Northumbria river basin district
Flood Risk Management Plan 2015 to 2021
Habitats Regulation Assessment

March 2016
Executive summary

The Flood Risk Management Plan (FRMP) for the Northumbria River Basin District (RBD) provides an overview of the range of flood risks from different sources across the 4 catchments of the RBD. The RBD catchments are defined in the River Basin Management Plan (RBMP) and based on the natural configuration of bodies of water (rivers, estuaries, lakes etc.).

The range of measures in the Northumbria RBD FRMP are reported under the following types of flood management action:

<table>
<thead>
<tr>
<th>Types of flood management measures</th>
<th>% of RBD measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevention – e.g. land use policy, relocating people at risk etc.</td>
<td>23%</td>
</tr>
<tr>
<td>Protection – e.g. various forms of asset or property-based protection</td>
<td>36%</td>
</tr>
<tr>
<td>Preparedness – e.g. awareness raising, forecasting and warnings</td>
<td>40%</td>
</tr>
<tr>
<td>Recovery and review – e.g. the ‘after care’ from flood events</td>
<td>1%</td>
</tr>
<tr>
<td>Other – any actions not able to be categorised yet</td>
<td>None</td>
</tr>
</tbody>
</table>

The purpose of the HRA is to report on the likely effects of the FRMP on the network of sites that are internationally designated for nature conservation (European sites), and the HRA has been carried out at the level of detail of the plan. Many measures do not have any expected physical effects on the ground, and have been screened out of consideration including most of the measures under the categories of Prevention, Preparedness, Recovery and Review. Others that may have effects but are in catchments that do not have any designated European sites have also been screened out of consideration.

Risk Management Authorities (RMAs) have for a long time been addressing the range of flood risks through a range of plans and actions. Much of the Northumbria RBD FRMP presents measures that are ongoing from existing plans, which have already been subject to HRA. RMAs have considered the effects of these existing plan measures on European sites in published HRAs where required. These measures, their effects and agreed actions to mitigate the effects have been summarised under relevant RBD catchments. Where RMAs have identified new flood risk management priorities for the next FRMP cycle period between 2015 and 2021, then the measures to implement these have been considered alongside existing plan measures in this HRA.

The following table summarises the numbers of measures that the HRA has considered:

<table>
<thead>
<tr>
<th>FRMP RMA plans</th>
<th>Screened out measures</th>
<th>Measures from existing plans</th>
<th>New cycle 1 measures¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northumbria RBD catchments</td>
<td>61 (53%)</td>
<td>46 (40%)</td>
<td>8 (7%)</td>
</tr>
</tbody>
</table>

The HRA has been carried out for the set of measures for each RBD catchment that address main river, sea and reservoir flooding alongside any measures volunteered by RMAs that

¹ Measures across several catchments are counted up for each catchment for HRA purposes which may be a different figure than reported in the FRMP.
address local flooding and thus form a ‘RBD plan’ within the FRMP. The findings are a summary of the risks to European sites and an indication of the need for future HRAs at a project level when developing local actions, as well as considering how to avoid and mitigate any residual risks to European sites.

For the Northumbria RBD FRMP, the main conclusions from the stages of assessment across the FRMP are as follows:

A determination was made to screen out measures that would not have physical effects on any European sites.

The effects of the measures from existing plans include effects of measures to address main river flooding from CFMPs and measures to address local flooding from local strategies. Existing controls and mitigation from these plans include more detailed appraisal and assessment on plans or projects arising out of the plans to demonstrate meeting the requirements of the Conservation of Habitats and Species Regulations 2010, as amended (Habitats Regulations).

The effects of the measures that are for new flood risk management priorities for the next FRMP cycle period of 2015 to 2021 have been considered within this strategic-plan level HRA as far as they can be assessed at this high level. This HRA considered the range of mitigation options that may be applicable. It is concluded that the measures are expected to be able to be avoided or mitigated as part of their development as local actions, and all measures have been identified as capable of being fully mitigated. It can therefore be concluded that at the plan level there is sufficient scope for ensuring no likely significant effects during its implementation. The detail of the controls and mitigation required will be assessed as part of requirements to meet consents under planning and other consenting mechanisms as part of a project level HRA, some of which may need to proceed to appropriate assessment in order to gather the necessary level of detail.

The HRA considers the potential for in-combination effects with other plans and projects. Given the level of information currently available, the assessment has identified the plans where the greatest risk of in-combination effects occur, but a detailed assessment can only be undertaken at the project level when details of location and design of measures are known. Key external plans to consider for in-combination effects are:

- **Local Plans** – plans of local planning authorities to determine consent for proposed developments including FCRM ‘Protection’ types of development and which require HRA for developments affecting European sites
- **Water Resource Management Plans** – plans to manage the supply of water to communities by Water Companies.
- **River Basin Management Plans** – plans that seek to ensure the objectives of water dependent European sites are maintained.
- **Marine Plans** – plans to manage the sustainable use of marine resources for inshore areas.

This HRA does not remove the need for HRA at a subsequent level, i.e. lower tier strategies, plans or projects that implement measures. This plan-level HRA does not give any weight to subsequent lower-tier plans or projects and their HRA outcomes.
As local actions are developed at a project level and the details of their scope and scale are known, this may identify additional effects on European sites that have not been assessed here, or were not appropriate to consider at this spatial scale of plan.
1 Introduction

1.1 Introducing this report

This report sets out the results of a strategic- plan level Habitat Regulations Assessment (HRA) into the likely significant effects on designated ‘European sites’ of the Flood Risk Management Plan (FRMP) for the Northumbria River Basin District, published in December 2015. The HRA report has been prepared by the Environment Agency on behalf of the collective Risk Management Authorities (RMAs) that have responsibilities for information being published within the FRMP, and are thus the ‘competent authorities’ for the HRA of their respective published information, as follows:

- Information on flooding from main river, sea and reservoirs being published for the catchments of the river basin district (RBD) are the responsibility of the Environment Agency (for English catchments).

- Information on flooding from local sources being published for any Flood Risk Area (FRA) is the collective responsibility of Lead Local Flood Authorities within the FRA.

In preparing the HRA report the Environment Agency has consulted with Natural England (for English catchments) and Natural Resources Wales (for Welsh catchments). The Lead Local Flood Authorities in Flood Risk Areas are ‘competent authorities’ for HRA of their FRMP information and have agreed that this report will meet their HRA requirements.

FRMPs are new strategic plans for implementing the Flood Risk Regulations 2009 and the existing National Flood and Coastal Erosion Risk Management (FCERM) Strategy for England. They have been developed for River Basin Districts (RBDs) and Floods Risk Areas (FRAs) and draw together information from a range of existing strategies and plans that are in place and continue to be maintained by Risk Management Authorities. The HRA has been carried out at the level of detail published in the FRMP and takes into account HRAs that have already been undertaken for measures in existing plans. Whilst a HRA at this strategic level cannot obtain the level of detail necessary for in-depth assessment, the HRA summarises the likely risks and potential need for controls and mitigation and the range of generic mitigation options available, which will then proceed through further consideration once measures are developed as specific local actions. In this way, this high-level HRA will be helpful for future HRAs that consider the effects on European sites at a project level.

The report describes each of the main stages and results of the FRMP HRA as follows:

- Describing the network of European sites within the RBD (chapter 2)
- The approach to the HRA (chapter 3)
- Screening and assessing likely significant effects (chapters 4,5,6)
- Appropriate assessment, alternative solutions and imperative reasons of overriding public interest (IROPI) (chapters 4,5,6)
- Conclusion and future HRAs (chapter 8)
1.2 Background to the FRMPs

Flood risk management plans (FRMPs) highlight the hazards and risks from rivers, the sea, surface water, groundwater and reservoirs and set out how risk management authorities, such as the Environment Agency and local authorities, will manage flood risk. They are required by the European Union Floods Directive and the Flood Risk Regulations 2009. The FRMPs must be reviewed and reissued every six years to describe progress.

The Environment Agency is required to prepare FRMPs for all of England covering flooding from main rivers, the sea and reservoirs. Lead Local Flood Authorities (county councils and unitary authorities) must prepare flood risk management plans for flood risk areas (there are ten flood risk areas in England) where the risk of flooding from local sources is significant as identified in Preliminary Flood Risk Assessments.

The 2015-2021 period will be the first cycle of the FRMPs, however RMAs already plan for flooding and a large proportion of the FRMP measures are taken from existing plans that have already been consulted on and published. This includes plans such as Catchment Flood Management Plans (CFMPs) and Shoreline Management Plans (SMPs) as well as Local Flood Risk Management Strategies that have been developed by local authorities.

Some further strategic developments have been included for the 2015-2021 first cycle of the FRMP that build on existing plans and seek to address the key objectives of the Flood Risk Regulations 2009, such as: strengthening joint working of RMAs, developing more integrated management of the water environment, and updated priorities from any new understanding of flood risks including the implications of climate change.

1.3 The Northumbria RBD FRMP

The Northumbria river basin district (RBD) is predominantly rural with the majority of the 2.7 million people living in large cities in the south of the RBD such as Newcastle and Durham. It contains large areas designated for their iconic landscapes such as the Northumberland National Park and the Northumbria coast Area of Outstanding Natural Beauty (AONB). There are many areas protected for nature conservation such as the Northumbria Coast, Lindisfarne and the North Pennine Moors. Water is central to the economy, life and heritage of the Northumbria, for example mills, weirs and other water related structures dating from the Industrial Revolution, and tourism attractions such as Kielder water and the Teesmouth and Saltholme bird reserves. The Northumbria RBD is made up of 4 management catchments (see map in Figure 1 below).

The FRMP describes the scale of flood risk in the Northumbria RBD which includes:

- 26,150 people are at risk from the 1% annual probability event of fluvial flooding and many more at risk from the sea along the east coast.
- Many towns such as Newcastle, Hexham and Morpeth benefit from flood defences, but flood risk remains a significant within the RBD.
- The Northumbria RBD has significant areas of rural land use and forestry planting, which slows down the speed at which water reaches rivers, however many of the catchments, such as the Wansbeck are steep and rocky, and as such respond rapidly to rainfall events.
- Key infrastructure includes Kielder reservoir, which covers 11km² and supplies water to the majority of the RBD, and the strategic infrastructure at Teesmouth (serviced by
the A19), which includes refineries and chemical works that play a significant role in the UK economy.

- In general, groundwater is not a significant source of flooding in the Northumbria RBD.

**Figure 1: Northumbria RBD catchments**
The Northumbria RBD FRMP sets out the objectives and measures to manage flood risk, from the Environment Agency and the Lead Local Flood Authorities for the Northumbria RBD.

Measures within the FRMPs have been developed by the Environment Agency and the Lead Local Flood Authorities (LLFAs) within the respective FRMP areas, i.e. the RBDs.

Measures within the FRMPs are either already developed, these are derived from existing plans, which have been separately consulted on and published with accompanying assessment, including Habitats Regulations Assessment (HRA); or are new measures, developed specifically for inclusion in the FRMP. The source of the measures has determined how they have been treated in the HRA.

Existing plan measures in the Northumbria draft FRMP are derived from the following source plans:

- Catchment Flood Management Plans (CFMPs)
- Local Flood Risk Management Strategies (FRMS) developed by LLFAs.

The measures derived from these plans have already been subject to consultation and assessment, including HRA. Where measures taken from existing plans have been deemed to potentially affect European sites, the HRAs of those source plans have been referred to.

1.4 Background to Habitats Regulations Assessment


Sites protected under the Habitats Regulations comprise Special Protection Areas (SPA), Special Areas of Conservation (SAC), candidate SACs (cSAC), Sites of Community Importance (SCI) and, as a matter of government policy, to potential Special Protection Areas (pSPA) and Ramsar sites (sites designated under the 1971 Ramsar Convention for their internationally important wetlands). These sites are referred to collectively as in this report as ‘European sites’.

Regulation 9(3) of the Habitats Regulations requires that a ‘competent authority’ must consider the requirements of Habitats Directive in exercising any of its functions. Article 6(3) of the Habitats Directive defines the requirements for assessment of plans and projects potentially affecting European sites. This requires that a competent authority, before deciding to undertake, or give any consent or authorisation for a plan or project which is likely to have a significant effect on a European site, and is not directly connected with or necessary to the management of that site, must carry out an appropriate assessment. The term commonly referred to for the assessment process is ‘Habitats Regulations Assessment’. 
The Northumbria FRMP is considered to fit within the definitions of a ‘plan’ as defined by the Habitats Directive, and requires a Habitats Regulations Assessment (HRA). The FRMP is a high-level planning document for the Northumbria River Basin District (RBD) (see map in Figure 1), therefore potential impacts of the plan on European sites across the RBD are difficult to determine. Given the geographic scale and nature of the plan, the HRA has been tailored to be appropriate for the spatial area of coverage and the strategic nature of the plan.

The Habitats Regulations Assessment has followed a framework of four distinct stages, only moving to the next stage if required by the results of that stage of the assessment. The four stages are:

**Stage 1: Screening and Likely Significant Effects** is the process which initially identifies the likely impacts upon a European Site of a plan or project, either alone or in combination with other plans or projects, and considers whether these impacts may be significant. This stage also includes the development of mitigation to avoid or reduce any possible effects.

**Stage 2: Appropriate Assessment** is the detailed consideration of the impact on the integrity of the European Site of the plan or project, either alone or in combination with other plans or projects, with respect to the site’s conservation objectives and its structure and function. This is to determine whether there is objective evidence that adverse effects on the integrity of the site can be excluded. This stage also includes the development of mitigation to avoid or reduce any possible effects.

**Stage 3: Assessment of alternative solutions** is the process which examines alternative ways of achieving the objectives of the plan or project that would avoid adverse impacts on the integrity of the European Site, should avoidance or mitigation be unable to avoid adverse effects.

**Stage 4: Assessment where no alternative solutions exist and where adverse effects remain** is made with regard to whether or not the plan or project is necessary for imperative reasons of overriding public interest (IROPI) and, if so, of any required compensatory measures.
2 European sites in the Northumbria RBD

Within the Northumbria RBD there are 25 SACs, 13 SPAs, and 8 Ramsar sites.

Figure 2 - Map of the European sites in the Northumbria River Basin District

Some of the sites have more than one designation such as the Northumbria Coast, parts of which are designated as SPA and SAC. Although most of the European sites contain a variety of habitat types, broadly speaking they could be described as coastal and marine sites, freshwater sites (comprising rivers, lakes, canals and other wetlands) and terrestrial sites such as woodlands, grasslands and moorlands. Of the 2 Ramsar sites, Lindisfarne is a coastal site and Holburn lake and Moss is freshwater. Most SPAs in the RBD are wetland
habitats and are coastal, with the exception of Holburn Lakes and Moss, which is freshwater, and the North Pennine Moors, which is upland. The 25 SACs in the Northumbria RBD range in size and nature from the relatively small Thristlington SAC, designated for its calcareous grassland (22 hectares (ha)), to the Northumbria Coast (65000ha), which is designated for a number of qualifying habitats including vegetated sea cliffs and reefs.

Annex B contains a summary of the European sites present within Northumbria RBD. Table A2 in Annex A presents a summary of the European sites present within the management catchments of the Northumbria RBD. In a number of cases European sites cross over the boundary of two or more management catchments, therefore a number of European site names / designations may appear against more than one management catchment.

2.1 European sites that could be affected by the FRMP

The Northumbria FRMP is a long term plan for the water environment, which could potentially affect both water dependent and non-water dependent European sites and their qualifying features.

Water dependent European sites are classified as protected areas under the WFD; each protected area European site has specific objectives to ensure their favourable conservation status. Supporting measures within the Northumbria River Basin Management Plan (RBMP) should predominantly be beneficial for the conservation status of water dependent European sites, and the Northumbria FRMP seeks to align with the objectives of the Northumbria RBMP wherever possible. Where feasible, measures to improve water body status from the Northumbria RBMP are identified against the FRMP measures.

It is not possible from the outset to rule out, at the RBD scale, any (water-dependent or non water-dependent) European sites from being affected by the Northumbria FRMP. The HRA (in particular Section 4.2) reviews the European sites by management catchment, and determines whether any of the measures within the catchments are likely to lead to significant effects on European sites.

2.2 European sites and their status for FRMPs

The Northumbria RBMP provides summary information on the current status and baseline for water-dependent European sites as part of its monitoring data.

European sites in England, with the occasional exception, are also designated as SSSIs. Natural England monitors the conditions of SSSIs and their component units using six reportable condition categories: favourable; unfavourable recovering; unfavourable no change; unfavourable declining; part destroyed and destroyed.

The current status of water-dependent European site protected areas for the Northumbria RBD is summarised in table 1 below. This gives the current area of water-dependent SSSI units of European protected areas in different condition categories as currently recorded on Natural England’s designated site data system. SSSI units underpin European protected areas and Natural England only collects data at a SSSI unit level. When SSSI units are in favourable condition, they are deemed to be meeting their conservation objectives.
**Table 1 WFD status of water dependent SSSIs for the Northumbria RBD** (Extract from Natural England databases August 2015)

<table>
<thead>
<tr>
<th>Condition</th>
<th>Northumbria RBD (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Favourable</td>
<td>26,782</td>
</tr>
<tr>
<td>Destroyed / Part destroyed</td>
<td>0</td>
</tr>
<tr>
<td>Unfavourable declining</td>
<td>484</td>
</tr>
<tr>
<td>Unfavourable no change</td>
<td>296</td>
</tr>
<tr>
<td>Unfavourable recovering</td>
<td>34,334</td>
</tr>
<tr>
<td>Total Area Unfavourable</td>
<td>35,114</td>
</tr>
<tr>
<td>% Unfavourable</td>
<td>57</td>
</tr>
</tbody>
</table>

This shows that for the Northumbria RBD, 57% of water-dependent SSSI units of European protected area sites are currently not compliant with the condition requirements.

The generic pressures on such sites in the Northumbria region include freshwater point source and diffuse pollution, siltation, forestry and woodland management, agricultural practices and diffuse pollution, under or over grazing, drainage, invasive non-native species, and public access and disturbance.

There are also long term national threats to habitats and especially species, including climate change, alterations in hydrological and coastal processes and invasive non-native species.

### 2.3 European sites and their management

As part of a new strategic approach to managing all England’s European sites, new measures needed to achieve favourable conservation status for all European sites in England have been developed by Natural England. These are collectively referred to as Site Improvement Plans (SIPs), and are being developed by the Improvement Programme for England’s Natura 2000 sites (IPENS). SIPs were published for all European sites in England in 2015.

The Northumbria FRMP recognises SIPs include actions where flood risk management is specifically a mechanism for their delivery. Information on SIPs within the RBD that may include actions allocated to flood risk management can be found using the footnote link.

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2 Site Improvement Plans for the Northumbria River Basin District can be found on: [http://publications.naturalengland.org.uk/category/6287197783195648](http://publications.naturalengland.org.uk/category/6287197783195648)
3 Approach to the HRA

The steps undertaken to complete the HRA are as follows:

- describe the plan and the measures proposed
- screen and assess the likely significance of any effects on European sites
- consider need for further stages of assessment (i.e. appropriate assessment, alternative solutions and IROPI)
- determine a plan level conclusion.

3.1 Description of the FRMP programmes of measures

The Northumbria RBD FRMP is a joint publication of several plans required under the Flood Risk Regulations that are the separate responsibilities of specific Risk Management Authorities (RMAs), as follows:

- Northumbria River Basin District catchments (Environment Agency)
- North Yorkshire Council LLFA

3.1.1 River Basin District Catchments

FRMPs for the River Basin District (RBD) are being published by the Environment Agency (for English catchments) and Natural Resources Wales (NRW) (for Welsh catchments), and are focused on measures principally to address flood sources from main river, the sea and reservoirs. The measures have been divided into catchments based on the River Basin Management Plans (where they are called 'management catchments').

Production of the FRMPs for the RBDs is the legal duty of the Environment Agency and NRW. Where any voluntary information on local sources of flooding within RBD catchments has been provided by LLFAs, these are published by joint agreement in the RBD FRMP. The Environment Agency and NRW are also the competent authority under the Habitats Regulations for the RBD FRMPs.

3.1.2 Applying HRA

In applying the HRA process, each RBD catchment was assessed and a final summary of conclusions and recommendations for future HRAs is provided that also draws on a high-level summary of the potential for in-combination effects of the FRMP with other key plans.

3.2 Screening and Likely Significant Effects

This first stage of the HRA process requires consideration of screening and likely significant effects of measures on European sites. The tasks undertaken to complete this are as follows, and set out in more detail below:

- screening out catchments where no European sites are present
- screening out measures that would not have physical effects
- considering measures from existing plans, with mitigation / controls already agreed in HRAs for any likely significant effects, or in some cases potential adverse effect on site integrity
• considering new measures and their likely significant effects, with mitigation / controls where considered necessary
• conclusion from screening and likely significant effects.

The results of these tasks for each RMA’s plan of the FRMP are provided in chapter 4.

3.3 Screening out catchments where no European sites are present

Where there are no European sites present in a catchment, it was determined that no further consideration of measures in the catchment is required. Given the level of detail in the plan where the FRMP measures are mainly strategic in nature and are not specific on their precise location, there is insufficient details to consider downstream or down drift effects beyond the catchment. However, such screening for cross-catchment effects will be a requirement in assessing local plans and projects.

3.4 Screening out measures that would not have physical effects

Every measure included within the FRMP is categorised according to one of the following 4 categories, accompanied by an M-code:

• **Prevention (M2)** - reducing the impacts of flooding through land use and development policy, relocation of assets at risk, or measures to divert the hazard to avoid harm.
• **Protection (M3)** - protecting people from the risk of flooding; for example, by the maintenance, refurbishment of existing defences or building new defences.
• **Preparedness (M4)** - by taking actions that prepare people for flooding; for example, by improving awareness of flood risk, or by providing warning and forecasting for floods.
• **Recovery and review (M5)** - supporting recovery after flooding has happened and reviewing how things can be improved; for example, by improving the availability of recovery services such as providing temporary accommodation.
• **Other (M6)** – measures not fitting in to any of the above categories.

Further definitions of each of the measures are set out in the FRMP according to a second tier of M-codes. For example, Prevention (M2) includes the second tier measure, M22, which is defined as “Prevention, removal or relocation measure to remove receptors from flood prone areas or to relocate receptors to areas of lower risk”. These measure definitions have been used as the basis for the initial screening out of the measures that require no for further consideration within the HRA.

The measure codes and their definitions are included as Table A1 (in Annex A to this document). Measures under ‘Preparedness’ (M4) and ‘Recovery and review’ (M5) will not result in development, demolition or changes of management ‘on the ground’ that could result in effects on European sites. These were therefore screened out from any further consideration. Similarly, under the ‘Prevention’ category (M2), only the removal or relocation of receptors from flood prone areas could potentially affect European sites. The measures that have been screened in to the assessment are set out below and have been highlighted in Table A1:
• M22 – Prevention – removal or relocation (category)
• M3 – Protection – all sub-categories
• M6 – Other – not yet defined.

3.5 Considering measures from existing plans

Risk Management Authorities have a range of plans in place for developing and implementing measures related to flooding from main river (in Catchment Flood Management Plans), to flooding from the sea (in Shoreline Management Plans) and related to local sources of flooding (e.g. in Local Flood Risk Management Strategies). These plans have been subject to HRA where relevant, and have reported on the effects on European sites consistent with the level of detail of the plans.

For this HRA, these existing HRAs have been used to summarise the effects of measures from existing plans that are now set out under specific RBD catchments or FRAs. For many RBD catchments and FRAs there are multiple existing plans covering the geographic area but also some existing plans that are split across RBD catchments or FRAs. Nonetheless we have separated out the ‘screened in’ measures from individual existing plans and referenced the specific HRA results that apply to them.

The results from existing HRAs have considered the extent that they remain valid since they were published. This has been done by checking the status of the relevant European sites that were considered within the source plan’s HRA for any changes to site designations since the date of the HRA publication. The criteria were agreed with Natural England and comprised: whether there were any new / additional site designations, any changes in site boundaries, changes in designated site features, or any significant changes in site conditions.

One of the main reasons for a likely change from when the effects of plan measures were reported in HRAs is where there have been boundary changes to European sites or to the scope of condition of the interest features of the sites i.e. specific habitats, species etc. Where we have been advised that such changes have occurred and are significant then this has triggered further consideration of the validity of the existing HRA results that we have relied upon.

3.6 Considering new measures for FRMP cycle 1

In reviewing the range of measures across existing plans covering all sources of flooding, Risk Management Authorities (RMAs) have taken the opportunity to put forward further strategic developments for the next 6 year cycle of the FRMP. These ‘new measures’ focus on: strengthening the joint working of RMAs across all flood sources; developing more integrated management of the water environment as set out in the River Basin Management Plans and other related plans; and updating flood risk information to help manage risks with communities.

For this HRA we have reviewed the set of new measures that have been ‘screened in’ for each catchment. As they are mostly ‘strategic’ measures without specific information on location or the form of action that would be developed on the ground, we have considered a range of factors that would give rise to any likely risks from this set of measures in a specific catchment, which includes:
• their general proximity in the catchment to European sites
• whether they aim to address sources of flooding that are local, or main river or related to the coast
• the mix of types of new measures within the catchment denoted by their M-codes (i.e. whether they are mainly maintenance, or channel works, or new solutions).

General proximity was considered by narrowing down the set of measures within a catchment to those that were closer in general and more likely to be connected to European sites by the hydrology of the catchment rather than applying specific buffer distances to individual measures.

3.7 Considering the need for further stages of assessment

HRA steps were carried out for each RBD catchment of the RBD plan that is the responsibility of the Environment Agency. Further HRA steps were carried out for each FRA (by catchment) that is the responsibility of respective Lead Local Flood Authorities. The determination for each catchment or FRA that there are no likely significant effects to European sites, is based on the following assumptions:

• that this HRA does not remove the need for HRA at a subsequent level, i.e. lower tier strategies, plans or projects that implement measures, nor does it give any weight to their outcomes. Consideration of potential impacts and options available to mitigate for those impacts should assist, but not influence or constrain any lower-tier assessments.

• that as local actions are developed at a project level and the details of their scope and scale are known, that this may identify additional effects on European sites that have not been assessed here, or were not appropriate to consider at this spatial scale of plan.
4 Northumbria River Basin District Catchments HRA

This chapter sets out the results of carrying out the HRA on the measures for the Northumbria RBD catchments that are for flooding from main river, sea and reservoirs and for local flooding sources outside of Flood Risk Areas. This is the FRMP information for which the Environment Agency is the FRMP ‘statutory authority’ and HRA ‘competent authority’.

This section covers the following stages of the assessment:

- Summary of measures being assessed
- Screening and assessment of likely significant effects
- Consideration of results and conclusion

4.1 Summary of Measures

The initial screening and assessment of likely significant effects reviewed the measures for each of the 4 management catchments within the Northumbria draft FRMP.

Figure 3 - Map of the Northumbria river basin district and management catchments

A summary of the measures and their screening is given below for each catchment.
Table 2: Summary of measures by catchment

<table>
<thead>
<tr>
<th>Management Catchment</th>
<th>Number of measures screened in</th>
<th>Number of measures from existing plans</th>
<th>Number of measures related to types of existing plans</th>
<th>Number of new measures for cycle 1</th>
<th>Number of new measures and known level of detail</th>
<th>Number of European sites</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Catchments with no screened in measures</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All catchments have some screened in measures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Catchments with all measures from existing plans</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northumberland Rivers</td>
<td>16 (6)</td>
<td>16</td>
<td>16 from CFMPs</td>
<td>0</td>
<td>No new measures</td>
<td>14</td>
</tr>
<tr>
<td>Tyne</td>
<td>10 (17)</td>
<td>10</td>
<td>10 from CFMPs</td>
<td>0</td>
<td></td>
<td>13</td>
</tr>
<tr>
<td>Wear</td>
<td>16 (8)</td>
<td>16</td>
<td>16 from CFMPs</td>
<td>0</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Sub-total</td>
<td>42 (31)</td>
<td>42</td>
<td>42 from CFMPs</td>
<td>0</td>
<td>(n/a)</td>
<td></td>
</tr>
<tr>
<td>% all measures</td>
<td>37%</td>
<td>37%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Catchments with new measures for cycle 1 of the FRMP</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northumbria RBD Wide</td>
<td>2 (0)</td>
<td>0</td>
<td></td>
<td>2</td>
<td>0 not in proximity</td>
<td>n/a</td>
</tr>
<tr>
<td>Tees</td>
<td>10 (30)</td>
<td>4</td>
<td>4 from CFMPs</td>
<td>6</td>
<td>5 not in proximity</td>
<td>9</td>
</tr>
<tr>
<td>Sub-total</td>
<td>12 (30)</td>
<td>4</td>
<td>4 from CFMPs</td>
<td>8</td>
<td>5 not in proximity</td>
<td>7%</td>
</tr>
<tr>
<td>% all measures</td>
<td>10%</td>
<td>3%</td>
<td></td>
<td>7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Total</td>
<td>54 (61)</td>
<td>46</td>
<td>46 from CFMPs</td>
<td>8</td>
<td>5 not in proximity</td>
<td></td>
</tr>
<tr>
<td>% all measures</td>
<td>47%</td>
<td>40%</td>
<td>40% from CFMPs</td>
<td>7%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. all numbers are of ‘screened in’ measures, except those in brackets
2. all %s are of total of all ‘screened in and out’ measures
3. ‘in proximity’ means being generally in the same part of the catchment (specific distances are not applied, but further detail is provided in the assessment)
4. ‘specific’ is where a measure is place specific, ‘strategic’ is where a measure is catchment or RBD-wide
5. Measures across several catchments are counted up for each catchment for HRA purposes which may be a higher figure than reported in the FRMP.

Of the total of 115 measures 47% have been screened in for HRA consideration (53% screened out). All management catchments within the Northumbria RBD have some screened in measures and are considered further.

There are 2 measures that are RBD-wide and are considered in section 4.2.4.2.
There are a number of measures from the neighbouring Humber river basin districts that were included in Northumbria RBD catchments and are considered in section 4.2.4.3

4.1.1 **Risks from existing plan measures**

40% of all FRMP measures (excluding Flood Risk Areas) are screened in and from existing plans that are CFMPs. Most risks are from land management measures where adverse effects were identified in the CFMP HRA for all of the management catchments.

4.1.2 **Risks from new measures**

7% of all FRMP measures (excluding Flood Risk Areas) are screened in and new measures, 4% are not in proximity to any European sites, 1% are strategic without locations, and 1% are more specific measures to restore peat bog formation that are in proximity to the upland sites; Moorhouse Upper Teesdale and the North York and North Pennine Moors.

4.2 **Screening and Likely Significant Effects**

The management catchments that make up the Northumbria RBD FRMP are set out in table 3 below. The colour coding in the table summarises the nature and source of the bundle of measures, which forms the basis for how each management catchment has been assessed. The following sub-sections consider each of the management catchments in turn.

**Table 3 Management Catchments of the Northumbria RBD /FRMP**

<table>
<thead>
<tr>
<th>Management Catchment Category</th>
<th>Management Catchments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management catchments with no European sites present.</td>
<td>None</td>
</tr>
<tr>
<td>Management catchments with no ‘screened in’ measures.</td>
<td>None</td>
</tr>
<tr>
<td>Management catchments with all measures from existing plans.</td>
<td>Northumberland Rivers Tyne Wear</td>
</tr>
<tr>
<td>Management catchments with new measures.</td>
<td>Tees</td>
</tr>
</tbody>
</table>

4.2.1 **Management catchments with no European sites present**

All management catchments within the Northumbria RBD have European sites present, therefore no management catchments have been ruled out of further consideration on this basis.

4.2.2 **Management Catchments with no ‘screened in’ measures**

All management catchments within the Northumbria RBD have screened in measures, therefore no management catchments have been ruled out of further consideration on this basis.

4.2.3 **Management Catchments with all measures from existing plans**

The following management catchments in the Northumbria FRMP do not contain any FRMP new measures; they contain only measures from existing plans.
Each of these plans has already been subject to consultation and assessment, including HRA. The HRA conclusions for those source plans have been referred to in each case.

### 4.2.3.1 Northumberland Rivers Management Catchment

<table>
<thead>
<tr>
<th>European sites</th>
<th>New measures</th>
<th>Existing plan measures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Screened in</td>
<td>Screened out</td>
</tr>
<tr>
<td>14</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Screened in</td>
<td>Screened out</td>
</tr>
<tr>
<td>16</td>
<td>0</td>
<td>6</td>
</tr>
</tbody>
</table>

The Northumberland Rivers management catchment contains 14 European sites. Many of these sites are designated for coastal habitats and species, such as the Northumbria coast, Lindisfarne, Coquet Island and the Farne Islands. There are 4 European sites which are not located on the coast, these are in upland areas. There are no proposed measures within this catchment; all of the 50 measures are from existing plans.

**Wansbeck and Blyth and North East Northumberland CFMPs**

Half of the measures are from the Wansbeck and Blyth CFMP. The majority of the CFMP measures are protection measures (M3) and are considered further below; the screened out CFMP measures relate to emergency flood event response / contingency planning (M44).

The Wansbeck and Blyth CFMP boundary sits within the Northumberland Rivers management catchment, and this catchment also encompasses the North East Northumberland CFMP (see below). The 16 CFMP protection measures incorporated within the Northumberland Rivers management catchment implement the policies of the CFMP, which were assessed by the Wansbeck and Blyth and the North East Northumberland CFMP HRA’s. The CFMP HRA assessed potential effects on European sites and concluded that the policies and actions within the Wansbeck and Blyth and the North East Northumberland CFMP’s had the potential to have a significant impact on European sites as a result of habitat damage and loss, disturbance to species and changes in flooding regimes causing damage to habitats such as dry heath land. An appropriate assessment was carried out which identified mitigation for impacts such as timing of works, further investigation work to ensure changes made would not impact on key habitats, and limiting vegetation clearance. Following implementation it was concluded that the Wansbeck and Blyth and North east Northumberland CFMP’s were not likely to have an adverse impact on site integrity.

### 4.2.3.2 Tyne Management Catchment

<table>
<thead>
<tr>
<th>European sites</th>
<th>New measures</th>
<th>Existing plan measures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Screened in</td>
<td>Screened out</td>
</tr>
<tr>
<td>13</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Screened in</td>
<td>Screened out</td>
</tr>
<tr>
<td>10</td>
<td>0</td>
<td>17</td>
</tr>
</tbody>
</table>

The Tyne management catchment contains 13 European sites. The North Pennine Moors and Northumbria Coast flank the western and eastern sides of the management catchment respectively. The remaining sites tend to lie to the west of the management catchment in the uplands, with the Tyne and Nent and Tyne and Allen river gravels being the only 2 riverine sites. There are no new measures within this catchment; there are 27 measures from existing plans of which 17 are screened out as they relate to flood preparedness (M4).
**Tyne CFMP**

All of the measures screened in fall under M2 (protection) and M3 (prevention) codes. The Tyne CFMP boundary follows the Tyne management catchment boundary of the FRMP. The CFMP HRA concluded that there was potential for significant effects such as habitat loss / physical damage, changes in flood inundation / frequency, changes in physical regime, changes to water quality, disturbance and habitat / community simplification. Mitigation proposed included design of schemes in partnership to ensure no adverse impacts on European sites, timing and location of works. As the measures were not geographically fixed, there is sufficient flexibility to ensure no adverse effects on integrity occur. With mitigation applied the conclusion of the appropriate assessment was that there would be no adverse impact on site integrity.

### 4.2.3.3 Wear Management Catchment

<table>
<thead>
<tr>
<th>European sites</th>
<th>New measures</th>
<th>Existing plan measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Screened in: 0</td>
<td>Screened out: 0</td>
</tr>
<tr>
<td></td>
<td>Screened in: 16</td>
<td>Screened out: 8</td>
</tr>
</tbody>
</table>

The Wear management catchment contains 10 European sites. The larger of these sites lie along the coast (Teesmouth and Cleveland Coast, Northumberland Coast and Durham Coast) and to the south and west of the management catchment (North Pennine Moors). There are no new measures within this catchment; all of the 24 measures are from existing plans. Of the 16 measures screened in, 10 are M3 (Protection) codes, and 6 are M2 (prevention). The majority of the measures screened in are related to catchment based interventions such as woodland creation and withdrawal of maintenance from agricultural areas.

**Wear CFMP**

The Wear CFMP stage 1 assessment identifies impacts to European sites as a result of habitat creation measures, withdrawal from banks and grip blocking. The impacts of these measures were identified as changes to hydrological regimes, habitat disturbance, species disturbance and habitat simplification. Mitigation identified was to ensure schemes are designed in partnership and to avoid adverse impacts, and location and timing of works to avoid impacts. As the measures are not geographically fixed, there is sufficient flexibility to ensure no adverse effects on integrity occur. With mitigation applied the conclusion of the stage 2 appropriate assessment was no adverse impact on site integrity.

### 4.2.4 Management Catchments with New Measures

### 4.2.4.1 Tees Management Catchment

<table>
<thead>
<tr>
<th>European sites</th>
<th>New measures</th>
<th>Existing plan measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Screened in: 6</td>
<td>Screened out: 1</td>
</tr>
<tr>
<td></td>
<td>Screened in: 4</td>
<td>Screened out: 29</td>
</tr>
</tbody>
</table>
The Tees management catchment contains 9 European sites. In total there are 10 screened in measures for the Tees management catchment, of which 6 are EA proposed as part of the FRMP.

The Tees Management Catchment contains nine European sites, comprising Moor House - Upper Teesdale SAC, North Pennine Dales Meadows SAC, North Pennine Moors SAC and SPA, North York Moors SAC and SPA, Thrislington SAC, Teesmouth & Cleveland Coast SPA and Ramsar. Of these, the North Pennine Moors, the North York Moors, and the Teesmouth and Cleveland Coast are the largest areas of European sites. The Teesmouth and Cleveland coast flanks the eastern area of the management catchment and is adjacent to the densely populated areas of Hartlepool and Middlesbrough.

**Tees CFMP**

There are 33 measures from the Tees CFMP in the Humber FRMP, 4 of which are screened into this assessment. The Tees CFMP concluded that there was potential for measures to significantly impact on European sites as a result of habitat loss / physical damage, changes in flood inundation / frequency, changes in physical regime and disturbance. A subsequent appropriate assessment looked further at these impacts, and concluded that with mitigation such as the management of timing and location of works, and designing out of impacts the impacts are not expected to have an adverse impact on site integrity.

**New measures**

There are 7 FRMP measures proposed by the Environment Agency. The Environment Agency measures are protection measures (M3) and one is prevention (M23). Six measures are screened in for further consideration. One measure which relates to investigations into peat restoration has been screened out.

Of the 6 EA proposed measures, one is to look at improved protection for Port Clarence and Greatham South. This scheme has been appraised and has already been subject to a project level Habitats Regulations Assessment which concluded that there would be no adverse effect on site integrity. Of the remaining actions, 5 of them are between 2 and 20km away from any designated sites. Given this distance and the likely scope of work, impacts are considered unlikely.

Given the general scope and the strategic scale of the measures, the FRMP does not specify or constrain how or where measures are implemented. The measures will be subject to project level control through the relevant consenting process and the associated requirement for the consideration of project level HRA. At this strategic plan level, a range of mitigation options have been identified (see section 4.3.3 and also Table A3 in Annex A). In light of the mitigation options available to adequately avoid or mitigate for impacts, the measures are screened as **not likely to lead to significant effect on European sites**. This is a plan-level conclusion and does not remove the need for lower-tier HRA, nor does it influence the conclusions or specific need for appropriate assessment to investigate mitigation options in more detail.

**4.2.4.2 RBMP Wide Measures**

There are 2 measures which are proposed in all management catchments. These are to ensure climate change adaptation is incorporated into flood risk management projects, and
to consider natural flood management as a mechanism to adapt to and increase resilience to climate change impacts. The FRMP does not constrain how or where these measures are implemented, and both measures will be subject to subsequent appraisal and assessment at the project level if required. At this strategic plan level, a range of mitigation options have been identified (see section 4.3.3 and also Table A3 in Annex A). In light of the mitigation options available to adequately avoid or mitigate for impacts, the measures are screened as not likely to lead to significant effect on European sites. This is a plan-level conclusion and does not remove the need for lower-tier HRA, nor does it influence the conclusions or specific need for appropriate assessment to investigate mitigation options in more detail.

### 4.2.4.3 Cross boundary measures

<table>
<thead>
<tr>
<th>European sites</th>
<th>New measures</th>
<th>Existing plan measures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Screened in</td>
<td>Screened out</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>14</td>
</tr>
</tbody>
</table>

There are 16 cross boundary measures from the Humber FRMP that occur in Northumbria catchments. These measures sit within the Tees management catchment. 14 of the measures have been screened out as they relate to modelling work (M2), policy updates (M5) and communications (M4). The 2 measures that have been screened in both relate to M3 codes and are to work to maintain and deliver a prioritised programme of work within the management catchment. As these measures are not geographically fixed, or fixed in terms of scope, project level mitigation can be applied to ensure impacts are avoided during the development of project level HRA, if required. With this mitigation in place it is concluded that these 2 measures are not likely to lead to significant effect on the European sites.

### 4.3 Consideration of results and conclusion

The assessment of likely significant effects has been carried out for each catchment in turn. The risks to European sites for those measures drawn from existing plans have been considered with reference to existing HRAs and existing controls in place. The potential risks arising from new strategic priorities for the next FRMP cycle have also been considered.

In all catchments the conclusions are that likely significant effects can be avoided or mitigated by appropriate controls and actions that are currently in place or will be in place at a project level, when local actions are developed to implement the plan.

#### 4.3.1 Risks from existing plan measures

30% of measures are from existing plans, of which 100% are from CFMPs. Most risks are from land management measures where adverse effects were identified in the CFMP HRA for all of the management catchments.

All risk management authorities responsible for implementing the measures in the FRMP that are sourced from the existing CFMPs and SMPs, where risks to Europeans sites have been identified, are required to take account of the HRAs of those plans (as identified in section 4.2 above) and any mitigation proposals or statements made within them.
4.3.2  Risks from new measures

18% of measures are new, of which 80% are not in proximity to any European sites, 10% are strategic and not defined in scope or location, and 10% are more specific measures to restore peat bog formation that are in proximity to the upland sites; Moorhouse Upper Teesdale and the North York and North Pennine Moors.

4.3.3  Control and Mitigation for main risks from new cycle 1 measures

**Controls**

The principal controls for the development of local actions from new FRMP measures that are more specific and are in the proximity of European sites comprise the consenting procedures in place to assess proposed actions in order to authorise implementation. Actions involving construction or creation of new, or changes to, alteration or improvement of existing flood defence structures affecting main river are likely to require planning permission. In some cases, flood risk management may ordinarily be permitted development. Other types of actions may require controls under Flood Defence Consents from the Environment Agency for main rivers or Lead Local Flood Authority (LLFA) for non-main watercourses.

Where a European site is potentially affected, the need for project level HRA is determined through the planning process, the required information is submitted with the planning application, with the assessment being the responsibility of the local planning authority as competent authority. A determination is made in consultation with Natural England. Even where the action would normally be permitted development, approval of the local planning authority is required where a development is likely to have a significant effect on a European site.

As part of these consenting mechanisms, the measures cannot receive approval to proceed until it has been demonstrated that they will not result in adverse effects on integrity of any affected European sites. Or, where an adverse effect cannot be avoided, a case for ‘Imperative Reasons of Overriding Public Interest’ (IROPI) that includes the identification of compensatory measures is approved by the Secretary of State for Environment, Food and Rural Affairs. Table A3 in Annex A provides additional detail on the consenting processes and the consideration of the Habitats Regulations as they relate to measures to address flooding from the various flooding sources (e.g. main river, ordinary watercourses, tidal, reservoir).

**Mitigation**

Implementation of measures at the subsequent tier of plan or project, if deemed likely to result in significant effect on one or more European sites, may need to include mitigation to avoid or reduce potential effects. Specification of mitigation should be tailored to the specifics of a project, and to the sites and features potentially affected, through the project level HRA process and through consultation with Natural England, ideally early in a project’s appraisal and design. That way, mitigation can be incorporated into the way that the project is designed and built, tailored to the specifics of the site/s and their qualifying features, and therefore be most effective in avoiding or reducing potential adverse effects.

Project-level mitigation for European site species would consider the potential impacts arising from construction and operation of the project / measure, alongside any site specific
sensitivities of the affected species. Depending on the nature of the project, identification of
the use of habitats in proximity by qualifying species and the functioning role of those
supporting habitats affected, may either be established by existing data / studies or may
need to be established through site survey.

Construction-related mitigation should consider managing the timing of activities to avoid
ecologically sensitive periods, such as breeding, over-wintering or migratory passage
periods for birds, or migratory periods for anadromous fish. The exact timings for these
construction ‘windows’ may vary for different sites in the RBD, depending on the presence,
distribution and proximity of qualifying species present. Avoidance or reduction of visual or
noise disturbance to species may also consider the use of techniques such as screening,
segregation or establishing buffer zones, recognising that some species may be more
vulnerable or sensitive than others (for example different bird species can vary in their flight
response). For potential construction impacts on habitats, such as loss of habitat or physical
damage, key construction-focused mitigation should focus on the avoidance of working on,
or in proximity to sensitive habitats, and development of site sensitive construction
techniques. This may for example include avoiding heavy plant usage in particular areas, or
screening / creation of buffer zones to avoid any disturbance or physical damage. This can
be informed through site specific / project-level HRA, and supporting survey where
necessary, to establish the presence, nature and sensitivities of potentially affected habitats.

For potential operational effects, sensitive and sympathetic design can minimise or avoid
effects, such as appropriate location or layout of any structures (set-back from sensitive
habitats) or minimising footprints where possible. Project-level HRA should also consider
potential changes in physical processes, such as changes to flows / velocities and the
physical regime, and potential water quality changes, for example due to the addition or
removal of a structure or a changed profile of the riparian zone / channel banks. Such
effects, as identified through the HRA, should inform a project’s appraisal and the building of
suitable mitigation into the design.

4.3.4 Conclusion

The assessment above has considered the FRMP information in RBD catchments that the
Environment Agency are responsible for and has screened the measures as having no likely
significant effect. This is concluded in light of the range of avoidance and mitigation
measures available.

Regulatory controls will identify any risks to European sites when the actions required to
implement the measures are developed. The FRMP itself also makes it clear that before any
measures in the plan are implemented they must be subject to the requirements of the
Habitats Regulations by the relevant competent authority. This is already the case for
measures from existing plans where HRAs have identified risks to European sites and where
any adverse effects that cannot be ruled out have been addressed through appropriate
mitigation and compensatory provision.

It is concluded that at this strategic-plan level, the measures are screened as being not likely
to have any significant effects on any European sites, alone or in combination with other
plans or projects (see chapter 7). Given this conclusion, there is no requirement to progress
to the next stage of the Habitats Regulations Assessment (an ‘appropriate assessment’ to
examine the question of adverse effect on the integrity of European sites). Lower-tier
assessments will be required and will be assisted by the information gathered in this high-
level assessment, but their conclusions will not be influenced by this HRA, and each individual plan or project must be assessed as necessary in order to meet the requirements of the Habitats Regulations.
5 In combination effects with other plans and projects

The Habitats Directive and the Habitats Regulations require competent authorities to consider the assessment of effects on a European site in combination with other plans or projects. The Habitats Regulations Assessment of the FRMP has demonstrated that, for those measures where there is a potential effect on a European site, there is insufficient detail available at this stage to understand the site-specific context in terms of location or outline design of the flood risk management solution to be able to assess the likely effects in the detail necessary to advise on site-specific avoidance and mitigation required. Rather, the assessment has set out the range of avoidance, mitigation and control measures that can be applied, and there is enough confidence in the breadth and type of measures available to screen out likely significant effects for the purposes of plan-level assessment.

The application of HRA requirements at the project or lower-tier plan level will take place when a greater level of detail will be available. Given the lack of available information on the location and design of solutions and therefore the associated effects, we are also unable to meaningfully assess the in-combination effects with other plans and projects. This section has therefore set out the types of plans and projects where interactions are possible and more detailed consideration of these will be required in the HRAs for projects or lower tier plans.

The potential for in-combination effects lies with the following potential interactions:

- Between different RBD FRMPs
- The RBD FRMP with other external plans within the RBD.

The in combination effects with existing Risk Management Authority plans during the period of the plan, including Shoreline Management Plans, Catchment Flood Management Plans and Local Strategies, have been considered as part of the FRMP assessments undertaken within each RBD catchment and flood risk area (see previous sections). This is because the FRMP has already considered how the objectives and measures of these existing plans combine and relate to the 6 year cycle 2015 to 2021 of the FRMP.

5.1 In-combination effects between RBD FRMPs

The Northumbria RBD shares a border with three other RBDS:

- Solway and Tweed in the north
- North West to the west
- Humber to the south (a relatively short border)

There are some European sites that span these borders of the Northumbria RBD. However, these sites are located partly inside the Northumbria RBD and so impacts have been considered as part of the assessment.

In general more FRMP measures are located close to where the risks of flooding to people and property are greatest and as a result less are located close to the water shed margins of catchments that are the borders of RBDS. There are however, catchment or RBD wide measures that relate to these borders and often involve working with natural processes. At
this level of the plan, the nature of such measures on any specific European sites that cross RBD borders are not sufficient to identify effects and such measures are considered to result in no likely significant effects to cross border European sites. Such effects may be important for lower tier plans and project level assessments to consider when more details of the measures and the effects are known.

5.2 In-combination effects with external plans

Potential for in-combination effects with external plans will depend on the specific locations and design of actions or measures arising from the FRMP, external plan or project. Nevertheless, a number of plans that could give rise to projects that have the potential to contribute to an in-combination effect have been identified.

At this stage, given the uncertainty of location and design of measures in the FRMP, there is limited value in examining other plans in detail and speculating on where interactions might occur. We have therefore taken the approach of identifying key plans that should be considered in the HRAs for projects or lower tier plans or strategies. as described below. However, this is not a definitive list; there are a range of plans and projects that will need to be taken account of in the HRAs for lower-tier plans projects, when considering potential in-combination effects

**Local Plans:** Local Plans set out a vision and a framework for the future development of the area, addressing needs and opportunities in relation to housing, the economy, community facilities and infrastructure – as well as a basis for safeguarding the environment, adapting to climate change and securing good design. During their development and before they are adopted, plans will be subject to an HRA where there is the potential for significant effects on a European site or sites. Other local plans that may be relevant to also consider relate to transport, minerals and waste.

**Water Resource Management Plans:** Northumbrian Water has produced the water resource plan for the Northumbria region. The boundaries of the plan area are substantially the same as that for the RBD. The plan sets out the investment needed to ensure that there is sufficient water to continue supplying communities over the 25 years from 2015 to 2040. An HRA screening exercise was undertaken on the plan for the Northumbria region and concluded that the plan will not implement any projects which require an HRA. No HRA was produced for the WRMP.

**River Basin Management Plan (RBMP):** RBMPs set statutory objectives for river, lake, groundwater, estuarine and coastal water bodies and summarise the measures needed to achieve them. Because water is linked to land, they also inform decisions on land-use planning. The RBD that provides the spatial boundary for the FRMP is the same as that used for the RBMP. The planning timeframe is also the same, so the plan for the period 2015-21 is currently being prepared. Water-dependent European sites are designated as “Protected Areas” under the Water Framework Directive, and the RBMPs include measures to ensure that the objectives for these areas are achieved. While it is unlikely that the plan will result in a significant effect on a European site, an HRA is being undertaken to identify any risks and unanticipated effects.

**Marine Plans:** Marine plans set out priorities and directions for future development within the plan area, inform sustainable use of marine resources and help marine users understand
the best locations for their activities, including where new developments may be appropriate. Marine plans are proposed for the inshore and offshore areas of England. Only interactions with the inshore plan would be expected. Marine plans are required to be produced by 2021, but to date there is no draft plan for ‘North East Inshore’ and therefore it is not possible to consider the potential for in-combination effects further.
6 Conclusion and Future HRAs

This HRA has been carried out at the level of published detail in the FRMP. For measures from existing plans, the HRA has summarised the results from existing HRAs of these plans. For any new strategic measures provided for the new FRMP cycle (2015-2021), the HRA has considered the effects at a strategic level as local actions will be developed at lower tiers of plans or projects. The HRA has determined a conclusion for the FRMP and provides a basis to identify options to avoid or mitigate for impacts to give confidence that the plan can be screened as having no likely significant effect. The HRA also makes clear that these will require further case-specific consideration during determination of any authorisations or consents by the relevant competent authority as to their effects on European sites, and then inform the appropriate mechanisms to be applied to secure any mitigation required.

The strategic nature of the FRMP limits the extent to which in-combination effects can be considered. Nevertheless, the potential for in-combination effects has been considered and a summary of the plans that will be important for assessments at project level to consider have been identified.

The HRA conclusions for the FRMP is that there is sufficient scope for future avoidance and mitigation to have confidence that the plan can be screened out of any likely significant effects. This is based on controls already in place for measures from existing plans (with agreed HRAs and the necessary avoidance, mitigation or compensation secured), and controls that projects will have in place when developing local actions for any new strategic measures in the FRMP.

Future HRAs should make specific reference to this strategic-plan HRA for risks related to the ‘screened in’ measures where they are considered close enough to European sites to need detailed consideration at project level. Future HRAs should also make specific reference to HRAs for existing plans with agreed controls in place, and to any further controls and mitigation in this strategic HRA related to any new strategic developments for the new cycle of the FRMP.

This HRA does not remove the need for HRA at a subsequent level, i.e. lower-tier strategies, plans or projects that implement measures, including the need for detailed appropriate assessment where required.

As local actions are developed at a project level and the details of their scope and scale are known, this may identify additional effects on European sites that have not been assessed here, or were not appropriate to consider at this spatial scale of plan.
### Table A1 HRA screening table for the FRMP measure categories

<table>
<thead>
<tr>
<th>Measure code</th>
<th>Measure description</th>
<th>Screened in or out</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>M2 Prevention</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M21</td>
<td>Prevention, avoidance measure to prevent the location of new or additional receptors in flood prone areas such as land use planning policies or regulation</td>
<td>Out</td>
<td>Comprises prevention and avoidance measures therefore unlikely to result in physical intervention.</td>
</tr>
<tr>
<td>M22</td>
<td>Prevention, removal or relocation measure to remove receptors from flood prone areas or to relocate receptors to areas of lower risk</td>
<td>In</td>
<td>Removal or relocation measures may involve physical intervention, with potential for effects on European sites where these interventions are in proximity. Screened in on a precautionary basis.</td>
</tr>
<tr>
<td>M23</td>
<td>Prevention, reduction measures to adapt receptors to reduce the adverse consequences in the event of a flood actions or buildings, public networks etc</td>
<td>Out</td>
<td>Flood risk prevention / reduction / adaption to buildings etc will not result in physical interventions affecting European sites.</td>
</tr>
<tr>
<td>M24</td>
<td>Prevention, other prevention measures to enhance flood risk prevention (may include flood risk modelling and assessment, flood vulnerability assessment, maintenance programmes or policies etc)</td>
<td>Out</td>
<td>Flood risk modelling / assessment will not result in physical interventions affecting European sites.</td>
</tr>
<tr>
<td><strong>M3 Protection</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M31</td>
<td>Natural flood management/run off and catchment management. Measures to reduce the flow into natural or artificial drainage systems such as overland flow interceptors and/or storage, enhancement of infiltration, etc and including in-channel, flood plan works and the reforestation of banks, that restore natural systems to help slow flow and store water.</td>
<td>In</td>
<td>Measures comprise physical activities or interventions resulting in actual changes on the ground or effects on flows / movement of water and changes to physical processes.</td>
</tr>
<tr>
<td>M32</td>
<td>Water flow regulation. Measures involving physical intervention to regulate flows such as construction modification or removal of water retaining structures (e.g. dams or other on-line storage areas) or development of existing flow regulation rules and which have significant impact on the hydrological regime.</td>
<td>In</td>
<td></td>
</tr>
<tr>
<td>M33</td>
<td>Channel, coastal and floodplain works. Measures involving physical interventions to freshwater channels, mountain streams, estuaries, coastal water and flood prone areas of land, such as construction, modification or removal of structures or the alteration of channels, sediment dynamics, management dykes etc.</td>
<td>In</td>
<td></td>
</tr>
<tr>
<td>M34</td>
<td>Surface water management measures involving physical interventions to reduce surface water flooding, typically, but not exclusively in an urban area.</td>
<td>In</td>
<td></td>
</tr>
<tr>
<td>Measure code</td>
<td>Measure description</td>
<td>Screened in or out</td>
<td>Justification</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>--------------------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>M35</td>
<td>Other measures to enhance protection against flooding which may include flood defences, asset maintenance programmes or policies.</td>
<td>In</td>
<td></td>
</tr>
</tbody>
</table>

**M4 Preparedness**

<table>
<thead>
<tr>
<th>Measure code</th>
<th>Measure description</th>
<th>Screened in or out</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>M41</td>
<td>Flood forecasting and warning. Measures to establish or enhance a flood forecasting or warning system.</td>
<td>Out</td>
<td>Measures do not comprise or result in physical changes or interventions.</td>
</tr>
<tr>
<td>M42</td>
<td>Emergency event response planning/contingency planning measures to establish or enhance flood event institutional emergency response planning</td>
<td>Out</td>
<td></td>
</tr>
<tr>
<td>M43</td>
<td>Public awareness and preparedness. Measures to establish the public awareness or preparedness for flood events.</td>
<td>Out</td>
<td></td>
</tr>
<tr>
<td>M44</td>
<td>Other measures to establish or enhance preparedness for flood events to reduce adverse consequences.</td>
<td>Out</td>
<td></td>
</tr>
</tbody>
</table>

**M5 Recovery and review**

<table>
<thead>
<tr>
<th>Measure code</th>
<th>Measure description</th>
<th>Screened in or out</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>M51</td>
<td>Recovery and review (planning for recovery and review phases is in principle part of preparedness) individual and society recovery, clean up and restoration activities (buildings, infrastructure etc). Health and mental health supporting actions, inc managing stress disaster financial assistance (grants, tax) inc disaster legal assistance, disaster unemployment assistance, temporary or permanent, relocation, other.</td>
<td>Out</td>
<td>Measures on the whole do not comprise or result in physical changes or interventions. Measures involving physical activity are focused on restoration at a local level, i.e. buildings etc., none of which considered likely to result in physical effects on European sites.</td>
</tr>
<tr>
<td>M52</td>
<td>Environmental recovery, clean up and restoration activities (with several sub-topics as mould protection, well-water safety and securing hazardous material containers).</td>
<td>Out</td>
<td></td>
</tr>
<tr>
<td>M53</td>
<td>Other recovery, review and lessons learnt from flood events, insurance policies.</td>
<td>Out</td>
<td></td>
</tr>
</tbody>
</table>

**M6 Other**

<table>
<thead>
<tr>
<th>Measure code</th>
<th>Measure description</th>
<th>Screened in or out</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>M61</td>
<td>Other measures not fitting in to any of the other categories (M2-4) or their sub-categories.</td>
<td>In</td>
<td>M61 code includes a variety of different kinds of measures, but includes measures such as habitat creation, floodplain restoration, managed realignment. Therefore screened in on a precautionary basis.</td>
</tr>
<tr>
<td>Management Catchment</td>
<td>European Site</td>
<td>Management Catchment</td>
<td>European Site</td>
</tr>
<tr>
<td>----------------------</td>
<td>-------------------------------------------------------</td>
<td>----------------------</td>
<td>---------------------------------------------------</td>
</tr>
</tbody>
</table>
| Northumberla nd Rivers | • Holburn Lake & Moss (Ramsar)  
• Lindisfarne (Ramsar)  
• Northumbria Coast (Ramsar)  
• Newham Fen (SAC)  
• North Pennine Dales Meadows (SAC)  
• Harbottle Moors (SAC)  
• Simonside Hills (SAC)  
• North Northumberland Dunes (SAC)  
• Berwickshire & North Northumberland Coast (SAC)  
• Coquet Island (SPA)  
• Farne Islands (SPA)  
• Holburn Lake & Moss (SPA)  
• Lindisfarne (SPA)  
• Northumbria Coast (SPA) | Tyne | • Irthinghead Mires (Ramsar)  
• Northumbria Coast (Ramsar)  
• Border Mires, Kielder-Butterburn (SAC)  
• Moor House-Upper Teesdale (SAC)  
• North Pennine Dales Meadows (SAC)  
• North Pennine Moors (SAC)  
• Durham Coast (SAC)  
• Roman Wall Loughs (SAC)  
• Simonside Hills (SAC)  
• Tyne & Allen River Gravels (SAC)  
• Tyne & Nent (SAC)  
• North Pennine Moors (SPA)  
• Northumbria Coast (SPA) |
| Wear                 | • Teesmouth & Cleveland Coast (Ramsar)  
• Northumbria Coast (Ramsar)  
• Castle Eden Dene (SAC)  
• Moor House-Upper Teesdale (SAC)  
• North Pennine Dales Meadows (SAC)  
• North Pennine Moors (SAC)  
• Durham Coast (SAC)  
• North Pennine Moors (SPA)  
• Teesmouth & Cleveland Coast (SPA)  
• Northumbria Coast (SPA) | Tees | • Teesmouth & Cleveland Coast (Ramsar)  
• Moor House-Upper Teesdale (SAC)  
• North Pennine Dales Meadows (SAC)  
• North Pennine Moors (SAC)  
• North York Moors (SAC)  
• Thrislington (SAC)  
• North Pennine Moors (SPA)  
• North York Moors (SPA)  
• Teesmouth & Cleveland Coast |
<table>
<thead>
<tr>
<th>Flooding source</th>
<th>Legal / consenting processes and consideration of Habitats Regulations</th>
</tr>
</thead>
</table>
| Measures to address flooding from rivers (main river) | • Measures involving construction / creation of new, or changes to / alteration / improvement of existing flood defence structures and main river channels / floodplain generally require planning permission from the local planning authority under the Town & Country Planning Act 1990. Where a European site is potentially affected, the need for HRA is determined through the planning process, with HRA submitted with the planning application, determined by the local planning authority as competent authority.  
• Measures involving works on or near a main river, flood or sea defences requires Flood Defence Consent from the Environment Agency, under the Water Resources Act 1991, Flood and Water Management Act 2010. Where a European site is potentially affected, the need for HRA is determined through the consenting process, with a HRA submitted with the consent application, determined by the Environment Agency as competent authority.  
• Smaller scale measures for flood defence works, improvements or alterations to main river channels, and measures comprising maintenance, such as replacement, repair or refurbishment of existing structures, may not require planning permission, but fall under The Town and Country Planning (General Permitted Development) Order 1995 (as amended). Where a European site is potentially affected, the need for HRA is determined, and if likely significant effect is predicted, Regulation 73 of the Habitats Regulations places a condition of any planning permission granted by a general development order, requiring written notification of approval of the local planning authority. HRA process then as for planning permission. |
| Measures to flooding from rivers (ordinary watercourses) | • Measures involving construction / creation of new, or changes to / alteration / improvement of existing flood defence structures and ordinary watercourse river channels / floodplain generally require planning permission from the local planning authority under the Town & Country Planning Act 1990. Where a European site is potentially affected, the need for HRA is determined through the planning process, with HRA submitted with the planning application, determined by the local planning authority as competent authority.  
• Measures involving works on or near all other watercourses that aren’t main river requires Ordinary Watercourse Consent from either the Lead Local Flood Authority (LLFA) or Internal Drainage Board (IDB). Where a European site is potentially affected, the need for HRA is determined through the consenting process, with a HRA submitted with the consent application, determined by the LLFA / IDB as competent authority.  
• Smaller scale measures for flood defence works, improvements or alterations to all other watercourses that aren’t main river, and measures comprising maintenance, such as replacement, repair or refurbishment of existing structures, may fall under The Town and Country Planning (General Permitted Development) Order 1995 (as amended). Where a European site is potentially affected, the need for HRA is determined through the consenting process, with a HRA submitted with the consent application, determined by the LLFA / IDB as competent authority.  
• Smaller scale measures for flood defence works, improvements or alterations to all other watercourses that aren’t main river, and measures comprising maintenance, such as replacement, repair or refurbishment of existing structures, may fall under The Town and Country Planning (General Permitted Development) Order 1995 (as amended). Where a European site is potentially affected, the need for HRA is determined through the consenting process, with a HRA submitted with the consent application, determined by the LLFA / IDB as competent authority.  
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• Smaller scale measures for flood defence works, improvements or alterations to all other watercourses that aren’t main river, and measures comprising maintenance, such as replacement, repair or refurbishment of existing structures, may fall under The Town and Country Planning (General Permitted Development) Order 1995 (as amended). Where a European site is potentially affected, the need for HRA is determined through the consenting process, with a HRA submitted with the consent application, determined by the LLFA / IDB as competent authority.  
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• Smaller scale measures for flood defence works, improvements or alterations to all other watercourses that aren’t main river, and measures comprising maintenance, such as replacement, repair or refurbishment of existing structures, may fall under The Town and Country Planning (General Permitted Development) Order 1995 (as amended). Where a European site is potentially affected, the need for HRA is determined through the consenting process, with a HRA submitted with the consent application, determined by the LLFA / IDB as competent authority.  
• Smaller scale measures for flood defence works, improvements or alterations to all other watercourses that aren’t main river, and measures comprising maintenance, such as replacement, repair or refurbishment of existing structures, may fall under The Town and Country Planning (General Permitted Development) Order 1995 (as amended). Where a European site is potentially affected, the need for HRA is determined through the consenting process, with a HRA submitted with the consent application, determined by the LLFA / IDB as competent authority.  
• Smaller scale measures for flood defence works, improvements or alterations to all other watercourses that aren’t main river, and measures comprising maintenance, such as replacement, repair or refurbishment of existing structures, may fall under The Town and Country Planning (General Permitted Development) Order 1995 (as amended). Where a European site is potentially affected, the need for HRA is determined through the consenting process, with a HRA submitted with the consent application, determined by the LLFA / IDB as competent authority.  
• Smaller scale measures for flood defence works, improvements or alterations to all other watercourses that aren’t main river, and measures comprising maintenance, such as replacement, repair or refurbishment of existing structures, may fall under The Town and Country Planning (General Permitted Development) Order 1995 (as amended). Where a European site is potentially affected, the need for HRA is determined through the consenting process, with a HRA submitted with the consent application, determined by the LLFA / IDB as competent authority.  
• Smaller scale measures for flood defence works, improvements or alterations to all other watercourses that aren’t main river, and measures comprising maintenance, such as replacement, repair or refurbishment of existing structures, may fall under The Town and Country Planning (General Permitted Development) Order 1995 (as amended). Where a European site is potentially affected, the need for HRA is determined through the consenting process, with a HRA submitted with the consent application, determined by the LLFA / IDB as competent authority.  
• Smaller scale measures for flood defence works, improvements or alterations to all other watercourses that aren’t main river, and measures comprising maintenance, such as replacement, repair or refurbishment of existing structures, may fall under The Town and Country Planning (General Permitted Development) Order 1995 (as amended). Where a European site is potentially affected, the need for HRA is determined through the consenting process, with a HRA submitted with the consent application, determined by the LLFA / IDB as competent authority.  
• Smaller scale measures for flood defence works, improvements or alterations to all other watercourses that aren’t main river, and measures comprising maintenance, such as replacement, repair or refurbishment of existing structures, may fall under The Town and Country Planning (General Permitted Development) Order 1995 (as amended). Where a European site is potentially affected, the need for HRA is determined through the consenting process, with a HRA submitted with the consent application, determined by the LLFA / IDB as competent authority.  
• Smaller scale measures for flood defence works, improvements or alterations to all other watercourses that aren’t main river, and measures comprising maintenance, such as replacement, repair or refurbishment of existing structures, may fall under The Town and Country Planning (General Permitted Development) Order 1995 (as amended). Where a European site is potentially affected, the need for HRA is determined through the consenting process, with a HRA submitted with the consent application, determined by the LLFA / IDB as competent authority.  
• Smaller scale measures for flood defence works, improvements or alterations to all other watercourses that aren’t main river, and measures comprising maintenance, such as replacement, repair or refurbishment of existing structures, may fall under The Town and Country Planning (General Permitted Development) Order 1995 (as amended). Where a European site is potentially affected, the need for HRA is determined through the consenting process, with a HRA submitted with the consent application, determined by the LLFA / IDB as competent authority.  
• Smaller scale measures for flood defence works, improvements or alterations to all other watercourses that aren’t main river, and measures comprising maintenance, such as replacement, repair or refurbishment of existing structures, may fall under The Town and Country Planning (General Permitted Development) Order 1995 (as amended). Where a European site is potentially affected, the need for HRA is determined through the consenting process, with a HRA submitted with the consent application, determined by the LLFA / IDB as competent authority.  
• Smaller scale measures for flood defence works, improvements or alterations to all other watercourses that aren’t main river, and measures comprises
<table>
<thead>
<tr>
<th>Flooding source</th>
<th>Legal / consenting processes and consideration of Habitats Regulations</th>
</tr>
</thead>
</table>
| Flooding from the Sea | • Measures involving construction / creation of new, or changes to / alteration / improvement of existing coastal / tidal flood defence structures and estuary / coastal frontage (above mean low water) generally require planning permission from the local planning authority under the Town & Country Planning Act 1990. Where a European site is potentially affected, the need for HRA is determined through the planning process, with HRA submitted with the planning application, determined by the local planning authority as competent authority.  
  • Measures involving works below the mean high water spring tidal limit (including the waters of every estuary, river or channel where the tide flows up to the mean high water spring tide limit) require a Marine Works Licence from the Marine Management Organisation (MMO). Where a European site is potentially affected, the need for HRA is determined through the consenting process, with a HRA submitted with the consent application. The HRA is determined by the MMO as competent authority.  
  • Measures involving works on or near a main river, flood or sea defences requires Flood Defence Consent from the Environment Agency, under the Water Resources Act 1991, Flood and Water Management Act 2010. Where a European site is potentially affected, the need for HRA is determined through the consenting process, with a HRA submitted with the consent application, determined by the Environment Agency as competent authority.  
  • Maintaining coast protection works does not require a marine licence when carried out by, or on behalf of, the Environment Agency or a coast protection authority, provided the activity is carried out within the existing boundaries of the works being maintained. Some coast protection works maintenance activities also do not require planning permission, falling under the remit of The Town and Country Planning (General Permitted Development) Order 1995 (as amended). Where a European site is potentially affected, the need for HRA is determined, and if likely significant effects predicted, Regulation 73 of the Habitats Regulations places a condition of any planning permission granted by a general development order, requiring written notification of approval of the local planning authority. HRA process then as for planning permission. |
| Coastal erosion | • Measures involving construction / creation of new, or changes to / alteration / improvement of existing coastal / tidal flood defence structures and estuary / coastal frontage (above mean low water) generally require planning permission from the local planning authority under the Town & Country Planning Act 1990. Where a European site is potentially affected, the need for HRA is determined through the planning process, with HRA submitted with the planning application, determined by the local planning authority as competent authority.  
  • Measures involving works below the mean high water spring tidal limit require a Marine Works Licence from the Marine Management Organisation (MMO). Where a European site is potentially affected, the need for HRA is determined through the consenting process, with a HRA submitted with the consent application. The HRA is determined by the MMO as competent authority.  
  • Measures involving works on or near a main river, flood or sea defences requires Flood Defence Consent from the Environment Agency, under the Water Resources Act 1991, Flood and Water Management Act 2010. Where a European site is potentially affected, the need for HRA is determined through the consenting process, with a HRA submitted with the consent application, determined by the Environment Agency as competent authority. |
<table>
<thead>
<tr>
<th>Flooding source</th>
<th>Legal / consenting processes and consideration of Habitats Regulations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Maintaining coast protection works does not require a marine licence when carried out by, or on behalf of, the Environment Agency or a coast protection authority, provided the activity is carried out within the existing boundaries of the works being maintained. Some coast protection works maintenance activities also do not require planning permission, falling under the remit of The Town and Country Planning (General Permitted Development) Order 1995 (as amended). Where a European site is potentially affected, the need for HRA is determined, and if likely significant effects predicted, Regulation 73 of the Habitats Regulations places a condition of any planning permission granted by a general development order, requiring written notification of approval of the local planning authority. HRA process then as for planning permission.</td>
</tr>
<tr>
<td>Surface water flooding</td>
<td>• Measures involving construction / creation of new, or changes to / alteration / improvement of existing structures to address surface water flooding (e.g. culverts, drainage ditches / channels) generally require planning permission from the local planning authority under the Town &amp; Country Planning Act 1990. Where a European site is potentially affected, the need for HRA is determined through the planning process, with HRA submitted with the planning application, determined by the local planning authority as competent authority. • Measures to address surface water flooding in proximity to main river or ordinary watercourses requires Flood Defence Consent / Ordinary Watercourse Consent from the Environment Agency / LLFA / IDB for work on or near all other watercourses that aren’t main rivers. HRA requirements as for measures to address flooding from rivers (main river / ordinary watercourses). • Measures involving maintaining existing structures to address surface water flooding may not require planning permission, falling under the remit of The Town and Country Planning (General Permitted Development) Order 1995 (as amended). Where a European site is potentially affected, the need for HRA is determined, and if likely significant effects predicted, Regulation 73 of the Habitats Regulations places a condition of any planning permission granted by a general development order, requiring written notification of approval of the local planning authority. HRA process then as for planning permission.</td>
</tr>
<tr>
<td>Groundwater flooding</td>
<td>• Measures to address groundwater flooding in proximity to main river or ordinary watercourses requires Flood Defence Consent / Ordinary Watercourse Consent from the Environment Agency / LLFA / IDB for work on or near all other watercourses that aren’t main rivers. HRA requirements as for measures to address flooding from rivers (main river / ordinary watercourses). • Measures to address groundwater flooding involving the construction / creation of above ground structures generally require planning permission from the local planning authority under the Town &amp; Country Planning Act 1990. Where a European site is potentially affected, the need for HRA is determined through the planning process, with HRA submitted with the planning application, determined by the local planning authority as competent authority.</td>
</tr>
<tr>
<td>Sewer flooding</td>
<td>• Measures to address sewer flooding in proximity to main river or ordinary watercourses requires Flood Defence Consent / Ordinary Watercourse Consent from the Environment Agency / LLFA / IDB for work on or near all other watercourses that aren’t main rivers. HRA requirements as for measures to address flooding from rivers (main ...</td>
</tr>
<tr>
<td>Flooding source</td>
<td>Legal / consenting processes and consideration of Habitats Regulations</td>
</tr>
<tr>
<td>-----------------</td>
<td>---------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>- Measures to address sewer flooding involving the construction / creation of above ground structures generally require planning permission from the local planning authority under the Town &amp; Country Planning Act 1990. Where a European site is potentially affected, the need for HRA is determined through the planning process, with HRA submitted with the planning application, determined by the local planning authority as competent authority.</td>
</tr>
<tr>
<td></td>
<td>- Measures to address sewer flooding involving the construction / creation of above ground structures generally require planning permission from the local planning authority under the Town &amp; Country Planning Act 1990. Where a European site is potentially affected, the need for HRA is determined through the planning process, with HRA submitted with the planning application, determined by the local planning authority as competent authority.</td>
</tr>
<tr>
<td></td>
<td>- Measures to address sewer flooding by sewerage undertakers may fall within their Permitted Development powers under authority The Town and Country Planning (General Permitted Development) Order 1995 (as amended). Where a European site is potentially affected, the need for HRA is determined through the planning process, with HRA submitted with the planning application, determined by the local planning authority as competent authority.</td>
</tr>
<tr>
<td>Flooding from reservoirs</td>
<td>- New reservoirs / impounding structures, or alterations or removals of existing structures, require an Impoundment Licence from the Environment Agency (Water Resources Act 1991 (as amended by Water Act 2003), Environment Act 1995, Water Resources (Abstraction and Impounding) Regulations 2006). Where a European site is potentially affected, the need for HRA is determined through the licensing application process, with HRA determined by the Environment Agency as competent authority.</td>
</tr>
<tr>
<td></td>
<td>- Measures involving construction / creation of new reservoirs / impounding structures, or changes to / alteration / of existing structures generally require planning permission from the local planning authority under the Town &amp; Country Planning Act 1990. Where a European site is potentially affected, the need for HRA is determined through the planning process, with HRA submitted with the planning application, determined by the local planning authority as competent authority.</td>
</tr>
</tbody>
</table>
## Annex B – Northumbria RBD European sites

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Name of Site</th>
<th>SPA, SAC, Ramsar</th>
<th>Area (ha)*</th>
<th>WFD: Natura 2000 Protected area site.</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK0017072</td>
<td>Berwickshire and North Northumberland Coast</td>
<td>SAC</td>
<td>65216</td>
<td>Yes</td>
</tr>
<tr>
<td>UK0012923</td>
<td>Border Mires, Kielder-Butterburn</td>
<td>SAC</td>
<td>11812</td>
<td>Yes</td>
</tr>
<tr>
<td>UK0012768</td>
<td>Castle Eden Dene</td>
<td>SAC</td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>UK9006031</td>
<td>Coquet Island</td>
<td>SPA</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>UK0030140</td>
<td>Durham Coast</td>
<td>SAC</td>
<td>390</td>
<td>Yes</td>
</tr>
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* Denotes if the site is a WFD: Natura 2000 protected area site.

*Area denoted is for the entire designated area rather than the area within the RBD boundary.*
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