptor is approximately a 50% increase in perceived loudness while a 10 dB increase is a

doubling in perceived loudness or sound intensity. It is reasonable to assume that an increase of 10 dB would run a high risk of causing adverse impacts to bird behaviour such as flushing, for the duration of exposure.

3.14 Visual disturbance is generally considered to have a higher impact than noise disturbance as, in most instances, visual stimuli will elicit a disturbance response at much greater distances than noise[14]. For example, a flight response is triggered in most species when they are approached to within 150m across a mudflat. Visual disturbance can be exacerbated by workers operating equipment outside machinery, undertaking sudden movements and using large machinery. Some species are particularly sensitive to visual disturbance[15], including curlew (taking flight at 275m), redshank (at 250m), shelduck (at 199m) and bar-tailed godwit (at 163m). In some areas, greater distances have been agreed between Environment Agency and Natural England, at least for purposes of HRA Screening. For example, in the Humber Estuary area have agreed a precautionary distance of 300m for the purposes of assessment of bird disturbance.

Fish / Marine Mammals

3.15 Fish use sound for vital life functions, requiring it for completion of their life cycle as well as maintaining productivity. A review of 115 primary studies (66 of which were investigating fish species) highlights that noise disturbance leads to a wide range of impacts in fish, including their development, anatomy, physiology, stress levels and behaviour[16]. A study comparing the foraging behaviour of perch and roach, found that both species showed significantly fewer feeding attempts when exposed to motorboat noise[17]. For roach, which are better hearing than perch, no habituation to noise occurred over time. In a study of pink snappers (similar to many other commercial species such as tuna, cod and haddock), it was determined that a single seismic air gun with a source noise level of 222.6dB re 1uPa resulted in extensive damage to the ears, with no apparent recovery after 58 days[18]. The impacts of noise may not be immediately visible, as demonstrated by a noise playback experiment on perch, carp and gudgeon. Exposure of the fish to underwater ship noise, resulted in cortisol increases of between 81% to 120% compared to control values[19]. Notwithstanding this evidence, it is important to note that extrapolations from noise impact studies to different settings or species should be made with caution.

3.16 Construction noise also presents a significant threat (both regarding injury and mortality) to marine mammals, including harbour porpoise and grey seals. For example, the density of harbour porpoise has been shown to be significantly reduced for several kilometres surrounding seismic surveys and impact piling activities[20] [21]. Cetaceans produce and receive sound over a great range of frequencies for use in communication, orientation, predator avoidance and foraging. Interference with these important behaviours has the potential to result in significant negative impacts. Harbour porpoise are high frequency cetaceans that have low sensitivity thresholds to impulsive sound sources. Anthropogenic sound has the potential to result in direct effects on the hearing ability of mammals (among other impacts, such as behavioural responses and masking of other underwater sounds), including Permanent Threshold Shifts (PTS) and Temporary Threshold Shifts (TTS)[22]. Some construction works within the marine environment may require Unexploded Ordnance (UXO) detonation, which involves impulsive sound elements stretching over tens of kilometres. In practice, it is typically not known whether such works will be required. Guidance from the Joint Nature Conservation Committee (as utilised for example in the HRA of the South-West England Marine Plan) confirms that a likely significant effect via

underwater noise could affect European sites up to 50km distant depending on the nature of the works.

Hydrology

3.17 The water level, its flow rates and the mixing conditions are important determinants of the condition of European sites and their qualifying features. Hydrological processes are critical in influencing habitat characteristics in wetlands and coastal waters, including current velocity, water depth, dissolved oxygen levels, salinity and water temperature. In turn these parameters indirectly determine the short- and long-term viability of plant and animal species, as well as overall ecosystem composition.

3.18 Many animal species are directly sensitive to hydrological changes, including the drying and excessive flooding of habitat. For example, many species (partially) restricted to the aquatic environment are sensitive to periodic or permanent drying, because this reduces the extent of supporting habitat available. This includes species such as the great-crested newt, southern damselfly, white-clawed crayfish and a diverse array of fish (e.g. Atlantic salmon, river lamprey, sea lamprey). In contrast, excessive flooding can result in sub-optimal water levels for foraging birds, such as small waders. If water is too deep, some species may not be able to access their primary prey species, with potential implications for foraging efficiency.

3.19 Wetland, riverine, estuarine and coastal habitats rely on hydrological connections with other surface water systems. A supply of water within natural limits is fundamental to maintaining the ecological integrity of sites. However, while the natural fluctuation of water levels within narrow limits is desirable, excess or too little water supply might cause the water level to be outside of the required range of plant and animal species. This might lead to the loss of the structure and function of aquatic habitats.

3.20 FRMPs generally propose measures to reduce the magnitude and impacts of potential flooding events. This may involve a wide range of interventions, such as flood defences and natural flood management techniques. If any such measures are delivered in the proximity to hydrology-dependent European sites, they may have implications for the water level in designated site boundaries. For example, a natural flood management intervention delivered immediately upstream of a designated floodplain or waterbody, while intended to restore the hydrological regime to a natural baseline, could reduce the volume of freshwater input to and flooding regime in that downstream European site.

Water quality

3.21 The quality of the water that feeds European sites is an important determinant of the nature of their habitats and the species they support. Poor water quality can have a range of environmental impacts:

- At high levels, toxic chemicals and metals can result in immediate death of aquatic life, and can have detrimental effects even at lower levels, including increased vulnerability to disease and changes in wildlife behaviour.
- Eutrophication, the enrichment of water with nutrients, increases plant growth and consequently results in oxygen depletion. Algal blooms, which commonly result from eutrophication, increase turbidity and decrease light penetration. The decomposition of organic wastes that often accompanies eutrophication deoxygenates water further, augmenting the oxygen depleting effects of

eutrophication. In freshwater ecosystems, plant growth is primarily determined by phosphorus concentrations, which are determined by a wide range of sources, including treated sewage effluent from Wastewater Treatment Works and urban surfaces such as roads.

- Some pesticides, industrial chemicals, and components of sewage effluent are suspected to interfere with the functioning of the endocrine system, possibly having negative effects on the reproduction and development of aquatic life.

3.22 There is an obligation for flood risk protection, management and resilience schemes to consider water quality impacts. Under the Environmental Damage (Prevention and Remediation) (England) Regulations 2015 and the Environmental Permitting (England and Wales) Regulations 2016, it is illegal to pollute watercourses. Individual planning proposals will undergo Preliminary Ecological Appraisal (PEA) or Environmental Impact Assessment (EIA), if identified as Schedule 1 or Schedule 2 proposals by the Town and Country Planning (Environmental Impact Assessment) Regulations 2017. As such, water quality protection measures must by law be introduced on any scheme that could affect the water quality of the river or coastal environment, irrespective of whether part of that environment is designated as an SAC or SPA.

3.23 For this reason, this particular impact pathway has not been used as a basis to screen in measures in this FRMP or identify the need for down-the-line HRA at lower planning tiers, as protecting water quality will be an inherent element in delivery of all measures irrespective of the designation status of linked waterbodies, watercourses and sensitive sites.

Loss of Functionally Linked Habitat

3.24 While most European sites have been geographically defined in order to encompass the key features that are necessary for coherence of their structure and function, this is not the case for all such sites. Due to the highly mobile nature of waterfowl, it is inevitable that areas of habitat of crucial importance to the maintenance of their populations are outside the physical limits of the European site for which they are an interest feature. However, this area will still be essential for maintenance of the structure and function of the interest feature for which the site was designated and land use plans that may affect this land should still therefore be subject to further assessment. This has been underlined by a recent European Court of Justice ruling (C-461/17, known as the Holohan ruling[23]) which in paragraphs 37 to 40 confirms the need for an appropriate to consider the implications of a plan or project on habitats and species outside the European site boundary provided that those implications are liable to affect the conservation objectives of the site.

3.25 Certain management approaches, while positive for coastal processes, could result in the loss of landward habitats, such as coastal grazing marsh, grassland, reedbeds and arable land. Birds are mobile species and are also dependent on sites outside of formal designations and rely on the availability of a network of feeding and roosting resources over the winter period.

Spread of Invasive Non-Native Species (INNS)

3.26 Invasive non-native species can have detrimental impacts on native species and habitats. Their spread can occur during construction and operation of a development,

and via multiple pathways (for example via watercourses or on the treads of construction machinery).

3.27 Under the Wildlife and Countryside Act 1981, as amended, and the Invasive Alien Species (Enforcement and Permitting) Order 2019, it is an offence to cause any plant to spread or grow in the wild outside of its native range. Appropriate biosecurity measures will therefore also be implemented during works carried out during both the construction and operational phases of any scheme to prevent the spread of invasive non-native species, irrespective of whether there are European sites in the vicinity.

4. Test of Likely Significant Effects (LSEs)

4.1 When seeking to identify relevant European sites, consideration has been given primarily to identified impact pathways and the source-pathway-receptor approach, rather than adopting a purely 'zones'-based approach. The source-pathway-receptor approach is a standard tool in environmental assessment. In order for an effect to occur, all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism means there is no possibility for an effect to occur. Furthermore, even where an impact is predicted to occur, it may not result in significant effects (i.e. those which undermine the conservation objectives of a European site). Briefly defined, pathways are routes by which a change in activity can lead to a significant effect upon a European site.

4.2 The likely zone of impact (also referred to as the likely 'zone of influence') of a plan or project is the geographic extent over which significant ecological effects are likely to occur. The zone of influence of a plan or project will vary depending on the specifics of a particular proposal and must be determined on a case-by-case basis with reference to a variety of criteria, including:

- the nature, size / scale and location of the plan
- the connectivity between the plan and European sites, for example through hydrological connections or because of the natural movement of qualifying species
- the sensitivity of ecological features under consideration
- the potential for in-combination effects

4.3 There is no geographical limit beyond which plans need not be considered by HRA. However, as a first step in identifying European sites which may be relevant, a search was made for sites within the River Basin District, or within 10km of the River Basin District[24]. Consideration was then given to their hydrological sensitivity and the potential for them to be connected to flood risk management measures. The European sites identified within this search area are provided in Table 2. Note that there are numerous European sites within the River Basin District or within 10km of it which are not hydrologically sensitive or likely to be affected by flood defences or are hydrologically sensitive but would not be linked to potential flood risk management activities. These are not listed below as they are scoped out of the HRA process.

4.4 There are numerous hydrologically sensitive European sites across the South West River Basin District, which can generally be divided into freshwater and coastal habitats. These European sites are characterised by a gradient in their extent of hydrological dependency. While some sites (e.g. the River Camel SAC and River Axe SAC) form an integral component of the RBD because they constitute freshwater bodies, others (e.g. the Dartmoor SAC and Somerset Levels SPA / Ramsar) are not themselves freshwater bodies but rely on continuous freshwater input from surface waterbodies and groundwater sources for sustained flooding and / or permanent standing water. A third category of European sites, especially sites that are designated for the features 'Northern Atlantic wet heaths with Erica tetralix' and 'Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)', have impeded drainage and rely on freshwater supply from a combination of sources, including groundwater and surface water. Generally, rivers and sites with strong hydrological linkages (e.g. those on floodplains or bisected by

major freshwater bodies), are likely to be most at risk from the measures contained in the South West FRMP. Regardless, European sites with less obvious or unclear hydrological connections that rely on extended periods of wetting, are nonetheless included in this assessment.

4.5 Estuarine, coastal and some inland terrestrial European sites have additional sensitivities (beyond hydrology) potentially linking to FRMP measures. For example, marine SPAs, Ramsars and SACs (e.g. the Fal and Helford SAC, Plymouth Sound and Estuaries SAC, Tamar Estuaries Complex SPA and Poole Harbour SPA / Ramsar) are designated for, or depend on, intertidal habitats such as Atlantic saltmarshes and mudflats. These estuarine / coastal habitats are under threat from coastal squeeze, whereby development or flood defences immediately inland, prevent their landward migration in response to sea level rise. FRMP measures adjoining these sites have the potential to contribute to habitat loss from estuarine and coastal sites through coastal squeeze. Furthermore, all SPAs / Ramsars, whether inland or on the coast, are sensitive to visual and noise disturbance arising during the implementation period of FRMP schemes, for example due to the presence of construction workers or the use of noisy construction equipment (e.g. piling).

4.6 None of the measures in the South West River Basin District FRMP have been identified to result in Likely Significant Effects (LSEs) on European sites. This is generally because the measures are:

- too non-specific to assess meaningfully
- already being implemented
- being subjected to a separate HRA consenting process (e.g. Local Flood Risk Management Plans (LFRMPs) or SMPs will involve their own HRA process)
- essentially desk-based with a view to undertaking a study or enhancing knowledge
- remote from hydrologically sensitive European sites; or
- worded such that they are about ‘investigating’, ‘reviewing’ or ‘identifying opportunities for’ interventions, rather than committing to physical work on the ground. Any specific schemes that subsequently emerge from the investigation/review will be subject to their own down-the-line HRA process

4.7 One group of measures goes beyond ‘investigating’, ‘reviewing’ or ‘identifying’ by committing to ‘delivering’ or ‘implementing’ flood management interventions, making it clear that physical work on the ground will occur. In some instances, particularly for Management Catchment measures, the broad (and, occasionally, specific) location for these measures is known, while details of their implementation are not. As such, a broad assessment of their proximity to European sites and potential linking impact pathways is possible. However, a robust HRA appraisal (including Appropriate Assessment) must be deferred to the planning application stage. Measures where this screening outcome applies have been categorised as ‘No Likely Significant Effect, but down-the-line HRA required’. This approach has been adopted to account for the strategic (and thereby necessarily non-specific) nature of the FRMP, in line with the approach to tiering of HRA set out in Section 2, while also identifying the measures with the highest impact potential on European sites. Two examples of such measures are discussed in the following paragraphs (for the full range of measures requiring down-the-line assessment please refer to Table 4).

4.8 A general measure that is proposed for the entire South West RBD is 'Work with communities and partners to use flood risk management opportunities to maintain and improve recreation and access to the coast and green spaces in South West England.' Effectively this measure proposes to maintain and improve accessibility to the coast and greenspaces for recreational purposes. Theoretically, this could increase visitor numbers along the coastline, including enabling access to areas that were previously shielded from recreational pressure. The South West RBD contains various European sites that are designated for overwintering and breeding birds, including the Tamar Estuaries Complex SPA, Exe Estuary SPA / Ramsar, Poole Harbour SPA / Ramsar and Avon Valley SPA / Ramsar. These qualifying birds are sensitive to recreational disturbance to varying degrees, due to a combination of increased energy expenditure, reduced calorific intake, displacement to sub-optimal foraging patches, reduced time incubating eggs or provisioning for chicks and direct predation from free-roaming dogs. For many of the coastal / estuarine SPAs / Ramsars in south-west England, Natural England have flagged existing concerns in relation to public access. For example, the Site Improvement Plan for the Poole Harbour SPA / Ramsar[25] indicates that recreational disturbance was a significant factor in influencing the distribution of birds across the harbour, based on a 2012/13 study. Therefore, detailed flood risk management opportunities to facilitate recreational access will need to demonstrate that they would not result in LSEs and, where relevant, adverse effects on SPA / Ramsar bird populations regarding recreational pressure. Since it is a general non-specific measure, it is recommended that initiatives and schemes developed under this measure are subjected to down-the-line HRA as they emerge and the need to ensure improved access is compatible with the international interest features of European sites is built into the initiative development process.

4.9 'Deliver its river restoration programme (incorporating Natural Flood Management and land management where appropriate) in designated chalk rivers, including the Hampshire Avon' is a measure proposed in the Hampshire Avon Management Catchment. It is noted that river restoration programmes are likely to be positive for aquatic ecosystems and hydrologically connected European sites. Natural flood management measures 'utilise' the resilience of nature to restore river flows to near-natural levels, such as through the reintroduction of former meanders and floodplains. Notwithstanding this, care must be taken to ensure that inadequately sited or conceptualised restoration programmes do not result in inadvertent effects on hydrological processes in European sites. Furthermore, the implementation of river restoration is likely to involve earthworks, site staff and construction plant, which is associated with the potential for visual / noise disturbance, impacts on water quality and loss of functionally linked habitat. Since this is a non-specific measure, providing no detail on the type and location of natural flood management measures, it is recommended that initiatives developed under this programme are subjected to down-the-line HRA as they emerge to ensure their implementation is compatible with the international interest features of European sites.

Implications of FRMP Measures – Hydrology and Water Quality

4.10 One broader matter requiring consideration as part of the Likely Significant Effects process is the extent to which any measures, through committing to the status quo, may be contributing to the exacerbation or persistence of an existing water-related problem at European sites.

4.11 Overall, it is recognised that the vast majority of measures are unlikely to trigger significant hydrological effects in European sites. A large proportion of measures contained in the FRMP encompass natural flood management methods, which, provided they are adequately sited (see cautionary note in paragraph 4.11, are likely to improve hydrological conditions in European sites. Generally, for the South West RBD, no specific measures have been identified that would obviously trigger or reinforce negative hydrological conditions, such as by permanently reducing the water level in qualifying habitats. Any detailed interventions with the potential for permanent significant effects (e.g. studies to assess the feasibility of beaver introductions in the south-west), would be subject to down-the-line HRA consenting.

Measures with Potential for Hydrological Improvements

4.12 Although not technically within the remit of HRA, it is noted that the FRMP contains several measures that present opportunities to improve the hydrological integrity of water-dependent European sites, in conjunction with nature recovery plans and catchment sensitive farming. These measures range from a broad, strategic level to relatively detailed proposals in specific areas. The following paragraphs discuss some of these measures in relation to European sites and associated hydrology-related sensitivities.

4.13 The water level in many European sites across the South West RBD is under threat from past activities, such as ditching to drain wet ground and peat cutting. This channel digging through European sites can alter the water table significantly, draining away moisture from habitats and plant species with critical water dependence. Drainage is referred to as a pressure / threat to site integrity in the SIPs of many sites, such as the Culm Grasslands SAC, Exmoor Heaths SAC, Dorset Heaths SAC and, perhaps most notably, Somerset Levels and Moors SPA / Ramsar.

4.14 Several high-level and some more specific measures encompassed in the FRMP may help in working towards improving current and securing future hydrological conditions in European sites affected by periodic drying. Most of these measures entail natural flood management opportunities that naturalise rivers and their connections with adjoining floodplains. The following are identified as measures with positive impact potential:

- explore opportunities to reconnect rivers and their floodplains in South West England
- support Cornwall Council to develop a Local Nature Recovery Pilot in Cornwall
- support the Cornwall and Isles of Scilly Local Nature Partnership to develop projects and an investment programme which delivers nature-based solutions in Cornwall and Isles of Scilly
- work with Cornwall Catchment Partnership to integrate the planning, development and delivery of programmes which include nature-based solutions in Cornwall
- work with partners to explore opportunities and the feasibility of the introduction of beavers in the Environment Agency Wessex area
- work with partners to review, update and deliver Water Level Management Plans in South West England
- update the Exminster Marshes Water Level Management Plan in Exminster

- work with land owners, communities and partners to implement further natural flood management measures and peatland restoration in Dartmoor National Park

4.15 One of the above measures is to review, update and deliver Water Level Management Plans (WLMPs). Devising WLMPs for European sites would be a positive because this approach considers the optimum water requirements necessary to deliver site Conservation Objectives. Many estuarine and freshwater sites are designated for habitats and species with varying hydrological requirements. For example, swans generally require much deeper waters for foraging and resting than ducks and waders. Developing and refining site-specific targets, as has been done for some European sites, would represent significant progress in ensuring that adequate habitat patches within site boundaries are present to support the range of qualifying habitats and species that sites are designated for.

Somerset Levels and Moors SPA / Ramsar

4.16 Early consultation with Natural England has highlighted the Somerset Levels and Moors SPA / Ramsar as a particular site of concern regarding hydrological conditions. The SIP for the Somerset Levels and Moors SPA / Ramsar states the following: 'Excess drainage can result in the problem of low water levels in winter time. This reduces the extent of feeding and roosting sites for SPA birds. Drier soils are detrimental to wetland birds as they rely on the invertebrate assemblages of wet soils for their food. As the soils dry, the invertebrates move deeper into the soil and the soils become too hard for them to probe.' Clearly, the coherent structure and function of this SPA / Ramsar is under threat from past drainage activities, a problem that is likely to be exacerbated under predicted climate change impact scenarios. The site is also suffering from poor water quality in terms of excessive nutrient inputs, which is affecting the Ramsar interest features in particular.

4.17 A matter requiring consideration as part of the Likely Significant Effects process is the extent to which any of the measures proposed in the Management Catchment of that site, either by further altering water levels or committing to the status quo, would reinforce the negative conditions within the site. Natural England have expressed particular concerns about the effects current flood management regimes are having on the Somerset Levels and Moors Ramsar site, in terms of exacerbating the negative impacts occurring on the site from excessive nutrients (phosphorus):

- Low ditch water levels and low flows can lead to anoxia of sediments and the overlying water column, driving the release of legacy P pollution
- Low ditch water levels and low flows, especially in hot summer conditions, can also exacerbate the wider effects of hyper-eutrophication on the Ramsar features, such as excessive floating plant growth and coverage, and low DO
- The rapid evacuation of winter water from the SLMs, and indeed measures to prevent even shallow flooding, as currently happens (aside from areas subject to particular agreements such as Southlake), affects ditch water depth, and links to the first two points above.
- Dredging of sediment and other forms of ditch clearance can affect the balance between submerged and floating plants, especially under nutrient rich conditions, with duckweed, algae and Azolla dominance often prevailing. Whilst ditch management is important to maintain the wetland hydrosere, too frequent ditch clearance can be highly detrimental to submerged plants reducing their competitive performance compared to floating plants.

- Overly frequent ditch clearance in stretches connecting the main river to the Ramsar will also hasten the conveyance of polluted water; it is plausible that macrophyte dominated stretches in these areas could help to reduce nutrient load.
- A strong evidence base now indicates that the restoration of the Somerset Levels and Moors Ramsar will require steps to facilitate the net export of P from the system. Changes to established flood risk management and water level management regimes are likely to be required to allow this. Trials of such alterations need to be undertaken to demonstrate their effectiveness, but this will require deviations from the current flood risk management status quo.
- Care also needs to be taken to ensure that main river dredging does not release P-laden sediment into the water column which then finds its way into component parts of the Ramsar through river feeds.

4.18 The Somerset Levels and Moors SPA / Ramsar is included as a Strategic Area in the FRMP. However, review of the Flood Planning Explorer indicates that no flood management measures with the potential for negative hydrological impacts are proposed in the vicinity of the Somerset Levels and Moors SPA / Ramsar. For example, there are no proposals for additional or improved flood defences along rivers / drains permeating the SPA / Ramsar, which could further dewater habitats used by qualifying birds.

4.19 Furthermore, the FRMP includes the following measure for the Somerset Levels and Moors Strategic Area: 'Continue to engage with partners on the development of integrated projects, strategies and opportunities in the Somerset Levels and Moors (e.g environmental land management, natural flood management, lowland peat restoration, floodplain restoration, catchment markets), which reflect flood and coastal risk management, environmental and agricultural policy evolution.' The delivery of natural flood management and floodplain restoration projects will help improve the hydrological integrity of the site, ensuring that foraging and roosting habitats for SPA / Ramsar birds are maximised. Numerous natural flood management techniques are available, such as alterations to river morphology and floodplain restoration. For example, common approaches are to increase the sinuosity of straightened waterbodies and reconnecting floodplains by removing artificial embankments[26]. Another intervention is to devise natural in-stream structures (e.g. woody debris dams), designed to emulate the natural complexity of rivers. With all natural flood management techniques, a clear understanding of potential hydrological impacts is required to prevent undesirable effects on habitats and species.

4.20 Continuing to progress this measure, a carry-over from the cycle 1 FRMP, is considered to result in long-term benefits to the Somerset Levels and Moors SPA / Ramsar. It is noted that the measure does not commit to the delivery of specific interventions and it is recommended to the Environment Agency to continually engage with relevant stakeholders, including Natural England, to ensure the timely delivery of beneficial interventions.

4.21 There are several other measures included in the South West FRMP that could contribute positively to the hydrological condition in the Somerset Levels SPA / Ramsar, including:

- explore opportunities to work with land owners and managers through the Environment Land Management Scheme in South West England

- work with partners to review, update and deliver Water Level Management Plans in South West England
- assess the strategic need for key assets and their future operational requirements, in accordance with the development of the flood risk management strategy in the Somerset Levels and Moors
- complete Phase 1 delivery, and consider delivery and funding of future phases, to increase capacity in the River Sowy and Kings Sedgemoor Drain system on behalf of the Somerset Rivers Authority, and all partners to consider funding and delivery of future phases
- work with all relevant partners to develop a flood risk management strategy in the Somerset Levels and Moors

4.22 While it is noted that these measures do not commit to specific deliverables, they have the potential to be positive for the water level requirements of the Somerset Levels and Moors SPA / Ramsar, thereby supporting the site's Conservation Objectives. Much of the SPA / Ramsar is in private ownership, largely focussed on beef production. The complex ownership of the land means that a variety of farming practices are employed, some of which may be at odds with the requirements of qualifying species. Working with land owners through the Environment Land Management Scheme has the potential to promote sustainable flood management and farming practices, a target that is highlighted in the SIP.

4.23 Reviewing the operational requirements of key Environment Agency assets could be positive for the flooding regime in the site if it is informed by the ecological requirements of qualifying species, such as the Bewick's swan, Eurasian teal and northern lapwing. Under this measure structures (e.g. ditches and drains) that are no longer required, could be infilled to raise the water level in parts of the site experiencing drying. Furthermore, increasing the capacity in the River Sowy and Kings Sedgemoor Drain system has the potential to absorb additional flood waters in-stream, reducing the magnitude of prolonged winter flooding in sections of the SPA / Ramsar that are experiencing excessively deep water levels.

Coastal European sites

4.24 The South West RBD encompasses a large section of coastline with European sites that are sensitive to climate change-induced intertidal habitat loss, specifically of Atlantic saltmarsh and mudflats. These habitats represent critically important foraging and roosting areas for many overwintering waders and waterfowl. Most of these sites are located along the southern coastline of the RBD, including at Plymouth (Plymouth Sound and Estuaries SAC, Tamar Estuaries Complex SPA), Exeter (Exe Estuary SPA / Ramsar) and Poole (Poole Harbour SPA / Ramsar). Another site sensitive to coastal squeeze, the Severn Estuary SPA / Ramsar / SAC lies in the northern part of the RBD, near the boundary with the Severn RBD. 'Hold the Line' approaches, such as the delivery of hard or soft flood defences, prevent the inland migration and result in the permanent loss of designated habitats.

4.25 An appraisal of FRMP measures was undertaken to highlight potential risks regarding coastal squeeze. Overall, very few measures involve the explicit implementation of flood defence schemes in close proximity to estuarine and coastal European sites. Some measures are broad, but allow for the potential delivery of flood defence schemes within the wording provided. Insufficient detail on these measures is included at the FRMP level, but down-the-line HRA is required in relation to coastal

squeeze, among other impact pathways (e.g. water quality and visual / noise disturbance).

4.26 For example, the measure ‘Work with partners to implement relevant actions in the strategy in Truro’ covers a wide range of possible interventions, including hard flood defences. The boundary of the measure includes an arm of the Fal and Helford SAC, which encompasses intertidal saltmarsh and mudflats. The delivery of flood defences in this area could result in coastal squeeze, particularly in the area surrounding Boscawen Park. Depending on the specific nature and location of the ‘actions’ to be implemented, an HRA assessment will be needed to ensure that there are no adverse effects on the integrity of the Fal and Helford SAC. Planning applications with the potential to contribute to coastal squeeze must compensate for habitat losses, provided that critical legal tests. i.e. Imperative Reasons of Overriding Public Interest (IROPI) and No Reasonable Alternatives, are met. Several working groups involving authorities, statutory stakeholders and consultants along the south coast of England have established Habitat Compensation Programmes within which the parameters for compensation are set.

4.27 Importantly, the South West FRMP contains several proposals that will improve the future delivery of mitigation for coastal squeeze. The following FRMP-wide measures are likely to lessen the severity of coastal squeeze:

- ‘Develop our Habitat Creation Programme to compensate for habitat losses resulting from coastal squeeze due to the existence of flood defences in the Bristol Channel and Severn Estuary in England.’
- ‘Support the ongoing South West Regional Coastal Monitoring Programme to deliver topographic monitoring and habitat mapping in South West England.’
- ‘Work with partners in the relevant Coastal Groups to investigate changes in habitat that have occurred due to the existence of flood defences in the Bristol Channel and Severn Estuary in England.’
- ‘Work with partners to identify opportunities for future intertidal and subtidal habitat creation in Devon, Cornwall and the Isles of Scilly.’
- ‘Work with partners to identify where river restoration and wetland habitat creation results in economic and biodiversity net gain in Cornwall.’

4.28 Regarding coastal squeeze, the FRMP provides a comprehensive framework covering all aspects of this impact pathway. The measures listed above improve our understanding of past habitat loss and precision of the modelling of future habitat loss, while also expanding opportunities for intertidal habitat creation in the Bristol Channel, Severn Estuary, Devon, Cornwall and the Isles of Scilly.

4.29 It is important to note that the FRMP does not decide the content of either SMP’s or Coastal Strategies (including the package of underlying schemes). These are subject to their own independent development and assessment processes, including HRA. FRMPs are essentially referencing these strategies and plans to create a complete picture of flood risk management in coastal areas. Therefore, despite the impact potential of SMPs and Coastal Strategies for European sites, the FRMP measures relating to those plans will not result in LSEs.

4.30 Measures that deliver the content of SMPs or Coastal Strategies have the potential to not only manage flood risk to human assets, but also to ensure a positive outcome for the environment by preserving and/or promoting the recovery of coastal habitats. This is not strictly an HRA consideration, since HRA is fundamentally about

identifying whether given measures will interfere with the ability of European sites to achieve their Conservation Objectives, rather than shaping them to positively contribute towards achievement of those objectives. However, measures relating to SMPs and Coastal Strategies could be amended to include reference to shaping the next generation of these plans to not only take account of the latest sea level rise projections but also opportunities to improve achievement of Conservation Objectives for the European sites on relevant frontages.

Table 2. European sites within 10km of the South West River Basin District and that are potentially linked to flood risk management measures.

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
Marazion Marsh SPA	• Great bittern Botaurus stellaris • Aquatic warbler Acrocephalus paludicola	Link with the River Basin District (RBD) present. For many SPA features that depend on wetland habitats supported by surface water, maintaining the quality and quantity of water supply is critical, especially at certain times of the year. Site studies have shown that the marsh is regularly flooded by streams in its catchment, suggesting that FRMP measures could impact this site.
The Lizard SAC	• Vegetated sea cliffs of the Atlantic and Baltic Coasts • Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp. • Mediterranean temporary ponds • Northern Atlantic wet heaths with *Erica tetralix* • European dry heaths • Dry Atlantic coastal heaths with *Erica vegans*	Link with the RBD present. Wet heath usually occurs on acidic, nutrient-poor substrates with impeded drainage. Mediterranean temporary ponds comprise areas that are flooded in winter, giving rise to vegetation-rich habitats in summer. The SACO for the SAC indicate that 'defining and maintaining the appropriate hydrological regime is a key step in moving towards achieving the conservation objectives for this site. Changes in source, depth, duration, frequency, magnitude and timing of water supply can have significant implications for the assemblage of characteristic plants and animals present.'

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
Fal & Helford SAC	Annex I habitats that are a primary reason for selection of this site: • Sandbanks which are slightly covered by sea water all the time • Mudflats and sandflats not covered by seawater at low tide • Large shallow inlets and bays • Atlantic salt meadows (Glauco-Puccinellietalia maritimae) Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: • Estuaries • Reefs Annex II species that are a primary reason for selection of this site: • Shore dock Rumex rupestris	Link with the RBD present. All qualifying habitats in the SAC, particularly the Atlantic salt meadows, depend on a degree of freshwater input of sufficient quality. Diffuse and point-source pollution in referred to as a significant threat to the SAC in the Site Improvement Plan. Siltation and sedimentation through surface runoff and river input are also notable issues.
Falmouth Bay to St Austell Bay SPA	• Black-throated diver *Gavia arctica* • Great northern diver *Gavia immer* • Slavonian grebe *Podiceps auritus*	Link with the RBD present. The habitats supporting the qualifying species of the SPA receive freshwater from several rivers. The SACO[27] for the SPA highlight that all three species are dependent on adequate water depth, quality and turbidity. These parameters will partially be determined by terrestrial freshwater sources supplying these bays. FRMP measures could impact these habitat features.

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
Carrine Common SAC	Annex I habitats that are a primary reason for selection of this site • Temperate Atlantic wet heaths with *Erica ciliaris* and *Erica tetralix* (priority feature) Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: • European dry heaths	Link with the RBD present. Temperate Atlantic wet heaths are generally found on acid soils with impeded drainage, such that a certain volume of standing water is required to support this feature. The SACO for the SAC[28] provides a generic statement: 'Defining and maintaining the appropriate hydrological regime is a key step in moving towards achieving the conservation objectives for this site and sustaining this feature. Changes in source, depth, duration, frequency, magnitude and timing of water supply can have significant implications for the assemblage of characteristic plants and animals present.'
Godrevy Head to St Agnes SAC	Annex I habitats that are a primary reason for selection of this site: • Temperate Atlantic wet heaths with *Erica ciliaris* and *Erica tetralix* • European dry heaths Annex II species that are a primary reason for selection of this site: • Early gentian Gentianella anglica	Link with the RBD present. Temperate Atlantic wet heaths are generally found on acid soils with impeded drainage. FRMP measures could impact this habitat feature.

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
Penhale Dunes SAC	Annex I habitats that are a primary reason for selection of this site: • "Fixed coastal dunes with herbaceous vegetation ('grey dunes')" (priority feature) • Humid dune slacks Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: • "Shifting dunes along the shoreline with *Ammophila arenaria* ('white dunes')" • Dunes with Salix repens ssp. argentea (Salicion arenariae) Annex II species that are a primary reason for selection of this site: • Petalwort Petalophyllum ralfsii • Shore dock Rumex rupestris • Early gentian Gentianella anglica	Link with the RBD present. All qualifying habitats in the SAC have hydrological dependencies, especially the humid dune slacks and dunes with Salix repens. All dune wetland vegetation is influenced by the water table and require a period of wetting with inundation to shallow depths in winter. Some areas of humid dune slacks may be associated with permanent pools, fed by a combination of rainwater, surface water and groundwater. The SACO for the SAC[29] state that 'defining and maintaining the appropriate hydrological regime is a key step in moving towards achieving the conservation objectives for this site and sustaining this feature. Changes in source, depth, duration, frequency, magnitude and timing of water supply can have significant implications for the assemblage of characteristic plants and animals present.' FRMP measures could impact this SAC.
Newlyn Downs SAC	Annex I habitats that are a primary reason for selection of this site: • Temperate Atlantic wet heaths with *Erica ciliaris* and *Erica tetralix* Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: • European dry heaths	Link with the RBD present. Temperate Atlantic wet heath predominantly occurs on acid soils with impeded drainage, particularly in this site. The SACO for the SAC highlight that 'Defining and maintaining the appropriate hydrological regime is a key step in moving towards achieving the conservation objectives for this site and sustaining this feature. Changes in source, depth, duration, frequency, magnitude and timing of water supply can have significant implications for the assemblage of characteristic plants and animals present.' FRMP measures could impact this SAC.

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
Breney Common and Goss & Tregoss Moors SAC	Annex I habitats that are a primary reason for selection of this site: • Northern Atlantic wet heaths with *Erica tetralix* • European dry heaths • Transition mires and quaking bogs Annex II species that are a primary reason for selection of this site: • Marsh fritillary butterfly *Euphydryas aurinia*	Link with the RBD present. Northern Atlantic wet heath generally occurs on acid soils with impeded drainage. Transition mires and quaking bogs occur in a range of situations (including flood plain mires, valley bogs and basin mires) and are associated with permanent standing water. Both internal and external drains are known to reduce the water level present in the site. The SACO for the SAC[30] highlight that 'Defining and maintaining the appropriate hydrological regime is a key step in moving towards achieving the conservation objectives for this site and sustaining this feature. Changes in source, depth, duration, frequency, magnitude and timing of water supply can have significant implications for the assemblage of characteristic plants and animals present.' FRMP measures could impact this SAC.

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
River Camel SAC	Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: • European dry heaths • Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles • Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) (priority feature) Annex II species that are a primary reason for selection of this site: • Bullhead Cottus gobio • Otter Lutra lutra Annex II species present as a qualifying feature, but not a primary reason for selection of this site: • Atlantic salmon *Salmo salar*	Link with the RBD present. Alluvial forests comprise woods dominated by alder Alnus glutinosa and willow Salix spp. on flood plains that are subject to periodic inundation. Bullhead, Atlantic salmon and otter all depend on adequate hydrological flow and water quality during their entire life cycles. For example, regarding alluvial forests the SACO[31] state that damage can be caused by 'activities at some distance from the site boundary, e.g. through extraction of ground or surface waters; diverting or damming river channels; pollution of water source; channel alignment that disrupts natural geomorphological processes; tunnelling etc.'
Crowdy Marsh SAC	• Transition mires and quaking bogs	Link with the RBD present. The Crowdy Marsh SAC is predominantly occupied by a freshwater reservoir, but feeder streams still meander through the site via a network of water tracks between low peaty mounds. The SACO[32] highlight that 'Defining and maintaining the appropriate hydrological regime is a key step in moving towards achieving the conservation objectives for this site and sustaining this feature. Changes in source, depth, duration, frequency, magnitude and timing of water supply can have significant implications for the assemblage of characteristic plants and animals present.'

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
Polruan to Polperro SAC	Annex I habitats that are a primary reason for selection of this site: • Vegetated sea cliffs of the Atlantic and Baltic Coasts Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: • European dry heaths Annex II species that are a primary reason for selection of this site: • Shore dock Rumex rupestris	Link with the RBD present. While the qualifying features vegetated sea cliffs and European dry heaths are not critically dependent on the River Basin District, shore dock only occurs at locations where a constant source of freshwater, running or static, is present. For example, this species is concentrated where side streams enter beaches. The SACO[33] state that 'a year-round supply of freshwater may be crucial, so anything that limits or removes that supply could be detrimental (e.g. lowering of water table, re-direction of surface watercourses or flow rate reduction).'
Phoenix United Mine and Crow's Nest SAC	• Calaminarian grasslands of the *Violetalia calaminariae*	Link with the RBD present. Both SSSI component parts of the site are drained by waterbodies, such as the River Seaton headwaters in the Crow's Nest SSSI. The SACO[34] indicate that 'maintaining the hydrological condition of the valley streams is a key factor for several of the rare metallophyte bryophyte species, significant alterations to the hydrology of the streams and / or associated flushes, springs or seepages, could have a major negative impact on the important bryophyte flora.'

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
Plymouth Sound and Estuaries SAC	Annex I habitats that are a primary reason for selection of this site: • Sandbanks which are slightly covered by sea water all the time • Estuaries • Large shallow inlets and bays • Reefs • Atlantic salt meadows (Glauco-Puccinellietalia maritimae) Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: • Mudflats and sandflats not covered by seawater at low tide Annex II species that are a primary reason for selection of this site: • Shore dock Rumex rupestris Annex II species present as a qualifying feature, but not a primary reason for site selection: • Allis shad *Alosa alosa*	Link with the RBD present. The Plymouth Sound and Estuaries SAC is an estuarine / coastal site that depends on the input of freshwater from terrestrial sources. The site includes the rias of the rivers Tavy, Tamar, Lynher and Yealm, which determine a unique range of salinity gradients across the site. All qualifying habitats and species are also sensitive to water pollution.
Tamar Estuaries Complex SPA	Qualifying species: • Little egret Egretta garzetta • Pied avocet Recurvirostra avosetta	Link with the RBD present. The qualifying species in the Tamar Estuaries Complex SPA depend on the adequate input of freshwater from terrestrial sources, which will ensure optimum water depth and determine the distribution of foraging resources. Little egret and pied avocet are also directly and indirectly sensitive to negative water quality changes.

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
Dartmoor SAC	Annex I habitats that are a primary reason for selection of this site: • Northern Atlantic wet heaths with *Erica tetralix* • European dry heaths • Blanket bogs (priority feature) • Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles Annex II species that are a primary reason for selection of this site: • Southern damselfly Coenagrion mercurial Annex II species present as a qualifying feature, but not a primary reason for site selection: • Atlantic salmon *Salmo salar* • Otter Lutra lutra	Link with the RBD present. Most qualifying features in the SAC are critically dependent on freshwater. For example, blanket bogs occur on flat or gently sloping land with poor surface drainage, meaning that this habitat requires standing water. The SACO[35] aims to 'restore natural hydrological processes to provide consistently near-surface water levels necessary to sustain' this feature. The southern damselfly has very specialised habitat requirements, being confined to shallow, base-rich runnels and flushes or small side channels of chalk rivers.
South Devon Shore Dock SAC	Annex I habitats that are a primary reason for selection of this site: • Vegetated sea cliffs of the Atlantic and Baltic coasts Annex II species that are a primary reason for selection of this site: • Shore dock Rumex rupestris	Link with the RBD present. Vegetated sea cliffs have a range of hydrological linkages with the River Basin District, including freshwater seepages, small streams and wet runnels. These aquatic features are integral to the ecological communities present on the cliffs. The SACO[36] highlight that a year-round freshwater supply close to the ground is crucial especially for shore dock, which tend to be associated with small streams flowing onto the beach.

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
Culm Grasslands SAC	Annex I habitats that are a primary reason for selection of this site: • *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: • Northern Atlantic wet heaths with *Erica tetralix* Annex II species that are a primary reason for selection of this site: • Marsh fritillary butterfly *Euphydryas aurinia*	Link with the RBD present. Molinia meadows are found on moist soils with fluctuating water tables, typically as components of wet pastures and fens. Peaty soils have poor drainage, suggesting that this habitat is associated with a degree of standing water. The larvae of marsh fritillary butterflies depend on devil's-bit scabious, which is often found on wet heath and in bog margins. Regarding the fritillary butterfly the SACO[37] state that 'field drainage from adjacent farmland is drying out wetland supporting habitats', with potential negative impacts on butterfly populations.
Exe Estuary SPA	Qualifying species: • Slavonian grebe *Podiceps auratus* • Dark-bellied brent goose *Branta bernicla bernicla* • Eurasian oystercatcher *Haematopus ostralegus* • Pied avocet Recurvirostra avosetta • Grey plover Pluvialis squatarola • Dunlin Calidris alpina alpina • Black-tailed godwit Limosa limosa islandica • Waterbird assemblage	Link with the RBD present. The qualifying species in the Exe Estuary SPA depend on the adequate input of freshwater from terrestrial sources, which will ensure optimum water depth and determine the distribution of foraging resources. All qualifying species are also directly and indirectly sensitive to negative water quality changes.

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
Exmoor Heaths SAC	Annex I habitats that are a primary reason for selection of this site: • Northern Atlantic wet heaths with *Erica tetralix* • European dry heaths Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: • Vegetated sea cliffs of the Atlantic and Baltic coasts • Blanket bogs (priority feature) • Alkaline fens • Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles	Link with the RBD present. The Exmoor Heaths SAC is designated for a range of habitats that lie on ground with impeded drainage and permanently wet conditions. The SAC is permeated by streams that represent the headwaters of semi-natural moorland vegetation. For example, in relation to alkaline fens the SACO[38] state that 'maintaining a high piezometric head and permanently high water table' is integral for achieving the site Conservation Objectives. The fact that the aquifer beneath the SAC is confined (a determinant of the high piezometric head), means that the percolation of water into the ground is limited.

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
Exmoor and Quantock Oakwoods SAC	Annex I habitats that are a primary reason for selection of this site: • Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: • Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) (priority feature) Annex II species that are a primary reason for selection of this site: • Barbastelle Barbastella barbastellus Annex II species present as a qualifying feature, but not a primary reason for site selection: • Bechstein's bat Myotis bechsteinii • Otter Lutra lutra	Link with the RBD present. The alluvial forests occur along narrow flood plains adjacent to streams, as well as islands in river channels and low-lying wetlands. These forests are subject to periodic inundation and thus comprise areas of standing water. The SACO[39] state that 'disruption / damage to hydrological processes could be caused by activities at some distance from the site boundary, e.g. through extraction of ground or surface waters, diverting or damming river channels; pollution of water source; channel alignment that disrupts natural geomorphological processes; tunnelling etc.' Otter depend on adequate hydrological flow and water quality for all aspects of breeding, rearing and feeding.
Holme Moor and Clean Moor SAC	Annex I habitats that are a primary reason for selection of this site: • Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae* • Alkaline fens Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: • *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)	Link with the RBD present. All three qualifying habitats have a strong dependency on freshwater input, up to limited seasonal flooding in the case of Molinia meadows. By definition, fens are fed by mineral-rich groundwater and / or surface water, resulting in a permanently high water table at, or close to, ground level. The SACO[40] state that hydrological conditions necessary to support fens include 'high piezometric head and permanently high water table (allowing for natural seasonal fluctuations).'

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
Quants SAC	Annex II species that are a primary reason for selection of this site: • Marsh fritillary butterfly *Euphydryas aurinia*	Link with the RBD present. The Quants SAC sits close to the boundary of Greensand (permeable) meets the Keuper Marl (low permeability), such that some of its slopes are heavily flushed. The marsh fritillary butterfly is found in a range of habitats, including wet heath and bog margins, thus illustrating some dependence on permanently wetted habitats. Regarding the butterfly the SACO[41] highlight that 'high levels of ground moisture are required during the summer months to avoid desiccation of the Succisa plants on which the larvae feed.'
East Devon Pebblebed Heaths SAC	Annex I habitats that are a primary reason for selection of this site: • Northern Atlantic wet heaths with *Erica tetralix* • European dry heaths Annex II species that are a primary reason for selection of this site: • Southern damselfly Coenagrion mercuriale	Link with the RBD present. Both Northern Atlantic wet heaths and southern damselfly are reliant on hydrological flows within the River Basin District. Northern Atlantic wet heaths occur on acidic soils with impeded drainage, leading to the formation of permanently wetted areas. Southern damselflies are associated with wet flushes within the SAC. Regarding the latter, the SACO[42] provide a generic statement: 'For many SAC features which are dependent on wetland habitats supported by surface and/or ground water, maintaining the quality and quantity of water supply will be critical, especially at certain times of year. Poor water quality and inadequate quantities of water can adversely affect the structure and function of this habitat type.'

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
Sidmouth to West Bay SAC	Annex I habitats that are a primary reason for selection of this site: • Vegetated sea cliffs of the Atlantic and Baltic coasts • *Tilio-Acerion* forests of slopes, screes and ravines Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: • Annual vegetation of drift lines	Link with the RBD present. While none of the qualifying habitats contain species that are inherently dependent on persistent freshwater input, the site is nonetheless considered functionally reliant on flows in the River Basin District. The SACO[43] highlight that 'hydrology is a key driver in maintaining the dynamics of the cliff system. The complex sequences of geological strata creates seepages, perched water tables, runnels and ponds – all of which literally lubricate the movements of the softer cliff sequences.'.
River Axe SAC	Annex I habitats that are a primary reason for selection of this site: • Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation Annex II species present as a qualifying feature, but not a primary reason for site selection: • Sea lamprey Petromyzon marinus • Brook lamprey Lampetra planeri • Bullhead Cottus gobio	Link with the RBD present. The River Axe SAC is a riverine ecosystem and thus naturally forms an integral part of the River Basin District. The Ranunculio fluitantis vegetation depends on sufficient water flow and is sensitive to negative water quality changes. Anadromous fish species (sea lamprey and river lamprey) depend on sufficient hydrological flows to reach their upstream spawning grounds.

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
Beer Quarry and Caves SAC	Annex II species that are a primary reason for selection of this site: • Bechstein's bat Myotis bechsteinii Annex II species present as a qualifying feature, but not a primary reason for site selection: • Lesser horseshoe bat Rhinolophus hipposideros • Greater horseshoe bat Rhinolophus ferrumequinum	Link with the RBD present. The qualifying bats of the SAC all partly rely on linear features (e.g. waterbodies) and wet grassland for foraging. Bechstein's bats have a strong association with broad-leaved woodland containing small streams. Riparian and wet woodland habitats of importance may be located beyond designated site boundaries, in the wider core sustenance zones.
Somerset Levels and Moors SPA	Qualifying Species: • Bewick's swan Cygnus columbianus bewickii • Eurasian teal *Anas crecca* • European golden plover *Pluvialis apricaria* • Northern lapwing *Vanellus vanellus* • Waterbird assemblage	Link with the RBD present. The SPA comprises a water-dominated landscape that is traversed by numerous rivers, streams and man-made channels. The site encompasses some of the lowest-lying land anywhere in the UK that is subject to frequent flooding. All qualifying species in the SPA depend on adequate water levels for foraging, resting and loafing, which is highlighted in the SACO[44]. This states 'shallow flooding is necessary to provide undisturbed feeding areas and roosting sites for ducks and roosting sites for waders.' Furthermore, 'deep flooding is necessary to provide feeding areas and roosting sites for Bewick's swans and ducks.'

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
Somerset Levels and Moors Ramsar	Ramsar criterion 2: Supports 17 species of British Red Data Book invertebrates. Ramsar criterion 5: Assemblages of international importance of waterfowl Ramsar criterion 6: • Tundra swan Cygnus columbianus bewickii • Eurasian teal *Anas crecca* • Northern lapwing *Vanellus vanellus* • Mute swan Cygnus olor • Eurasian wigeon *Anas Penelope* • Northern pintail *Anas acuta* • Northern shoveler *Anas clypeata*	Link with the RBD present. See commentary above.

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
Severn Estuary SPA	Qualifying species: • Bewick's swan Cygnus columbianus bewickii • Common shelduck *Tadorna tadorna* • Gadwall Anas strepera • Dunlin Calidris alpina alpina • Common redshank *Tringa tetanus* • Greater white-fronted goose *Anser albifrons albifrons* • Waterbird assemblage	Link with the RBD present. The SPA represents a large estuary that receives freshwater input from a variety of sources, including the River Severn, freshwater ditches and brackish ditches. Being an estuary, the site is inherently linked to the River Basin District. All qualifying species in the SPA depend on adequate freshwater supply, which determines mixing conditions, salinity gradients, sediment input and the distribution of foraging resources. The qualifying features are also directly and indirectly sensitive to water pollution and coastal squeeze.

Severn Estuary Ramsar	Ramsar criterion 1: Due to immense tidal range (second-largest in world), this affects both the physical environment and biological communities. Habitats Directive Annex I features present on the pSAC include: • H1110 Sandbanks which are slightly covered by sea water all the time • H1130 Estuaries • H1140 Mudflats and sandflats not covered by sea water at low tide • H1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae) Ramsar criterion 3: Due to unusual estuarine communities, reduced diversity and high productivity. Ramsar criterion 4: This site is important for the run of migratory fish between sea and river via estuary. Species include Salmon *Salmo salar*, sea trout *S. trutta*, sea lamprey *Petromyzon marinus*, river lamprey *Lampetra fluviatilis*, allis shad *Alosa alosa*, twaite shad *A. fallax*, and eel *Anguilla anguilla*. It is also of particular importance for migratory birds during spring and autumn. Ramsar criterion 5: Assemblages of international importance of waterfowl with peak counts in winter. Ramsar criterion 6:	Link with the RBD present. See previous commentary.

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
	Species / populations occurring at levels of international importance: • Tundra swan Cygnus columbianus bewickii • Greater white-fronted goose *Anser albifrons albifrons* • Common shelduck *Tadorna tadorna* • Gadwall Anas strepera strepera • Dunlin Calidris alpina alpina • Common redshank *Tringa tetanus* • Lesser black-backed gull *Larus fuscus graellsii* • Ringed plover Charadrius hiaticula • Eurasian teal *Anas crecca* • Northern pintail *Anas acuta* Ramsar criterion 8: The fish of the whole estuarine and river system is one of the most diverse in Britain, with over 110 species recorded. Salmon *Salmo salar*, sea trout *S. trutta*, sea lamprey *Petromyzon marinus*, river lamprey *Lampetra fluviatilis*, allis shad *Alosa alosa*, twaite shad *A. fallax*, and eel *Anguilla anguilla* use the Severn Estuary as a key migration route to their spawning grounds in the many tributaries that flow into the estuary. The site is important as a feeding and nursery ground for many fish species particularly allis shad *Alosa alosa* and twaite shad *A. fallax* which feed on mysid shrimps in the salt wedge.	

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
Severn Estuary SAC	Annex I habitats that are a primary reason for selection of this site: • Estuaries • Mudflats and sandflats not covered by seawater at low tide • Atlantic salt meadows (Glauco-Puccinellietalia maritimae) Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: • Sandbanks which are slightly covered by sea water all the time • Reefs Annex II species that are a primary reason for selection of this site: • Sea lamprey Petromyzon marinus • River lamprey Lampetra fluviatilis • Twaite shad *Alosa fallax*	Link with the RBD present. See previous commentary.

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
West Dorset Alder Woods SAC	Annex I habitats that are a primary reason for selection of this site: • Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) (priority feature) Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: • *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) • Old acidophilous oak woods with *Quercus robur* on sandy plains • Annex II species that are a primary reason for selection of this site: • Marsh fritillary butterfly *Euphydryas aurinia* Annex II species present as a qualifying feature, but not a primary reason for site selection: • Great-crested newt *Triturus cristatus*	Link with the RBD present. The West Dorset Alder Woods SAC sits along the headwaters of alkaline streams and seepages, arising from the boundary between Upper Greensand (permeable) and Gault Clay (impermeable). Several of the component sites are associated with valley mires and fen, indicating that they rely on permanently wet ground / standing water. Regarding alluvial forest, the SACO[45] provide a generic statement detailing 'Defining and maintaining the appropriate hydrological regime is a key step in moving towards achieving the conservation objectives for this site and sustaining this feature. Changes in source, depth, duration, frequency, magnitude and timing of water supply can have significant implications for the assemblage of characteristic plants and animals present.' Great-crested newts rely on freshwater ponds for successful reproduction and foraging in the breeding season.
Brackett's Coppice SAC	Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: • *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) Annex II species that are a primary reason for selection of this site: • Bechstein's bat Myotis bechsteinii	Link with the RBD present. The Brackett's Coppice SAC is designated for features that depend on River Basin District connectivity. Molinia meadows occur on moist soils and the SACO indicates that 'water table and river flows are thought to be compromised contributing to the apparent drying out of the purple moor-grass meadows.' Bechstein's bats forage preferentially along waterbodies, such as small tree-lined streams (e.g. the Corscombe stream in this case).

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
Holnest SAC	Annex II species that are a primary reason for selection of this site: • Great-crested newt *Triturus cristatus*	Link with the RBD present. Great-crested newts depend on freshwater ponds for successful reproduction. The Holnest SAC comprises 40 ponds that are set in an area that has been heavily drained by man-made channels. While ponds used by great-crested newts may be subject to seasonal drying, the integrity of the qualifying population depends on adequate water levels at critical times throughout the year. It is probable that the ponds in the SAC are fed by a combination of precipitation and groundwater sources.
Chesil and the Fleet SAC	Annex I habitats that are a primary reason for selection of this site: • Coastal lagoons (priority feature) • Annual vegetation of drift lines • Perennial vegetation of stony banks • Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticose*) Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: • Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	Link with the RBD present. The SAC encompasses the largest example of lagoonal habitat in England. While most of the water percolating into the lagoon is sea water, limited input of freshwater in its western extent result in reduced salinity levels. Some of the qualifying features in the SAC, e.g. the Atlantic salt meadows, depend on adequate mixing conditions sediment input and salinity gradients for optimum growth.

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
Chesil Beach and The Fleet SPA	Qualifying species: • Eurasian wigeon *Anas Penelope* • Little tern Sterna albifrons	Link with the RBD present. While neither of the qualifying species in the SPA have direct linkages to River Basin District flows, the integrity of their populations depends on availability of sufficient foraging resources. The foraging resources of these species (e.g. sand eels, fish and salt meadows) depend on the complex interplay between sea water and freshwater, determining the mixing condition, micro-nutrient distribution and salinity gradient in the wider surrounding environment.

Chesil Beach and The Fleet Ramsar	Ramsar criterion 1: The Fleet is an outstanding example of rare lagoon habitat and is the largest of its kind in the UK. In Europe lagoons are classified as a priority habitat by the EC Habitats and Species Directive. The site also supports rare saltmarsh habitats. Ramsar criterion 2: The Fleet supports 15 specialist lagoonal species – more than any other UK site – and five nationally scarce wetland plants as well as ten nationally scarce wetland animals. Chesil Bank is one of the most important UK sites for shingle habitats and species. Ramsar criterion 3: The site is the largest barrier-built saline lagoon in the UK, and has the greatest diversity of habitats and of biota. Ramsar criterion 4: The site is important for a number of species at a critical stage in their life cycle including post-larval and juvenile bass *Dicentrarchus labrax*. Ramsar criterion 6: Species / populations with peak counts in winter, occurring at levels of international importance: Dark-bellied brent goose *Branta bernicla bernicla* Mute swan Cygnus olor Ramsar criterion 8: The site is important as a nursery for bass *Dicentrarchus labrax*.	Link with the RBD present. See commentary on the Chesil and The Fleet SAC and Chesil Beach and The Fleet SPA.

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
Dorset Heaths SAC	Annex I habitats that are a primary reason for selection of this site: • Northern Atlantic wet heaths with *Erica tetralix* • European dry heaths • Depressions on peat substrates of the *Rhynchosporion* Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: • *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) • Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae* (priority feature) • Alkaline fens • Old acidophilous oak woods with *Quercus robur* on sandy plains Annex II species that are a primary reason for selection of this site: • Southern damselfly Coenagrion mercurial Annex II species present as a qualifying feature, but not a primary reason for site selection: • Great-crested newt *Triturus cristatus*	Link with the RBD present. The Dorset Heaths SAC is designated for range of habitats and species that rely on permanently wet ground and / or bodies of freshwater. For example, the wet heath occupies areas of impeded drainage and impermeable soils. The SAC is permeated by numerous small waterbodies that form a stronghold for invertebrates, such as southern damselfly and great-crested newt. The SACO[46] highlight the importance of hydrology for many of the qualifying habitats, such as the alkaline fens. It states that conditions required to sustain this habitat include 'a high piezometric head and permanently high water table.' Southern damselflies require shallow streams or flushes with a slow-to-moderate permanent flow, suggesting a permanent dependence on the River Basin District is present.

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
Dorset Heathlands Ramsar	Ramsar criterion 1: Contains particularly good examples of (i) northern Atlantic wet heaths with cross-leaved heath *Erica tetralix* and (ii) acid mire with *Rhynchosporion*. Contains largest example in Britain of southern Atlantic wet heaths with Dorset heath *Erica ciliaris* and cross-leaved heath *Erica tetralix*. Ramsar criterion 2: Supports 1 nationally rare and 13 nationally scarce wetland plant species, and at least 28 nationally rare wetland invertebrate species. Ramsar criterion 3: Has a high species richness and high ecological diversity of wetland habitat types and transitions, and lies in one of the most biologically-rich wetland areas of lowland Britain, being continuous with three other Ramsar sites: Poole Harbour, Avon Valley and The New Forest.	Link with the RBD present. The Dorset Heathlands Ramsar is designated for several Ramsar criteria, all of which are functionally linked to the River Basin District. For example, wet heath occurs on acidic soils with impeded drainage. Furthermore, wetland plants and invertebrates both critically depend on freshwater habitats during all stages of their life cycle. As highlighted in the previous comment, the site is permeated by numerous waterbodies on which qualifying features depend.

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
Poole Harbour SPA	Qualifying species: • Little egret Egretta garzetta • Eurasian spoonbill *Platalea leucorodia* • Common shelduck *Tadorna tadorna* • Pied avocet Recurvirostra avosetta • Black-tailed godwit Limosa limosa islandica • Mediterranean gull Larus melanocephalus • Sandwich tern Sterna sandvicensis • Common tern Sterna hirundo • Waterbird assemblage	Link with the RBD present. The Poole Harbour SPA is a large natural harbour, comprising a range of estuarine habitats (including intertidal sand- and mudflats, saltmarsh, freshwater marsh and wetland grassland). Several rivers contribute freshwater into what effectively acts as a large lagoon. All qualifying species depend on foraging resources that are partially shaped by freshwater input, including through mixing conditions, thermal and salinity regimes and sediment input.

Poole Harbour Ramsar	Ramsar criterion 1: The site is the best and largest example of a bar-built estuary with lagoonal characteristics (a natural harbour) in Britain. Ramsar criterion 2: The site supports two species of nationally rare plant and one nationally rare alga. There are at least three British Red data book invertebrate species. Ramsar criterion 3: The site includes examples of natural habitat types of community interest - Mediterranean and thermo Atlantic halophilous scrubs, in this case dominated by *Suaeda vera*, as well as calcareous fens with *Cladium mariscus*. Transitions from saltmarsh through to peatland mires are of exceptional conservation importance as few such examples remain in Britain. The site supports nationally important populations of breeding waterfowl including Common tern, *Sterna hirundo* and Mediterranean gull *Larus melanocephalus*. Over winter the site also supports a nationally important population of Avocet *Recurvirostra avosetta*. Ramsar criterion 5: Assemblages of international importance of waterfowl with peak counts in winter Ramsar criterion 6: Species / populations with peak counts in winter occurring at levels of international importance:	Link with the RBD present. The Poole Harbour Ramsar is an estuarine system that receives freshwater input from several main rivers, including the River From, R. Piddle, R. Sherford and R. Corfe. All qualifying habitats / species critically depend on freshwater input (see previous commentary).

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
	• Common shelduck *Tadorna tadorna* • Black-tailed godwit Limosa limosa islandica • Pied avocet Recurvirostra avosetta	
Dorset Heaths (Purbeck and Wareham) and Studland Dunes SAC	Annex I habitats that are a primary reason for selection of this site: • Embryonic shifting dunes • Shifting dunes along the shoreline with *Ammophila arenaria* (“white dunes”) • Atlantic decalcified fixed dunes (*Calluno-Ulicetea*) (priority feature) • Humid dune slacks • Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) • Northern Atlantic wet heaths with *Erica tetralix* • Temperate Atlantic wet heaths with *Erica ciliaris* and *Erica tetralix* (priority feature) • European dry heaths • Depressions on peat substrates of the *Rhynchosporion* • Bog woodland (priority feature)	Link with the RBD present. The Dorset Heaths (Purbeck and Wareham) and Studland Dunes SAC is designated for range of habitats and species that rely on permanently wet ground and / or bodies of freshwater. For example, humid dune slacks are dependent on the water table and are under threat from hydrological changes. The SACO[47] states that they ‘require a period of wetting, with inundation to shallow depth in winter.’ Some dune slacks are characterised by permanent ponds, likely to be fed by a combination of rainwater, surface water and groundwater. For bog woodland, the SACO provides a generic statement: ‘Defining and maintaining the appropriate hydrological regime is a key step in achieving the conservation objectives for this site and sustaining this feature. Changes in source, depth, duration, frequency, magnitude and timing of water supply can have significant implications for the assemblage of plants and animals present.’

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
Chilmark Quarries SAC	Annex II species that are a primary reason for selection of this site: • Greater horseshoe bat Rhinolophus ferrumequinum • Barbastelle Barbastella barbastellus • Bechstein's bat Myotis bechsteinii Annex II species present as a qualifying feature, but not a primary reason for site selection: • Lesser horseshoe bat Rhinolophus hipposideros	Link with the RBD present. The Bechstein's bats in the Chilmark Quarries SAC depend on forested streams for foraging and are thus dependent on the hydrological functioning of the River Basin District. The SACO[48] state that 'Bechstein's bat generally forages within deciduous woodland which contains water bodies.' Furthermore, they will 'cross open fields to reach roost sites and foraging areas.'
River Avon SAC	Annex I habitats that are a primary reason for selection of this site: • Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation Annex II species that are a primary reason for selection of this site: • Desmoulin's whorl snail *Vertigo moulinsiana* • Sea lamprey Petromyzon marinus • Brook lamprey Lampetra planeri • Atlantic salmon *Salmo salar* • Bullhead Cottus gobio	Link with the RBD present. The River Avon SAC is a riverine ecosystem and thus naturally forms an integral part of the River Basin District. The River Avon encompasses important chalk river habitat that provides the physical structure of the river channel / banks and water flow to sustain the qualifying plant and animal species. The Ranunculio fluitantis vegetation depends on sufficient water flow and is sensitive to negative water quality changes. Anadromous fish species (sea lamprey and Atlantic salmon) depend on sufficient hydrological flows to reach their upstream spawning grounds. The Desmoulin's whorl snail is generally restricted to calcareous wetlands, bordering lakes and rivers, where it lives on reed-grasses and sedges. The SACO[49] state that the species 'is highly dependent on the maintenance of existing hydrological conditions.' Restoration of the natural hydrological regime within the river valleys is also an important target for the species.

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
Avon Valley SPA	Qualifying species: • Bewick's swan Columbianus bewickii • Gadwall Anas strepera	Link with the RBD present. The qualifying species in the Avon Valley SPA depend on natural hydrological processes in the River Basin District. For example, Bewick's swans forage and roost in short, open wet grassland areas. The SACO[50] state that 'There should be no man-induced restrictions to the flow of water from the river into the floodplain other than the protection of property from flooding.' Gadwall feed on water weed in nutrient-rich habitats, including lakes, reservoirs and the river itself.
Avon Valley Ramsar	Ramsar criterion 1: The site shows a greater range of habitats than any other chalk river in Britain, including fen, mire, lowland wet grassland and small areas of woodland. Ramsar criterion 2: The site supports a diverse assemblage of wetland flora and fauna including several nationally-rare species. Ramsar criterion 6: Species / populations with peak counts in winter occurring at levels of international importance: • Gadwall Anas strepera • Northern pintail *Anas acuta* • Black-tailed godwit Limosa limosa islandica	Link with the RBD present. The Avon Valley Ramsar is designated for habitats and species with dependencies on hydrological conditions. As such it aligns with the qualifying habitats of the River Avon SAC as well as the qualifying bird species in the Avon Valley Ramsar.

The New Forest SAC	Annex I habitats that are a primary reason for selection of this site: • Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) • Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or of the *Isoeto-Nanojuncetea* • Northern Atlantic wet heaths with *Erica tetralix* • European dry heaths • *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) • Depressions on peat substrates of the *Rhynchosporion* • Atlantic acidophilous beech forests with *Ilex* and sometimes *Taxus* in the shrublayer (*Quercion robori-petraeae* or *Ilici-Fagenion*) • Asperulo-Fagetum beech forests • Old acidophilous oak woods with *Quercus robur* on sandy plains • Bog woodland (priority feature) • Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) (priority feature) Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: • Transition mires and quaking bogs • Alkaline fens	Link with the RBD present. Most of the qualifying habitats and species in The New Forest SAC are critically dependent on hydrological linkages to the River Basin District. For example, oligotrophic waters and oligotrophic to mesotrophic standing waters receive input from groundwater and surface water sources. The SACO[51] highlight that 'changes in hydrology, e.g. from flood control regimes, abstraction and gravel removal, can lead to unnatural changes in lake levels.' Regarding depressions on peat substrates, the SACO highlight the importance of the overall hydrological integrity of the larger peatland and maintaining / restoring natural hydrological function of the habitat.

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
	Annex II species that are a primary reason for selection of this site: • Southern damselfly Coenagrion mercurial • Stag beetle Lucanus cervus Annex II species present as a qualifying feature, but not a primary reason for site selection: • Great-crested newt *Triturus cristatus*	
New Forest SPA	Qualifying species: • Dartford warbler *Sylvia undata* • Honey buzzard Pernis apivorus • Nightjar Caprimulgus europaeus • Woodlark Lullula arborea • Hen harrier Circus cyaneus • Hobby Falco subbuteo • Wood warbler Phylloscopus trochilus	Link with the RBD present. Some of the species present in the New Forest SPA depend on aquatic habitats for part-supplying their diet. For example, honey buzzards partly rely on amphibians as a part of their diet. Furthermore, the SACO[52] indicate that odonates, a key food source for hobbies, have declined in the past with implications for post-fledging survival rates. Odonates are dependent on freshwater habitats and thus linked to the integrity of the River Basin District.

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
New Forest Ramsar	Ramsar criterion 1: Valley mires and wet heaths are found throughout the site and are of outstanding scientific interest. The mires and heaths are within catchments whose uncultivated and undeveloped state buffer the mires against adverse ecological change. This is the largest concentration of intact valley mires of their type in Britain. Ramsar criterion 2: The site supports a diverse assemblage of wetland plants and animals including several nationally rare species. Seven species of nationally rare plant are found on the site, as are at least 65 British Red Data Book species of invertebrate. Ramsar criterion 3: The mire habitats are of high ecological quality and diversity and have undisturbed transition zones. The invertebrate fauna of the site is important due to the concentration of rare and scare wetland species. The whole site complex, with its examples of semi-natural habitats is essential to the genetic and ecological diversity of southern England.	Link with the RBD present. The New Forest Ramsar is designated for its unique wetland ecosystems, which are by definition linked to the River Basin District. See previous commentary on the Avon Valley SPA.

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
Solent and Dorset Coast SPA	Qualifying species: • Sandwich tern Sterna sandvicensis • Common tern Sterna hirundo • Little tern Sternula albifrons	Link with the RBD present. The qualifying species in the Solen and Dorset Coast SPA depend on the integrity of estuarine and shallow coastal waters. Terns mainly forage on small fish in the estuarine and shallow coastal environment, the distribution of which is partly shaped through freshwater input. For instance, the interplay between sea water and freshwater will determine the mixing conditions, thermal regime, salinity gradients and, ultimately, the distribution of foraging resources.
Solent and Southampton Water SPA	Qualifying species: • Dark-bellied brent goose *Branta bernicla bernicla* • Eurasian teal *Anas crecca* • Ringed plover Charadrius hiaticula • Black-tailed godwit Limosa limosa islandica • Mediterranean gull Larus melanocephalus • Sandwich tern Sterna sandvicensis • Roseate tern Sterna dougallii • Common tern Sterna hirundo • Little tern Sterna albifrons • Waterbird assemblage	Link with the RBD present. The Solent and Southampton Water SPA comprises a series of estuaries and harbours that represent important foraging and roosting habitats for qualifying birds. For example, terns mainly forage on small fish in the estuarine and shallow coastal environment, the distribution of which is partly shaped through freshwater input. For instance, the interplay between sea water and freshwater will determine the mixing conditions, thermal regime, salinity gradients and, ultimately, the distribution of foraging resources.

Solent and Southampton Water Ramsar	Ramsar criterion 1: The site is one of the few major sheltered channels between a substantial island and mainland in European waters, exhibiting an unusual strong double tidal flow and has long periods of slack water at high and low tide. It includes many wetland habitats characteristic of the biogeographic region: saline lagoons, saltmarshes, estuaries, intertidal flats, shallow coastal waters, grazing marshes, reedbeds, coastal woodland and rocky boulder reefs. Ramsar criterion 2: The site supports an important assemblage of rare plants and invertebrates. At least 33 British Red Data Book invertebrates and at least eight British Red Data Book plants are represented on site. The higher plants *Orobanche purpurea* and *Spartina maritima* are considered vulnerable and endangered, respectively, in the GB Red Book. The Mediterranean gull (*Larus melanocephalus*) is included in CITES Appendix I. Ramsar criterion 5: Assemblages of international importance of species with peak counts in winter Ramsar criterion 6: Species / populations with peak counts in spring, autumn and winter occurring at levels of international importance: • Black-tailed godwit Limosa limosa islandica	Link with the RBD present. See previous commentary on the Solent and Southampton Water SPA.

Site name	Qualifying feature(s)	Summary of connectivity with the River Basin District
	• Dark-bellied brent goose *Branta bernicla bernicla* • Eurasian teal *Anas crecca*	

4.31 Having identified the European sites within 10km that are likely to be hydrologically linked to flood risk management activities, consideration was next given to the potential impact sources from the FRMP at all stages and pathways to European sites (including those located at distances of more than 10km if there is connectivity) by which effects could arise on qualifying features.

4.32 Based on all possible impacts, pathways, and receptors, the Test of Likely Significant Effects for all measures in the FRMP is set out in the following tables.

Table 3. Screening table showing the Test of Likely Significant Effects results for Lead Local Flood Authority (LLFA) national measures contained within all Flood Risk Management Plans

Measure ID	Measure	Likely Significant Effects on European sites
0299999007	Act as a consultee for major planning applications in their area	No likely significant effect – This measure describes the role of LLFAs
0299999011	Designate third party flood risk assets and maintain a register of designated flood risk assets in their area	No likely significant effect – Designating assets and maintaining a register will not affect European sites
0299999003	Implement relevant government guidance on taking climate change into account where necessary for flood risk decision making in their area	No likely significant effect – Taking climate change into account will not affect European sites
0299999018	Investigate local flood events where appropriate and necessary in their area	No likely significant effect – Investigating local flood events will not affect European sites
0299999002	Maintain, keep under review, apply and monitor a local flood risk management strategy in their area	No likely significant effect – The production of a local flood risk management strategy will not itself affect European sites
0299999015	Plan flood risk management projects to achieve wider environmental benefits where appropriate in their area	No likely significant effect – Ensuring that flood risk projects achieve wider environmental benefits will not negatively affect European sites
0299999006	Provide information to inform spatial and infrastructure planning, development and regeneration in their area	No likely significant effect – The provision of information will not affect European sites

Measure ID	Measure	Likely Significant Effects on European sites
0299999013	Regulate the condition of, and third party activity on, ordinary watercourses and review new works on ordinary watercourses in their area	No likely significant effect – Regulating activities and works will not affect European sites
0299999004	Start implementing steps to work towards net zero carbon in their area	No likely significant effect – Implementing net zero carbon will not affect European sites
0299999016	Support communities to increase their resilience to flooding in their area	No likely significant effect – Supporting communities to increase resilience to flooding will not affect European sites
0299999017	Support emergency response partners and communities to plan, prepare and exercise for future flood scenarios in their area	No likely significant effect – Supporting planning for emergency response to flooding will not affect European sites
0299999012	Take a risk based approach to develop and maintain a register of flood risk assets/features in their area	No likely significant effect – Maintaining a register of assets will not affect European sites
0299999005	Work in partnership with other risk management authorities to reduce the risk of flooding from all sources in their area	No likely significant effect – This is a wide-ranging measure and the details include that by 2027, risk management authorities will have developed and/or delivered a programme of flood risk management capital schemes and/or maintenance to reduce risk of flooding and coastal change and its adverse consequences for human health and wellbeing. Individual capital schemes may have an effect on European sites depending on what and where they are and how they are to be delivered. However, developing a programme of capital schemes will not itself lead to likely significant effects on European sites. Any individual capital schemes will need to be subject to HRA before being consented, in order to comply with legislation.

Measure ID	Measure	Likely Significant Effects on European sites
0299999009	Work with other flood asset owners and riparian landowners to raise awareness of, and where necessary enforce, maintenance responsibilities in their area	No likely significant effect – specific maintenance measures could have an adverse effect on European sites (although they are unlikely to be approved measures if so) but a requirement to raise awareness of, and enforce where required, necessary flood asset maintenance will not adversely affect European sites.
0299999010	Work with other risk management authorities to identify a programme of nature based approaches in their area	No likely significant effect – working with other authorities to identify a programme of nature-based approaches will not adversely affect European sites.
0299999008	Work with other risk management authorities to provide information where necessary to update flood maps in their area	No likely significant effect – providing information will not adversely affect European sites.
0299999014	Work with other risk management authorities to support the delivery of flood projects in their area	No likely significant effect – providing support to other authorities will not adversely affect European sites.
0299999019	Work with others to support communities through the recovery phase of a significant flood event in their area	No likely significant effect – supporting communities will not adversely affect European sites.

Table 4. Screening table showing the Test of Likely Significant Effects results for Environment Agency national measures contained within all Flood Risk Management Plans

Measure ID	Measure	Likely Significant Effects on European sites
0299999041	Continue to review flood events to improve and develop flood services in England	No likely significant effect – reviewing flood events will not adversely affect European sites.
0299999025	Designate flood risk assets where necessary in England	No likely significant effect – designating flood risk assets will not adversely affect European sites.

Measure ID	Measure	Likely Significant Effects on European sites
0299999046	Drive down carbon emissions and deliver the required flood risk management outcomes when planning and carrying out flood risk management works in England	No likely significant effect – driving down carbon emissions will not adversely affect European sites.
0299999030	In its strategic overview role, work with risk management authorities, including facilitating effective partnerships in local places in England	No likely significant effect – working with risk management authorities will not adversely affect European sites.
0299999044	Invest in flood risk management projects to contribute to improving the natural, built and historic environments	No likely significant effect – investing in projects will not adversely affect European sites.
0299999035	Issue and maintain guidance on taking climate change into account for flood risk decision making in England	No likely significant effect – issuing guidance will not adversely affect European sites.
0299999026	Maintain and update a database of its flood risk assets in England	No likely significant effect – maintaining a database will not adversely affect European sites.
0299999020	Monitor weather, tidal, rainfall and river conditions to provide flood forecasts in England	No likely significant effect – monitoring will not adversely affect European sites.
0299999042	Plan all flood risk management projects in England to achieve biodiversity net gain and wider environmental benefits	No likely significant effect – planning for biodiversity net gain will not adversely affect European sites.
0299999043	Plan all flood risk management projects in England to help achieve river basin management plan objectives	No likely significant effect – this measure is about achieving the environmental objectives of river basin management plans. This will not adversely affect European sites.

Measure ID	Measure	Likely Significant Effects on European sites
0299999033	Provide quality and timely planning advice to help avoid inappropriate development in areas at risk of flooding in England	No likely significant effect – provision of planning advice will not adversely affect European sites.
0299999031	Regulate large, raised reservoirs in England	No likely significant effect – regulating reservoirs to reduce the risk of flooding from dam and reservoir failures will not adversely affect European sites.
0299999028	Regulate new works to main rivers and sea defences in England	No likely significant effect – regulating new works to reduce the likelihood of flooding will not adversely affect European sites.
0299999039	Respond to flood events and support other emergency responders in England	No likely significant effect – responding to flood events to reduce the consequences of flooding will not adversely affect European sites.
0299999040	Support communities to increase their resilience to flooding in England	No likely significant effect – supporting communities to help them increase their resilience will not adversely affect European sites.
0299999023	Take a risk based approach to inspect, maintain and operate assets in England	No likely significant effect – adopting a risk based approach will not adversely affect European sites.
0299999027	Take targeted enforcement action where there are blockages or unpermitted structures in England	No likely significant effect – taking enforcement action regarding blockages or unpermitted structures will not adversely affect European sites.
0299999024	Understand the long term needs of its assets and plan for their whole life management in England	No likely significant effect – developing an understanding of long-term asset needs will not adversely affect European sites.
0299999045	Work with catchment partnerships, communities and other risk management authorities to maximise the use of nature based solutions in England	No likely significant effect – working to maximise the use of nature-based solutions rather than other methods of flood risk management will not adversely affect European sites.

Measure ID	Measure	Likely Significant Effects on European sites
0299999021	Work with emergency response partners to issue appropriate flood warnings in England	No likely significant effect – issuing flood warnings will not adversely affect European sites.
0299999022	Work with emergency response partners to plan, prepare and exercise for future flood scenarios in England	No likely significant effect – preparing for flood scenarios will not adversely affect European sites.
0299999032	Work with local planning authorities, developers and other place makers in England	No likely significant effect – working with other authorities to ensure all new development is resilient to flooding will not adversely affect European sites.
0299999029	Work with research partners and the wider scientific community in England	No likely significant effect – working with research partners into new approaches to reduce risk of flooding will not adversely affect European sites.
0299999036	Work with risk management authorities and other partners to implement the National Flood and Coastal Erosion Risk Management Strategy in England	No likely significant effect – individual proposals within the National Flood and Erosion Risk Management Strategy may pose likely significant effects to European sites but the Strategy has been subject to its own HRA. The measure concerns working with other authorities to implement the Strategy, which will not itself adversely affect European sites.
0299999038	Work with risk management authorities to identify a programme of future flood risk management projects in England	No likely significant effect – a commitment to identify a programme of future projects will not adversely affect European sites. Individual schemes and projects may have an effect on European sites depending on what and where they are and how they are to be delivered. However, all schemes will need to be subject to HRA before being consented, in order to comply with legislation.
0299999034	Work with risk management authorities to maintain and update where necessary flood maps in England	No likely significant effect – maintaining and updating flood maps will not adversely affect European sites.

Measure ID	Measure	Likely Significant Effects on European sites
0299999037	Work with risk management authorities to support the delivery of flood risk management projects in England	No likely significant effect – supporting risk management authorities in delivering flood risk management projects will not itself adversely affect European sites. Individual schemes and projects may have an effect on European sites depending on what and where they are and how they are to be delivered. However, all schemes will need to be subject to HRA before being consented, in order to comply with legislation.

Table 5. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the RBD.

Measure ID	Measure	Likely Significant Effects on European sites
0200508173	Agree an approach to monitor and manage any impacts of existing beaver populations on Environment Agency flood risk management activities in South West England	No Likely Significant Effect – While it is noted that the management of beaver populations could impact the water level in European sites, this measure is simply to agreeing on an approach for beaver impact monitoring and managing. Detailed approaches will require bespoke HRAs to ensure that beaver management measures do not result in LSEs and, where relevant, adverse effects on the integrity of European sites.
0200508017	Carry out a geomorphology study to identify opportunities to understand sediment transfer throughout catchments in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – The objective to carry out a geomorphology study that elucidates sediment transfer throughout catchments in Devon, Cornwall and the Isles of Scilly is not associated with impact pathways linking to European sites. This is a positive measure because it will enhance our understanding of potential water pollution pathways.

Measure ID	Measure	Likely Significant Effects on European sites
0200508150	Carry out a programme of engagement with communities, land owners and managers to discuss FCRM asset maintenance regimes in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Carrying out a programme of engagement with local communities explaining the flood risk maintenance measures is not associated with linking impact pathways to European sites.
0200508012	Carry out a study to highlight waste sites that are at risk of flooding in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Carrying out a study to determine waste sites at risk of flooding is not associated with impact pathways linking to European sites. This is a positive measure because it will help prevent water pollution in European sites that depend on good water quality.
0200508157	Carry out a study to identify critical debris screens and develop a programme of improvement works in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Carrying out a study to identify critical debris screens and identify improvement works is not associated with impact pathways linking to European sites. This is a positive measure because it will help prevent negative water level changes and water pollution in European sites that depend on good water quality.
0200508015	Carry out a study to identify priority opportunities for promotion of property flood resilience measures and promote tools and funding opportunities available to relevant properties in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Carrying out a study to identify priority opportunities for flood resilience measures in relation to properties at risk is not associated with impact pathways linking to European sites.
0200508009	Carry out a study to identify sites for future adaptation pathways in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Carrying out a study to identify sites for future adaptation pathways is not associated with impact pathways linking to European sites. Furthermore, the term ‘adaptation pathways’ is inherently non-specific, meaning that this measure cannot be fully assessed at the strategic level.

Measure ID	Measure	Likely Significant Effects on European sites
0200508006	Conduct a review of rapid response catchments in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Reviewing the rapid response catchments in the RBD is not associated with impact pathways linking to European sites. This is a positive measure for human receptors because it will enhance the understanding of key stakeholders of where flood risk poses the most significant threat.
0200508018	Conduct a study to review existing flood defence schemes in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Carrying out a study to review existing flood defences across the RBD is not associated with impact pathways linking to European sites.
0200508005	Conduct investigations to install webcams across key flood risk assets in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – The installation of webcams to monitor key flood risk assets in the RBD has no bearing on European sites.
0200508163	Continue to support the ongoing South West Regional Coastal Monitoring Programme to deliver beach erosion monitoring, post storm damage surveys and hydrodynamic monitoring in South West England	No Likely Significant Effect – Supporting the ongoing South West Regional Coastal Monitoring Programme is not associated with impact pathways linking to European sites. This is a positive measure because it will enhance understanding of coastal processes, many of which can affect the integrity of coastal and estuarine habitats / species.
0200508004	Create tools to identify and communicate priority catchments for delivery of natural flood management in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Creating tools for identifying and communicating priority catchments is not associated with impact pathways linking to European sites.
0200508148	Deliver a programme of Exceedance Plans for each of its flood risk management systems in Devon, Cornwall and Isles of Scilly	No Likely Significant Effect – Delivering Exceedance Plans for flood risk management systems is not associated with impact pathways linking to European sites, particularly because this measure involves no physical activity on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0203508009	Deliver legislative and locally agreed targets for Biodiversity Net Gain in the South West	No Likely Significant Effect – Delivering Biodiversity Net Gain targets is not associated with impact pathways linking to European sites. This is a positive measure because it will benefit the wider environment. Biodiversity Net Gain targets may also benefit qualifying habitats and species of European sites, for example where they enhance green corridors that facilitate the movement of species beyond designated site boundaries.
0203408034	Develop a Carbon Reduction Plan in the Environment Agency Wessex area	No Likely Significant Effect – Reducing carbon release into the atmosphere is not associated with impact pathways linking to European sites. This is a positive measure because it will benefit the wider environment by helping to mitigate climate change impacts.
0200508013	Develop a communication programme and suite of resources in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Developing a communication programme and suite of resources is not associated with linking impact pathways to European sites.
0200508158	Develop a communication programme, suite of resources, training and key messages in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Developing a communication programme, suite of resources, training and key messages across the RBD is not associated with linking impact pathways to European sites.
0203408035	Develop forecasting models for rapid response catchments where a flood warning service is offered in the Environment Agency Wessex area	No Likely Significant Effect – Developing forecasting models for rapid response catchments in areas with a flood warning service is not associated with impact pathways linking to European sites. This is a positive measure for human receptors because it will enhance the understanding of key stakeholders about where flood risk poses the greatest threat.

Measure ID	Measure	Likely Significant Effects on European sites
0203508003	Develop its Habitat Creation Programmes to compensate for future habitat losses resulting from coastal squeeze due to the existence of flood defences in the Bristol Channel and Severn Estuary in England	No Likely Significant Effect – Developing the Habitat Creation Programme to compensate for habitat losses from coastal squeeze will not result in negative impact pathways linking to European sites. This is a positive measure for coastal and estuarine European sites as it seeks to allow for replacement intertidal habitats to be created through Managed Realignment and Do Nothing approaches. Furthermore, as noted on the Flood Planning Explorer, this measure is already being implemented.
0200508169	Ensure carbon emitted by managing all sources of flood risk is reduced, offset in line with Local Carbon Reduction Plans in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Reducing carbon release into the atmosphere is not associated with impact pathways linking to European sites. This is a positive measure for the wider environment because it will help mitigate climate change impacts.
0200508174	Explore opportunities to reconnect rivers and their floodplains in South West England	No Likely Significant Effect – Exploring opportunities to reconnect rivers and associated floodplains will not result in negative impact pathways linking to European sites. This measure explores rather than implements opportunities and will not involve physical work on the ground. Furthermore, reconnecting / naturalising freshwater bodies is generally regarded as positive for the wider environment, including European sites. Natural England fully support re-naturalising floodplains, particularly where such measures restore favourable hydrological conditions in European sites. Notwithstanding this, any management plans with the potential to change the hydrodynamic regime of rivers will need to be supported by a bespoke HRA, particularly to ensure that the water level, quantity and flow in European sites is not impacted negatively.

Measure ID	Measure	Likely Significant Effects on European sites
0200508175	Explore opportunities to work with land owners and managers through the Environment Land Management Scheme in South West England	No Likely Significant Effect – Exploring opportunities for collaboration with land owners and managers is not associated with linking impact pathways to European sites. This measure explores rather than implements opportunities and will not involve any physical work on the ground. Increasing cooperation among stakeholders is likely to yield the best outcome for management approaches, including for European sites. Notably, this measure also has the potential to benefit the Somerset Levels and Moors SPA / Ramsar, which encompasses land that belongs to a range of owners and would benefit from a unified management approach. Natural England is fully supportive of using this measure to improve conditions in European sites, such as through sustainable farming, local nature recovery and landscape recovery.
0200508178	Identify opportunities through a review of Environment Agency maintained assets in South West England	No Likely Significant Effect – Identifying opportunities for management interventions is not associated with linking impact pathways to European sites. This measure identifies rather than delivers opportunities and will not involve any physical activities on the ground. This measure could be deployed to improve hydrological processes by reviewing the current impacts of Environment Agency assets within European sites and developing strategies to reduce them. For example, Natural England advise that a strategy for the replacement of flow gauging weirs with more modern technologies in riverine SACs (e.g. River Avon SAC) could help improve local flow conditions (see main body of text).

Measure ID	Measure	Likely Significant Effects on European sites
0203408031	Implement the “Next Flood Warning System” and ensure suitably trained flood warning duty staff in the Environment Agency Wessex area	No Likely Significant Effect – Developing flood warning systems and ensuring adequately trained staff is available is not associated with impact pathways linking to European sites. This is a positive measure for human receptors because it will help prevent / reduce negative implications of flooding events.
0200508159	Include coastal change with climate change in coastal modelling in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Including coastal and climate change in coastal modelling is not associated with impact pathways linking to European sites. This is a positive measure because integrating the effects of coastal change and climate change will allow for a more accurate prediction of coastal processes. This is important for the Habitat Creation Programme, which will benefit European sites.
0200508161	Work in partnership to maintain a strategic overview and support the Local Planning Authority and communities with the development and implementation of Coastal Change Management Areas in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Supporting the development and implementation of Coastal Change Management Areas is not associated with linking impact pathways to European sites.
0200508162	Maintain a strategic overview and support the development and implementation of adaptation plans in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Supporting the development and implementation of adaptation plans is not associated with linking impact pathways to European sites. Furthermore, the term ‘adaptation plan’ is inherently non-specific and does not allow for a detailed appraisal of potential impact pathways.

Measure ID	Measure	Likely Significant Effects on European sites
0200508153	Produce a Biodiversity Action Plan that identifies opportunities to deliver biodiversity net gain through flood defence improvement in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Producing a Biodiversity Action Plan that identifies biodiversity net gain improvements is not associated with impact pathways linking to European sites. This is a positive measure for the environment, and potentially coastal and estuarine European sites, which seeks to improve biodiversity through flood defence improvements. This is a strategic planning measure that does not involve physical activities on the ground.
0200508152	Review and work to secure potential sources of local revenue funding streams in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Reviewing and securing local funding streams has no bearing on European sites.
0200508016	Review existing Water Framework Directive Heavily Modified Waterbodies in South West England	No Likely Significant Effect – Reviewing Heavily Modified Waterbodies in the RBD is not associated with impact pathways linking to European sites. This is a positive measure because it enhances our understanding of the current state of waterbodies, including any threats / pressures to waterbodies that are designated European sites.
0200408074	Support Cornwall Council to develop a Local Nature Recovery Pilot in Cornwall	No Likely Significant Effect, but down-the-line HRA required – Developing a Local Nature Recovery Pilot is likely to be positive for the environment. Notwithstanding this, depending on the specific geographic location and nature of the pilot study, there may be linking impact pathways to European sites, such as on water level. However, there is insufficient detail on the project to undertake a meaningful assessment at the level of the FRMP. A bespoke HRA will need to appraise any potential LSEs and, where relevant, adverse effects on European sites. In line with the guidance quoted in paragraph 2.24, down-the-line assessment will be required as further details emerge regarding what will be done to deliver this measure.

Measure ID	Measure	Likely Significant Effects on European sites
0200408075	Support Cornwall Council to develop the Forest for Cornwall Programme in Cornwall	No Likely Significant Effect – Supporting the development of the Forest for Cornwall Programme is likely to be positive for the environment and is unlikely to be associated with impact pathways linking to European sites. Furthermore, this measure develops rather than implements the programme and will not involve physical work on the ground.
0200408069	Work with Cornwall Council to review key highway culverts on main rivers, and prioritise repairs and / or replacements in Cornwall	No Likely Significant Effect – Reviewing highway culverts on main rivers to prioritise repairs and / or replacements is not associated with impact pathways linking to European sites. This is because this measure supports the review rather than actually repairing the culverts. Furthermore, the FRMP is not specific about the improvements involved (as they have not yet been determined) and thus there is insufficient detail on the measure to undertake a meaningful assessment at the level of the FRMP. A bespoke HRA of specific culvert repair / replacement projects will need to appraise any potential LSEs and, where relevant, adverse effects on European sites.
0200408068	Support Cornwall Council to set out community flood resilience plans identified in the Local Flood Risk Management Strategy in Cornwall	No Likely Significant Effect – Setting out community flood resilience plans is not associated with impact pathways linking to European sites. This is because this measure supports devising a plan rather than specifically undertaking any flood resilience measures. Furthermore, the Local Flood Risk Management Strategy is subject to its own consenting process, including HRA, and flood resilience is more concerned with reducing impacts on properties or preventing flood waters from entering properties rather than affecting flooding at source.

Measure ID	Measure	Likely Significant Effects on European sites
0200508014	Work with Local Authorities and communities to improve our understanding of flood risks to vulnerable infrastructure in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Supporting Local Authorities to review flood risk is not associated with impact pathways linking to European sites. This is a positive measure for human receptors because it specifically investigates the risk to public infrastructure. Reviewing flood risks is a desk-based measure and will not involve any physical work on the ground.
0203308010	Support and contribute to the South Coast Risk Review in Wessex	No Likely Significant Effect – Supporting and contributing to the South Coast Risk Review is not associated with impact pathways linking to European sites. This is strategic desk-based measure and will not involve any physical activities on the ground.
0200408073	Support the Cornwall and Isles of Scilly Local Nature Partnership to develop projects and an investment programme which delivers nature-based solutions in Cornwall and Isles of Scilly	No Likely Significant Effect, but down-the-line HRA required – Supporting the Local Nature Partnership in developing nature-based solutions is unlikely to be associated with negative impact pathways linking to European sites. However, the FRMP is not specific about the improvements involved and thus there is insufficient detail on the measure to undertake a meaningful assessment at the level of the FRMP. A bespoke HRA of specific nature-based solution proposals will need to appraise any potential LSEs and, where relevant, adverse effects on European sites. In line with the guidance quoted in paragraph 2.24, down-the-line assessment will be required as further details emerge regarding what will be done to deliver this measure.

Measure ID	Measure	Likely Significant Effects on European sites
0200508164	Support the ongoing South West Regional Coastal Monitoring Programme to deliver topographic monitoring and habitat mapping in South West England	No Likely Significant Effect – Supporting the ongoing South West Regional Coastal Monitoring Programme is not associated with impact pathways linking to European sites. Instead, this is a positive measure for the protection of European sites as it will improve the accuracy of topographic and habitat mapping used in the Habitat Creation Programme. This will allow for a more accurate reflection of habitat loss and compensation calculations. Furthermore, this is a desk-based measure that will not involve any physical work on the ground.
0203408033	Support the Future of National Telemetry (FONT) project, ensure all business critical telemetry sites are represented and operational in the Environment Agency South West area	No Likely Significant Effect – Delivering the Environment Agency's FONT project is not associated with impact pathways linking to European sites. Moreover, this measure is carried over from the cycle 1 FRMP and as has already been subjected to HRA appraisal.
0203408032	Transition to the new way of flood risk forecasting using overtopping rates in the Environment Agency Wessex area	No Likely Significant Effect – Transitioning to a new way of forecasting using overtopping rates is not associated with impact pathways linking to European sites. This is a strategic, desk-based measure that will not involve any physical work on the ground.
0200508010	Undertake a review of Critical Drainage Areas in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Undertaking a review of Critical Drainage Areas across the RBD is not associated with impact pathways linking to European sites. This is a strategic, desk-based measure that will not involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200508155	Engage with other Risk Management Authorities, Local Planning Authorities and key partners to undertake modelling for locations of key flood risk assets in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Undertaking modelling for key flood risk assets across the RBD is not associated with impact pathways linking to European sites. This may be a positive measure for European sites, particularly where such modelling fosters enhanced understanding of environmental assets (e.g. European sites). It is a strategic, desk-based measure that will not involve any physical work on the ground.
0200508149	Undertake, test and exercise Contingency Plans for Strategically Important Assets in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Undertaking, testing and exercising Contingency Plans is not associated with impact pathways linking to European sites. This is a strategic, desk-based measure that will not involve any physical work on the ground.
0200508154	Update the Area Asset Management Plan in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Updating the Area Asset Management Plan is not associated with impact pathways linking to European sites. This is a strategic, desk-based measure that will not involve any physical work on the ground.
0200508176	Use existing tree planting opportunity mapping data to explore undertaking modelling at specific sites in South West England	No Likely Significant Effect – Using existing tree planting mapping data to model flood risk at specific sites is not associated with impact pathways linking to European sites. This is a strategic, desk-based measure that will not involve any physical work on the ground.
0200508011	Will work with Local Planning Authorities to carry out a study which identifies properties that are, or will become, unsustainable due to flood risk in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Undertaking a study to identify properties that are unsustainable due to flood risk is not associated with impact pathways linking to European sites. This is a strategic, desk-based measure that will not involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200508167	Work in partnership to deliver the ongoing programme of coastal studies in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Delivering the ongoing programme of coastal studies is not associated with impact pathways linking to European sites. This is a strategic measure that will not involve any physical work on the ground. Improving the understanding of wave, coastal flood and erosion risks will be beneficial for human and environmental receptors.
0200508165	Work in partnership with the relevant risk management authorities to continue to assess the sustainability of coastal assets and investigate options to adapt frontages and realise wider benefits of nature-based solutions in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Assessing the sustainability of coastal assets and to explore benefits of nature-based solutions is not associated with impact pathways linking to European sites. This measure investigates rather than implements and will not involve any physical work on the ground.
0200508170	Work in partnership with relevant risk management authorities to continue to assess the sustainability of harbours as flood risk assets and investigate options to adapt frontages in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Assessing the sustainability of harbours and adapting frontages across the RBD is not associated with impact pathways linking to European sites. This is a strategic measure that investigates rather than delivers options, such that it will not involve any physical work on the ground.
0200508179	Work together to develop a Resilience Hub in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Developing a Resilience Hub in the RBD (particularly given that this is an online resource) is not associated with impact pathways linking to European sites. This is a strategic, desk-based measure that will not involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200508166	Work with Coastal Protection Authorities to maintain a strategic overview and support the development and implementation of beach and dune management plans in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Working to develop and implement beach and dune management plans across the RBD is unlikely to be associated with impact pathways linking to European sites. The Flood Plan Explorer indicates that this measure will not involve physical work on the ground. In reality, beach and dune management is likely to be positive for European sites (e.g. the Penhale Dunes SAC), given that this will typically aim at the conservation of these habitats. For example, the dune slacks within the SAC are at risk of drying out, with potential knock-on impacts on petalwort and shore dock. Dune management plans have the potential to help maintain or restore favourable conservation status of dune ecosystems. Moreover, the Coastal Strategy was subject to its own HRA and this confirmed any mitigation needed to avoid adverse effects on the integrity of European sites. Any specific measures will need down-the-line HRA before being consented but this is already part of the standard approach for beach management as part of the SMP and CMS process.
0200408071	Work with Cornwall Catchment Partnership to integrate the planning, development and delivery of programmes which include nature-based solutions in Cornwall	No Likely Significant Effect – Integrating the planning, development and delivery of nature-based solution programmes is not associated with impact pathways linking to European sites. This is a strategic measure that focuses on integration rather than the explicit delivery of catchment programmes. It is unlikely to involve physical activities on the ground. Furthermore, nature-based solutions are more likely to be positive rather than negative for hydrology-dependent European sites.

Measure ID	Measure	Likely Significant Effects on European sites
0200508147	Work with Local Authorities, environmental and infrastructure organisations to align investment programmes in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Aligning investment programmes across the RBD is not associated with impact pathways linking to European sites. This is a strategic measure that will not involve any physical work on the ground.
0200508184	Work with Natural England to develop and apply methodologies to monitor and assess the impacts of catchment-scale beaver reintroduction in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – This measure focuses on monitoring and assessing the catchment-scale impacts of beaver reintroduction in the RBD, which does not involve linking impact pathways to European sites. The measure proposes no active management of such effects and will not involve any physical work on the ground.
0200508185	Work with Natural England to develop opportunity and constraints mapping for beaver reintroduction in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – This measure aims at delivering opportunity and constraints mapping for beaver reintroduction in collaboration with Natural England. However, the mapping of potentially suitable / unsuitable target areas for beaver reintroduction does not pose linking impact pathways to European sites. Any beaver reintroduction proposals will need to undergo HRA, particularly with regard to impacts on water quantity, level and flow in relevant European sites.
0200508180	Work with Network Rail to investigate options to improve the resilience of critical rail infrastructure in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Investigating options to improve the resilience of critical rail infrastructure is not associated with impact pathways linking to European sites. This measure investigates rather than delivers options and will not involve any physical work on the ground. More detailed rail infrastructure improvement works will need to undergo HRA at the planning application stage, adequately appraising LSEs and, where applicable, addressing adverse effects on the integrity of European sites.

Measure ID	Measure	Likely Significant Effects on European sites
0200508156	Work with Risk Management Authorities, infrastructure providers, land owners and managers to review where maintenance of existing assets cannot be justified and environmental enhancement can be managed without increasing flood risk in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Identifying where the maintenance of existing assets cannot be justified and environmental enhancement can be delivered without increasing flood risk is not associated with impact pathways linking to European sites. This is a strategic, desk-based measure that will not involve physical work on the ground. Furthermore, it is to be noted that delivery of environmental enhancement without increasing flood risk is a positive goal.
0200508182	Work with South West Water and other Risk Management Authorities to increase our understanding of the benefits and priority locations for sewer separation to take place in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Identifying priority locations for sewer separation across the RBD is not associated with impact pathways linking to European sites. Generally, increasing sewer separation is positive for European sites that are sensitive to water level and quality changes, as this will reduce the incidence of flooding with polluted water. Furthermore, the measure identifies priority locations rather than delivering any works at these locations, such that it will not involve any physical work on the ground.
0203408028	Work with Wessex Water to identify joint opportunities for meeting objectives of the Drainage and Wastewater Management Plan and the Environment Agency FCRM and Environment Programmes in the Environment Agency Wessex area.	No Likely Significant Effect – Identifying joint opportunities for meeting the objectives of the Drainage and Wastewater Management Plan is not associated with impact pathways linking to European sites. Generally, meeting the objectives regarding drainage and wastewater will be positive, as these will be informed by statutory environmental requirements. Furthermore, the measure identifies rather than implements joint opportunities and will not involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200508146	Work with communities and partners to use flood risk management opportunities to maintain and improve recreation and access to the coast and green spaces in South West England	No Likely Significant Effect, but down-the-line HRA required – Using flood risk management to improve recreation and access to the coast and greenspaces is not associated with impact pathways linking to European sites. While this measure has the potential to increase visitor numbers and recreational pressure in European sites, insufficient information is available at the FRMP level to undertake a meaningful analysis of this impact pathway. Specific proposals will need to undergo HRA at the planning application stage, ensuring that there are no adverse effects on the integrity of European sites regarding recreational pressure. In line with the guidance quoted in paragraph 2.24, down-the-line assessment will be required as further details emerge regarding what will be done to deliver this measure.
0203408027	Work with communities to deliver the Flood Warning Expansion Project in the Environment Agency Wessex area	No Likely Significant Effect – Delivering the Flood Warning Expansion Project is not associated with impact pathways linking to European sites. This is a positive measure for human receptors because it reduces potentially devastating impacts of floods. This is a strategic, desk-based measure that does not involve any physical work on the ground.
0200508145	Work with communities, partners and landowners to reduce waste plastics in the environment, and minimise waste plastic produced through flood and coastal risk management activities in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Reducing plastic waste in the environment, particularly minimising plastic waste as a result of flood risk management, is not associated with impact pathways linking to European sites. This measure will be positive for habitats and water quality, including in European sites. For example, it will help minimise any long-term impacts on microplastics in the aquatic environment. Furthermore, it is a strategic, desk-based measure that does not involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200508143	Work with community groups to identify opportunities for Citizen Science to provide opportunities for local data gathering in South West England	No Likely Significant Effect – Exploring local opportunities for data gathering by citizen scientists is not associated with impact pathways linking to European sites. This is a strategic, desk-based measure that does not involve physical work on the ground. Citizen Science potentially offers a means of large-scale and affordable data gathering, a valuable additional asset to nature conservation.
0200508008	Work with farmers, farm advisors, landowners, managers and partner organisations in South West England	No Likely Significant Effect – General collaboration with farmers, farm advisors and partner organisations is not associated with impact pathways linking to European sites. This is a strategic, desk-based measure that does not involve physical work on the ground.
0200508127	Work with individual property owners and partners to promote and install property-level flood resilience measures in Devon,	No Likely Significant Effect – Promoting and installing property-level flood resilience measures is not associated with impact pathways linking to European sites. While this measure is very broad and impossible to assess at the FRMP level, it is a carry-over from the cycle 1 FRMP and has already been subjected to HRA appraisal. Furthermore, flood resilience is more concerned with reducing impacts on properties by preventing flood waters from entering properties rather than affecting flooding at source.
0200508142	Work with local academic institutions to align research topics, study locations and share knowledge in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Aligning research topics, study locations and sharing knowledge with local academic institutions is not associated with impact pathways linking to European sites. This is a strategic, desk-based measure that does not involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200508144	Work with local education authorities and providers to develop local curriculum input by providing relevant case studies and support material in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Working with local education providers to develop curriculum input is not associated with impact pathways linking to European sites. This is a strategic, desk-based measure that does not involve physical work on the ground.
0200508183	Work with local planning authorities to integrate delivery of flood resilience in green spaces in communities in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Integrating flood resilience measures in green spaces is not associated with impact pathways linking to European sites. Integrating the delivery of flood resilience in greenspaces is a strategic measure that will not involve any physical work on the ground.
0203408030	Work with partners and communities to maintain, repair and improve the hydrometry and telemetry network in Wessex	No Likely Significant Effect – Maintaining and improving the hydrometry / telemetry network across Wessex is not associated with impact pathways linking to European sites. Moreover, this measure is carried over from the cycle 1 FRMP and has already undergone HRA.
0200508160	Work with partners and communities to review the tsunami risk in Devon, Cornwall and the Isle of Scilly	No Likely Significant Effect – Reviewing the tsunami risk across the RBD is not associated with impact pathways linking to European sites. This is a strategic, desk-based measure that does not involve any physical work on the ground.
0200508171	Work with partners and maintain a strategic overview to identify structures that provide a flood risk function as a secondary role in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Identifying structures that have a secondary role in flood risk function is not associated with impact pathways linking to European sites. This is a strategic, desk-based measure that does not involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0203508010	Work with partners in the relevant Coastal Groups to investigate changes in habitat that have occurred due to the existence of flood defences in the Bristol Channel and Severn Estuary in England	No Likely Significant Effect – Investigating the changes in habitat that have occurred due to existing flood defences is not associated with impact pathways linking to European sites. This is a positive measure for coastal and estuarine European sites because this will help inform future HRAs in relation to coastal squeeze. Gaining an understanding of the habitat that has been lost due to 'Hold the Line' approaches informs habitat compensation requirements. This is a strategic, desk-based measure that does not involve physical work on the ground.
0200408070	Work with partners to assess the impact of mining operations and identify and deliver opportunities through restoration plans in Cornwall	No Likely Significant Effect – Assessing the impact of mining operations and identifying restoration plans is not associated with impact pathways linking to European sites. This is a positive measure for the environment as restoration projects in old mining sites will help reduce future polluted runoff from these sites, protecting the water quality in freshwater and coastal European sites. This is a strategic measure for which the Flood Plan Explorer does not indicate physical work on the ground.
0200508007	Work with partners to carry out a study to determine indirect impacts of flooding in key communities in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Carrying out a study to determine indirect impacts of flooding is not associated with impact pathways linking to European sites. This is a positive measure for human receptors because it will help devise strategies to mitigate the impacts of flooding. This is a strategic, desk-based measure that does not involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200408076	Work with partners to develop evidence to recognise the value of hedges as a locally distinctive nature-based solution in Cornwall	No Likely Significant Effect – Developing evidence for the benefit of raised hedge banks for flood mitigation is not associated with impact pathways linking to European sites. This is a positive measure for human and environmental receptors because it will help reduce the magnitude of flooding events. This is a strategic, desk-based measure that does not involve any physical work on the ground.
0203408040	Work with partners to explore opportunities and the feasibility of the introduction of beavers in the Environment Agency Wessex area	No Likely Significant Effect – While it is noted that the introduction of beavers could have potential implications for the water level in European sites, this measure is simply to explore opportunities rather than implementing an introduction programme. Generally, the reintroduction of beavers is likely to be positive for the environment, including European sites. Beavers contribute towards naturalising flow regimes, reducing surface runoff and increasing water retention. Broadly, this will likely mean restoring hydrology to favourable condition for supporting sensitive designated habitats and species. Nonetheless, detailed introduction proposals will require bespoke HRAs to ensure that beavers will not result in LSEs and, where relevant, adverse effects on the integrity of European sites.
0200508168	Work with partners to identify opportunities for future intertidal and subtidal habitat creation in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Identifying opportunities for future intertidal and subtidal habitat creation is not associated with impact pathways linking to European sites. This is a positive measure for coastal and estuarine European sites as it seeks to create intertidal and subtidal habitats that will be lost due to coastal squeeze. Furthermore, this measure focuses on identifying rather than implementing opportunities, such it is unlikely to involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200408077	Work with partners to identify where river restoration and wetland habitat creation results in economic and biodiversity net gain in Cornwall	No Likely Significant Effect – Identifying biodiversity net gain that is delivered through river restoration and wetland habitat creation is not associated with impact pathways linking to European sites. Furthermore, this measure focuses on identifying the biodiversity net gain benefits that are being delivered by existing programmes, such it is unlikely to involve any physical work on the ground.
0203308026	Work with partners to implement the Property Flood Resilience programme in the Environment Agency Wessex area	No Likely Significant Effect – Implementing the Property Flood Resilience programme in the Environment Agency Wessex area is not associated with impact pathways linking to European sites. Moreover, this measure is carried over from the cycle 1 FRMP and has already been subjected to HRA. Generally, flood resilience is more concerned with reducing impacts on properties by preventing flood waters from entering properties rather than affecting flooding at source.
0200508181	Work with partners to increase our understanding of nature-based solutions to deliver flood resilience and environmental improvements in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Increasing our understanding of the flood resilience benefits delivered by nature-based solutions is not associated with impact pathways linking to European sites. This is a positive measure for human and environmental receptors as it will help devise strategies for future flood mitigation. This is a strategic, desk-based measure that does not involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200508019	Work with partners to review, update and deliver Water Level Management Plans in South West England	No Likely Significant Effect, but down-the-line HRA required – Reviewing, updating and delivering Water Level Management Plans (WLMPs) is unlikely to be associated with impact pathways linking to European sites. Delivering WLMPs is a positive measure for European sites if they adequately consider site-specific sensitivities, such as water level requirements of qualifying waders and waterfowl. If appropriately designed, WLMPs will help identify optimum water requirements for sites and qualifying features, ultimately preserving site integrity. Notably, WLMPs are also subject to their own statutory consenting process, including HRA. Accompanying HRAs must ensure that the implementation of WLMPs does not result in adverse effects on the integrity of European sites.
0200508177	Work with partners to trial a Catchment Market approach in South West England	No Likely Significant Effect – Trialling a Catchment Market approach in South West England is not associated with impact pathways linking to European sites. This is a strategic, desk-based measure that does not involve any physical work on the ground.
0200508172	Work with relevant partners to assess risks to critical infrastructure from all sources of flooding and coastal change in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Assessing risks from flooding to critical infrastructure is not associated with impact pathways linking to European sites. It is a strategic, desk-based measure that ultimately benefits human receptors and will not involve physical work on the ground.
0200408072	Work with the Cornwall Catchment Partnership to integrate the planning, development and delivery of programmes for soil health improvements in Cornwall	No Likely Significant Effect – Planning, developing and delivering a programme for restoring soil health is not associated with impact pathways linking to European sites. This measure integrates rather than delivers a soil health improvement programme, such that it will not involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200408105	Work with the Cornwall Catchment Partnership to review beaver reintroduction opportunities in Cornwall	No Likely Significant Effect – While it is noted that the reintroduction of beavers could have potential implications for the water level in European sites, this measure is simply to review rather than implement opportunities. Detailed proposals will require bespoke HRAs to ensure that reintroduced beavers will not result in LSEs and, where relevant, adverse effects on the integrity of European sites.
0200508151	Work with the Local Resilience Forum and community groups to understand the consequences of existing flood defences being exceeded during extreme flood events in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect – Working with local groups to understand consequences of flooding events is not associated with impact pathways linking to European sites. It is a strategic, desk-based measure that ultimately benefits human receptors and will not involve physical work on the ground.
0288808054	Use our powers under the Farming Rules for Water in South West England	No Likely Significant Effect – Using their powers under the Farming Rules for Water is not associated with impact pathways linking to European sites. It is a strategic, desk-based measure that will not involve physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0288808050	Work with South West Water and other Risk Management Authorities to deliver the objectives of their Drainage and Wastewater Management Plan in Devon, Cornwall and the Isles of Scilly	No Likely Significant Effect, but down-the-line HRA required – Delivering the objectives of the Drainage and Wastewater Management Plan could be associated with impact pathways linking to European sites. For example, if construction activities were involved, this could impact the water quality and hydrology of water-dependent European sites. Furthermore, visual and noise disturbance to SPA / Ramsar qualifying bird species may occur. However, insufficient information is available at the FRMP level to undertake a meaningful analysis of these impact pathways and the DWMP will be accompanied by its own HRA; this measure is simply a commitment to deliver its objectives. Specific proposals will need to undergo HRA at the planning application stage, ensuring that there are no adverse effects on the integrity of European sites regarding recreational pressure. In line with the guidance quoted in paragraph 2.24, down-the-line assessment will be required as further details emerge regarding what will be done to deliver this measure.

Measure ID	Measure	Likely Significant Effects on European sites
0288808051	Work with partners to progress a Flood and Coastal Resilience Innovation Project in targeted communities in Devon	No Likely Significant Effect, but down-the-line HRA required – Progressing a Flood and Coastal Resilience Innovation Project in targeted communities in Dorset could, depending on the nature of works, be associated with impact pathways linking to European sites. For example, innovation projects could impact the water quality and hydrology of water-dependent European sites. Furthermore, visual and noise disturbance to SPA / Ramsar qualifying bird species may occur. However, insufficient information is available at the FRMP level to undertake a meaningful analysis of this measure. Specific innovation proposals will need to undergo HRA where applicable, ensuring that there are no adverse effects on the integrity of European sites regarding recreational pressure. In line with the guidance quoted in paragraph 2.24, down-the-line assessment will be required as further details emerge regarding what will be done to deliver this measure.
0288808055	Work with Cornwall Council to promote Property Flood Resilience for properties at risk in Cornwall	No Likely Significant Effect – Promoting Property Flood Resilience for properties at risk in Cornwall is not associated with linking impact pathways to European sites.
0288808056	Work in partnership to improve the coordination of coastal planning in South West England	No Likely Significant Effect – Improving the coordination of coastal planning in South West England is not associated with impact pathways linking to European sites. This is a strategic, desk-based measure that will not involve physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0288808057	Work with the Making Space for Sand FCRIP project in Cornwall	No Likely Significant Effect – Working with the Making Space for Sand FCRIP project in Cornwall is not associated with linking impact pathways to European sites. The project is already in progress and it has been through the necessary consenting process, which has included HRA (where applicable).
0288808061	Support Cornwall Council to develop a programme of surface water management plans in Cornwall	No Likely Significant Effect – Supporting Cornwall Council to develop a programme of surface water management plans is not associated with linking impact pathways to European sites. Any surface water management plans produced would be subject to environmental assessment, including HRA, where relevant.
0288808062	Continue to work with partners to further engage with businesses and local communities to improve awareness and promote action that delivers multiple benefits in Environment Agency Wessex area	No Likely Significant Effect – Further engaging with businesses and local communities to improve awareness and promote actions is not associated with linking impact pathways to European sites.

Table 6. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the Avon Hampshire Management Catchment.

Measure ID	Measure	Likely Significant Effects on European sites
0203308005	Continue to work with the community on developing a potential scheme in Wilton	No Likely Significant Effect – Working with the Wilton community on developing a scheme is not associated with impact pathways linking to European sites. While the specific nature of the scheme is unclear, it is noted that this measure is carried over from the cycle 1 of the FRMP and has therefore already been subjected to HRA at that stage. Physical modification is a pressure affecting 59% of the length of the R. Avon, with associated negative impacts on biotope mosaics. Future schemes (particularly those involving realignment, bank revetments, embankments and woody debris clearance) could exacerbate these existing problems. Early engagement with Natural England regarding a potential scheme in Wilton is advised to avoid impacts on the SAC. However, given the lack of detail, a thorough assessment of the scheme is beyond the scope of this HRA and an HRA will be undertaken, as required, at the project level..

Measure ID	Measure	Likely Significant Effects on European sites
0203308025	Deliver its river restoration programme (incorporating Natural Flood Management and land management where appropriate) in designated chalk rivers, including the Hampshire Avon	No Likely Significant Effect, but down-the-line HRA required – Delivering a river restoration programme in designated chalk rivers is a positive measure for the environment, which will help restore the natural flood regime and reduce the impacts of poor water quality and sub-optimal flows on aquatic habitats. However, restoration proposals, where inadequately planned, may inadvertently affect the water level and quality in hydrologically connected European sites, such the River Avon SAC. Furthermore, depending on their geographic location and nature, river restoration proposals may also result in temporary impacts, such as visual and noise disturbance to qualifying birds in the Avon Valley SPA / Ramsar. Overall, detailed river restoration projects will need to be supported by HRAs at the planning application stage to ensure that they will not result in LSEs and, where applicable, adverse effects on the integrity of European sites. In line with the guidance quoted in paragraph 2.24, down-the-line assessment will be required as further details emerge regarding what will be done to deliver this measure.
0203308019	Implement flood warning area improvements in Salisbury	No Likely Significant Effect – Improving flood warning improvements is not associated with impact pathways linking to European sites. It is a strategic, desk-based measure that ultimately benefits human receptors and will not involve physical work on the ground.
0203308004	Work with partners to deliver the River Park project in Salisbury	No Likely Significant Effect – Delivering the River Park Project in Salisbury is generally positive for the environment as it will reduce flood risk and create wildlife corridors along the River Avon. However, potential impact pathways to the River Avon SAC are present during the construction period, including water quality and water level. Notwithstanding this, the scheme has now received planning consent, meaning that any impacts would have been adequately mitigated under the HRA process.

Measure ID	Measure	Likely Significant Effects on European sites
0203308003	Work with partners to investigate options and identify future funding opportunities in Warminster	No Likely Significant Effect – Investigating options and funding opportunities in Warminster is not associated with impact pathways linking to European sites. This measure identifies rather than implements flood management options and will not involve any physical work on the ground. Physical modification is a pressure affecting 59% of the length of the R. Avon, with associated negative impacts on biotope mosaics. Future schemes (particularly those involving realignment, bank revetments, embankments and woody debris clearance) could exacerbate these existing problems. Early engagement with Natural England regarding potential options in Warminster is advised to avoid impacts on the SAC. However, given the lack of detail, an HRA will be undertaken, as required, at the project level..
0203308022	Work with partners to undertake a catchment scale assessment of Natural Flood Management opportunities in the Upper Bristol Avon	No Likely Significant Effect – Carrying out an appraisal of options for flood defence improvements in Christchurch, Lower Avon and Lower Stour is not associated with impact pathways linking to European sites. It is a measure that appraises rather than implements options, such that it will not involve physical work on the ground. Individual measures may have negative effects, or may not do so, depending on what they involve but that will be taken into account in identifying opportunities.

Table 7. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the Cornwall West and the Fal Management Catchment.

Measure ID	Measure	Likely Significant Effects on European sites
0200408093	Support partners to investigate and deliver improvements to manage surface water flooding in Falmouth	No Likely Significant Effect – Investigating and delivering improvements to manage surface water flooding is not associated with impact pathways linking to European sites. This measure is already being implemented, meaning that it has undergone the relevant statutory environmental assessments (e.g. HRA).

Measure ID	Measure	Likely Significant Effects on European sites
0200408095	Work in partnership to develop a community flood resilience plan in Mawgan Porth	No Likely Significant Effect – Developing a community flood resilience plan for Mawgan Porth is not associated with impact pathways linking to European sites. This measure proposes the development rather than the implementation of a plan, such that it will not involve any physical work on the ground.
0200408096	Work in partnership to develop a community flood resilience plan in Perranporth	No Likely Significant Effect – Developing a community flood resilience plan for Perranporth is not associated with impact pathways linking to European sites. This measure proposes the development rather than the implementation of a plan, such that it will not involve any physical work on the ground.
0200408098	Work in partnership to develop a strategy to manage the risk of flooding from rivers and the sea in Truro	No Likely Significant Effect – Developing a strategy that manages the risk of riverine and coastal flooding in Truro is not associated with impact pathways linking to European sites. This measure proposes the development rather than the implementation of a strategy, such that it will not involve any physical work on the ground.
0200408090	Work in partnership to review flood risk assets and the flood warning service in the Hayle catchment to identify options to deliver an adaptation pathway in St Erth	No Likely Significant Effect – Reviewing flood risk assets, flood warning service and identifying options for an adaptation pathway is not associated with impact pathways linking to European sites. This measure will benefit human receptors and is unlikely to involve physical work on the ground.
0200408089	Work with partners and the community to develop a community flood resilience plan in Hayle	No Likely Significant Effect – Developing a community flood resilience plan for Hayle is not associated with impact pathways linking to European sites. This measure proposes the development rather than the implementation of a plan, such that it will not involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200408094	Work with partners and the community to investigate options to deliver improved coastal defences in St Mawes	No Likely Significant Effect – Delivering improvements to coastal defences in St Mawes is not associated with impact pathways linking to European sites. This measure identifies rather than delivers improvements to coastal defences and will not involve any physical work on the ground.
0200408099	Work with partners to implement relevant actions in the strategy in Truro	No Likely Significant Effect, but down-the-line HRA required – This measure proposes the implementation of relevant flood mitigation actions from the strategy in Truro. Depending on the nature and location of these actions there could be potential implications for the Fal & Helford SAC, including coastal squeeze, water quality and water level. However, the FRMP is not specific about the improvements involved and thus there is insufficient detail at the FRMP level to undertake Appropriate Assessment of this measure. Specific actions will need to be assessed by HRAs at the planning application stage, ensuring that they will not result in LSEs and, where applicable, adverse effects on the integrity of European sites. In line with the guidance quoted in paragraph 2.24, down-the-line assessment will be required as further details emerge regarding what will be done to deliver this measure.
0200408092	Work with partners to manage surface water flooding and implement natural flood management in Mousehole	No Likely Significant Effect – Managing surface water flooding and implementing natural flood management in Mousehole is not associated with impact pathways linking to European sites. This is because the distance from the Management Catchment measure to the nearest European site (Marazion Marsh SPA, approx. 6.8km distance) is too far for there to be a realistic hydrological interaction.
0200408091	Work with the community and partners to enhance soil health and the environment in the catchment, improve infrastructure and increase community resilience in Mevagissey	No Likely Significant Effect – Enhancing soil health and the environment is not associated with impact pathways linking to European sites. It will help improve general ecosystem health and resilience. While details on the enhancement programmes are not available at the FRMP level, it is unlikely that impacts on European sites will arise.

Measure ID	Measure	Likely Significant Effects on European sites
0200408097	Work in partnership to develop a community flood resilience and adaptation plan for the St Austell “White” River in St Austell	No Likely Significant Effect – Developing a community flood resilience and adaptation plan for the St Austell “White” River is not associated with impact pathways linking to European sites. This measure proposes the development rather than the implementation of a plan, such that it will not involve any physical work on the ground.

Table 8. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the Devon East Management Catchment

Measure ID	Measure	Likely Significant Effects on European sites
0200508069	Update the Exminster Marshes Water Level Management Plan in Exminster	No Likely Significant Effect – Updating the Water Level Management Plan for the Exminster Marshes is not associated with impact pathways linking to European sites. This is capable of being a positive measure for the Exe Estuary SPA / Ramsar that depends on sufficient freshwater input because it will help deliver optimum water levels for its qualifying features, ultimately preserving site integrity. Furthermore, this is a desk-based measure that does not involve any physical work on the ground.
0200508033	Work with Clinton Devon Estates, the community and partners to restore and enhance the catchment of the Beer Watercourse in Beer	No Likely Significant Effect, but down-the-line HRA required – Restoring and enhancing the catchment of the Beer Watercourse is not associated with impact pathways linking to European sites. The catchment of the waterbody partially overlaps with the Sidmouth to West Bay SAC, which is sensitive to impacts on water level and water quality. However, there is insufficient information at the strategic FRMP level to undertake a meaningful assessment of this measure. HRAs in support of more detailed enhancement proposals will be required to assess potential LSEs and, where relevant, prevent adverse effects on site integrity. In line with the guidance quoted in paragraph 2.24, down-the-line assessment will be required as further details emerge regarding what will be done to deliver this measure.

Measure ID	Measure	Likely Significant Effects on European sites
0200508037	Work with East Devon District Council and other partners to establish a Critical Drainage Area in Clyst St Mary	No Likely Significant Effect – Working to establish a Critical Drainage Area in Clyst St Mary is not associated with impact pathways linking to European sites. This is a desk-based measure that is unlikely to involve any physical work on the ground.
0200508104	Work with East Devon District Council and the community to implement planned infrastructure improvements in Whimple	No Likely Significant Effect – Implementing infrastructure improvements in Whimple is not associated with impact pathways linking to European sites. The closest European sites to this Management Catchment measure are the East Devon Heaths SPA and East Devon Pebblebed Heaths SAC at approx. 4.2km distance, which is too far for there to be a realistic hydrological interaction.
0200508098	Work with Network Rail to carry out a study in the Powderham Banks area	No Likely Significant Effect – Carrying out a study in the Powderham Banks area is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and unlikely to involve any physical work on the ground.
0200508118	Work with land owners, communities and partners to develop natural flood management measures and implement further peatland restoration in Exmoor National Park	No Likely Significant Effect, but down-the-line HRA required – Developing natural flood management measures and restoring peatland in the Exmoor National Park is not associated with impact pathways linking to European sites. While the boundary of this Management Catchment measure overlaps with the Exmoor Heaths SAC and Exmoor and Quantock Oakwoods SAC, it is considered that natural flood management measures would help maintain adequate water quality and water level in these European sites. However, down-the-line HRAs for mode detailed proposals will be required to appraise potential LSEs and, where relevant, prevent unintended adverse effects on the integrity of relevant European sites. In line with the guidance quoted in paragraph 2.24, down-the-line assessment will be required as further details emerge regarding what will be done to deliver this measure.

Measure ID	Measure	Likely Significant Effects on European sites
0200508035	Work with landowners, communities and partners to identify opportunities to reconnect rivers with their floodplains in the River Clyst catchment	No Likely Significant Effect – Identifying opportunities for connecting rivers with their floodplains in the River Clyst is not associated with impact pathways linking to European sites. Restoring the functionality of hydrological catchments is likely to be positive for downstream European sites, such as the Exe Estuary SPA / Ramsar. However, the measure focuses on identifying rather than implementing opportunities, such that it will not involve any physical work on the ground.
0200508126	Work with partners and the community to identify options to reduce flood risk and restore and enhance the environment in Colaton Raleigh	No Likely Significant Effect – Identifying options to reduce flood risk and restore environment in Colaton Raleigh is not associated with impact pathways linking to European sites. While there are European sites in the vicinity of the measure boundary (East Devon Heaths SPA and East Devon Pebblebed Heaths SAC), the measure focuses on identifying rather than implementing opportunities. Therefore, it will not involve any physical work on the ground.
0200508136	Work with the Environment Agency, the community and partners to carry out a study to identify options in Budleigh Salterton	No Likely Significant Effect – Identifying options for flood management in Budleigh Salterton is not associated with impact pathways linking to European sites. This is a measure that identifies rather than implements options, such that it will not involve any physical work on the ground.
0200508135	Work with the Environment Agency, the community and partners to carry out a study to identify options in Seaton	No Likely Significant Effect – Identifying options for flood management in Seaton is not associated with impact pathways linking to European sites. This measure identifies rather than implements measures, such that it will not involve any physical work on the ground.
0200508044	Work with the community and partners to carry out a study on the Gissage and Glen Streams in Honiton	No Likely Significant Effect – Carrying out a study on the Gissage and Glen Streams in Honiton is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200508040	Work with the community and partners to carry out a study in Dulverton	No Likely Significant Effect – Carrying out a study in Dulverton is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve any physical work on the ground.
0200508041	Work with the community and partners to carry out a study in East Budleigh	No Likely Significant Effect – Carrying out a study in East Budleigh is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve any physical work on the ground.
0200508042	Work with the community and partners to carry out a study in Exebridge	No Likely Significant Effect – Carrying out a study in Exebridge is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve any physical work on the ground.
0200508034	Work with the community and partners to carry out a study to identify adaptation pathways to climate change for properties at high risk in Bickleigh	No Likely Significant Effect – Carrying out a study in Bickleigh to identify adaptation pathways for properties at high risk from climate change is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve any physical work on the ground.
0200508045	Work with the community and partners to deliver improvements in the Wotton Brook catchment in Lympstone	No Likely Significant Effect, but down-the-line HRA required – Delivering improvements in the Wotton Brook catchment in Lympstone maybe associated with impact pathways linking to the Exe Estuary SPA / Ramsar, including water quality and water level. However, given that the FRMP does not include details on the nature of improvements to be delivered, , there is flexibility for schemes to be selected that would not affect European sites. Detailed improvement proposals will need to undergo HRA to adequately assess potential LSEs and, where relevant, prevent adverse effects on site integrity. In line with the guidance quoted in paragraph 2.24, down-the-line assessment will be required as further details emerge regarding what will be done to deliver this measure.

Measure ID	Measure	Likely Significant Effects on European sites
0200508031	Work with the community and partners to implement flood defence improvements in Axminster	No Likely Significant Effect, but down-the-line HRA required – Depending on the type and location of flood defence improvements, there is a potential of this measure to impact the River Axe SAC. However, the FRMP is not specific about the improvements involved and therefore does not commit to any specific improvements leaving flexibility for improvements to be chosen that would not adversely affect the integrity of European sites. HRAs will need to give specific regard to the qualifying features of the SAC to ensure that there will be no adverse effects in relation to water quality, water level and fish mobility. This scheme has been partially delivered and is included in the Catchment Flood Management Plan. The work delivered to date consists of improvements to a flood wall. The remaining scope is likely to be a bypass channel to a group of properties which will not connect to or constrain the River Axe SAC and is intended to reconnect the river with its floodplain and achieve the objectives of the River Axe River Restoration Plan. That part of the scheme is subject to further development as there has been no work on it for c. 5 years and the development of a new outline business case. Moreover, the updated RBMP requires that river restoration is undertaken in accordance with SAC river conservation plans which have had HRA already and are signed off.
0200508032	Work with the community and partners to implement flood defence improvements in Bampton	No Likely Significant Effect – Implementing flood defence improvements in Bampton is not associated with impact pathways linking to European sites. While flood defence works may have implications for European sites, there are no such sites within close proximity to the boundary of this Management Catchment measure.

Measure ID	Measure	Likely Significant Effects on European sites
0200508100	Work with the community and partners to implement improvements in the River Culm catchment	No Likely Significant Effect – Implementing flood management improvements in the River Culm catchment is likely to have a positive impact on the water quality and water level in the Exe Estuary SPA / Ramsar, which is hydrologically connected. While the FRMP is not specific about the improvements involved, this measure is part of an the active 'Connecting the Culm' project[53]. Given that this project is ongoing, it would have undergone the relevant statutory consenting process, including HRA.
0200508103	Work with Devon County Council, the community and partners to improve the understanding of flood risk mechanisms and investigate options in Sidmouth	No Likely Significant Effect – Improving the understanding of and flood mitigation options for flood risk mechanisms from the River Sid is not associated with impact pathways linking to European sites. This measure, which benefits human receptors, focuses on improving understanding and investigating options, rather than delivering specific interventions. Therefore, it will not involve any physical work on the ground.
0200508038	Work with the community and partners to undertake a study in Colyton	No Likely Significant Effect – Carrying out a study in Colyton is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve any physical work on the ground.
0200508099	Work with the community and partners to undertake a study in the River Coly catchment	No Likely Significant Effect – Carrying out a study in the River Coly catchment is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve any physical work on the ground.
0200508101	Work with the community and partners to undertake a study to identify options in Seaton	No Likely Significant Effect – Carrying out a study to identify options in Seaton is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200508102	Work with the community and partners to undertake a study to identify options in Sidford	No Likely Significant Effect – Carrying out a study to identify options in Sidford is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve any physical work on the ground.
0200508036	Work with the community to install a new flood warning gauge in Rewe	No Likely Significant Effect – Installing a new flood warning gauge is not associated with impact pathways linking to European sites. While this measure will likely require in-river works, the extent of these works will be limited and the closest hydrologically connected European site is the Exe Estuary SPA / Ramsar at over 10km distance. This is considered too far for there to be implications for the SPA / Ramsar.
0200508097	Work with the community, East Devon District Council and other partners to establish a Critical Drainage Area in Ottery Saint Mary.	No Likely Significant Effect – Establishing a Critical Drainage Area in Ottery Saint Mary is not associated with impact pathways linking to European sites. This is a desk-based measure that is unlikely to involve any physical work on the ground.
0200508105	Work with the community, East Devon District Council and other partners to improve the understanding of flood risk mechanisms from the Woodbury Brook and investigate options in Woodbury	No Likely Significant Effect – Improving the understanding of and flood mitigation options for flood risk mechanisms from the Woodbury Brook in Woodbury is not associated with impact pathways linking to European sites. This measure, which benefits human receptors, focuses on improving understanding and investigating options, rather than delivering specific interventions. Therefore, it will not involve any physical work on the ground.
0200508039	Work with the community and partners to carry out a study in Crediton	No Likely Significant Effect – Carrying out a study in Crediton is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0288808051	Work with partners and the community to deliver a property flood resilience scheme in Topsham	No Likely Significant Effect, but down-the-line HRA required – Delivering a property flood resilience scheme in Topsham could be associated with impact pathways linking to the Exe Estuary SPA / Ramsar, including water quality, water level and visual / noise disturbance. However, given that the FRMP does not include details on the precise nature of the scheme to be delivered, there is flexibility for schemes to be selected that would not affect European sites. A more detailed proposal will need to undergo HRA to adequately assess potential LSEs and, where relevant, prevent adverse effects on site integrity. In line with the guidance quoted in paragraph 2.24, down-the-line assessment will be required as further details emerge regarding what will be done to deliver this measure.

Table 9. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the Devon South Management Catchment

Measure ID	Measure	Likely Significant Effects on European sites
0200508120	Work with Environment Agency and other partners to investigate options to reduce the risk of flooding from the sea at Livermead, Torre Abbey and Torquay Harbour in Torbay	No Likely Significant Effect – Identifying options to reduce flood risk from the sea in Torbay is not associated with impact pathways linking to European sites. This measure specifically focuses on investigating rather than implementing interventions. Therefore, it will not involve any physical work on the ground.
0200508119	Work with Environment Agency and other partners to undertake a structural integrity survey of all coastal defences in Torbay, including Haldon and Princess Piers	No Likely Significant Effect – Undertaking a structural integrity survey of coastal defences in Torbay is not associated with impact pathways linking to European sites. No improvements to existing defences or new structures are proposed.

Measure ID	Measure	Likely Significant Effects on European sites
0200508091	Work with Torbay Council and South West Water to carry out a study to improve the accuracy of culverted watercourse routes in Torbay	No Likely Significant Effect – Carrying out a study to improve the accuracy of mapped culverted watercourses is not associated with impact pathways linking to European sites. This is a desk-based study and will not involve any physical work on the ground.
0200508088	Work with Torbay Council and other partners to carry out a study in Churston Ferrers	No Likely Significant Effect – Carrying out a study in Churston Ferrers to identify flood mitigation requirements is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve any physical work on the ground.
0200508096	Work with Torbay Council and other partners to undertake a flood forecasting and warning feasibility study in Torbay, including Paignton, Torquay and Brixham	No Likely Significant Effect – Undertaking a flood forecasting and warning feasibility study in Torbay is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve any physical work on the ground.
0200508092	Work with Torbay Council, South West Water and other partners to align our understanding of flood resilience issues in Clennon Valley	No Likely Significant Effect – Gaining a better understanding of flood resilience issues through information sharing is not associated with impact pathways linking to European sites. This measure will not involve any physical work on the ground.
0200508086	Work with Torbay Council, South West Water and other partners to deliver an integrated model in Brixham	No Likely Significant Effect – Undertaking modelling to better understand the flood risk in Brixham is not associated with impact pathways linking to European sites. Modelling studies are undertaken to obtain scientific data and will not involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200508089	Work with Torbay Council, South West Water and other partners to deliver an integrated model in Paignton	No Likely Significant Effect – Undertaking modelling to better understand the flood risk in Paington is not associated with impact pathways linking to European sites. Modelling studies are undertaken to obtain scientific data and will not involve any physical work on the ground.
0200508085	Work with Torbay Council, South West Water and other partners to deliver an integrated model in Torbay	No Likely Significant Effect – Undertaking modelling to better understand the flood risk in Torbay is not associated with impact pathways linking to European sites. Modelling studies are undertaken to obtain scientific data and will not involve any physical work on the ground.
0200508087	Work with Torbay Council, South West Water and the community to carry out a study in Brixham	No Likely Significant Effect – Carrying out a study in Brixham to identify flood mitigation requirements is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve any physical work on the ground.
0200508093	Work with Torbay Council, South West Water and the community to investigate options in Clennon Valley	No Likely Significant Effect – Investigating options for flood management in Clennon Valley is not associated with impact pathways linking to European sites. It is a measure that investigates rather than implements options, such that it will not involve any physical work on the ground.
0200508090	Work with Torbay Council, South West Water and the community to investigate options in Paignton	No Likely Significant Effect – Investigating options for flood management in Paignton is not associated with impact pathways linking to European sites. It is a measure that investigates rather than implements options, such that it will not involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200508095	Work with Torbay Council, other partners and the community to identify opportunities to restore and enhance the environment of the watercourses in Torbay	No Likely Significant Effect – Restoring and enhancing the environment is not associated with impact pathways linking to European sites. This measure identifies rather than implements opportunities and will not involve any physical work on the ground.
0200508094	Work with Torbay Council, other partners and utility providers to complete a study in Torbay	No Likely Significant Effect – Completing a study in Torbay to identify flood mitigation requirements is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve any physical work on the ground.
0200508030	Work with developers and the community to implement improvements to the Malt Mill Lake watercourse and enhance community preparedness to flood events in Totnes	No Likely Significant Effect – Improving the quality of the Malt Mill Lake watercourse is not associated with impact pathways linking to European sites. The closest European site (the South Hams SAC, at approx. 4.8km distance) is not sensitive to hydrological pathways.

Measure ID	Measure	Likely Significant Effects on European sites
0200508117	Work with land owners, communities and partners to implement further natural flood management measures and peatland restoration in Dartmoor National Park	No Likely Significant Effect, but down-the-line HRA required – Implementing further natural flood management measures and peatland restoration in Dartmoor National Park is likely to be positive for the environment, including hydrologically connected European sites. However, the delivery of natural flood management measures may be associated with impact pathways linking to the Dartmoor SAC and South Dartmoor Woods SAC, which both depend on adequate water quality and level. However, the FRMP is not specific about the improvements involved and thus contains insufficient detail on management measures to be delivered, such that an adequate assessment cannot be undertaken. Detailed proposals will need to be supported by an HRA that appraises potential LSEs and, where relevant, adverse effects on the integrity of European sites. In line with the guidance quoted in paragraph 2.24, down-the-line assessment will be required as further details emerge regarding what will be done to deliver this measure.
0200508026	Work with landowners and partners to undertake a study to identify options in the River Dart Estuary	No Likely Significant Effect – Undertaking a study to identify flood management options in the River Dart Estuary is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200508020	Work with partners and developers to enhance the catchment of the Avenue and Five Wynches Streams, improve asset operations and increase preparedness in Bovey Tracey	No Likely Significant Effect – Enhancing the catchment of the Avenue and Five Wynches Streams is likely to be beneficial for the environment, although measures may be associated with impact pathways particularly in the implementation period. However, it is noted that the closest European sites (e.g. Dartmoor SAC, South Dartmoor Woods SAC) lie upstream from this Management Catchment measure, such that there is no potential for a hydrological interaction.
0200508128	Work with partners and the community to identify options to reduce flood risk, restore and enhance the environment in Newton Ferres	No Likely Significant Effect – Identifying options for reducing flood risk in Newton Ferres is not associated with impact pathways linking to European sites. This measure identifies rather than implements options, such that it will not involve any physical work on the ground.
0200508027	Work with partners to undertake a study in the River Erme catchment	No Likely Significant Effect – Undertaking a study in the River Erme catchment to identify flood mitigation requirements is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve any physical work on the ground.
0200508122	Work with the Environment Agency and other partners to carry out a structural condition assessment of Broadsands sea wall in Torbay	No Likely Significant Effect – Undertaking a structural condition assessment of the existing Broadsands sea wall in Torbay is not associated with impact pathways linking to European sites. No improvements to existing defences or new structures are proposed.
0200508121	Work with the Environment Agency and other partners to investigate options to reduce the risk of flooding from the sea at Paignton, Preston, Goodrington and Broadsands in Torbay	No Likely Significant Effect – Identifying options to reduce flood risk from the sea in Torbay is not associated with impact pathways linking to European sites. This measure specifically focuses on investigating rather than implementing interventions, such that it will not involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200508132	Work with the Environment Agency, the community and partners to carry out a study to identify options in Dartmouth	No Likely Significant Effect – Identifying options for flood management in Dartmouth is not associated with impact pathways linking to European sites. It is a measure that identifies rather than implements options, such that it will not involve any physical work on the ground.
0200508130	Work with the Environment Agency, the community and partners to carry out a study to identify options in Teignmouth	No Likely Significant Effect – Identifying options for flood management in Teignmouth is not associated with impact pathways linking to European sites. It is a measure that identifies rather than implements options, such that it will not involve any physical work on the ground.
0200508134	Work with the Environment Agency, the community and partners to carry out a study to identify options in Totnes	No Likely Significant Effect – Identifying options for flood management in Totnes is not associated with impact pathways linking to European sites. It is a measure that identifies rather than implements options, such that it will not involve any physical work on the ground.
0200508123	Work with the Environment Agency, the community, harbour users and other partners to carry out a study to identify options in Torbay	No Likely Significant Effect – Identifying options for flood management in Torbay is not associated with impact pathways linking to European sites. It is a measure that identifies rather than implements options, such that it will not involve any physical work on the ground.
0200508028	Work with the community and other Risk Management Authorities to better understand flood risk mechanisms and opportunities in Salcombe	No Likely Significant Effect – Understanding flood risk mechanisms and mitigation opportunities in Salcombe is not associated with impact pathways linking to European sites. Increasing our understanding of processes will not involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200508025	Work with Devon County Council, partners and the community to better understand flood risk mechanisms and opportunities in Kingsteignton	No Likely Significant Effect – Understanding flood risk mechanisms and mitigation opportunities in Kingsteignton is not associated with impact pathways linking to European sites. Increasing our understanding of processes will not involve any physical work on the ground.
0200508002	Work with the community and partners to carry out a study to better understand community flood resilience and climate change adaptation needs in Ashburton	No Likely Significant Effect – Carrying out a study to better understand community flood resilience and climate change adaptation needs in Ashburton is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve any physical work on the ground.
0200508022	Work with the community and partners to carry out a study to determine future options in Dartmouth	No Likely Significant Effect – Carrying out a study to determine future flood mitigation options in Dartmouth is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve any physical work on the ground.
0200508029	Work with the community and partners to identify opportunities in Teignmouth	No Likely Significant Effect – Identifying opportunities for flood management in Teignmouth is not associated with impact pathways linking to European sites. It is a measure that identifies rather than implements opportunities, such that it will not involve any physical work on the ground.
0200508023	Work with the community and partners to investigate opportunities to reduce flood risk from the Yolands Stream in Harbertonford	No Likely Significant Effect – Investigating opportunities to reduce flood risk from the Yolands Stream in Harbertonford is not associated with impact pathways linking to European sites. It is a measure that investigates rather than implements opportunities, such that it will not involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200508024	Work with the community, Devon County Council and South West Water to implement improvements to reduce flood risk from the Western Backway and Eastern Backway watercourses and continue to engage with community flood groups to sustain local initiatives in Kingsbridge	No Likely Significant Effect – Implementing improvements to reduce flood risk associated with the Western Backway and Eastern Backway is likely to be beneficial for the environment, although potential measures may be associated with impact pathways particularly in the construction period. However, it is noted that the closest European sites with potential hydrological sensitivity, the South Devon Shore Dock SAC approx. 3.7km away, is too distant for there to be a significant hydrological interaction with this measure.
0200508021	Work with the community, landowners and partners to restore and enhance the catchments of the River Mardle and Dean Burn, influence redevelopment proposals and implement improvements to flood forecasting systems in Buckfastleigh	No Likely Significant Effect – Enhancing the catchment of the River Mardle and Dean Burn is likely to be beneficial for the environment, although measures may be associated with impact pathways, particularly in the construction period. However, it is noted that the closest European sites (e.g. Dartmoor SAC, South Dartmoor Woods SAC) lie upstream from this Management Catchment measure, such that there is no potential for a hydrological interaction.
0200508003	Work with the community, partners and asset owners to undertake a study to identify options in Aveton Gifford	No Likely Significant Effect – Undertaking a study to identify flood mitigation options in Aveton Gifford is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve any physical work on the ground.
0200508124	Work with the partners and the community to carry out a study to identify options in Beeson	No Likely Significant Effect – Undertaking a study to identify flood mitigation options in Beeson is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200508125	Work with the partners and the community to carry out a study to identify options in Broadhempston	No Likely Significant Effect – Undertaking a study to identify flood mitigation options in Broadhempston is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve any physical work on the ground.

Table 10. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the Dorset Management Catchment

Measure ID	Measure	Likely Significant Effects on European sites
0203308061	Aim to develop Coastal Change Management Areas (CCMAs) in areas along the Bournemouth, Christchurch and Poole (BCP) Council coastline	No Likely Significant Effect – Developing Coastal Change Management Areas (CCMAs) along the coastline is not associated with impact pathways linking to European sites. This is a desk-based measure that will not involve any physical work on the ground. Furthermore, the delineation of CCMAs is likely to be positive for European sites because these typically impose limits on development along the coastline.
0203308014	Carry out an appraisal of options following modelling in the Upper River Piddle	No Likely Significant Effect – Carrying out an appraisal of flood management options in the River Piddle is not associated with impact pathways linking to European sites. It is a measure that appraises rather than implements options, such that it will not involve any physical work on the ground.
0203308015	Carry out modelling in Gillingham and Upper Stour	No Likely Significant Effect – Carrying out modelling in Gillingham and Upper Stour is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0203308045	Carry out the Beach Management Scheme in Poole Bay (Sandbanks to Hengistbury Head)	No Likely Significant Effect – Carrying out the Poole Harbour Beach Management Scheme is not associated with impact pathways linking to European sites. While the exact nature of the scheme is not specified at the FRMP level, this measure is already being implemented and would have been subjected to HRA previously.
0203308066	Carry out the Bourne Stream Outfall Screens Scheme in Bournemouth	No Likely Significant Effect, but down-the-line HRA required – Carrying out the Bourne Stream Outfall Screens Scheme in Bournemouth will reduce the potential for flooding in the Dorset Management Catchment. Depending on the nature and their exact location, measures may be associated with impact pathways linking to the Dorset Heaths SAC and Dorset Heathlands SPA / Ramsar in particular, such as impacts on water quality, water level and visual / noise disturbance. The Bourne Stream scheme is still being developed and will be picked up in the new BCP Local FRMS. It is a project that has been planned but not yet been subject to any formal assessments. It is to replace outfall screens and make them safer to inspect and maintain from a H&S point of view. As such. there is insufficient information in the FRMP to undertake a thorough assessment of this measure. Detailed proposals will need to be supported by bespoke HRAs to adequately appraise LSEs and, where relevant, adverse effects on the integrity of European sites. In line with the guidance quoted in paragraph 2.24, down-the-line assessment will be required as further details emerge regarding what will be done to deliver this measure.

Measure ID	Measure	Likely Significant Effects on European sites
0203308052	Carry out the Fleetsbridge and Hatch Pond Flood Attenuation and Natural Flood Management project in Fleetsbridge, Poole	No Likely Significant Effect – Carrying out the Fleetsbridge and Hatch Pond Flood Attenuation project in Fleetsbridge, Poole, is not associated with impact pathways linking to European sites. This measure is carried over from the cycle 1 FRMP and would have undergone HRA previously.
0203308041	Carry out the Shoreline Management Plan-Refresh recommendations in Poole and Christchurch Bays	No Likely Significant Effect – Carrying out the SMP Refresh recommendations in Poole and Christchurch Bays, is not associated with impact pathways linking to European sites. While SMP measures may be linked to impact pathways, any measures would have been appraised in the HRA of the Poole & Christchurch Bays SMP.
0203308044	Complete the Durlston to Hurst Sediment Resource Management Programme in Poole and Christchurch Bays	No Likely Significant Effect – Completing the Durlston to Hurst Sediment Resource Management Programme in Poole and Christchurch Bays is not associated with impact pathways linking to European sites. This measure is carried over from the cycle 1 FRMP and would have undergone HRA previously. Furthermore, any coastal management programme would be covered by the Poole & Christchurch Bays SMP, subject to its own bespoke consenting programme.

Measure ID	Measure	Likely Significant Effects on European sites
0203308048	Complete the Mudeford Sandbank Beach Management Works in Christchurch Bay	No Likely Significant Effect – Completing the Mudeford Sandbank Beach Management Works in Christchurch Bay is not associated with impact pathways linking to European sites. This measure is carried over from the cycle 1 FRMP and would have undergone HRA previously. Furthermore, any coastal management programme would be covered by the Poole & Christchurch Bays SMP, subject to its own bespoke consenting programme. It is noted that the Solent and Dorset Coast SPA, designated in 2020 for encompassing important plunge-diving habitat for common tern, sandwich tern and little tern, would not have been considered in the cycle 1 FRMP HRAs. Generally, it is unlikely that small-scale, localised beach management works would perceptibly reduce the ability of these species to forage in shallow sea habitats in the wider Solent area. Furthermore, this measure has been committed to elsewhere (i.e. the Poole & Christchurch Bays SMP) and any assessment would need to be updated as part of the cyclical updates to this overarching strategy, which should also consider the changing evidence base.
0203308053	Complete the surface water modelling project in the BCP Council area	No Likely Significant Effect – Carrying out the surface water modelling project in the BCP Council area is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve any physical work on the ground.
0203308011	Continue to work to improve lead times for flood warnings in rapid response catchments, and improve communications in areas with high transient populations such as caravan and camp sites across the Wessex area	No Likely Significant Effect – Improving flood warning lead times in rapid response catchments is not associated with impact pathways linking to European sites. It is a measure that ultimately benefits human receptors and will not involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0203308024	Deliver its restoration programme (incorporating Natural Flood Management and land management where appropriate) in designated chalk rivers, including the River Frome and Moors River	No Likely Significant Effect, but down-the-line HRA required – Delivering a restoration programme, including Natural Flood Management, in designated chalk rivers is likely to be beneficial for the environment and will reduce the potential for flooding in the Dorset Management Catchment. Natural England fully support the delivery of natural flood management and land management, particularly where such measures restore favourable hydrological conditions in European sites and have expressed their enthusiasm for this measure. This is essentially a commitment to deliver existing adopted plans and is therefore included in the FRMP for completeness. For example, there is already a Frome Rehabilitation Plan (part complete) and Moors River Restoration Plan. Moreover, the updated RBMP requires that river restoration is undertaken in accordance with SAC river conservation plans which have had HRA already and are signed off. Notwithstanding this, depending on the nature and location of management measures, impact pathways linking to European sites may be present, including in relation to water quality, water level and visual / noise disturbance. There is insufficient information at the strategic FRMP level to undertake a thorough assessment of this measure. Detailed restoration proposals will need to be supported by bespoke HRAs to adequately appraise LSEs and, where relevant, adverse effects on the integrity of European sites. In line with the guidance quoted in paragraph 2.24, down-the-line assessment will be required as further details emerge regarding what will be done to deliver this measure.

Measure ID	Measure	Likely Significant Effects on European sites
0203308047	Deliver the Avon Beach to Highcliffe Beach management works in Christchurch Bay	No Likely Significant Effect – Delivering the Avon Beach to Highcliffe Beach management works is not associated with impact pathways linking to European sites. While the measure will involve physical work on the ground, any impacts are likely to be localised and will not have negative effects on the Dorset Heathlands SPA and Dorset Heaths SAC. The River Avon SAC lies approx. 2.3km to the west of Avon Beach and is connected to the English Channel via Christchurch Harbour. The SAC is partly designated for migratory Atlantic salmon, which enter Christchurch Harbour via the narrows some 200m from Avon Beach. However, it is not considered that beach management works could realistically affect the ability of anadromous fish to migrate towards the mouth of the River Avon. Therefore, potential effects on the SAC are excluded from further assessment.
0203308051	Deliver the Hamworthy to Upton Flood Defence Scheme in Turlin Moor, Poole	No Likely Significant Effect, but down-the-line HRA required – Delivering the Hamworthy to Upton Flood Defence Scheme in Turlin Moor, Poole, will reduce flood risk in the adjoining conurbation of Thurlin Moor. Delivery of this specific measure is associated with a range of impact pathways, including coastal squeeze, temporary / permanent habitat loss, water quality, water level and visual / noise disturbance. However, there is insufficient detail at the FRMP level to undertake a detailed assessment of this measure. A bespoke HRA will be needed for the planning application to adequately appraise LSEs and, where relevant, adverse effects on the integrity of European sites. The need for defending this section of coastline would have been identified (and assessed through HRA) in the Poole & Christchurch Bays SMP. Furthermore, it is noted that reference to a flood defence scheme is made in the adopted Strategic Flood Risk Assessment for Poole.

Measure ID	Measure	Likely Significant Effects on European sites
0203308065	Deliver the Kinson Dam Screens Replacement Scheme in Bournemouth	No Likely Significant Effect, but down-the-line HRA required – Delivering the Kinson Dam Screens Replacement Scheme will reduce flood risk in the Stour Management Catchment. Depending on the specific nature and location of this scheme, linking impact pathways to the Dorset Heaths SAC and Dorset Heathlands Ramsar may exist, most notably impacts on water quality, water level and visual / noise disturbance. However, there is insufficient detail at the FRMP level to undertake a detailed assessment of this measure. A bespoke HRA will be needed for the planning application to adequately appraise LSEs and, where relevant, adverse effects on the integrity of European sites. It is noted that the need for the replacement scheme is identified in the adopted Local Strategy for Flood Risk Management for Bournemouth. In line with the guidance quoted in paragraph 2.24, down-the-line assessment will be required as further details emerge regarding what will be done to deliver this measure.
0203308020	Deliver warning and forecasting improvements in the Lower River Stour	No Likely Significant Effect – Delivering flood warning and forecasting improvements in the Lower River Stour is not associated with impact pathways linking to European sites. This is a desk-based measure that will not involve physical work on the ground.
0203308050	Determine a sustainable approach to restore saltmarsh through the beneficial re-use of local dredging material in Holes Bay, Poole Harbour	No Likely Significant Effect – Determining a sustainable approach to restoring saltmarsh through the re-use of dredging material is not associated with impact pathways linking to European sites. This measure proposes the determination rather than the implementation of an approach and as such will not involve physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0203308060	Develop a Local Sustainable Drainage Systems (SuDS) policy in the BCP Council area	No Likely Significant Effect – Developing a Local Sustainable Drainage Systems (SuDS) policy for the BCP Council area is not associated with impact pathways linking to European sites. This is a policy-level measure that will not involve physical work on the ground.
0203308062	Develop a revised local Community Infrastructure Levy (CIL) policy to fund flood risk management activities that cannot attract Grant in Aid funding (e.g. Surface Water Management Plan actions) in the BCP Council area	No Likely Significant Effect – Developing a revised local Community Infrastructure Levy (CIL) policy to fund flood risk management activities in the BCP Council area is not associated with impact pathways linking to European sites. This is a policy-level measure that will not involve physical work on the ground.
0203308057	Develop the new Local Plan in the BCP Council area	No Likely Significant Effect – Developing the new Local Plan in the BCP Council area is not associated with impact pathways linking to European sites. Devising a new Local Plan is a strategic policy-level measure, will not involve physical work on the ground. Impacts linked to the actual policy content will be assessed in the relevant plan HRA.
0203308063	Establish a Coastal Asset Management System to pro-actively manage coastal flood risk management assets in the future in areas along the Dorset Coast (Lyme Regis to Chewton Bunny)	No Likely Significant Effect – Establishing a Coastal Asset Management System along the Dorset Coast is not associated with impact pathways linking to European sites. However, this is a strategic, desk-based measure that will not involve physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0203308046	Finalise the Poole Bridge to Hunger Hill Flood Defence Scheme in Poole Old Town, Poole Harbour	No Likely Significant Effect – Finalising the Poole Bridge to Hunger Hill Flood Defence Scheme in Poole Harbour is not associated with impact pathways linking to European sites. This measure simply commits to finalising a scheme that has already commenced and a commitment itself does not result in LSEs. While it is noted that the scheme itself has been deemed to result in LSEs, it is currently undergoing its own project-level HRA, which will ensure that it does not result in adverse effects on the integrity of the Poole Harbour SPA / Ramsar. Furthermore, the need for defending this section of coastline would have been identified (and assessed through HRA) in the Poole & Christchurch Bays SMP.
0203308064	Implement the Bournemouth Central Valley Surface Water Flood Relief Scheme in Bournemouth	No Likely Significant Effect, but down-the-line HRA required – Bournemouth lies relatively close to several European sites, including the Dorset Heaths SAC and Dorset Heathlands SPA / Ramsar. These sites are sensitive to a range of impact pathways, including water quality, water level and visual / noise disturbance. Depending on the specific nature and location of scheme measures, linking impact pathways may therefore exist. However, there is insufficient detail at the FRMP level to undertake a detailed assessment of this measure. A bespoke HRA will be required at the planning application stage to adequately appraise LSEs and, where relevant, adverse effects on the integrity of European sites. It is noted that the Bournemouth Central Valley Surface Water Flood Relief Scheme is identified in the adopted Local Strategy for Flood Risk Management for Bournemouth. In line with the guidance quoted in paragraph 2.24, down-the-line assessment will be required as further details emerge regarding what will be done to deliver this measure.

Measure ID	Measure	Likely Significant Effects on European sites
0203308042	Implement the Flood and Costal Erosion Risk Management Strategy in Christchurch Bay and Harbour	No Likely Significant Effect – Implementing the Flood and Coastal Erosion Risk Management Strategy is not associated with impact pathways linking to European sites. This is because this measure is already being implemented and would have previously undergone HRA.
0203308043	Implement the actions and preferred options outlined in the Flood and Coastal Erosion Risk Management Strategy	No Likely Significant Effect – Implementing the actions identified in the Flood and Coastal Erosion Risk Management Strategy (FCERM) is not associated with impact pathways linking to European sites. This is because this measure is carried over from the cycle 1 FRMP and has previously undergone HRA. Furthermore, the adopted FCERM strategy would have undergone its own statutory consenting process (including HRA) prior to its implementation.
0203308059	Produce a new Cliff Management Strategy in the BCP Council area	No Likely Significant Effect – Producing a new Cliff Management Strategy for the BCP Council area is not associated with impact pathways linking to European sites. Effectively, this is a strategic, desk-based measure that will not involve physical work on the ground. Furthermore, it is considered that managing cliffs (some of which form part of European sites) in relation to threats such as recreational pressure, will actually contribute to their protection.
0203308055	Produce a new Local Flood Risk Management Strategy in the BCP Council area	No Likely Significant Effect – Producing a new Local Flood Risk Management Strategy for the BCP Council area is not associated with impact pathways linking to European sites. Effectively, this is a strategic, desk-based measure that will not involve physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0203308056	Produce a new Strategic Flood Risk Assessment in the BCP Council area	No Likely Significant Effect – Producing a new Strategic Flood Risk Assessment for the BCP Council area is not associated with impact pathways linking to European sites. Effectively, this is a strategic, desk-based measure that will not involve physical work on the ground.
0203308058	Produce the new BCP Surface Water Management Plans (following the new Local Flood Risk Management Strategy) in the BCP area	No Likely Significant Effect – Producing the new Surface Water Management Plans for the BCP Council area is not associated with impact pathways linking to European sites. Effectively, this is a strategic, desk-based measure that will not involve physical work on the ground.
0203308008	Undertake works in Cerne Abbas, Swanage and Beaminster reservoirs	No Likely Significant Effect – Undertaking works in Cerne Abbas, Swanage and Beaminster reservoirs is not associated with impact pathways linking to European sites. This is because this measure is carried over from the cycle 1 FRMP and has previously undergone HRA. Furthermore, the closest European site to any of these settlements is the West Dorset Alder Woods SAC approx. 3km from Beaminster. It is considered very unlikely that localised reservoir works could have significant impacts on the hydrology within the SAC.

Measure ID	Measure	Likely Significant Effects on European sites
0203308049	Work in partnership to deliver the tidal defence scheme in Christchurch Harbour	No Likely Significant Effect, but down-the-line HRA required – Delivering the tidal defence scheme in Christchurch Harbour will reduce flood risk in the adjoining conurbation of Christchurch. Delivery of this specific measure is associated with a range of impact pathways potentially linking to the River Avon SAC and Avon Valley SPA / Ramsar, including coastal squeeze, temporary / permanent habitat loss, water quality, water level and visual / noise disturbance. The need for defending this section of coastline would have been identified (and assessed through HRA) in the Poole and Christchurch Bays SMP. The HRA would have confirmed any mitigation needed to avoid adverse effects on the integrity of European sites or identified any need for compensation for those impacts where adverse effects on integrity cannot be avoided or mitigated but an Imperative Reasons of Overriding Public Interest/No Alternatives justification can be made, with compensation being/to be delivered in the form of the Habitat Compensation Programme. The Christchurch Harbour tidal defence was covered by the HRA of the SMP2 HRA and it will also be covered by the Poole & Christchurch Bays Coastal and Flood Risk Management and Christchurch Bay and Harbour FCERM Strategy 2021-2024 – Poole & Christchurch Bays Flood & Coastal Erosion Risk Management (twobays.net). The individual scheme will also be subject to its own HRA before it is adopted. This measure is simply a commitment to continue with implementation of the adopted SMP through delivering the tidal defence scheme in Christchurch Harbour and therefore no likely significant effects will arise from including the measure in the FRMP. This scheme will need to be subject to its own HRAs once devised and before being consented.

Measure ID	Measure	Likely Significant Effects on European sites
0203308009	Work with partners to create intertidal habitat in the Moors at Arne	No Likely Significant Effect – Creating intertidal habitat in the Moors at Arne is not associated with impact pathways linking to European sites. This is because this measure is carried over from the cycle 1 FRMP (and would have previously undergone HRA) and because the creation of intertidal habitat is positive for European sites, given that it targets at offsetting the habitat lost due to coastal squeeze.
0203308017	Work with partners to develop a strategic approach in Bridport	No Likely Significant Effect – Developing a strategic approach for flood management in Bridport is not associated with impact pathways linking to European sites. Effectively, this is a strategic, desk-based measure that will not involve physical work on the ground.
0288808019	Work with partners to develop a strategic approach to the future management and implementation of improved flood defences and flood forecasting in Chiswell, Portland	No Likely Significant Effect – Developing a strategic approach for future management and implementation of improved flood defences in Chiswell, Portland, is not associated with impact pathways linking to European sites. Effectively, this is a strategic, desk-based measure that will not involve physical work on the ground. The identified details of the resulting approach may result in effects on European sites but that will be taken into account in developing the approach.
0203308006	Work with partners to develop options using current modelling outputs and deliver flood defences (if viable) in Dorchester	No Likely Significant Effect – Delivering flood defences in Dorchester has the potential to result in impact pathways, including impacts on water quality, water level, visual / noise disturbance. However, the nearest European sites are the Dorset Heaths SAC and Dorset Heathlands SPA / Ramsar, which is considered to be too far from the boundary of the measure for there to be a realistic link. Moreover, the measure explicitly identifies that options (not currently identified) would only be taken forward if viable; negatively affecting European sites would be key to determining their viability.

Measure ID	Measure	Likely Significant Effects on European sites
0203308007	Work with partners to carry out an appraisal of options for flood defence improvements following recent modelling in Christchurch, Hampshire Avon and Lower Stour	No Likely Significant Effect – Delivering flood defences in Dorchester has the potential to result in impact pathways, including impacts on water quality, water level, visual / noise disturbance. However, the nearest European sites are the Dorset Heaths SAC and Dorset Heathlands SPA / Ramsar, which is considered to be too far from the boundary of the measure for there to be a realistic link.
0203308021	Work with partners to undertake a catchment scale assessment of Natural Flood Management opportunities in Dorset and its surrounding communities	No Likely Significant Effect – Undertaking a catchment-scale assessment of Natural Flood Management opportunities across Dorset is not associated with impact pathways linking to European sites. Effectively, this is a strategic, desk-based measure that will not involve physical work on the ground. Individual opportunities could have negative effects but that will be taken into account in identifying opportunities.

Measure ID	Measure	Likely Significant Effects on European sites
0203308018	Work with the community and partners to deliver flood defences and wider benefits in Swanage town centre	No Likely Significant Effect – Delivering flood defences in Swanage will reduce flood risk in this conurbation. The need for defending this section of coastline would have been identified (and assessed through HRA) in the Durlston Head to Rame Head SMP. Delivery of flood defences can be associated with a range of impact pathways potentially linking to European sites, including coastal squeeze, temporary / permanent habitat loss, water quality, water level and visual / noise disturbance. However, there are no European sites adjoining Swanage that are sensitive to these impact pathways. The St Albans Head to Durlston Head SAC largely comprises habitats / species on cliffs that will not be impacted by new flood defences. The Solent & Dorset Coast SPA is designated for foraging tern species, but unlike nesting terns foraging terns have a low vulnerability to noise disturbance and is no credible pathway between town centre flood defences and noise or water quality within the SPA. Disturbance levels are already high in the town centre.
0288808063	Continue to provide a groundwater flood warning service on behalf of Lead Local Flood Authorities in Dorset and Wiltshire	No Likely Significant Effect – Continuing to provide a groundwater flood warning service in Dorset and Wiltshire is not associated with impact pathways linking to European sites. Effectively, this is a strategic, desk-based measure that will not involve physical work on the ground.

Table 11. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the North Cornwall Seaton Looe and Fowey Flood Risk Area

Measure ID	Measure	Likely Significant Effects on European sites
0200408028	Deliver improvements to the existing pumping station in Wadebridge	No Likely Significant Effect – Delivering improvements to the existing pumping station in Wadebridge is not associated with impact pathways linking to European sites. This is because this measure is carried over from the cycle 1 FRMP and has previously undergone HRA. Furthermore, the River Camel SAC is the closest European site, approx. 1.3km upstream from Wadebridge. Given its downstream location and that improvements to the pumping station will not be undertaken within the water column, impacts on hydrology and regarding noise disturbance to anadromous fish would not represent issues. Any potential for water quality impacts would have been addressed as part of the cycle 1 HRA.
0200408015	Develop a strategy in Bude	No Likely Significant Effect – Developing strategy for flood management in Bude is not associated with impact pathways linking to European sites. Effectively, this is a strategic, desk-based measure that will not involve physical work on the ground.
0200408014	Improve river defences and upstream habitat in Bude	No Likely Significant Effect – Improving river defences and upstream habitat in Bude is not associated with impact pathways linking to European sites. This is because this measure is carried over from the cycle 1 FRMP and has previously undergone HRA. Furthermore, there are no hydrologically sensitive European sites in the likely Zone of Influence of this measure.
0200408084	Provide strategic flooding, coastal risk and climate change guidance to partners and the community in Looe	No Likely Significant Effect – Providing strategic advice on flooding and climate-related topics is not associated with impact pathways linking to European sites. Furthermore, this measure is carried over from the cycle 1 FRMP and would have previously undergone HRA.

Measure ID	Measure	Likely Significant Effects on European sites
0200408029	Review the existing defences at Bradfords Quay in Wadebridge	No Likely Significant Effect – Reviewing the existing defences at Bradfords Quay in Wadebridge is not associated with impact pathways linking to European sites. This measure proposes the review of existing measures rather than implementing improvements to existing defences or developing new structures.
0200408085	Work in partnership to enhance the environment and implement natural flood management, improve infrastructure and increase community resilience in Lostwithiel	No Likely Significant Effect – Enhancing the environment and implementing natural flood management in Lostwithiel is unlikely to be associated with impact pathways linking to European sites. Generally, the implementation of natural flood management measures is likely to be beneficial for both human and environmental receptors. Notwithstanding this, such measures can impact on the water quality and level in European sites, particularly in the construction period. However, the closest European site with a hydrological dependency is the Breney Common and Goss & Tregoss Moors SAC over 3.5km away, which is beyond the distance that these impact pathways would be relevant.
0200408086	Work with partners and the community to develop a community flood resilience plan in Fowey	No Likely Significant Effect – Developing a community flood resilience plan for Fowey is not associated with impact pathways linking to European sites. This is because this measure proposes the development rather than the implementation of a plan. Devising a plan is unlikely to involve physical work on the ground.
0200408088	Work with partners and the community to investigate options to deliver improved coastal defences in Port Isaac	No Likely Significant Effect – Investigating options to deliver improved coastal defences in Port Isaac is not associated with impact pathways linking to European sites. This is because the measure proposes the investigation rather than the delivery of such defences and will, therefore, not involve physical work on the ground.
0200408027	Work with partners to review the impact of flood risk assets and in-river structures to fish and eel passage in Camelford	No Likely Significant Effect – Reviewing the impact of flood risk assets and in-river structures on migrating eel is not associated with impact pathways linking to European sites. Effectively, this is a strategic, desk-based measure that will not involve physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200408083	Work with partners, land owners and communities to implement ongoing natural flood management measures and peatland restoration in Bodmin Moor	No Likely Significant Effect – Implementing natural flood management measures and peatland restoration in Bodmin Moor is not associated with impact pathways linking to European sites. While natural flood management can impact European sites, this measure is already being implemented and, therefore, would have undergone HRA.
0200408106	Work with the community and partners to deliver nature-based solutions in the catchment and work with developers in Bodmin	No Likely Significant Effect, but down-the-line HRA required – Delivering nature-based solutions is unlikely to be associated with impact pathways linking to European sites. Generally, the implementation of natural flood management measures is likely to be beneficial for both human and environmental receptors. Notwithstanding this, such measures can impact on the water quality and level in European sites, particularly in the construction period. The closest European site with a sensitivity to hydrological changes is the River Camel SAC, which runs along the boundary of this Management Catchment measure. There is insufficient detail at the FRMP level to undertake a detailed assessment of this measure as it is a commitment to develop solutions with the actual solutions to emerge later. A bespoke HRA will be needed at the planning application stage of more detailed proposals to adequately appraise LSEs and, where relevant, adverse effects on the integrity of European sites. In line with the guidance quoted in paragraph 2.24, down-the-line assessment will be required as further details emerge regarding what will be done to deliver this measure.
0200408087	Work with the community and partners to enhance soil and the environment in the catchment and improve flood warnings in Polperro	No Likely Significant Effect – Enhancing soil and the environment is not associated with impact pathways linking to European sites. It is a strategic measure that will improve general ecosystem health. While detail of the improvement programmes is not available at the FRMP level, it is unlikely that impacts on European sites will arise.

Table 12. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the North Devon Management Catchment

Measure ID	Measure	Likely Significant Effects on European sites
0200508111	Work with developers, partners and the community to implement defence improvements in East the Water	No Likely Significant Effect – Implementing flood defence improvements in East the Water will reduce flood risk in this conurbation. The need for defending this section of the estuary would have been identified (and assessed through HRA) in the relevant SMP. Delivery of flood defences can be associated with a range of impact pathways potentially linking to European sites, including coastal squeeze, temporary / permanent habitat loss, water quality, water level and visual / noise disturbance. However, there are no European sites in Budeford that are sensitive to these impact pathways. The Braunton Burrows SAC, approx. 5km away from the boundary of this Management Catchment measure, lies beyond its potential Zone of Influence.
0200508109	Work with partners and the community to examine the impacts of climate change in Braunton Marshes and Crow Point	No Likely Significant Effect – Examining the impacts of climate change in Braunton Marshes and Crow Point is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve physical work on the ground.
0200508106	Work with partners and the community to implement improvements to Kenwith Flood Storage Reservoir in Bideford	No Likely Significant Effect – Implementing improvements to Kenwith Flood Storage Reservoir in Bideford is not associated with impact pathways linking to European sites. Depending on the precise nature and location of the improvement works, linking impact pathways could include water quality, water level and coastal squeeze. However, the Braunton Burrows SAC, at approx. 5km distance the closest European site with sensitivity to these impact pathways, is too far away for there to be realistic impact potential.

Measure ID	Measure	Likely Significant Effects on European sites
0200508137	Work with the Environment Agency, the community and partners to carry out a study to identify options in Bideford	No Likely Significant Effect – Undertaking a study to identify flood mitigation options in Bideford is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve physical work on the ground.
0200508114	Work with the community and partners to assess levels of flood risk from the East and West Okement and surface water in Okehampton	No Likely Significant Effect – Assessing levels of flood risk from waterbodies and surface water in Okehampton is not associated with impact pathways linking to European sites. This is a measure to enhance the understanding of environmental processes and will not involve significant physical work on the ground.
0200508112	Work with the community and partners to complete a modelling study in Lynmouth	No Likely Significant Effect – Completing a modelling study in Lynmouth is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve physical work on the ground.
0200508115	Work with the community and partners to improve our understanding of the resilience of flooding from the Landkey, Yarnacott and Halford Streams in Swimbridge and Landkey	No Likely Significant Effect –Improving the understanding of flood resilience in Swimbridge and Landkey is not associated with impact pathways linking to European sites. This is a measure to enhance comprehension of an environmental process and will not involve significant physical work on the ground.
0200508108	Work with the community and partners to increase our understanding of the flooding mechanisms within the River Caen and Knowle Water catchments in Braunton	No Likely Significant Effect –Increasing our understanding of flooding mechanisms in Braunton is not associated with impact pathways linking to European sites. This is a measure to enhance understanding about a natural process and will not involve significant physical work on the ground.
0200508116	Work with the community and partners to investigate options to adapt to climate change risks, restore and enhance the environment through naturalisation of the river and its floodplain in Weare Giffard	No Likely Significant Effect – Identifying options to adapt to climate change and enhance the environment in Weare Giffard is not associated with impact pathways linking to European sites. This measure identifies rather than implements options, such that involves no physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200508113	Work with the community and partners to undertake a study to identify opportunities in North Tawton	No Likely Significant Effect – Identifying opportunities for flood management in North Tawton is not associated with impact pathways linking to European sites. It is a measure that identifies rather than implements opportunities, such that it will not involve physical work on the ground.
0200508110	Work with the community, Devon County Council, South West Water and other partners to identify and implement opportunities in Combe Martin	No Likely Significant Effect – Identifying and implementing flood management measures in Combe Martin is likely to benefit the environment because it will help work towards naturalising water quality and water level. At the same time, if inadequately planned, such measures could have inadvertent effects on European sites, including on water quality and water level. However, the only European site within the potential Zone of Influence of the measure is the Exmoor Heaths SAC. Much of this site will be on higher ground, such that it will not be impacted by flood management measures in Combe Martin.
0200508107	Work with the community, developers, Devon County Council and South West Water to identify viable solutions in Bishops Tawton	No Likely Significant Effect – Identifying viable solutions for flood management in Bishops Tawton is not associated with impact pathways linking to European sites. It is a measure that identifies rather than implements solutions, such that it will not involve physical work on the ground.

Table 13. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the Somerset South and West Management Catchment

Measure ID	Measure	Likely Significant Effects on European sites
0213108026	Work with partners to achieve the objectives of the Local Flood Risk Management Strategy in North Somerset	No Likely Significant Effect – Achieving the objectives of the Local Flood Risk Management Strategy in North Somerset is not associated with impact pathways linking to European sites. This is because this measure is carried over from the cycle 1 FRMP and would have previously undergone HRA.
0203508015	Work with partners to achieve the objectives of the Local Flood Risk Management Strategy in Somerset	No Likely Significant Effect – Achieving the objectives of the Local Flood Risk Management Strategy in Somerset is not associated with impact pathways linking to European sites. This is a very broad measure for which the FRMP does not provide sufficient information to enable a detailed assessment. Furthermore, the Local Flood Risk Management Strategy would have undergone HRA, appraising LSEs and, where relevant, adverse effects on the integrity of European sites.
0203508016	Work with partners to investigate options and develop a strategy in the River Axe catchment	No Likely Significant Effect – Investigating options and developing a strategy for flood management in the River Axe catchment is not associated with impact pathways linking to European sites. This measure investigates and develops, rather than implements a strategy and will not involve physical work on the ground.
0203508011	Work with partners to undertake a catchment-scale assessment of Natural Flood Management opportunities in Ilminster and its surrounding communities	No Likely Significant Effect – Undertaking an assessment of Natural Flood Management opportunities in and around Ilminster is not associated with impact pathways linking to European sites. It is a measure that assesses rather than implements opportunities, such that it will not involve physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0288808021	Work with partners to undertake a catchment-scale assessment of Natural Flood Management opportunities in Yeovil and its surrounding communities	No Likely Significant Effect – Undertaking an assessment of Natural Flood Management opportunities in and around Yeovil is not associated with impact pathways linking to European sites. It is a measure that assesses rather than implements opportunities, such that it will not involve physical work on the ground.
0203808009	Work with partners to undertake a catchment-scale assessment of Natural Flood Management opportunities in the Sheppey catchment and its surrounding communities	No Likely Significant Effect – Undertaking an assessment of Natural Flood Management opportunities in and around the Sheppey catchment is not associated with impact pathways linking to European sites. It is a measure that assesses rather than implements opportunities, such that it will not involve physical work on the ground.

Table 14. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the Tamar Management Catchment

Measure ID	Measure	Likely Significant Effects on European sites
0200408078	Work with Tamar Catchment Partnership to integrate the planning, development and delivery of programmes which include nature-based solutions in the River Tamar Catchment	No Likely Significant Effect – Integrating the planning, development and delivery of nature-based solution programmes is not associated with impact pathways linking to European sites. This is a strategic measure that focuses on integration rather than the explicit delivery of catchment programmes. This measure unlikely to involve physical activities on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200408104	Work with developers in the catchment to improve infrastructure, manage surface water and increase community resilience in Saltash	No Likely Significant Effect, but down-the-line HRA required – Improving infrastructure and managing surface water will reduce flood risk in the area around Saltash. Depending on the nature and specific location of improvements, delivery of this measure is associated with a range of potential impact pathways potentially linking to the Plymouth Sound and Estuaries SAC and the Tamar Estuaries Complex SPA / Ramsar, including coastal squeeze, temporary / permanent habitat loss, water quality, water level and visual / noise disturbance. The need for infrastructure improvements and managing flood risk in Saltash would have been identified (and assessed through HRA) in the South Devon & Dorset SMP[54]. The HRA would have confirmed any mitigation needed to avoid adverse effects on the integrity of European sites or identified any need for compensation for those impacts where adverse effects on integrity cannot be avoided or mitigated but an Imperative Reasons of Overriding Public Interest/No Alternatives justification can be made, with compensation being/to be delivered in the form of the Habitat Compensation Programme. This measure is simply a commitment to continue with implementation of the adopted SMP through delivering flood mitigation infrastructure in Saltash and therefore no likely significant effects will arise from including the measure in the FRMP. Specific schemes will need to be subject to their own HRAs once devised and before being consented.
0200408082	Work with partners to assess the impact of mining operations and identify and deliver opportunities through restoration plans in the River Tamar catchment	No Likely Significant Effect – Assessing the impact of mining operations and identifying / delivering restoration plans is not associated with impact pathways linking to European sites. This is a positive measure for the environment as restoration projects in old mining sites will help reduce future polluted runoff from these sites, protecting the water quality in freshwater and coastal European sites. This is a strategic measure for which the Flood Planning Explorer does not indicate physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200408102	Work with partners to improve land management in the surrounding catchment and infrastructure in Horrabridge	No Likely Significant Effect – Improving land management and infrastructure in the catchment surrounding Horrabridge is likely to be beneficial for the environment and will reduce the potential for flooding in the Tamar Management Catchment. However, depending on the nature and location of management and improvement interventions, impact pathways can include water quality, water level and visual / noise disturbance. However, the closest European sites (Plymouth Sound and Estuaries SAC, Tamar Estuaries Complex SPA) lie over 5.7km from the boundary of this Management Catchment measure, such that it is unlikely that any impacts would arise.
0200408101	Work with partners to investigate options for future management of flood risk in Tavistock	No Likely Significant Effect – Investigating options for future management of flood risk in Tavistock is not associated with impact pathways linking to European sites. This measure investigates rather than implements options and will not involve physical work on the ground.
0200408081	Work with the Tamar Catchment Partnership to develop an evidence base of the hydrology in the River Tamar catchment	No Likely Significant Effect – Developing an evidence base of the hydrology in the River Tamar catchment is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve physical work on the ground.
0200408079	Work with the Tamar Catchment Partnership to develop plans for a Local Nature Recovery Network in the River Tamar catchment	No Likely Significant Effect – Developing plans for a Local Nature Recovery Network in the River Tamar catchment is positive for the environment and is unlikely to be associated with impact pathways linking to European sites. Furthermore, this measure intends to develop rather than implement a plan, such that it will not involve physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200408080	Work with the Tamar Catchment Partnership to integrate planning, development and delivery of programmes for soil condition improvements in the River Tamar catchment	No Likely Significant Effect – Integrating the planning, development and delivery of soil condition improvement programmes is not associated with impact pathways linking to European sites. This is a strategic measure that focuses on integration rather than the explicit delivery of soil condition improvements. This measure unlikely to involve physical activities on the ground.
0200408016	Work with the community and partners to enhance soil and the environment in the catchment, improve infrastructure and increase community resilience in Cawsand	No Likely Significant Effect – Enhancing soil and the environment and improving infrastructure in Cawsand is not associated with impact pathways linking to European sites. This is because this measure is carried over from the cycle 1 FRMP and would have previously undergone HRA. Furthermore, enhancing soil and the environment is a positive action.
0200408017	Work with the community and partners to enhance soil and the environment in the catchment, improve infrastructure and increase community resilience in Kingsand	No Likely Significant Effect – Enhancing soil and the environment and improving infrastructure in Kingsand is not associated with impact pathways linking to European sites. This is because this measure is carried over from the cycle 1 FRMP and would have previously undergone HRA. Furthermore, enhancing soil and the environment is a positive action.
0200408100	Work with the community and partners to enhance soil and the environment in the catchment, improve infrastructure and increase community resilience in Launceston	No Likely Significant Effect – Enhancing soil and the environment, and improving infrastructure is likely to be beneficial for the environment and will reduce the potential for flooding in the Tamar Management Catchment. However, depending on the nature and location of management and improvement interventions, impact pathways can include water quality, water level and visual / noise disturbance. However, the closest European sites with hydrological linkages (Plymouth Sound and Estuaries SAC, Tamar Estuaries Complex SPA) lie over 16km from the boundary of this Management Catchment measure, such that it is unlikely that any impacts would arise.

Measure ID	Measure	Likely Significant Effects on European sites
0200408103	Work with the community and partners to improve infrastructure and increase community resilience in Gunnislake	No Likely Significant Effect, but down-the-line HRA required – Improving infrastructure will reduce flood risk in the area around Gunnislake. Depending on the nature and specific location of improvements, delivery of this measure is associated with a range of potential impact pathways linking to the Plymouth Sound and Estuaries SAC (at approx. 500m distance), including water quality and water level. However, there is insufficient detail at the FRMP level to undertake a detailed assessment, as this measure is just a commitment to work collaboratively with the actual improvements to be identified later. A bespoke HRA will be needed in support of more detailed proposals to adequately appraise LSEs and, where relevant, adverse effects on the integrity of European sites. In line with the guidance quoted in paragraph 2.24, down-the-line assessment will be required as further details emerge regarding what will be done to deliver this measure.

Table 15. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the Isles of Scilly Management Catchment

Measure ID	Measure	Likely Significant Effects on European sites
0288808058	Develop an adaptation pathway in the Isles of Scilly	No Likely Significant Effect – Developing an adaptation pathway in the Isles of Scilly is not associated with impact pathways linking to European sites. The project is already in progress and it has been through the necessary consenting process, which has included HRA (where applicable)Furthermore, this measure is strategic and desk-based, not involving physical work on the ground.
0288808059	Work in partnership with the Council of the Isles of Scilly to provide flood risk mapping and flood warning services in the Isles of Scilly	No Likely Significant Effect – Providing flood risk mapping and flood warning services in the Isles of Scilly is not associated with impact pathways linking to European sites. Mapping and flood warning services are strategic and desk-based measures that do not involve physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0288808060	Work in partnership with the Environment Agency to achieve the objectives of the Local Flood Risk Management Strategy in the Isles of Scilly	No Likely Significant Effect – Achieving the objectives of the Local Flood Risk Management Strategy in the Isles of Scilly is not associated with impact pathways linking to European sites. The project is already in progress and it has been through the necessary consenting process, which has included HRA (where applicable).

Table 16. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the Mounts Bay (Risk of Flooding from Rivers and Seas; RoFRS) Flood Risk Area

Measure ID	Measure	Likely Significant Effects on European sites
0200408051	Continue to collaborate with the Penzance Place-Shaping Group in Mounts Bay	No Likely Significant Effect – Collaborating with the Penzance Place-Shaping Group in Mounts Bay is not associated with impact pathways linking to European sites. This measure is already being implemented and would have gone HRA appraisal.
0200408063	Ensure continued availability of meteorological data in Mounts Bay	No Likely Significant Effect – Ensuring the availability of meteorological data in Mounts Bay is not associated with impact pathways linking to European sites. This is a desk-based measure that does not involve physical work on the ground.
0200408062	Review and update coastal flood warning thresholds and fluvial flood forecasting modelling in Mounts Bay	No Likely Significant Effect – Reviewing and updating coastal flood warning thresholds and fluvial flood forecasting modelling in Mounts Bay is not associated with impact pathways linking to European sites. This is a desk-based measure that does not involve physical work on the ground.
0200408064	Review and update hydrometric monitoring requirements in Mounts Bay	No Likely Significant Effect – Reviewing and updating hydrometric monitoring requirements in Mounts Bay is not associated with impact pathways linking to European sites. This is a desk-based measure that does not involve physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200408060	Work in partnership to demonstrate the wider benefits of including low carbon, ecological enhancements within engineered structures in Mounts Bay	No Likely Significant Effect – Working in partnership to demonstrate the wider benefits of nature-inclusive engineering in Mounts Bay is not associated with impact pathways linking to European sites. This is a desk-based measure aiming at collaboration that does not involve physical work on the ground.
0200408059	Work in partnership to develop projects to support an Adaptive Approach based on recommendations in the Mounts Bay Strategy in Mounts Bay	No Likely Significant Effect, but down-the-line HRA required – Delivering projects to support an Adaptive Approach will reduce flood risk in the area around Pencanze. Depending on the nature and specific location of improvements, delivery of this measure is associated with a range of potential impact pathways potentially linking to the Marazion Marsh SPA (located within the area for which projects are proposed), including water quality, water level and visual / noise disturbance. The need for adaptive measures would have been identified (and assessed through HRA) in the Cornwall and the Isles of Scilly SMP[55]. The HRA would have confirmed any mitigation needed to avoid adverse effects on the integrity of European sites or identified any need for compensation for those impacts where adverse effects on integrity cannot be avoided or mitigated but an Imperative Reasons of Overriding Public Interest/No Alternatives justification can be made. This measure is simply a commitment to continue with implementation of the adopted SMP by delivering an adaptive approach in Longrock and therefore no likely significant effects will arise from including the measure in the FRMP. Specific schemes will need to be subject to their own HRAs once devised and before being consented.
0200408061	Work in partnership to engage with the community through the Mounts Bay Strategy and related projects in Mounts Bay	No Likely Significant Effect – Working in partnership with the community in Mounts Bay is not associated with impact pathways linking to European sites. This is a community engagement exercise that does not involve physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200408058	Work in partnership to implement the Beach and Dune Management Plan in Marazion	No Likely Significant Effect, but down-the-line HRA required – Implementing the Beach and Dune Management Plan at Marazion is likely to be beneficial for the environment and will reduce the potential for flooding in the area. However, depending on the nature and location of management measures, potential impact pathways linking to the Marazion Marsh SPA can include water quality, water level and visual / noise disturbance. The requirement for beach and dune management has been identified (and assessed through HRA) in the Cornwall Sand Dune and Beach Management Strategy[56]. The HRA confirmed any mitigation needed to avoid adverse effects on the integrity of European sites or identified any need for compensation for those impacts where adverse effects on integrity cannot be avoided or mitigated but an Imperative Reasons of Overriding Public Interest/No Alternatives justification can be made. This measure is simply a commitment to continue with implementation of the adopted strategy by delivering the Beach and Dune Management Plan in Marazion and therefore no likely significant effects will arise from including the measure in the FRMP. The detailed plan will be subject to its own HRA once devised and before being consented.
0200408056	Work in partnership to investigate any opportunities to fund and deliver a set of interventions in Penzance	No Likely Significant Effect – Investigating opportunities to fund and deliver flood management interventions in Penzance is not associated with impact pathways linking to European sites. This measure focuses on investigating rather than delivering opportunities and is unlikely to involve physical work on the ground.
0200408052	Work in partnership to support delivery of the Cornwall Council Climate Change Development Plan Document in Mounts Bay	No Likely Significant Effect – Supporting the delivery of the Cornwall Climate Change Development Plan Document in Mounts Bay is not associated with impact pathways linking to European sites. This measure is already being implemented and would have undergone HRA appraisal.

Measure ID	Measure	Likely Significant Effects on European sites
0200408057	Work in partnership to trial innovative coastal protection in Newlyn	No Likely Significant Effect – Trialling innovative coastal protection in Newlyn is not associated with impact pathways linking to European sites. This is because this measure is carried over from the cycle 1 FRMP and would have previously undergone HRA. Furthermore, the closest sensitive European site is the Marazion Marsh SPA approx. 4.5km from Newlyn, which is too far for there to be realistic impact pathways linking to coastal protection schemes.
0200408050	Work in partnership with Cornwall Council to create a strategy in Mounts Bay	No Likely Significant Effect – Developing a flood management strategy in Mounts Bay is not associated with impact pathways linking to European sites. This measure creates rather than implements a strategy and will not involve physical work on the ground.
0200408067	Work in partnership with the community and the Local Planning Authority to influence Neighbourhood Development Planning in Penzance and Longrock	No Likely Significant Effect – Influencing Neighbourhood Development Planning in Penzance and Longrock is not associated with impact pathways linking to European sites. This is a strategic exercise that does not involve physical work on the ground.
0200408066	Work with Cornwall Council to identify properties where flood resilience measures could be implemented and promote tools and funding opportunities in Mounts Bay	No Likely Significant Effect – Identifying properties where flood resilience measures could be implemented is not associated with impact pathways linking to European sites. This measure focuses on identifying rather than delivering flood resilience measures and is unlikely to involve physical work on the ground.
0200408055	Work with South West Water and Cornwall Catchment Partnership to identify opportunities and inform land management in the Newlyn Coombe Catchment in Newlyn	No Likely Significant Effect – Identifying flood management opportunities and informing land management in the Newlyn Coombe Catchment is not associated with impact pathways linking to European sites. This measure focuses on identifying rather than delivering opportunities and is unlikely to involve physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200408053	Work with relevant partners to assess risks to critical infrastructure from all sources of flooding and coastal change in Mounts Bay	No Likely Significant Effect – Assessing risks from flooding to critical infrastructure in Mounts Bay is not associated with impact pathways linking to European sites. It is a strategic measure that ultimately benefits human receptors and will not involve physical work on the ground.
0200408065	Work with the local highways authority to review the condition and capacity of culverts in Mounts Bay	No Likely Significant Effect – Reviewing the condition and capacity of culverts in Mounts Bay is not associated with impact pathways linking to European sites. No improvements / changes to culverts are proposed.

Table 17. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the Barnstaple (RoFRS) Flood Risk Area

Measure ID	Measure	Likely Significant Effects on European sites
0200508047	Deliver a model to identify fluvial and tidelocking flood risks in Barnstaple	No Likely Significant Effect – Delivering a fluvial and tidelocking flood risk model in Barnstaple is not associated with impact pathways linking to European sites. This is a desk-based measure that does not involve physical work on the ground.
0200508046	Deliver phase two of the Anchorwood Flood Defence Improvements in Barnstaple	No Likely Significant Effect – Delivering phase two of the Anchorwood Flood Defence Improvements is not associated with impact pathways linking to European sites. This measure is already being implemented and would have undergone HRA appraisal.
0200508050	Undertake a review of the monitoring network in Barnstaple	No Likely Significant Effect – Undertaking a review of the monitoring network in Barnstaple is not associated with impact pathways linking to European sites. This is a strategic measure that reviews existing infrastructure and will not involve any physical work on the ground.
0200508048	Work with landowners and partners to carry out a study in Barnstaple	No Likely Significant Effect – Carrying out a study in Barnstaple is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200508051	Work with partners and riparian owners to undertake a study to identify culvert conditions in Barnstaple	No Likely Significant Effect – Undertaking a study to identify culvert conditions in Barnstaple is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve physical work on the ground.
0200508049	Work with partners to carry out improvements to flood defences at Rolle Quay in Barnstaple	No Likely Significant Effect – Carrying out improvements to flood defences at Rolle Quay will reduce the potential for flooding in Barnstaple. However, depending on the nature and location of flood defence improvements, impact pathways can include coastal squeeze, water quality and water level. However, the closest European site with hydrological linkage (Braunton Burrows SAC) lies over 8km from the boundary of this Flood Area measure, such that it is unlikely that any impacts would arise.
0200508129	Work with the Environment Agency, the community and partners to carry out a study to identify options in Barnstaple	No Likely Significant Effect – Identifying options for flood management in Barnstaple is not associated with impact pathways linking to European sites. It is a measure that identifies rather than implements measures, such that it will not involve physical work on the ground.

Table 18. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the Bridgwater (RoFRS) Flood Risk Area

Measure ID	Measure	Likely Significant Effects on European sites
0203508006	Start construction of the Tidal Barrier Flood Defence Scheme in Bridgwater	No Likely Significant Effect – Starting construction of the Tidal Barrier Flood Defence Scheme in Bridgwater is not associated with impact pathways linking to European sites, such as the Severn Estuary SPA / Ramsar / SAC. This is because this measure is carried over from the cycle 1 FRMP and would have previously undergone HRA. An online search indicates that this scheme has been approved in early 2022 and its corresponding HRA would have assessed LSEs and, where relevant, adverse effects on the integrity of the SPA / Ramsar / SAC.

Measure ID	Measure	Likely Significant Effects on European sites
0203508014	Work with partners to undertake a catchment scale assessment of Natural Flood Management opportunities in rural and urban catchments affecting Bridgwater and its surrounding communities	No Likely Significant Effect – Undertaking a catchment-scale assessment of Natural Flood Management opportunities in Bridgwater and surrounding communities is not associated with impact pathways linking to European sites. Effectively, this is a strategic, desk-based measure that will not involve physical work on the ground.

Table 19. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the Burnham-on-Sea (RoFRS) Flood Risk Area

Measure ID	Measure	Likely Significant Effects on European sites
0203508019	Work with Sedgemoor District Council to undertake the engagement, studies and investigations required in areas along the Pawlett Hams to the Axe Tidal Banks frontage	No Likely Significant Effect – Carrying out studies and investigations along the Pawlett Hams to the Axe Tidal Banks frontage is not associated with impact pathways linking to European sites. Studies and investigations are undertaken to obtain scientific data and will not involve physical work on the ground.
0203508027	Work with partners to undertake a catchment scale assessment of Natural Flood Management opportunities in rural and urban catchments affecting Burnham and its surrounding communities	No Likely Significant Effect – Undertaking a catchment-scale assessment of Natural Flood Management opportunities in Burnham and surrounding communities is not associated with impact pathways linking to European sites. Effectively, this is a strategic, desk-based measure that will not involve physical work on the ground.

Table 20. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the Cullompton (RoFRS) Flood Risk Area

Measure ID	Measure	Likely Significant Effects on European sites
0200508053	Establish a Critical Drainage Area in Cullompton	No Likely Significant Effect – Establishing a Critical Drainage Area in Cullompton is not associated with impact pathways linking to European sites. This is a desk-based measure that is unlikely to involve physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200508052	Work with developers to influence the delivery of the Culm Garden Village in Cullompton	No Likely Significant Effect – Influencing the delivery of the Culm Garden Village in Cullompton is not associated with impact pathways linking to European sites. While it is unclear what 'influencing' will entail, Cullompton is very distant from European sites that are sensitive to hydrological pathways.
0200508054	Work with the community, landowners and partners to undertake a study in Cullompton	No Likely Significant Effect – Carrying out a study of flood management requirements in Cullompton is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve physical work on the ground.

Table 21. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the Dawlish (RoFRS) Flood Risk Area

Measure ID	Measure	Likely Significant Effects on European sites
0200508057	Work with Teignbridge District Council, the community and partners to deliver a model for the Shutterton Brook in Dawlish Warren	No Likely Significant Effect – Delivering a hydrological model for the Shutterton Brook in Dawlish is not associated with impact pathways linking to European sites. This is a desk-based measure that does not involve physical work on the ground.
0200508055	Work with partners and communities to develop a model for the Dawlish Water in Dawlish	No Likely Significant Effect – Developing a hydrological model for the Dawlish Water in Dawlish is not associated with impact pathways linking to European sites. This is a desk-based measure that does not involve physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200508059	Work with landowners to improve access to Eales Dock screen in Dawlish Warren	No Likely Significant Effect, but down-the-line HRA required – Improving access to Eales Dock screen in Dawlish Warren would enable people to visit a previously inaccessible location along the Dawlish Warren SAC and Exe Estuary SPA / Ramsar. However, it is understood that this is not concerned with public access but with safe access for people working on and inspecting the screen. Depending on the works undertaken, impact pathway in the 'construction period' may include water quality, water level and visual / noise disturbance. Insufficient information is available at the FRMP level to undertake a meaningful analysis of this measure. Specific proposals will need to undergo HRA at the planning application stage, ensuring that there are no adverse effects on the integrity of European sites. In line with the guidance quoted in paragraph 2.24, down-the-line assessment will be required as further details emerge regarding what will be done to deliver this measure.
0200508056	Work with the Forestry Commission, the community, landowners and partners to undertake a study in Dawlish	No Likely Significant Effect – Undertaking a study of flood management requirements in Dawlish is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve physical work on the ground.
0200508058	Work with Teignbridge District Council, the community, landowners and partners to undertake a study in Dawlish Warren	No Likely Significant Effect – Undertaking a study of flood management requirements in Dawlish Warren is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve physical work on the ground.

Table 22. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the Exeter (RoFRS) Flood Risk Area

Measure ID	Measure	Likely Significant Effects on European sites
0200508068	Carry out an assessment of flood risk assets for the Exwick Flood Relief Channel in Exeter	No Likely Significant Effect – Carrying out an assessment of flood risk assets for the Exwick Flood Relief Channel is not associated with impact pathways linking to European sites. Effectively, this is a strategic, desk-based measure that will not involve physical work on the ground.
0200508065	Carry out an study of the Alphin Brook catchment and its assets in Exeter	No Likely Significant Effect – Carrying out a hydrological study of the Alphin Brook catchment is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve physical work on the ground.
0200508061	Deliver a model of the Alphin Brook in Exeter	No Likely Significant Effect – Delivering a hydrological model for the Alphin Brook in Exeter is not associated with impact pathways linking to European sites. This is a desk-based measure that does not involve physical work on the ground.
0200508062	Deliver a model of the Matford Brook in Exeter	No Likely Significant Effect – Delivering a hydrological model for the Matford Brook in Exeter is not associated with impact pathways linking to European sites. This is a desk-based measure that does not involve physical work on the ground.
0200508063	Deliver an updated forecasting model on completion of the new flood defences on the River Exe in Exeter	No Likely Significant Effect – Delivering an updated forecasting model on the completion of the new flood defences on the River Exe is not associated with impact pathways linking to European sites. This is a desk-based measure that does not involve physical work on the ground.
0200508060	Undertake a review of the monitoring network in Exeter	No Likely Significant Effect – Undertaking a review of the monitoring network in Exeter is not associated with impact pathways linking to European sites. This is a strategic measure that reviews existing infrastructure and will not involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200508064	Update the flood map on completion of the new flood defences on the River Exe in Exeter	No Likely Significant Effect – Updating the flood map on completion of the new flood defences on the River Exe in Exeter is not associated with impact pathways linking to European sites. This is a desk-based measure that will not involve any physical work on the ground.
0200508067	Work with Exeter City Council to establish a Critical Drainage Area in Exeter	No Likely Significant Effect – Establishing a Critical Drainage Area in Exeter is not associated with impact pathways linking to European sites. This is a desk-based measure that is unlikely to involve physical work on the ground.
0200508138	Work with partners to deliver improvements to the North Brook in Exeter	No Likely Significant Effect, but down-the-line HRA required – Delivering improvements to the North Brook in Exeter will reduce flood risk in the area and is likely to be beneficial for the environment. However, depending on the nature and specific location of improvements, delivery of this measure is associated with a range of potential impact pathways linking to the Exe Estuary SPA / Ramsar (located immediately south of the Flood Area measure boundary), including water quality, water level and visual / noise disturbance. However, there is insufficient detail at the FRMP level to undertake a detailed assessment as the measure is simply a commitment to collaborate, with the improvements themselves to be identified later. A bespoke HRA will be needed in support of more detailed proposals to adequately appraise LSEs and, where relevant, adverse effects on the integrity of European sites. In line with the guidance quoted in paragraph 2.24, down-the-line assessment will be required as further details emerge regarding what will be done to deliver this measure.
0200508066	Work with the University of Exeter to carry out a study of the Taddiford Brook catchment in Exeter	No Likely Significant Effect – Carrying out a hydrological study of the Taddiford Brook catchment in Exeter is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve physical work on the ground.

Table 23. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the Exeter (Risk of Flooding from Surface Water – RoFSW) Flood Risk Area

Measure ID	Measure	Likely Significant Effects on European sites
0200508140	Work with the Environment Agency, Exeter City Council, the community and partners to carry out a surface water study to identify options in Exeter	No Likely Significant Effect – Carrying out a surface water study to identify flood management options in Exeter is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve physical work on the ground.

Table 24. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the Exmouth (RoFRS) Flood Risk Area

Measure ID	Measure	Likely Significant Effects on European sites
0200508131	Work with the Environment Agency, the community and partners to carry out a study to identify options in Exmouth	No Likely Significant Effect – Carrying out a study to identify flood management options in Exmouth is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve physical work on the ground.
0200508043	Work with the community and partners to identify opportunities to reduce flood risk from the Withycombe Brook in Exmouth	No Likely Significant Effect – Identifying opportunities to reduce flood risk from the Withycombe Brook in Exmouth is not associated with impact pathways linking to European sites. This measure focuses on identifying rather than implementing opportunities and will not involve physical work on the ground.

Table 25. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the Ilfracombe (RoFRS) Flood Risk Area

Measure ID	Measure	Likely Significant Effects on European sites
0200508072	Develop a new flood risk model in Ilfracombe	No Likely Significant Effect – Developing a new hydrological model for Ilfracombe is not associated with impact pathways linking to European sites. This is a desk-based measure that does not involve physical work on the ground.
0200508074	Implement improvements to flood forecasting systems in Ilfracombe	No Likely Significant Effect – Implementing improvements to flood forecasting systems in Ilfracombe is not associated with impact pathways linking to European sites. This is a desk-based measure that does not involve physical work on the ground.
0200508071	Undertake a review of the monitoring network in Ilfracombe	No Likely Significant Effect – Undertaking a review of the monitoring network in Ilfracombe is not associated with impact pathways linking to European sites. This is a strategic measure that reviews existing infrastructure and will not involve any physical work on the ground.
0200508073	Work with Devon County Council, partners and the community to carry out a study to identify opportunities to improve infrastructure and increase community flood resilience in Ilfracombe	No Likely Significant Effect – Carrying out a study to identify opportunities for improving infrastructure and flood resilience in Ilfracombe is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve physical work on the ground.
0200508070	Work with partners and the community to develop a community flood plan in Ilfracombe	No Likely Significant Effect – Developing a community flood plan for Ilfracombe is not associated with impact pathways linking to European sites. This is a desk-based measure that will not involve any physical work on the ground.

Table 26. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the Minehead (RoFRS) Flood Risk Area

Measure ID	Measure	Likely Significant Effects on European sites
0203508018	Investigate a strategic, integrated approach to managing all sources of flood risk and identify partnership funding opportunities in Minehead	No Likely Significant Effect – Investigating a strategic integrated approach to managing flood risk sources is not associated with impact pathways linking to European sites. This is a strategic measure that focuses on integration rather than implementation and will not involve any physical work on the ground.
0203508028	Work with partners to undertake a catchment scale assessment of Natural Flood Management opportunities in rural and urban catchments affecting Minehead and its surrounding communities	No Likely Significant Effect – Undertaking a catchment-scale assessment of Natural Flood Management opportunities in Minehead and surrounding communities is not associated with impact pathways linking to European sites. Effectively, this is a strategic, desk-based measure that will not involve physical work on the ground.
0203508017	Work with partners to undertake the engagement, studies and investigations required in areas along the Minehead to Blue Anchor frontage	No Likely Significant Effect – Undertaking the engagement, studies and investigations required along the Minehead to Blue Anchor frontage is not associated with impact pathways linking to European sites. This is a strategic, desk-based exercise that does not involve physical work on the ground.

Table 27. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the Newton Abbot (RoFRS) Flood Risk Area

Measure ID	Measure	Likely Significant Effects on European sites
0200508077	Carry out a structural assessment of flood risk assets on the River Lemon in Newton Abbot	No Likely Significant Effect – Carrying out a structural assessment of flood risk assets on the River Lemon in Newton Abbot is not associated with impact pathways linking to European sites. No changes to these assets are proposed.

Measure ID	Measure	Likely Significant Effects on European sites
0200508078	Establish an infrastructure plan that identifies future risks and funding sources for potential improvements in Newton Abbot	No Likely Significant Effect – Establishing an infrastructure plan for Newton Abbot is not associated with impact pathways linking to European sites. This is a desk-based measure that will not involve any physical work on the ground.
0200508080	Work with the community and partners to implement improvements to flood forecasting systems for the Aller Brook in Newton Abbot	No Likely Significant Effect – Implementing improvements to flood forecasting systems for the Aller Brook in Newton Abbot is not associated with impact pathways linking to European sites. This is a desk-based measure that does not involve physical work on the ground.
0200508075	Undertake a review of the monitoring network on the River Lemon in Newton Abbot	No Likely Significant Effect – Undertaking a review of the monitoring network on the River Lemon in Newton Abbot is not associated with impact pathways linking to European sites. This is a strategic measure that reviews existing infrastructure and will not involve any physical work on the ground.
0200508079	Work with Devon County Council, Torbay Council and Teignbridge District Council to carry out a modelling study to enable updates to the flood map of the Aller Brook to represent Kingsteignton Bypass improvements in Newton Abbot	No Likely Significant Effect – Updating the flood map of the Aller Brook to represent Kingsteignton Bypass improvements is not associated with impact pathways linking to European sites. This is a desk-based measure that will not involve any physical work on the ground.
0200508076	Work with Teignbridge District Council, local businesses and the community to carry out a study in Newton Abbot	No Likely Significant Effect – Carrying out a study to identify flood management options in Newton Abbot is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0288808052	Deliver improvements to the operation of Holbeam Flood Storage Area and ensure land adjacent to it is safeguarded from encroachment by developments in Newton Abbot	No Likely Significant Effect – Delivering improvements to the operation of the Holbeam Flood Storage Area is not associated with impact pathways linking to European sites. Newton Abbot is relatively remote from water-dependent European sites, such that no realistic links exist.
0288808053	Work with partners to undertake an assessment of flood risk from surface water and ordinary watercourses in Newton Abbot	No Likely Significant Effect – Undertaking an assessment of flood risk from surface water and ordinary watercourses is not associated with impact pathways linking to European sites. This is a strategic, desk-based measure that will not involve any physical work on the ground.

Table 28. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the Plymouth (RoFRS) Flood Risk Area

Measure ID	Measure	Likely Significant Effects on European sites
0214108009	Have designed and worked to extend a raised defence along the River Plym Estuary in Laira	No Likely Significant Effect – Designing and extending a raised defence along the River Plym Estuary in Laira is not associated with impact pathways linking to European sites. This measure is already being implemented and would have undergone HRA appraisal.
0200408006	Investigate options to enhance the environment in the catchment and improve infrastructure in Tamerton Foliot	No Likely Significant Effect – Investigating options to enhance the environment in the catchment and improve infrastructure in Tamerton Foliot is not associated with impact pathways linking to European sites. This measure focuses on investigating rather than implementing options and will not involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200408003	Investigate options to work with partners to enhance the environment in the catchment, improve infrastructure and increase community resilience in Plympton	No Likely Significant Effect – Investigating options to enhance the environment in the catchment and improve infrastructure in Plympton is not associated with impact pathways linking to European sites. This measure focuses on investigating rather than implementing options and will not involve any physical work on the ground.
0200408002	Seek partnerships with Plymouth City Council and Highways England to investigate options to improve the existing river corridor in Marsh Mills	No Likely Significant Effect – Investigating options to improve the existing river corridor in Marsh Mills is not associated with impact pathways linking to European sites. This measure focuses on investigating rather than implementing options and will not involve any physical work on the ground.
0200408010	Undertake a review on hydrometric monitoring in Plymouth	No Likely Significant Effect – Undertaking a review of hydrometric monitoring in Plymouth is not associated with impact pathways linking to European sites. This is a strategic measure that reviews existing infrastructure and will not involve any physical work on the ground.
0200408009	Use and reference the Plymouth Local Flood Risk Management Strategy, Joint Local Plan and best available evidence to ensure coastal development considers current and future coastal risks	No Likely Significant Effect – Ensuring that coastal development considers current and future coastal risks is not associated with impact pathways linking to European sites. This is a strategic, desk-based measure and will not involve any physical work on the ground.
0200408013	Use permitting of mining activity to influence river and landscape restoration in the catchment upstream and in Plymouth	No Likely Significant Effect – Using mining permits to influence river / landscape restoration in the Plymouth catchment is not associated with impact pathways linking to European sites. This is a strategic, desk-based measure and will not involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200408018	Work in partnership to develop a Tamar Estuary Strategy that links long term tidal defences, wetland and coastal SSSI habitat and development in the River Tamar Catchment	No Likely Significant Effect – Developing a Tamar Estuary Strategy that links long-term tidal defences, wetland / coastal habitats and development is not associated with impact pathways linking to European sites. This is a strategic, desk-based measure and will not involve any physical work on the ground. Furthermore, this measure is carried over from the cycle 1 FRMP and would have undergone HRA previously.
0214108010	Work in partnership to investigate options to improve the resilience and user safety of key transport infrastructure at the ferry terminal in Devonport	No Likely Significant Effect – Investigating options to improve the resilience and user safety of key transport infrastructure at the ferry terminal in Devonport is not associated with impact pathways linking to European sites. This measure focuses on investigating rather than implementing options and will not involve physical work on the ground.
0200408012	Work in partnership with risk management authorities to realise wider benefits of nature-based solutions within flood schemes in Plymouth	No Likely Significant Effect, but down-the-line HRA required – Realising wider benefits of nature-based solutions within flood schemes in Plymouth will reduce flood risk in the area and is likely to be beneficial for the environment. However, depending on the nature and specific location of improvements, delivery of this measure is associated with a range of potential impact pathways linking to the Plymouth Sound and Estuaries SAC and Tamar Estuaries Complex SPA (located immediately south of the Flood Area measure boundary), including water quality, water level and visual / noise disturbance. However, there is insufficient detail at the FRMP level to undertake a detailed assessment of this measure. A bespoke HRA will be needed in support of more detailed proposals to adequately appraise LSEs and, where relevant, adverse effects on the integrity of European sites. In line with the guidance quoted in paragraph 2.24, down-the-line assessment will be required as further details emerge regarding what will be done to deliver this measure.

Measure ID	Measure	Likely Significant Effects on European sites
0214108008	Work in partnership with the Environment Agency, residents, developers and area stakeholders at Durnford Street in Stonehouse	No Likely Significant Effect – Working in partnership at Durnford Street in Stonehouse is not associated with impact pathways linking to European sites. This measure focuses on collaboration rather than implementing specific measures and will not involve physical work on the ground.
0200408011	Work with infrastructure providers to use Plymouth City Council's Shoreline Asset Register and the Plymouth Coastal Model Study in Plymouth	No Likely Significant Effect – Using Plymouth City Council's Shoreline Asset Register and the Plymouth Coastal Model Study is not associated with impact pathways linking to European sites. This is a strategic, desk-based measure and will not involve any physical work on the ground.
0200408005	Work with partners to investigate options to improve the Long Brook river corridor in Plympton	No Likely Significant Effect – Investigating options to improve the Long Brook river corridor in Plymouth is not associated with impact pathways linking to European sites. This measure focuses on investigating rather than implementing options and will not involve physical work on the ground. Furthermore, this measure is carried over from the cycle 1 FRMP and would have undergone HRA previously.
0214108004	Work with private developers in Millbay	No Likely Significant Effect – Working with private developers in Millbay is not associated with impact pathways linking to European sites. This measure focuses on collaboration rather than implementing specific measures and will not involve physical work on the ground.

Table 29. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the Plymouth (RoFSW) Flood Risk Area

Measure ID	Measure	Likely Significant Effects on European sites
0214108011	Continue to raise awareness through consultation of Plymouth's Local Flood Risk Management Strategy and work with private developers in Plymouth	No Likely Significant Effect – Continuing to raise awareness through consultation of Plymouth's Local Flood Risk Management Strategy and working with private developers in Plymouth is not associated with impact pathways linking to European sites. This is a strategic measure focusing on collaboration rather than the implementation of specific measures and will not involve physical work on the ground.
0214108002	Deliver an Integrated Urban Drainage Model for key locations at risk of surface water flooding and combined sewerage flooding in Plymouth	No Likely Significant Effect – Delivering an Integrated Urban Drainage Model for key locations at risk of flooding in Plymouth is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve physical work on the ground.
0200408004	Deliver an integrated urban drainage management plan of investment for key locations at risk of surface water flooding in Plympton	No Likely Significant Effect – Delivering an integrated urban drainage management plan for key locations at risk of flooding in Plympton is not associated with impact pathways linking to European sites. This is carried over from the cycle 1 FRMP and would have undergone HRA appraisal. Furthermore, Plympton lies approx. 5.9km from the Plymouth Sound and Estuaries SAC, the closest hydrologically sensitive European site, which is too far for there to be realistic impact pathways linking to the site.
0214108003	Design a new surface water drainage system in the City Centre and assess opportunities to fund and deliver this system as development comes forward in Plymouth	No Likely Significant Effect – Designing and identifying opportunities for the delivery of a new surface water drainage system in Plymouth is not associated with impact pathways linking to European sites. This measure is already being implemented and would have undergone HRA appraisal. Additionally, this measure only assesses rather than delivers opportunities for surface water flood management, such that it will not involve any physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200408007	Support Plymouth City Council to achieve the objectives of the Local Flood Risk Management Strategy in Plymouth	No Likely Significant Effect – Supporting Plymouth City Council in achieving the objectives of the Local Flood Risk Management Strategy (LFRMS) is not associated with impact pathways linking to European sites. Moreover, this is carried over from the cycle 1 FRMP and would have undergone HRA appraisal and the LFRMS has also been subject to its own HRA process prior to adoption.
0214108005	Work in partnership to deliver a surface water separation project to provide operational and capacity improvements in the combined sewerage system in Lipson Vale and Laira	No Likely Significant Effect – Delivering a surface water separation project in the combined sewerage system in Lipson Vale and Laira is not associated with impact pathways linking to European sites. This measure is already being implemented and would have undergone HRA appraisal. Generally, this is a very positive measure for the environment (including European sites), because it will reduce the incidence of polluting stormwater discharge.
0214108014	Work in partnership to implement the Green Minds Policy and assess opportunities to align surface water storage and green landscapes in Plymouth	No Likely Significant Effect – Implementing the Green Minds Policy and assessing opportunities to align surface water storage and green landscapes in Plymouth is not associated with impact pathways linking to European sites. This is a strategic measure focusing on the identification of opportunities rather than the implementation of specific measures and will not involve physical work on the ground.
0214108006	Work in partnership to store and manage surface water in Green Areas in Central Park and Stonehouse and improve the combined sewerage system in Millbridge	No Likely Significant Effect – Storing and managing surface water and improving the combined sewerage system in Millbridge is not associated with impact pathways linking to European sites. This measure is already being implemented and would have undergone HRA appraisal. Generally, this is a very positive measure for the environment (including European sites), because it will reduce the incidence of polluting stormwater discharge.

Measure ID	Measure	Likely Significant Effects on European sites
0214108013	Work in partnership to use and reference Plymouth City Council's local plans and Climate Emergency Policy in Plymouth	No Likely Significant Effect – Using and referencing Plymouth City Council's Local Plans and Climate Emergency Policy is not associated with impact pathways linking to European sites. This is a strategic, desk-based measure and will not involve any physical work on the ground.
0214108012	Work in partnership with the local community and stakeholders to raise the level of flood risk awareness in communities in Plymouth	No Likely Significant Effect – Implementing the Green Minds Policy and assessing opportunities to align surface water storage and green landscapes in Plymouth is not associated with impact pathways linking to European sites. This is a strategic measure focusing on the identification of opportunities rather than the implementation of specific measures and will not involve physical work on the ground.
0200408008	Work with South West Water to deliver an ongoing programme of Integrated Urban Drainage Modelling in Plymouth	No Likely Significant Effect – Using Plymouth City Council's Shoreline Asset Register and the Plymouth Coastal Model Study is not associated with impact pathways linking to European sites. This is a strategic, desk-based measure and will not involve any physical work on the ground.
0214108007	Work with South West Water to investigate options for the management of surface water in Mount Gould	No Likely Significant Effect – Investigating options to manage surface water in Mount Gould is not associated with impact pathways linking to European sites. This measure is already being implemented and would have undergone HRA appraisal.

Table 30. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the Portreath (RoFRS) Flood Risk Area

Measure ID	Measure	Likely Significant Effects on European sites
0200408019	Deliver improvements to the existing flood alleviation scheme in Portreath	No Likely Significant Effect – Delivering improvements to the existing flood alleviation scheme in Portreath s not associated with impact pathways linking to European sites. This is carried over from the cycle 1 FRMP and would have undergone HRA appraisal. Furthermore, there is no hydrological linkage between the measure and the Godrevy Head to St Agnes SAC, the closest hydrologically sensitive site approx. 4.5km distance.
0200408020	Review the flood warning and forecasting needs for the river and the sea in Portreath	No Likely Significant Effect – Reviewing the flood warning and forecasting needs for the river and the sea in Portreath is not associated with impact pathways linking to European sites. This is a desk-based measure that does not involve physical work on the ground.
0200408025	Support Highway Authorities and Risk Management Authorities to review surface water management in the catchment and in Portreath	No Likely Significant Effect – Reviewing surface water management in the catchment of Portreath is not associated with impact pathways linking to European sites. This measure is already being implemented and would have undergone HRA appraisal.
0200408022	Undertake a review and update hydrometric monitoring in Portreath	No Likely Significant Effect – Reviewing and updating hydrometric monitoring requirements in Portreath is not associated with impact pathways linking to European sites. This is a desk-based measure that does not involve physical work on the ground.
0200408024	Work in partnership with the community to better understand the current and long term coastal and fluvial flood risks in Portreath	No Likely Significant Effect – Gaining a better understanding of the current and long-term coastal and fluvial flood risks in Portreath is not associated with impact pathways linking to European sites. This measure will not involve physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200408021	Work with partners to explore opportunities to deliver nature-based solutions in the catchment in Portreath	No Likely Significant Effect – Delivering nature-based solutions is unlikely to be associated with impact pathways linking to European sites. Generally, the implementation of natural flood management measures is likely to be beneficial for both human and environmental receptors. Notwithstanding this, such measures can impact on the water quality and level in European sites, particularly in the construction period. The most relevant European sites with a sensitivity to hydrological changes potentially affected by the measure are the Godrevy Head to St Agnes SAC and the Penhale Dunes SAC. However, this measure is already being implemented and would have undergone HRA appraisal.
0200408026	Work with partners to investigate Property Flood Resilience for properties that remain at risk in the catchment and in Portreath	No Likely Significant Effect – Investigating property flood resilience for properties remaining at risk in the catchment is not associated with impact pathways linking to European sites. This measure focuses on investigating rather than delivering flood resilience measures, such that it will not involve physical work on the ground. Furthermore, this measure is already being implemented and would have undergone HRA appraisal.
0200408023	Work with partners to review flood defence exceedance and contingency planning in Portreath	No Likely Significant Effect – Reviewing flood defence exceedance and contingency planning in Portreath is not associated with impact pathways linking to European sites. This measure focuses on reviewing rather than implementing new flood defence measures, such that it will not involve physical work on the ground.

Table 31. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the St Blazey and Par (RoFRS) Flood Risk Area

Measure ID	Measure	Likely Significant Effects on European sites
0200408035	Model future coastal flood risk that takes into account changes to the coastline in St Blazey and Par	No Likely Significant Effect – Modelling future coastal flood risk that accounts for coastal changes is not associated with impact pathways linking to European sites. This is a desk-based measure that does not involve physical work on the ground.
0200408034	Review and update flood forecasting modelling in St Blazey and Par	No Likely Significant Effect – Reviewing and updating flood forecasting modelling in St Blazey and Par is not associated with impact pathways linking to European sites. This is a desk-based measure that does not involve physical work on the ground.
0200408033	Review and update river level and flow monitoring in the catchment in St Blazey and Par	No Likely Significant Effect – Reviewing and updating river level and flow monitoring in the catchment of St Blazey and Par is not associated with impact pathways linking to European sites. This is a desk-based measure that does not involve physical work on the ground.
0200408040	Review the Par River system for barriers to fish and eel passage, identify opportunities and plan improvements in St Blazey and Par	No Likely Significant Effect – Reviewing barriers to fish and eel passage in the River Par system and identifying / planning improvements in St Blazey and Par is not associated with impact pathways linking to European sites. This is a positive measure that is already being implemented and would have undergone HRA appraisal.
0200408038	Review the operation of the Par River System in St Blazey and Par	No Likely Significant Effect – Reviewing the operation of the River Par system in St Blazey and Par is not associated with impact pathways linking to European sites. This measure is already being implemented and would have undergone HRA appraisal.

Measure ID	Measure	Likely Significant Effects on European sites
0200408037	Support South West Water and Cornwall Council to improve key elements of the sewer system in St Blazey and Par	No Likely Significant Effect – Improving key elements of the sewer system in St Blazey and Par is not associated with impact pathways linking to European sites. Generally, improvements to sewer systems are positive for the environment (including European sites), because they will help reduce the risk of sewer overflows during storm events. Furthermore, there are no European sites with hydrological linkage to this Flood Area measure that would be sensitive to impact pathways in the construction period.
0200408030	Support South West Water to develop a Drainage and Wastewater Management Plan in St Blazey and Par	No Likely Significant Effect – Developing a Drainage and Wastewater Management Plan in St Blazey and Par is not associated with impact pathways linking to European sites. This is a desk-based measure that will not involve physical work on the ground.
0200408047	Support partners to carry out actions in the Beach and Dune Management Plan in St Blazey and Par	No Likely Significant Effect – Carrying out actions identified in the Beach and Dune Management Plan for St Blazey and Par is not associated with impact pathways linking to European sites. While the FRMP does not provide detail on the types of actions to be implemented, there are no European sites with hydrological linkage present within the boundary of this measure.
0200408039	Support partners to plan and implement green infrastructure improvements in St Blazey and Par	No Likely Significant Effect – Implementing green infrastructure improvements in St Blazey and Par is not associated with impact pathways linking to European sites. This measure is already being implemented and would have undergone HRA appraisal.
0200408032	Work in partnership with relevant authorities and support the community to develop an Adaptation Plan in St Blazey and Par	No Likely Significant Effect – Developing an Adaptation Plan in St Blazey and Par is not associated with impact pathways linking to European sites. This is because this measure proposes the development rather than the implementation of a plan. Devising a plan is unlikely to involve physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200408043	Work in partnership with the community and the Local Planning Authority to influence Neighbourhood Development Planning in St Blazey and Par	No Likely Significant Effect – Influencing Neighbourhood Development Planning in St Blazey and Par is not associated with impact pathways linking to European sites. This is a strategic exercise that does not involve physical work on the ground.
0200408036	Work with Cornwall Council to deliver the ongoing St Austell Bay Resilient Regeneration Project in St Blazey and Par	No Likely Significant Effect – Delivering the ongoing St Austell Bay Resilient Regeneration Project in St Blazey and Par is not associated with impact pathways linking to European sites. This measure is already being implemented and would have undergone HRA appraisal.
0200408042	Work with partners on any planned release of beavers in the upper catchment to deliver flood risk benefits in St Blazey and Par	No Likely Significant Effect – Working with partners on any planned release of beavers in the upper catchment to reduce flood risk in St Blazey and Par is not associated with impact pathways linking to European sites. The Flood Plan Explorer indicates that this measure will not involve physical activity on the ground at this time. Furthermore, while it is noted that beavers can greatly influence hydrodynamic behaviour, there are no European sites with hydrological linkage in the upper catchment of St Blazey and Par.
0200408046	Work with partners to better understand and manage exceedance of flood defences in St Blazey and Par	No Likely Significant Effect – Better understanding and managing flood defence exceedance of flood defences in St Blazey and Par is not associated with impact pathways linking to European sites. This measure focuses on developing understanding of rather than implementing new flood defence measures, such that it will not involve physical work on the ground.
0200408049	Work with relevant partners to assess risks to critical infrastructure from all sources of flooding and coastal change in St Blazey and Par	No Likely Significant Effect – Assessing risks from flooding to critical infrastructure in St Blazey and Par is not associated with impact pathways linking to European sites. It is a strategic measure that ultimately benefits human receptors and will not involve physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0200408041	Work with the Cornwall Catchment Partnership to review the River Par catchment and identify wider biodiversity improvements in St Blazey and Par	No Likely Significant Effect – Reviewing the River Par catchment and identifying wider biodiversity improvements in St Blazey and Par is not associated with impact pathways linking to European sites. This positive measure focuses on identifying rather than delivering biodiversity improvements, such that it will not involve physical work on the ground.
0200408048	Work with the Local Planning Authority and developers of Par Docks in Par	No Likely Significant Effect – Working with the Local Planning Authority and developers of Par Docks in Par is not associated with impact pathways linking to European sites. This measure centres around strategic collaboration and will not involve physical work on the ground.
0200408045	Work with the Par and St Blazey Community Flood Group and partners to understand residual flood risk and update the Community Flood Plan in St Blazey and Par	No Likely Significant Effect – Understanding residual flood risk and updating the Community Flood Plan in St Blazey and Par is not associated with impact pathways linking to European sites. This is a desk-based measure that will not involve physical work on the ground. Furthermore, the measure is already being implemented and would have undergone HRA appraisal.
0200408044	Work with the community and partners to co-design, plan and carry out improvements in the Adaptation Plan and other relevant plans in St Blazey and Par	No Likely Significant Effect – Co-designing, planning and carrying out improvements identified in the Adaptation Plan for St Blazey and Par is not associated with impact pathways linking to European sites. While the FRMP does not provide detail on the types of improvements to be implemented, there are no European sites with hydrological linkage present within the boundary of this measure.

Table 32. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the Taunton (RoFRS) Flood Risk Area

Measure ID	Measure	Likely Significant Effects on European sites
0203508002	Work with Somerset West and Taunton Council to deliver short term projects identified in the Strategic Flood Alleviation Improvements Study in Taunton	No Likely Significant Effect – Delivering short-term projects identified in the Strategic Flood Alleviation Improvements Study in Taunton is not associated with impact pathways linking to European sites. This measure is carried over from the cycle 1 FRMP and would have already undergone HRA appraisal. Effectively, this measure focuses on the River Tone hydrological catchment which is continuity with the R. Parrett operational catchment, downstream from the Somerset Levels and Moors SPA / Ramsar. Therefore, there is no negative impact pathway linking to the SPA / Ramsar, which lies approx. 7km from the boundary of this measure.
0203508004	Work with partners to identify partnership funding contributions for flood mitigation in Taunton	No Likely Significant Effect – Identifying partnership funding contributions for flood mitigation in Taunton is not associated with impact pathways linking to European sites. This measure is carried over from the cycle 1 FRMP and would have already undergone HRA appraisal.
0203508013	Work with partners to undertake a catchment scale assessment of Natural Flood Management opportunities in rural and urban catchments affecting Taunton and its surrounding communities	No Likely Significant Effect – Undertaking a catchment-scale assessment of Natural Flood Management opportunities in Taunton and surrounding opportunities is not associated with impact pathways linking to European sites. This is a positive measure for human and environmental receptors as it will help devise strategies for future flood mitigation. This is a strategic measure that does not involve physical work on the ground.

Table 33. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the Tiverton (RoFRS) Flood Risk Area

Measure ID	Measure	Likely Significant Effects on European sites
0200508081	Deliver an updated hydraulic and forecasting model in Tiverton	No Likely Significant Effect – Delivering an updated hydraulic and forecasting model in Tiverton is not associated with impact pathways linking to European sites. This is a desk-based measure that does not involve physical work on the ground.
0200508084	Develop a plan to influence development proposals and regeneration in Tiverton	No Likely Significant Effect – Influencing development proposals and regeneration in Tiverton is not associated with impact pathways linking to European sites. This is a strategic exercise that does not involve physical work on the ground.
0200508082	Work with landowners and partners to carry out a study in Tiverton	No Likely Significant Effect – Carrying out a study to identify flood management options in Tiverton is not associated with impact pathways linking to European sites. Studies are undertaken to obtain scientific data and will not involve physical work on the ground.
0200508083	Work with partners and the community to produce a flood risk model of the Moorhayes Stream in Tiverton	No Likely Significant Effect – Producing a flood risk model for the Moorhayes Stream in Tiverton is not associated with impact pathways linking to European sites. This is a desk-based measure that does not involve physical work on the ground.
0200508133	Work with the Environment Agency, the community and partners to carry out a study to identify options in Tiverton	No Likely Significant Effect – Carrying out a study to Identify options for flood management in Tiverton is not associated with impact pathways linking to European sites. It is a measure that identifies rather than implements measures, such that it will not involve physical work on the ground.

Table 34. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the Weston-Super-Mare (RoFRS) Flood Risk Area

Measure ID	Measure	Likely Significant Effects on European sites
0203408023	Engage with North Somerset Council and developers on current and future developments in Weston-super-Mare	No Likely Significant Effect – Engaging with North Somerset Council and developers on current and future developments in Weston-Super-Mare is not associated with impact pathways linking to European sites. This is a positive measure, carried over from the cycle 1 FRMP, which would have already undergone HRA appraisal.
0203408022	Support North Somerset Council to achieve the objectives of the Local Flood Risk Management Strategy and Surface Water Management Plan in Weston-super-Mare	No Likely Significant Effect – Achieving the objectives of the Local Flood Risk Management Strategy (LFRMS) and Surface Water Management Plan in Weston-Super-Mare is not associated with impact pathways linking to European sites. This measure is carried over from the cycle 1 FRMP and would have already undergone HRA appraisal. Furthermore, the adopted LFRMS would have been subject to its own statutory consenting process, including HRA, which would have entailed HRA.
0203508020	Work with North Somerset Council to undertake the engagement, studies and investigations required in areas along the Weston-Super-Mare to Clevedon Pill frontage	No Likely Significant Effect – Undertaking the engagement, studies and investigations along the Weston-Super-Mare to Clevedon Pill frontage is not associated with impact pathways linking to European sites. This measure studies and investigates rather than implements measures, such that it will not involve physical work on the ground.
0203408024	Work with partners to implement a system for monitoring, recording and sharing information on flooding in Weston-super-Mare	No Likely Significant Effect – Implementing a system for monitoring and recording of flooding in Weston-Super-Mare is not associated with impact pathways linking to European sites. This is a desk-based measure that will not involve physical work on the ground.
0203408025	Work with partners to review the Strategic Flood Solution in Weston-super-Mare	No Likely Significant Effect – Reviewing the Strategic Flood Solution in Weston-Super-Mare is not associated with impact pathways linking to European sites. This is a strategic, desk-based measure that will not involve physical work on the ground.

Measure ID	Measure	Likely Significant Effects on European sites
0203408021	Work with partners to undertake a catchment scale assessment of Natural Flood Management opportunities in rural and urban catchments affecting Weston-super-Mare and its surrounding communities	No Likely Significant Effect – Undertaking a catchment-scale assessment of Natural Flood Management opportunities in rural and urban catchments affecting Weston-Super-Mare is not associated with impact pathways linking to European sites. This is a positive measure for human and environmental receptors as it will help devise strategies for future flood mitigation. This is a strategic measure that assesses rather than delivers opportunities, such that it will not involve physical work on the ground.

Table 35. Screening table showing the Test of Likely Significant Effects results for measures contained within the South West River Basin District Flood Risk Management Plan across the Somerset Levels and Moors Strategic Area

Measure ID	Measure	Likely Significant Effects on European sites
0203508012	Assess the strategic need for key assets and their future operational requirements, in accordance with the development of the flood risk management strategy in the Somerset Levels and Moors	No Likely Significant Effect – Assessing the strategic need for key assets and their future operational requirements in relation to the flood risk management strategy in the Somerset Levels and Moors is not associated with impact pathways linking to European sites. This measure is carried over from the cycle 1 FRMP and would have already undergone HRA appraisal. Additionally, this measure could be used towards improving the flooding regime in the Somerset Levels and Moors SPA / Ramsar in line with its Conservation Objectives.

Measure ID	Measure	Likely Significant Effects on European sites
0288808044	Complete Phase 1 delivery, and consider delivery and funding of future phases, to increase capacity in the River Sowy and Kings Sedgemoor Drain system on behalf of the Somerset Rivers Authority, and all partners to consider funding and delivery of future phases	No Likely Significant Effect – Completing Phase 1 delivery (and considering future phases) of capacity increases in the River Sowy and Kings Sedgemoor Drain system in the Somerset Levels and Moors is not associated with impact pathways linking to European sites. This measure is carried over from the cycle 1 FRMP and would have already undergone HRA appraisal. Furthermore, increasing the capacity of the River Sowy and Kings Sedgemoor Drain could be positive for the Somerset Levels and Moors SPA / Ramsar by alleviating flooding in adjoining grassland.
0203508029	Continue to engage with partners on the development of integrated projects, strategies and opportunities in the Somerset Levels and Moors (e.g environmental land management, natural flood management, lowland peat restoration, floodplain restoration, catchment markets), which reflect flood and coastal risk management, environmental and agricultural policy evolution	No Likely Significant Effect – Developing integrated projects, strategies and opportunities in the Somerset Levels and Moors of varying natures (e.g. natural flood management, lowland peat restoration) is not associated with impact pathways linking to European sites. This measure is carried over from the cycle 1 FRMP and would have already undergone HRA appraisal. Furthermore, delivering integrated natural flood management and floodplain restoration, if aligned with the Conservation Objectives of the site, could be positive for the Somerset Levels and Moors SPA / Ramsar by restoring a natural flooding regime within the site.
0288808045	Maintain the existing hydraulic flood model in Somerset Levels and Moors	No Likely Significant Effect – Maintaining the existing hydraulic flood model in Somerset Levels and Moors is not associated with impact pathways linking to European sites. This measure is carried over from the cycle 1 FRMP and would have already undergone HRA appraisal.

Measure ID	Measure	Likely Significant Effects on European sites
0203508008	Work with all relevant partners to develop a flood risk management strategy in the Somerset Levels and Moors	No Likely Significant Effect – Developing a flood risk management strategy in the Somerset Levels and Moors is not associated with impact pathways linking to European sites. This measure is carried over from the cycle 1 FRMP and would have already undergone HRA appraisal. Moreover, the strategy would need to give serious consideration to the hydrological needs of the Somerset Levels and Moors SPA, such that it could support a positive outcome for the site.

5. Other plans and projects

5.1 This section covers potential for effects in combination with other plans and projects. While the potential for the FRMP to occur 'in combination' with other FRMPs was considered for inclusion, each FRMP is specific to a relatively hydrologically self-contained River Basin District, meaning that potential for effects in combination with each other generally only exists where a European site straddles multiple RBDs. In this case the Severn Estuary SAC/SPA/Ramsar site and Solent & Dorset Coast SPA straddle the boundary between the South West FRMP and the Severn and South East FRMPs respectively. However, no mechanism has been identified for the actual measures in this FRMP (rather than any schemes that may emerge down-the-line) to operate in combination with those in the other FRMPs.

5.2 Natural England suggested inclusion of Diffuse Water Pollution Plans in the 'in combination' assessment of FRMP HRAs. Diffuse Water Pollution Plans are environmentally positive and intended to reduce diffuse pollution through fairly broad measures such as 'influencing management of farm infrastructure such as farm tracks, yards, buildings etc' through agri-environment schemes and similar. As such, no adverse likely significant effects or conflicts are expected to arise with the FRMP HRAs.

5.3 Potential in combination effects with Minerals and Waste Local Plans were also considered. However, Waste Local Plans are rarely technology-specific and potential impacts depend very much on the type of facility the market decides to bring forward on a given allocated site, or within a broad area of search where these exist. Minerals excavation can affect hydrologically sensitive European sites through dewatering for example. However, many minerals allocations are extensions to existing consented facilities to enable the site to be worked for longer (rather than to enable a net increase in consented extraction) and whose acceptability of effects on European sites are kept under review through the minerals planning authorities' Review of Consents process as required by the Conservation of Habitats and Species Regulations 2017 (as amended). In addition, many Minerals Plans include 'areas of search' for minerals rather than making specific allocations, leaving the market to bring forward proposals at the planning application level. As such, no specific likely significant effects in combination with the FRMP measures have been identified.

Local Plans

5.4 A large number of other projects and development plans will be delivered across the South West River Basin District. For example, the Local Planning Authorities will deliver a total of at least 348,574 new dwellings and 1,360.67ha of employment land within their Local Plan timescales. While the majority of this development is unlikely to result in cumulative impacts with FRMP measures, a potential for in-combination effects on European sites cannot be excluded.

5.5 Impact pathways with potential interactions are varied and include recreational pressure, loss of functionally linked habitat for SPAs / Ramsars, water level, water quality, coastal squeeze, and visual and noise disturbance. The potential for interactions largely depends on the specific location and nature of the proposed development, both in relation to European sites and FRMP measures. Taking impacts on the water level in European sites as an example, Local Plans have the potential to result in reduced water supplies to qualifying ecosystems due to increased water

abstraction to meet the household and industrial demand. However, a potential for interaction with a FRMP measure would only exist if both were to affect the hydrological catchment feeding the same European site.

5.6 This section focusses only on hydrologically sensitive European sites and on the main European sites where adverse effects from residential and employment development have been identified in Local Plan HRAs. The principal issue identified in Local Plans throughout the South West RBD as it relates to hydrologically sensitive sites is recreational pressure on sensitive coastal sites (and some inland sites supporting wet heathland such as the Dorset Heaths SAC/SPA and the East Devon Pebblebed Heaths SAC). This sensitivity of coastal sites to recreational pressure has led to mitigation strategies funded by housing growth in Local Plans to be developed for Poole Harbour SPA/Ramsar site, the Exe Estuary SPA/Ramsar site, Plymouth Sound & Estuaries SAC/Tamsar Estuaries Complex SPA/Ramsar site and for several European sites around the Cornish coast[57] such as Penhale Dunes SAC and Fal & Helford SAC.

5.7 Another key anthropological pressure relating to European sites in the RBD is excessive phosphorus inputs, particularly from agriculture and also from treated sewage effluent. In advice to local planning authorities in March 2022 Natural England flagged that the following European sites of relevant to the RBD were suffering from excessive nutrients leading to eutrophication: River Camel SAC, River Axe SAC, Chesil & The Fleet SAC/SPA, Poole Harbour SPA, River Avon SAC and Somerset Levels & Moors Ramsar site.

5.8 However, it is considered that the nature of the FRMP is such that no in combination effects will arise between adoption of the FRMP and delivery of housing and associated development across the sub-region. This is due either to the fact that the measures in the FRMP do not pose mechanisms to connect negatively to European sites, or because the measures of the FRMP are sufficiently high level (generally consisting of identifying a scheme and committing to its further development, design and implementation without committing to details) that they allow flexibility for measures necessary to be designed into schemes to protect European sites to be incorporated at further planning tiers as each scheme is devised.

River Basin Management Plans

5.9 River Basin Management Plans (RBMPs) describe the challenges that threaten the water environment and how these challenges can be managed and funded. The South West FRMP covers the same area as the South West River Basin Management Plan.

5.10 The 2022 RBMP sets out a series of measures to bring about improvements in the waterbodies covered by the RBMP. By definition, the measures in the RBMP are positive and includes the following initiatives: partnership working with farmers and land managers, sustainable management of water resources, restoring rivers and removing man-made barriers to fish migration and controlling invasive non-native species.

5.11 The RBMPs generally include projects that improve the water environment, for example by:

- enhancing and restoring rivers and floodplains
- creating sustainable drainage

- cleaning up metal pollution
- improving habitats and water quality by addressing diffuse pollution issues
- adapting weirs to provide fish passage
- involving the community
- using existing regulations to tackle agricultural and rural land pollution, such as lagoon construction

5.12 Since the measures within RBMPs are positive and are often necessary to restore freshwater aquatic European sites to favourable condition, there is no mechanism for them to have a negative effect on European sites in combination with the measures in the FRMP.

Water Resource Management Plans

5.13 South West Water have produced a Water Resource Management Plan. This sets out the water supply strategy for their areas and could therefore have negative effects on European sites in their own right. For example, the River Camel SAC is a major source of potable water.

5.14 However, Water Resource Management Plans are required to have their own HRAs undertaken. The HRAs for each of the latest adopted WRMPs considered whether their future supply strategy to meet water needs would affect European sites and it was concluded that the supply needs of their areas could be met without an adverse effect on the integrity of European sites, primarily through a combination of improved water efficiency measures and bringing new water supply areas into consideration that do not result in increased abstraction from European sites. As such, there would be no in combination effect with the FRMPs.

5.15 In addition to the WRMP, South West Water is also producing a Drainage and Wastewater Management Plan (DWMP). However, that plan has not yet been published and therefore cannot be included in this assessment.

Drought Plans, Permits and Orders

5.16 As discussed in the previous chapter, the South West RBD encompasses European sites that are sensitive to a wide range of anthropogenic pressures, including hydrology, water quality, recreational pressure, coastal squeeze and others. Multiple simultaneously acting impacting pathways can compound negative impacts on qualifying habitats and species.

5.17 For example, water companies, under their duty of delivering potable water to households and businesses, can apply for drought permits, enabling them to abstract water beyond existing abstraction consents for an agreed period of time. Granting of drought periods has the potential for negative environmental impacts, particularly in European sites that are already subject to existing unfavourable flow conditions or water levels, including the River Avon SAC, River Camel SAC and New Forest SPA / Ramsar / SAC. While most measures included in the FRMP are likely to be positive for European sites by renaturalising hydrological function, inadequately planned or sited natural flood management and hard defence structures have the potential to negatively interact with Environment Agency Drought Orders and water company Drought Permits.

5.18 Drought conditions will also impose further pressures on designated sites such as by reducing water quality (reduced flows would typically result in higher nutrient concentrations, exacerbating the impact of treated sewage effluent) and water flow. In addition, climate change has the potential to increase the frequency and severity of drought conditions. Drought Plan Orders and Permits would compound drought issues and operate in-combination with impact pathways associated with the FRMP. However, drought plans will generally only operate at times of low water levels and low rainfall, which is the opposite scenario to when the majority of FRMP measures will be active.

5.19 Notwithstanding this, Drought Plans of water companies are subject to their own assessment process including HRA. This ensures that potential adverse effects on the integrity of European sites are adequately mitigated or, where this cannot be achieved, suitable compensation is provided. Overall, given that the Drought Plans of water companies undergo robust HRA appraisal, no in-combination effects with the South West FRMP will occur.

Environment Agency National Drought Plan

5.20 The potential for in-combination effects of the South West FRMP with the Environment Agency's National Drought Action Plan has been assessed and no in-combination impacts are anticipated. However, this should be considered further at the time of any potential implementation of drought management measures in liaison with the Environment Agency, particularly regarding local actions in the supply and water source catchment areas utilised by Wessex Water and other water companies in south-west England. Moreover, drought plans will generally only operate at times of low water levels and low rainfall, which is the opposite scenario to when the majority of FRMP measures will be active.

Shoreline Management Plans and Local Flood Risk Management Plans

5.21 SMPs provide overarching policy context for coastal zone management and development. As acknowledged throughout this document, SMPs and the Coastal Strategies that result from them often result in adverse effects on the integrity of European sites through a combination of coastal squeeze, loss of functionally-linked land for SPA/Ramsar birds, direct habitat loss due to defence footprint and changes to long-shore sediment transport and other aspects of natural sediment dynamics. They also present opportunities for positive effects on European sites if opportunities for managed realignment are included that will enable a more natural coastline to be established. The following SMPs are available within the public domain and were considered regarding in-combination impacts:

- SMP 15 Hurst Spit to Durlston Head (Poole & Christchurch Bays)
- SMP 16 Durlston Head to Rame Head Lead
- SMP 17 Rame Head to Hartland Point
- SMP 18 Hartland Point to Anchor Head (North Devon & Somerset)
- SMP 19 Anchor Head to Lavernock Point (Severn Estuary)

5.22 The assessments for any potential in-combination impacts between the SMPs and the measures included in the South West FRMP needs to consider factors such as

spatial proximity, hydrological connectivity and the precise nature of works proposed. However, no in-combination LSEs with these plans exist, principally because the South West FRMP only implements actions in the coastal environment that are already identified in SMPs and Coastal Strategies. These strategies are subject to their own consenting process (including HRA), which would ensure that no LSEs and, where relevant, adverse effects on the integrity of European sites occur.

5.23 Similarly, Local Flood Risk Management Plan measures for relevant areas within the River Basin District have been included within the FRMP so there is no potential for in combination effects as the same measures are contained in both sets of plans.

Conclusion

5.24 Overall, it is concluded that the strategic nature of the FRMP is such that no in-combination effects will arise between the adopted FRMP and other development plans in the South West RBD. This is due to the fact that the measures in the FRMP either are not associated with impact pathways linking to European sites, or they are sufficiently high-level and non-specific (generally consisting of identifying a scheme and committing to its further development, design and implementation without committing to details) to allow for an in-combination assessment. For those measures flagged as requiring down-the-line HRA, their broad nature allows sufficient flexibility to design potential mitigation into schemes to protect European sites. HRAs at more detailed planning tiers will identify potential in-combination effects and ensure that adequate mitigation is delivered.

6. Conclusions

6.1 This HRA assessed the potential implications of measures contained in the South West FRMP for European sites, particularly regarding the impact pathways direct habitat loss, coastal squeeze, visual and noise disturbance, water quality, hydrology, loss of functionally linked habitat and spread of invasive non-native species. A total of 53 European sites with sensitivity to hydrological changes or other linking impact pathways (e.g. disturbance) were identified across the RBD. The FRMP proposes 418 measures, encompassing a wide range of flood prevention and management activities.

6.2 LSEs of the FRMP on all European sites, both alone and in-combination, could be excluded for all measures and an Appropriate Assessment was not required. This is for a variety of reasons, including that some measures are carried over from the cycle 1 FRMP (which would have been subject to the statutory consenting process, including HRA), already being implemented, not associated with linking impact pathways to European sites or too non-specific (either in terms of specific location, their nature or both) to allow for a detailed, meaningful assessment.

6.3 Twenty-four measures were screened out at the strategic FRMP but recommended for down-the-line HRA. As the details of potential schemes are developed towards the planning application stage, the HRA process will ensure that adequate mitigation measures, where relevant, are incorporated and the integrity of European sites will be protected. It is to be noted that many of the flagged measures involve natural flood management approaches, which are likely to result in long-term benefits to hydrologically sensitive European sites. Notwithstanding this, potential negative impacts regarding hydrology, water quality, loss of functionally linked habitat and visual / noise disturbance must be considered. It should be noted that notwithstanding references in the FRMP, scheme level HRAs will be undertaken as part of the business case for all schemes, and many schemes will also need planning consent, which will also be accompanied by an HRA, thus ensuring legal requirements are met.

Appendix A Information on European Sites

Marazion Marsh SPA

Qualifying Species[58]

- Great bittern *Botaurus stellaris*
- Aquatic warbler *Acrocephalus paludicola*

Conservation Objectives[59]

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- the extent and distribution of the habitats of the qualifying features
- the structure and function of the habitats of the qualifying features
- the supporting processes on which the habitats of the qualifying features rely ¬ The population of each of the qualifying features
- the distribution of the qualifying features within the site

Threats / Pressures to Site Integrity[60]

The following threats and pressures to the integrity of the Marazion Marsh SPA have been identified in Natural England's Site Improvement Plan:

- hydrological changes
- water pollution
- public access / disturbance
- invasive species
- climate change

The Lizard SAC

Qualifying Features[61]

Annex I habitats that are a primary reason for selection of this site:

- Vegetated sea cliffs of the Atlantic and Baltic Coasts
- Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.

- Mediterranean temporary ponds
- Northern Atlantic wet heaths with *Erica tetralix*
- European dry heaths
- Dry Atlantic coastal heaths with *Erica vagans*

Conservation Objectives[62]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats
- the structure and function (including typical species) of qualifying natural habitats
- the supporting processes on which qualifying natural habitats rely

Threats / Pressures to Site Integrity[63]

The following threats and pressures to the integrity of The Lizard SAC have been identified in Natural England's Site Improvement Plan:

- invasive species
- change in land management
- inappropriate coastal management
- habitat fragmentation

Fal and Helford SAC

Qualifying Features[64]

Annex I habitats that are a primary reason for selection of this site:

- sandbanks which are slightly covered by sea water all the time
- mudflats and sandflats not covered by seawater at low tide
- large shallow inlets and bays
- Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- estuaries
- reefs

Annex II species that are a primary reason for selection of this site:

- Shore dock *Rumex rupestris*

Conservation Objectives[65]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats and habitats of qualifying species
- the structure and function (including typical species) of qualifying natural habitats
- the structure and function of the habitats of qualifying species
- the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- the populations of qualifying species
- the distribution of qualifying species within the site

Threats / Pressures to Site Integrity[66]

The following threats and pressures to the integrity of the Fal and Helford SAC have been identified in Natural England's Site Improvement Plan:

- marine consents and shipping
- invasive species
- water pollution
- public access / disturbance
- siltation
- marine consents and permits: channel maintenance
- fisheries: recreational marine and estuarine
- fisheries: commercial marine and estuarine
- fisheries: private
- air pollution: risk of atmospheric nitrogen deposition

Falmouth Bay to St Austell Bay SPA

Qualifying Species[67]

- Black-throated diver *Gavia arctica*
- Great northern diver *Gavia immer*
- Slavonian grebe *Podiceps auritus*

Conservation Objectives[68]

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:

- the extent and distribution of the habitats of the qualifying features
- the structure and function of the habitats of the qualifying features
- the supporting processes on which the habitats of the qualifying features rely
- the population of each of the qualifying features
- the distribution of the qualifying features within the site

Threats / Pressures to Site Integrity

There is no publicly available Site Improvement Plan for the Falmouth to St Austell Bay SPA.

Carrine Common SAC

Qualifying Features[69]

Annex I habitats that are a primary reason for selection of this site

- Temperate Atlantic wet heaths with *Erica ciliaris* and *Erica tetralix* (priority feature)

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- European dry heaths

Conservation Objectives[70]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats
- the structure and function (including typical species) of qualifying natural habitats
- the supporting processes on which qualifying natural habitats rely

Threats / Pressures to Site Integrity[71]

The following threats and pressures to the integrity of the Carrine Common SAC have been identified in Natural England's Site Improvement Plan:

- inappropriate scrub control
- direct impact from 3rd party
- air pollution: Risk of atmospheric nitrogen deposition
- public access / disturbance

Godrevy Head to St Agnes SAC

Qualifying Features[72]

Annex I habitats that are a primary reason for selection of this site:

- Temperate Atlantic wet heaths with *Erica ciliaris* and *Erica tetralix*
- European dry heaths

Annex II species that are a primary reason for selection of this site:

- Early gentian *Gentianella anglica*

Conservation Objectives[73]

With regard to the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats and habitats of qualifying species
- the structure and function (including typical species) of qualifying natural habitats
- the structure and function of the habitats of qualifying species
- the supporting processes on which qualifying natural habitats and habitats of qualifying species rely
- the populations of qualifying species
- the distribution of qualifying species within the site

Threats / Pressures to Site Integrity[74]

The following threats and pressures to the integrity of the Godrevy Head to St Agnes SAC have been identified in Natural England's Site Improvement Plan:

- change in land management
- air pollution: risk of atmospheric nitrogen deposition

Penhale Dunes SAC

Qualifying Features[75]

Annex I habitats that are a primary reason for selection of this site:

- "Fixed coastal dunes with herbaceous vegetation ('grey dunes')" (priority feature)
- Humid dune slacks

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- 'Shifting dunes along the shoreline with *Ammophila arenaria* ('white dunes')'
- Dunes with *Salix repens* ssp. *argentea* (*Salicion arenariae*)

Annex II species that are a primary reason for selection of this site:

- Petalwort *Petalophyllum ralfsii*
- Shore dock *Rumex rupestris*
- Early gentian *Gentianella anglica*

Conservation Objectives[76]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats and habitats of qualifying species
- the structure and function (including typical species) of qualifying natural habitats
- the structure and function of the habitats of qualifying species
- the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- the populations of qualifying species
- the distribution of qualifying species within the site

Threats / Pressures to Site Integrity[77]

The following threats and pressures to the integrity of Penhale Dunes SAC have been identified in Natural England's Site Improvement Plan:

- inappropriate coastal management
- invasive species
- change in land management

- public access / disturbance
- hydrological changes
- air pollution: Risk of atmospheric nitrogen deposition

Newlyn Downs SAC

Qualifying Features[78]

Annex I habitats that are a primary reason for selection of this site:

- Temperate Atlantic wet heaths with *Erica ciliaris* and *Erica tetralix*

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- European dry heaths

Conservation Objectives[79]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats
- the structure and function (including typical species) of qualifying natural habitats
- the supporting processes on which qualifying natural habitats rely

Threats / Pressures to Site Integrity[80]

The following threats and pressures to the integrity of the Newlyn Downs SAC have been identified in Natural England's Site Improvement Plan:

- invasive species
- air pollution: risk of atmospheric nitrogen deposition
- public access / disturbance

Breney Common and Goss & Tregoss Moors SAC

Qualifying Features[81]

Annex I habitats that are a primary reason for selection of this site:

- Northern Atlantic wet heaths with *Erica tetralix*
- European dry heaths
- Transition mires and quaking bogs

Annex II species that are a primary reason for selection of this site:

- Marsh fritillary butterfly *Euphydryas aurinia*

Conservation Objectives[82]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats and habitats of qualifying species
- the structure and function (including typical species) of qualifying natural habitats
- the structure and function of the habitats of qualifying species
- the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- the populations of qualifying species
- the distribution of qualifying species within the site

Threats / Pressures to Site Integrity[83]

The following threats and pressures to the integrity of the Breney Common and Goss & Tregoss Moors SAC have been identified in Natural England's Site Improvement Plan:

- undergrazing
- inappropriate scrub control
- hydrological changes
- drainage
- wildfire / arson
- habitat fragmentation
- water pollution
- air pollution: impact of atmospheric nitrogen deposition

River Camel SAC

Qualifying Features[84]

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- European dry heaths
- Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles

- Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) (priority feature)

Annex II species that are a primary reason for selection of this site:

- Bullhead *Cottus gobio*
- Otter *Lutra lutra*

Annex II species present as a qualifying feature, but not a primary reason for selection of this site:

- Atlantic salmon *Salmo salar*

Conservation Objectives[85]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats and habitats of qualifying species
- the structure and function (including typical species) of qualifying natural habitats
- the structure and function of the habitats of qualifying species
- the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- the populations of qualifying species
- the distribution of qualifying species within the site

Threats / Pressures to Site Integrity[86]

The following threats and pressures to the integrity of the River Camel SAC have been identified in Natural England's Site Improvement Plan:

- water pollution
- inappropriate weirs, dams and other structures
- invasive species
- water abstraction
- forestry and woodland management
- deer

Crowdy Marsh SAC

Qualifying Features[87]

Annex I habitats that are a primary reason for selection of this site:

- Transition mires and quaking bogs

Conservation Objectives[88]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats
- the structure and function (including typical species) of qualifying natural habitats
- the supporting processes on which qualifying natural habitats rely

Threats / Pressures to Site Integrity[89]

The following threats and pressures to the integrity of the Crowdy Marsh SAC have been identified in Natural England's Site Improvement Plan:

- hydrological changes
- air pollution: impact of atmospheric nitrogen deposition

Polruan to Polperro SAC

Qualifying Features[90]

Annex I habitats that are a primary reason for selection of this site:

- vegetated sea cliffs of the Atlantic and Baltic Coasts

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- European dry heaths

Annex II species that are a primary reason for selection of this site:

- Shore dock *Rumex rupestris*

Conservation Objectives[91]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats and habitats of qualifying species
- the structure and function (including typical species) of qualifying natural habitats
- the structure and function of the habitats of qualifying species

- the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- the populations of qualifying species
- the distribution of qualifying species within the site

Threats / Pressures to Site Integrity[92]

The following threats and pressures to the integrity of the Polruan to Polperro SAC have been identified in Natural England's Site Improvement Plan:

- impediment to management
- inappropriate scrub control
- undergrazing
- water pollution
- invasive species
- feature location / extent / condition unknown
- air pollution: risk of atmospheric nitrogen deposition

Phoenix United Mine and Crow's Nest SAC

Qualifying Features[93]

Annex I habitats that are a primary reason for selection of this site:

- Calaminarian grasslands of the *Violetalia calaminariae*

Conservation Objectives[94]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of the qualifying natural habitats
- the structure and function (including typical species) of the qualifying natural habitats
- the supporting processes on which the qualifying natural habitats rely

Threats / Pressures to Site Integrity[95]

The following threats and pressures to the integrity of the Phoenix United Mine and Crow's Nest SAC have been identified in Natural England's Site Improvement Plan:

- inappropriate scrub control
- change in land management

- air pollution: impact of atmospheric nitrogen deposition

Plymouth Sound and Estuaries SAC

Qualifying Features[96]

Annex I habitats that are a primary reason for selection of this site:

- sandbanks which are slightly covered by sea water all the time
- estuaries
- large shallow inlets and bays
- reefs
- Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- mudflats and sandflats not covered by seawater at low tide

Annex II species that are a primary reason for selection of this site:

- Shore dock *Rumex rupestris*

Annex II species present as a qualifying feature, but not a primary reason for site selection:

- Allis shad *Alosa alosa*

Conservation Objectives[97]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats and habitats of qualifying species
- the structure and function (including typical species) of qualifying natural habitats
- the structure and function of the habitats of qualifying species
- the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- the populations of qualifying species
- the distribution of qualifying species within the site

Threats / Pressures to Site Integrity[98]

The following threats and pressures to the integrity of the Plymouth Sound and Estuaries SAC have been identified in Natural England's Site Improvement Plan:

- coastal squeeze
- inappropriate weirs, dams and other structures
- planning permission: general
- water pollution
- public access / disturbance
- invasive species
- direct land take from development
- fisheries: commercial marine and estuarine
- air pollution: impact of atmospheric nitrogen deposition

Tamar Estuaries Complex SPA

Qualifying Species[99]

- Little egret *Egretta garzetta*
- Pied avocet *Recurvirostra avosetta*

Conservation Objectives[100]

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:

- the extent and distribution of the habitats of the qualifying features
- the structure and function of the habitats of the qualifying features
- the supporting processes on which the habitats of the qualifying features rely
- the population of each of the qualifying features
- the distribution of the qualifying features within the site

Threats / Pressures to Site Integrity[101]

The following threats and pressures to the integrity of the Tamar Estuaries Complex SPA have been identified in Natural England's Site Improvement Plan:

- coastal squeeze
- inappropriate weirs, dams and other structures
- planning permission: General
- water pollution

- public access / disturbance
- invasive species
- direct land take from development
- fisheries: commercial marine and estuarine
- air pollution: impact of atmospheric nitrogen deposition

Dartmoor SAC

Qualifying Features[102]

Annex I habitats that are a primary reason for selection of this site:

- Northern Atlantic wet heaths with *Erica tetralix*
- European dry heaths
- Blanket bogs (priority feature)
- Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles

Annex II species that are a primary reason for selection of this site:

- Southern damselfly *Coenagrion mercurial*

Annex II species present as a qualifying feature, but not a primary reason for site selection:

- Atlantic salmon *Salmo salar*
- Otter *Lutra lutra*

Conservation Objectives[103]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats and habitats of qualifying species
- the structure and function (including typical species) of qualifying natural habitats
- the structure and function of the habitats of qualifying species
- the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- the populations of qualifying species
- the distribution of qualifying species within the site

Threats / Pressures to Site Integrity[104]

The following threats and pressures to the integrity of the Dartmoor SAC have been identified in Natural England's Site Improvement Plan:

- hydrological changes
- wildfire / arson
- air pollution: impact of atmospheric nitrogen deposition
- water pollution
- overgrazing
- undergrazing
- invasive species
- change in land management
- disease

South Devon Shore Dock SAC

Qualifying Features[105]

Annex I habitats that are a primary reason for selection of this site:

- vegetated sea cliffs of the Atlantic and Baltic coasts

Annex II species that are a primary reason for selection of this site:

- Shore dock *Rumex rupestris*

Conservation Objectives[106]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats and habitats of qualifying species
- the structure and function (including typical species) of qualifying natural habitats
- the structure and function of the habitats of qualifying species
- the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- the populations of qualifying species
- the distribution of qualifying species within the site

Threats / Pressures to Site Integrity[107]

The following threats and pressures to the integrity of the South Devon Shore Dock SAC have been identified in Natural England's Site Improvement Plan:

- undergrazing
- inappropriate scrub control
- overgrazing
- njatural changes to site conditions
- public access / disturbance

Culm Grasslands SAC

Qualifying Features[108]

Annex I habitats that are a primary reason for selection of this site:

- *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- Northern Atlantic wet heaths with *Erica tetralix*

Annex II species that are a primary reason for selection of this site:

- Marsh fritillary butterfly *Euphydryas aurinia*

Conservation Objectives[109]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats and habitats of qualifying species
- the structure and function (including typical species) of qualifying natural habitats
- the structure and function of the habitats of qualifying species
- the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- the populations of qualifying species
- the distribution of qualifying species within the site

Threats / Pressures to Site Integrity[110]

The following threats and pressures to the integrity of the Culm Grasslands SAC have been identified in Natural England's Site Improvement Plan:

- air pollution: impact of atmospheric nitrogen deposition
- agricultural management practices
- hydrological changes
- change in land management
- changes in species distributions
- invasive species
- inappropriate scrub control
- direct impact from 3rd party

Exe Estuary SPA

Qualifying Species[111]

- Slavonian grebe *Podiceps auratus*
- Dark-bellied brent goose *Branta bernicla bernicla*
- Eurasian oystercatcher *Haematopus ostralegus*
- Pied avocet *Recurvirostra avosetta*
- Grey plover *Pluvialis squatarola*
- Dunlin *Calidris alpina alpina*
- Black-tailed godwit *Limosa limosa islandica*
- Waterbird assemblage

Conservation Objectives[112]

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:

- the extent and distribution of the habitats of the qualifying features
- the structure and function of the habitats of the qualifying features
- the supporting processes on which the habitats of the qualifying features rely
- The population of each of the qualifying features

- The distribution of the qualifying features within the site

Threats / Pressures to Site Integrity[113]

The following threats and pressures to the integrity of the Exe Estuary SPA have been identified in Natural England's Site Improvement Plan:

- public access / disturbance
- changes in species distributions
- coastal squeeze
- change in land management
- fisheries: commercial marine and estuarine

Exmoor Heaths SAC

Qualifying Features[114]

Annex I habitats that are a primary reason for selection of this site:

- Northern Atlantic wet heaths with *Erica tetralix*
- European dry heaths

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- vegetated sea cliffs of the Atlantic and Baltic coasts
- blanket bogs (priority feature)
- alkaline fens
- old sessile oak woods with *Ilex* and *Blechnum* in the British Isles

Conservation Objectives[115]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats
- the structure and function (including typical species) of qualifying natural habitats
- the supporting processes on which qualifying natural habitats rely.

Threats / Pressures to Site Integrity[116]

The following threats and pressures to the integrity of the Exmoor Heaths SAC have been identified in Natural England's Site Improvement Plan:

- air pollution: Impact of atmospheric nitrogen deposition

- drainage
- inappropriate pest control
- agricultural management practices
- invasive species
- managed rotational burning
- change in land management
- direct impact from 3rd party

Exmoor and Quantock Oakwoods SAC

Qualifying Features[117]

Annex I habitats that are a primary reason for selection of this site:

- Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) (priority feature)

Annex II species that are a primary reason for selection of this site:

- Barbastelle *Barbastella barbastellus*

Annex II species present as a qualifying feature, but not a primary reason for site selection:

- Bechstein's bat *Myotis bechsteinii*
- Otter *Lutra lutra*

Conservation Objectives[118]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats and habitats of qualifying species
- the structure and function (including typical species) of qualifying natural habitats
- the structure and function of the habitats of qualifying species
- the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- the populations of qualifying species

- the distribution of qualifying species within the site

Threats / Pressures to Site Integrity[119]

The following threats and pressures to the integrity of the Exmoor and Quantock Oakwoods SAC have been identified in Natural England's Site Improvement Plan:

- invasive species
- forestry and woodland management
- disease
- air pollution: risk of atmospheric nitrogen deposition
- change in land management
- deer

Holme Moor and Clean Moor SAC

Qualifying Features[120]

Annex I habitats that are a primary reason for selection of this site:

- Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*
- Alkaline fens

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)

Conservation Objectives[121]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats
- the structure and function (including typical species) of qualifying natural habitats
- the supporting processes on which qualifying natural habitats rely

Threats / Pressures to Site Integrity[122]

The following threats and pressures to the integrity of the Holme Moor and Clean Moor SAC have been identified in Natural England's Site Improvement Plan:

- change in land management
- water pollution

- air pollution: Impact of atmospheric nitrogen deposition

Quants SAC

Qualifying Features[123]

Annex II species that are a primary reason for selection of this site:

- Marsh fritillary butterfly *Euphydryas aurinia*

Conservation Objectives[124]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of the habitats of qualifying species
- the structure and function of the habitats of qualifying species
- the supporting processes on which the habitats of qualifying species rely
- the populations of qualifying species
- the distribution of qualifying species within the site

Threats / Pressures to Site Integrity[125]

The following threats and pressures to the integrity of the Quants SAC have been identified in Natural England's Site Improvement Plan:

- changes in species distributions
- air pollution: risk of atmospheric nitrogen deposition

East Devon Pebblebed Heaths SAC

Qualifying Features[126]

Annex I habitats that are a primary reason for selection of this site:

- Northern Atlantic wet heaths with *Erica tetralix*
- European dry heaths

Annex II species that are a primary reason for selection of this site:

- Southern damselfly *Coenagrion mercuriale*

Conservation Objectives[127]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats and habitats of qualifying species
- the structure and function (including typical species) of qualifying natural habitats
- the structure and function of the habitats of qualifying species
- the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- the populations of qualifying species
- the distribution of qualifying species within the site

Threats / Pressures to Site Integrity[128]

The following threats and pressures to the integrity of the East Devon Pebblebed Heaths SAC have been identified in Natural England's Site Improvement Plan:

- inappropriate scrub control
- undergrazing
- change in land management
- public access / disturbance
- air pollution: Impact of atmospheric nitrogen deposition
- water pollution
- hydrological changes

Sidmouth to West Bay SAC

Qualifying Features[129]

Annex I habitats that are a primary reason for selection of this site:

- vegetated sea cliffs of the Atlantic and Baltic coasts
- *Tilio-Acerion* forests of slopes, screes and ravines

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- annual vegetation of drift lines

Conservation Objectives[130]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats
- the structure and function (including typical species) of qualifying natural habitats
- the supporting processes on which qualifying natural habitats rely

Threats / Pressures to Site Integrity[131]

The following threats and pressures to the integrity of the Sidmouth to West Bay SAC have been identified in Natural England's Site Improvement Plan:

- invasive species
- disease
- direct impact from 3rd party
- planning permission: general
- water pollution
- vehicles
- habitat fragmentation
- inappropriate coastal management
- air pollution: risk of atmospheric nitrogen deposition

River Axe SAC

Qualifying Features[132]

Annex I habitats that are a primary reason for selection of this site:

- Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation

Annex II species present as a qualifying feature, but not a primary reason for site selection:

- Sea lamprey *Petromyzon marinus*
- Brook lamprey *Lampetra planeri*
- Bullhead *Cottus gobio*

Conservation Objectives[133]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats and habitats of qualifying species
- the structure and function (including typical species) of qualifying natural habitats
- the structure and function of the habitats of qualifying species
- the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- the populations of qualifying species
- the distribution of qualifying species within the site

Threats / Pressures to Site Integrity[134]

The following threats and pressures to the integrity of the River Axe SAC have been identified in Natural England's Site Improvement Plan:

- water pollution
- siltation
- invasive species
- inappropriate weirs, dams and other structures

Beer Quarry and Caves SAC

Qualifying Features[135]

Annex II species that are a primary reason for selection of this site:

- Bechstein's bat *Myotis bechsteinii*

Annex II species present as a qualifying feature, but not a primary reason for site selection:

- Lesser horseshoe bat *Rhinolophus hipposideros*
- Greater horseshoe bat *Rhinolophus ferrumequinum*

Conservation Objectives[136]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of the habitats of qualifying species
- the structure and function of the habitats of qualifying species
- the supporting processes on which the habitats of qualifying species rely
- the populations of qualifying species

- the distribution of qualifying species within the site

Threats / Pressures to Site Integrity[137]

The following threats and pressures to the integrity of the Beer Quarry and Caves SAC have been identified in Natural England's Site Improvement Plan:

- direct impact from 3rd party
- planning permission: General
- habitat vulnerability
- inappropriate scrub control
- habitat connectivity

Somerset Levels and Moors SPA

SPA Qualifying Species[138]

- Bewick's swan *Cygnus columbianus bewickii*
- Eurasian teal *Anas crecca*
- European golden plover *Pluvialis apricaria*
- Northern lapwing *Vanellus vanellus*
- Waterbird assemblage

Ramsar Qualifying Features[139]

Ramsar criterion 2:

Supports 17 species of British Red Data Book invertebrates.

Ramsar criterion 5:

Assemblages of international importance of waterfowl

Ramsar criterion 6:

- Tundra swan *Cygnus columbianus bewickii*
- Eurasian teal *Anas crecca*
- Northern lapwing *Vanellus vanellus*
- Mute swan *Cygnus olor*
- Eurasian wigeon *Anas Penelope*
- Northern pintail *Anas acuta*
- Northern shoveler *Anas clypeata*

SPA Conservation Objectives[140]

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:

- the extent and distribution of the habitats of the qualifying features
- the structure and function of the habitats of the qualifying features
- the supporting processes on which the habitats of the qualifying features rely
- the population of each of the qualifying features
- the distribution of the qualifying features within the site

Threats / Pressures to Integrity of SPA[141]

The following threats and pressures to the integrity of the Somerset Levels and Moors SPA have been identified in Natural England's Site Improvement Plan:

- drainage
- inappropriate water levels
- maintain and upgrade water management structures
- change in land management
- agricultural management practices
- peat extraction
- public access / disturbance
- offsite habitat availability management

Severn Estuary SPA / Ramsar

SPA Qualifying Species[142]

- Bewick's swan *Cygnus columbianus bewickii*
- Common shelduck *Tadorna tadorna*
- Gadwall *Anas strepera*
- Dunlin *Calidris alpina alpina*
- Common redshank *Tringa tetanus*
- Greater white-fronted goose *Anser albifrons albifrons*
- Waterbird assemblage

Ramsar Qualifying Features[143]

Ramsar criterion 1:

Due to immense tidal range (second-largest in world), this affects both the physical environment and biological communities.

Habitats Directive Annex I features present on the pSAC include:

- H1110 Sandbanks which are slightly covered by sea water all the time
- H1130 Estuaries
- H1140 Mudflats and sandflats not covered by sea water at low tide
- H1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)

Ramsar criterion 3:

Due to unusual estuarine communities, reduced diversity and high productivity.

Ramsar criterion 4:

This site is important for the run of migratory fish between sea and river via estuary. Species include Salmon *Salmo salar*, sea trout *S. trutta*, sea lamprey *Petromyzon marinus*, river lamprey *Lampetra fluviatilis*, allis shad *Alosa alosa*, twaite shad *A. fallax*, and eel *Anguilla anguilla*. It is also of particular importance for migratory birds during spring and autumn.

Ramsar criterion 5:

Assemblages of international importance of waterfowl with peak counts in winter.

Ramsar criterion 6:

Species / populations occurring at levels of international importance:

- Tundra swan *Cygnus columbianus bewickii*
- Greater white-fronted goose *Anser albifrons albifrons*
- Common shelduck *Tadorna tadorna*
- Gadwall *Anas strepera strepera*
- Dunlin *Calidris alpina alpina*
- Common redshank *Tringa tetanus*
- Lesser black-backed gull *Larus fuscus graellsii*
- Ringed plover *Charadrius hiaticula*
- Eurasian teal *Anas crecca*
- Northern pintail *Anas acuta*

Ramsar criterion 8:

The fish of the whole estuarine and river system is one of the most diverse in Britain, with over 110 species recorded. Salmon *Salmo salar*, sea trout *S. trutta*, sea lamprey

Petromyzon marinus, river lamprey *Lampetra fluviatilis*, allis shad *Alosa alosa*, twaite shad *A. fallax*, and eel *Anguilla anguilla* use the Severn Estuary as a key migration route to their spawning grounds in the many tributaries that flow into the estuary. The site is important as a feeding and nursery ground for many fish species particularly allis shad *Alosa alosa* and twaite shad *A. fallax* which feed on mysid shrimps in the salt wedge.

SPA Conservation Objectives[144]

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:

- the extent and distribution of the habitats of the qualifying features
- the structure and function of the habitats of the qualifying features
- the supporting processes on which the habitats of the qualifying features rely
- the population of each of the qualifying features
- the distribution of the qualifying features within the site

Threats / Pressures to Integrity of SPA[145]

The following threats and pressures to the integrity of the Severn Estuary SPA have been identified in Natural England's Site Improvement Plan:

- public access / disturbance
- physical modification
- impacts of development
- coastal squeeze
- change in land management
- changes in species distributions
- water pollution
- air pollution: Impact of atmospheric nitrogen deposition
- marine consents and permits: minerals and waste
- fisheries: Recreational marine and estuarine
- fisheries: Commercial marine and estuarine
- invasive species
- marine litter
- marine pollution incidents

Severn Estuary SAC

Qualifying Features[146]

Annex I habitats that are a primary reason for selection of this site:

- estuaries
- mudflats and sandflats not covered by seawater at low tide
- Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site

- Sandbanks which are slightly covered by sea water all the time
- Reefs

Annex II species that are a primary reason for selection of this site:

- Sea lamprey *Petromyzon marinus*
- River lamprey *Lampetra fluviatilis*
- Twaite shad *Alosa fallax*

Conservation Objectives[147]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats and habitats of qualifying species
- the structure and function (including typical species) of qualifying natural habitats
- the structure and function of the habitats of qualifying species
- the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- the populations of qualifying species
- the distribution of qualifying species within the site

Threats / Pressures to Site Integrity[148]

The following threats and pressures to the integrity of the Severn Estuary SAC have been identified in Natural England's Site Improvement Plan:

- public access / disturbance
- physical modification

- impacts of development
- coastal squeeze
- change in land management
- changes in species distributions
- water pollution
- air pollution: Impact of atmospheric nitrogen deposition
- marine consents and permits: minerals and waste
- fisheries: recreational marine and estuarine
- fisheries: commercial marine and estuarine
- invasive species
- marine litter
- marine pollution incidents

West Dorset Alder Woods SAC

Qualifying Features[149]

Annex I habitats that are a primary reason for selection of this site:

- Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) (priority feature)

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)
- Old acidophilous oak woods with *Quercus robur* on sandy plains

Annex II species that are a primary reason for selection of this site:

- Marsh fritillary butterfly *Euphydryas aurinia*

Annex II species present as a qualifying feature, but not a primary reason for site selection:

- Great-crested newt *Triturus cristatus*

Conservation Objectives[150]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats and habitats of qualifying species
- the structure and function (including typical species) of qualifying natural habitats
- the structure and function of the habitats of qualifying species
- the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- the populations of qualifying species
- the distribution of qualifying species within the site

Threats / Pressures to Site Integrity[151]

The following threats and pressures to the integrity of the West Dorset Alder Woods SAC have been identified in Natural England's Site Improvement Plan:

- deer
- water pollution
- forestry and woodland management
- undergrazing
- invasive species
- disease
- water abstraction
- air pollution: Impact of atmospheric nitrogen deposition
- habitat fragmentation

Brackett's Coppice SAC

Qualifying Features[152]

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)

Annex II species that are a primary reason for selection of this site:

- Bechstein's bat *Myotis bechsteinii*

Conservation Objectives[153]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats and habitats of qualifying species
- the structure and function (including typical species) of qualifying natural habitats
- the structure and function of the habitats of qualifying species
- the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- the populations of qualifying species
- the distribution of qualifying species within the site.

Threats / Pressures to Site Integrity[154]

The following threats and pressures to the integrity of the Brackett's Coppice SAC have been identified in Natural England's Site Improvement Plan:

- undergrazing
- deer
- air pollution: Impact of atmospheric nitrogen deposition

Holnest SAC

Qualifying Features[155]

Annex II species that are a primary reason for selection of this site:

- Great-crested newt *Triturus cristatus*

Conservation Objectives[156]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of the habitats of qualifying species
- the structure and function of the habitats of qualifying species
- the supporting processes on which the habitats of qualifying species rely
- the populations of qualifying species
- the distribution of qualifying species within the site

Threats / Pressures to Site Integrity[157]

No threats and pressures to the integrity of the Holnest SAC have been identified in Natural England's Site Improvement Plan.

Chesil and The Fleet SAC

Qualifying Features[158]

Annex I habitats that are a primary reason for selection of this site:

- Coastal lagoons (priority feature)
- Annual vegetation of drift lines
- Perennial vegetation of stony banks
- Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticose*)

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)

Conservation Objectives[159]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats
- the structure and function (including typical species) of qualifying natural habitats
- the supporting processes on which qualifying natural habitats rely

Threats / Pressures to Site Integrity[160]

The following threats and pressures to the integrity of the Chesil and The Fleet SAC have been identified in Natural England's Site Improvement Plan:

- water pollution
- changes in species distributions
- public access / disturbance
- fisheries: commercial marine and estuarine
- invasive species
- natural changes to site conditions
- air pollution: Risk of atmospheric nitrogen deposition
- inappropriate coastal management

Chesil Beach and The Fleet SPA

SPA Qualifying Species[161]

- Eurasian wigeon *Anas Penelope*
- Little tern *Sterna albifrons*

Ramsar Qualifying Features[162]

Ramsar criterion 1:

The Fleet is an outstanding example of rare lagoon habitat and is the largest of its kind in the UK. In Europe lagoons are classified as a priority habitat by the EC Habitats and Species Directive. The site also supports rare saltmarsh habitats.

Ramsar criterion 2:

The Fleet supports 15 specialist lagoonal species – more than any other UK site – and five nationally scarce wetland plants as well as ten nationally scarce wetland animals. Chesil Bank is one of the most important UK sites for shingle habitats and species.

Ramsar criterion 3:

The site is the largest barrier-built saline lagoon in the UK, and has the greatest diversity of habitats and of biota.

Ramsar criterion 4:

The site is important for a number of species at a critical stage in their life cycle including post-larval and juvenile bass *Dicentrarchus labrax*.

Ramsar criterion 6:

Species / populations with peak counts in winter, occurring at levels of international importance:

- Dark-bellied brent goose *Branta bernicla bernicla*
- Mute swan *Cygnus olor*

Ramsar criterion 8:

The site is important as a nursery for bass *Dicentrarchus labrax*.

SPA Conservation Objectives[163]

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:

- the extent and distribution of the habitats of the qualifying features
- the structure and function of the habitats of the qualifying features

- the supporting processes on which the habitats of the qualifying features rely
- the population of each of the qualifying features
- the distribution of the qualifying features within the site

Threats / Pressures to Integrity of SPA[164]

The following threats and pressures to the integrity of the Chesil Beach and The Fleet SPA have been identified in Natural England's Site Improvement Plan:

- water pollution
- changes in species distributions
- public access / disturbance
- fisheries: Commercial marine and estuarine
- invasive species
- natural changes to site conditions
- air pollution: Risk of atmospheric nitrogen deposition
- inappropriate coastal management

Dorset Heaths SAC

Qualifying Features[165]

Annex I habitats that are a primary reason for selection of this site:

- Northern Atlantic wet heaths with *Erica tetralix*
- European dry heaths
- Depressions on peat substrates of the *Rhynchosporion*

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)
- Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae* (priority feature)
- Alkaline fens
- Old acidophilous oak woods with *Quercus robur* on sandy plains

Annex II species that are a primary reason for selection of this site:

- Southern damselfly *Coenagrion mercurial*

Annex II species present as a qualifying feature, but not a primary reason for site selection:

- Great-crested newt *Triturus cristatus*

Conservation Objectives[166]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats and habitats of qualifying species
- the structure and function (including typical species) of qualifying natural habitats
- the structure and function of the habitats of qualifying species
- the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- the populations of qualifying species
- the distribution of qualifying species within the site

Threats / Pressures to Site Integrity[167]

The following threats and pressures to the integrity of the Dorset Heaths SAC have been identified in Natural England's Site Improvement Plan:

- inappropriate scrub control
- public access / disturbance
- undergrazing
- forestry and woodland management
- drainage
- water pollution
- invasive species
- habitat fragmentation
- conflicting conservation objectives
- wildfire / arson
- air pollution: impact of atmospheric nitrogen deposition
- deer

Dorset Heathlands Ramsar

Qualifying Features[168]

Ramsar criterion 1:

Contains particularly good examples of (i) northern Atlantic wet heaths with cross-leaved heath *Erica tetralix* and (ii) acid mire with *Rhynchosporion*.

Contains largest example in Britain of southern Atlantic wet heaths with Dorset heath *Erica ciliaris* and cross-leaved heath *Erica tetralix*.

Ramsar criterion 2:

Supports 1 nationally rare and 13 nationally scarce wetland plant species, and at least 28 nationally rare wetland invertebrate species.

Ramsar criterion 3:

Has a high species richness and high ecological diversity of wetland habitat types and transitions, and lies in one of the most biologically-rich wetland areas of lowland Britain, being continuous with three other Ramsar sites: Poole Harbour, Avon Valley and The New Forest.

Threats / Pressures to Site Integrity[169]

While there are no Site Improvement Plans published for Ramsar sites, current site-specific issues can be obtained from the Ramsar Information Sheet for the Dorset Heathlands Ramsar. These include:

- Acid rain
- Other unspecified pollution

Poole Harbour SPA / Ramsar

SPA Qualifying Species[170]

- Little egret *Egretta garzetta*
- Eurasian spoonbill *Platalea leucorodia*
- Common shelduck *Tadorna tadorna*
- Pied avocet *Recurvirostra avosetta*
- Black-tailed godwit *Limosa limosa islandica*
- Mediterranean gull *Larus melanocephalus*
- Sandwich tern *Sterna sandvicensis*
- Common tern *Sterna hirundo*
- Waterbird assemblage

Ramsar Qualifying Features[171]

Ramsar criterion 1:

The site is the best and largest example of a bar-built estuary with lagoonal characteristics (a natural harbour) in Britain.

Ramsar criterion 2:

The site supports two species of nationally rare plant and one nationally rare alga. There are at least three British Red data book invertebrate species.

Ramsar criterion 3:

The site includes examples of natural habitat types of community interest - Mediterranean and thermo Atlantic halophilous scrubs, in this case dominated by *Suaeda vera*, as well as calcareous fens with *Cladium mariscus*. Transitions from saltmarsh through to peatland mires are of exceptional conservation importance as few such examples remain in Britain.

The site supports nationally important populations of breeding waterfowl including Common tern, *Sterna hirundo* and Mediterranean gull *Larus melanocephalus*. Over winter the site also supports a nationally important population of Avocet *Recurvirostra avosetta*.

Ramsar criterion 5:

Assemblages of international importance of waterfowl with peak counts in winter

Ramsar criterion 6:

Species / populations with peak counts in winter occurring at levels of international importance:

- Common shelduck *Tadorna tadorna*
- Black-tailed godwit *Limosa limosa islandica*
- Pied avocet *Recurvirostra avosetta*

SPA Conservation Objectives[172]

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:

- the extent and distribution of the habitats of the qualifying features
- the structure and function of the habitats of the qualifying features
- the supporting processes on which the habitats of the qualifying features rely
- the population of each of the qualifying features
- the distribution of the qualifying features within the site

Threats / Pressures to Integrity of SPA[173]

The following threats and pressures to the integrity of the Poole Harbour SPA have been identified in Natural England's Site Improvement Plan:

- water pollution
- air pollution: Impact of atmospheric nitrogen deposition
- fisheries: Commercial marine and estuarine

- coastal squeeze
- public access / disturbance
- deer

Dorset Heaths (Purbeck and Wareham) and Studland Dunes SAC

Qualifying Features[174]

Annex I habitats that are a primary reason for selection of this site:

- Embryonic shifting dunes
- Shifting dunes along the shoreline with *Ammophila arenaria* (“white dunes”)
- Atlantic decalcified fixed dunes (*Calluno-Ulicetea*) (priority feature)
- Humid dune slacks
- Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*)
- Northern Atlantic wet heaths with *Erica tetralix*
- Temperate Atlantic wet heaths with *Erica ciliaris* and *Erica tetralix* (priority feature)
- European dry heathsDepressions on peat substrates of the *Rhynchosporion*
- Bog woodland (priority feature)

Conservation Objectives[175]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the ‘Qualifying Features’ listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats and habitats of qualifying species
- the structure and function (including typical species) of qualifying natural habitats
- the structure and function of the habitats of qualifying species
- the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- the populations of qualifying species
- the distribution of qualifying species within the site

Threats / Pressures to Site Integrity[176]

The following threats and pressures to the integrity of the Dorset Heaths (Purbeck and Wareham) and Studland Dunes SAC have been identified in Natural England's Site Improvement Plan:

- inappropriate scrub control
- public access / disturbance
- undergrazing
- forestry and woodland management
- drainage
- water pollution
- invasive species
- habitat fragmentation
- conflicting conservation objectives
- wildfire / arson
- air pollution: impact of atmospheric nitrogen deposition
- deer

Chilmark Quarries SAC

Qualifying Features[177]

Annex II species that are a primary reason for selection of this site:

- Greater horseshoe bat *Rhinolophus ferrumequinum*
- Barbastelle *Barbastella barbastellus*
- Bechstein's bat *Myotis bechsteinii*

Annex II species present as a qualifying feature, but not a primary reason for site selection:

- Lesser horseshoe bat *Rhinolophus hipposideros*

Conservation Objectives[178]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of habitats of qualifying species
- the structure and function of the habitats of qualifying species

- the supporting processes on which the habitats of qualifying species rely
- the populations of qualifying species
- the distribution of qualifying species within the site

Threats / Pressures to Site Integrity[179]

The following threats and pressures to the integrity of the Chilmark Quarries SAC have been identified in Natural England's Site Improvement Plan:

- public access / disturbance
- natural changes to site conditions
- offsite habitat availability management
- planning permission: general
- air pollution: Impact of atmospheric nitrogen deposition

River Avon SAC

Qualifying Features[180]

Annex I habitats that are a primary reason for selection of this site:

- Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation

Annex II species that are a primary reason for selection of this site:

- Desmoulin's whorl snail *Vertigo moulinsiana*
- Sea lamprey *Petromyzon marinus*
- Brook lamprey *Lampetra planeri*
- Atlantic salmon *Salmo salar*
- Bullhead *Cottus gobio*

Conservation Objectives[181]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring.

- the extent and distribution of qualifying natural habitats and habitats of qualifying species
- the structure and function (including typical species) of qualifying natural habitats
- the structure and function of the habitats of qualifying species

- the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- the populations of qualifying species
- the distribution of qualifying species within the site

Threats / Pressures to Site Integrity[182]

The following threats and pressures to the integrity of the River Avon SAC have been identified in Natural England's Site Improvement Plan:

- physical modification
- siltation
- water pollution
- water abstraction
- changes in species distributions
- invasive species
- public access / disturbance
- hydrological changes
- inappropriate weed control
- change in land management
- habitat fragmentation

Avon Valley SPA / Ramsar

SPA Qualifying Species[183]

- Bewick's swan *Columbianus bewickii*
- Gadwall *Anas strepera*

Ramsar Qualifying Features[184]

Ramsar criterion 1:

The site shows a greater range of habitats than any other chalk river in Britain, including fen, mire, lowland wet grassland and small areas of woodland.

Ramsar criterion 2:

The site supports a diverse assemblage of wetland flora and fauna including several nationally-rare species.

Ramsar criterion 6:

Species / populations with peak counts in winter occurring at levels of international importance:

- Gadwall *Anas strepera*
- Northern pintail *Anas acuta*
- Black-tailed godwit *Limosa limosa islandica*

SPA Conservation Objectives[185]

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:

- the extent and distribution of the habitats of the qualifying features
- the structure and function of the habitats of the qualifying features
- the supporting processes on which the habitats of the qualifying features rely
- the population of each of the qualifying features
- the distribution of the qualifying features within the site

Threats / Pressures to Integrity of SPA[186]

The following threats and pressures to the integrity of the Avon Valley SPA have been identified in Natural England's Site Improvement Plan:

- physical modification
- siltation
- water pollution
- water abstraction
- changes in species distributions
- invasive species
- public access / disturbance
- hydrological changes
- inappropriate weed control
- change in land management
- habitat fragmentation

The New Forest SAC

Qualifying Features[187]

Annex I habitats that are a primary reason for selection of this site:

- Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*)
- Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or of the *Isoeto-Nanojuncetea*
- Northern Atlantic wet heaths with *Erica tetralix*
- European dry heaths
- *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)
- Depressions on peat substrates of the *Rhynchosporion*
- Atlantic acidophilous beech forests with *Ilex* and sometimes *Taxus* in the shrublayer (*Quercion robori-petraeae* or *Ilici-Fagenion*)
- *Asperulo-Fagetum* beech forests
- Old acidophilous oak woods with *Quercus robur* on sandy plains
- Bog woodland (priority feature)
- Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) (priority feature)

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- Transition mires and quaking bogs
- Alkaline fens

Annex II species that are a primary reason for selection of this site:

- Southern damselfly *Coenagrion mercurial*
- Stag beetle *Lucanus cervus*

Annex II species present as a qualifying feature, but not a primary reason for site selection:

- Great-crested newt *Triturus cristatus*

Conservation Objectives[188]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- the extent and distribution of qualifying natural habitats and habitats of qualifying species
- the structure and function (including typical species) of qualifying natural habitats

- the structure and function of the habitats of qualifying species
- the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- the populations of qualifying species
- the distribution of qualifying species within the site

Threats / Pressures to Site Integrity[189]

The following threats and pressures to the integrity of The New Forest SAC have been identified in Natural England's Site Improvement Plan:

- drainage
- inappropriate scrub control
- fish stocking
- deer
- air pollution: Impact of atmospheric nitrogen deposition
- public access / disturbance
- change in land management
- changes in species distributions
- water pollution
- forestry and woodland management
- inappropriate ditch management
- invasive species
- vehicles
- inappropriate cutting / mowing
- direct impact from 3rd party

New Forest SPA / Ramsar

SPA Qualifying Species[190]

- Dartford warbler *Sylvia undata*
- Honey buzzard *Pernis apivorus*
- Nightjar *Caprimulgus europaeus*
- Woodlark *Lullula arborea*
- Hen harrier *Circus cyaneus*
- Hobby *Falco Subbuteo*

- Wood warbler *Phylloscopus trochilus*

Ramsar Qualifying Features[191]

Ramsar criterion 1:

Valley mires and wet heaths are found throughout the site and are of outstanding scientific interest. The mires and heaths are within catchments whose uncultivated and undeveloped state buffer the mires against adverse ecological change. This is the largest concentration of intact valley mires of their type in Britain.

Ramsar criterion 2:

The site supports a diverse assemblage of wetland plants and animals including several nationally rare species. Seven species of nationally rare plant are found on the site, as are at least 65 British Red Data Book species of invertebrate.

Ramsar criterion 3:

The mire habitats are of high ecological quality and diversity and have undisturbed transition zones. The invertebrate fauna of the site is important due to the concentration of rare and scare wetland species. The whole site complex, with its examples of semi-natural habitats is essential to the genetic and ecological diversity of southern England.

SPA Conservation Objectives[192]

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:

- the extent and distribution of the habitats of the qualifying features
- the structure and function of the habitats of the qualifying features
- the supporting processes on which the habitats of the qualifying features rely
- the population of each of the qualifying features
- the distribution of the qualifying features within the site

Threats / Pressures to Integrity of SPA[193]

The following threats and pressures to the integrity of the New Forest SPA have been identified in Natural England's Site Improvement Plan:

- drainage
- inappropriate scrub control
- fish stocking
- deer
- air pollution: impact of atmospheric nitrogen deposition

- public access / disturbance
- change in land management
- changes in species distributions
- water pollution
- forestry and woodland management
- inappropriate ditch management
- invasive species
- vehicles
- inappropriate cutting / mowing
- direct impact from 3rd party

Solent and Dorset Coast SPA

Qualifying Species[194]

- Sandwich tern *Sterna sandvicensis*
- Common tern *Sterna hirundo*
- Little tern *Sternula albifrons*

Conservation Objectives[195]

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:

- the extent and distribution of the habitats of the qualifying features
- the structure and function of the habitats of the qualifying features
- the supporting processes on which the habitats of the qualifying features rely
- the population of each of the qualifying features
- the distribution of the qualifying features within the site

Threats / Pressures to Site Integrity[196]

The following threats and pressures to the integrity of the Solent and Dorset Coast SPA have been identified in Natural England's Site Improvement Plan:

- public access / disturbance
- coastal squeeze

- fisheries: Commercial marine and estuarine
- water pollution
- changes in species distributions
- climate change
- change to site conditions
- invasive species
- direct land take from development
- biological resource use
- change in land management
- inappropriate pest control
- air pollution: Impact of atmospheric nitrogen deposition
- hydrological changes
- direct impact from 3rd party
- extraction: non-living resources
- other

Solent and Southampton Water SPA / Ramsar

SPA Qualifying Species[197]

- Dark-bellied brent goose *Branta bernicla bernicla*
- Eurasian teal *Anas crecca*
- Ringed plover *Charadrius hiaticula*
- Black-tailed godwit *Limosa limosa islandica*
- Mediterranean gull *Larus melanocephalus*
- Sandwich tern *Sterna sandvicensis*
- Roseate tern *Sterna dougallii*
- Common tern *Sterna hirundo*
- Little tern *Sterna albifrons*
- Waterbird assemblage

Ramsar Qualifying Features[198]

Ramsar criterion 1:

The site is one of the few major sheltered channels between a substantial island and mainland in European waters, exhibiting an unusual strong double tidal flow and has long

periods of slack water at high and low tide. It includes many wetland habitats characteristic of the biogeographic region: saline lagoons, saltmarshes, estuaries, intertidal flats, shallow coastal waters, grazing marshes, reedbeds, coastal woodland and rocky boulder reefs.

Ramsar criterion 2:

The site supports an important assemblage of rare plants and invertebrates. At least 33 British Red Data Book invertebrates and at least eight British Red Data Book plants are represented on site.

The higher plants *Orobanche purpurea* and *Spartina maritima* are considered vulnerable and endangered, respectively, in the GB Red Book.

The Mediterranean gull (*Larus melanocephalus*) is included in CITES Appendix I.

Ramsar criterion 5:

Assemblages of international importance of species with peak counts in winter

Ramsar criterion 6:

Species / populations with peak counts in spring, autumn and winter occurring at levels of international importance:

- Black-tailed godwit *Limosa limosa islandica*
- Dark-bellied brent goose *Branta bernicla bernicla*
- Eurasian teal *Anas crecca*

Conservation Objectives[199]

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:

- the extent and distribution of the habitats of the qualifying features
- the structure and function of the habitats of the qualifying features
- the supporting processes on which the habitats of the qualifying features rely
- the population of each of the qualifying features
- the distribution of the qualifying features within the site

Threats / Pressures to Site Integrity[200]

The following threats and pressures to the integrity of the Solent and Southampton Water SPA have been identified in Natural England's Site Improvement Plan:

- public access / disturbance
- coastal squeeze

- fisheries: commercial marine and estuarine
- water pollution
- changes in species distributions
- climate change
- change to site conditions
- invasive species
- direct land take from development
- biological resource use
- change in land management
- inappropriate pest control
- air pollution: impact of atmospheric nitrogen deposition
- hydrological changes
- direct impact from 3rd party
- extraction: non-living resources
- other

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