North West 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 North West River Basin District (RBD) provides an overview of the range of flood risks from different sources across the 12 catchments of the RBD and more specifically from local flood sources in the 2 Flood Risk Areas (FRAs) of Liverpool and Sefton and Greater Manchester. 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 2 FRAs were identified as having higher local flood risk by the Preliminary Flood Risk Assessments.

The FRMP provides a range of objectives and programmes of measures identified to address risks from all flood sources. These are drawn from the many risk management authority plans already in place but also include a range of further strategic developments for the FRMP ‘cycle’ period of 2015 to 2021. The range of measures in the North West 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>7%</td>
</tr>
<tr>
<td>Protection – e.g. various forms of asset or property-based protection</td>
<td>60%</td>
</tr>
<tr>
<td>Preparedness – e.g. awareness raising, forecasting and warnings</td>
<td>32%</td>
</tr>
<tr>
<td>Recovery and review – e.g. the ‘after care’ from flood events</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Other – any actions not able to be categorised yet</td>
<td>&lt;1%</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 North West 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 and FRAs within this report. 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:
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 address local flooding and thus form a ‘RBD plan’ within the FRMP. Measures within FRAs that address high risk of local flooding in these areas have been considered in the HRA as separate ‘FRA plans’ within the FRMP. Both ‘RBD plan’ and ‘FRA plans’ are further considered in-combination by the HRA. 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 North West RBD FRMP, the main conclusions from the stages of assessment across all 3 RMA plans of 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 coastal flooding from SMPs, 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: for SMPs, development of coastal strategies, accompanied by more detailed HRAs for relevant SMP Policy Areas, and for CFMPs and Local Strategies 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

<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>NW RBD catchments</td>
<td>179</td>
<td>179</td>
<td>71</td>
</tr>
<tr>
<td>FRA Liverpool and Sefton</td>
<td>2</td>
<td>24</td>
<td>0</td>
</tr>
<tr>
<td>FRA Greater Manchester</td>
<td>18</td>
<td>18</td>
<td>44</td>
</tr>
<tr>
<td>Total</td>
<td>199 (37%)</td>
<td>221 (41%)</td>
<td>115 (22%)</td>
</tr>
</tbody>
</table>

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.
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.
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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 North West 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 / European sites in Wales). 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 Flood 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, and at the level of detail provided by these 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 North West RBD FRMP

The North West river basin district (RBD) is predominantly rural with the majority of the 7 million people living in large cities in the south of the RBD such as Manchester and Liverpool. It contains large areas designated for their iconic landscapes such as the Lake District and many areas protected for nature conservation such as the Mersey Estuary. Water is central to the economy, life and heritage of the North West, for example mills, weirs and other water related structures dating from the Industrial Revolution, and tourism attractions such as the Lake District and Blackpool’s beaches. The North West RBD is made up of 12 management catchments (see map in Figure 1 below).

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

- 27,900 people at high risk (up to a 1 in 30 chance in any given year) of flooding from surface water and 30,900 from rivers and the sea. For moderate risk (between a 1 in 30 and 1 in 100 chance in any given year), twice as many people (105,000) are potentially affected by surface water as by rivers and the sea (46,500).
- Many thousands of properties behind sea and tidal defences which protect them from a flood with a 1 in 200 chance in any given year. This includes some key towns such as Blackpool, Wirral, Morecambe, Barrow, Whitehaven and Workington and some towns along estuaries.
- The NW RBD has one of the highest numbers of rapid response catchments in England. These are areas where flooding may occur quickly after rainfall.
The RBD also has a large network of ageing sewers and drains, many dating from the Victorian era. This and the surge in development since the Industrial Revolution now pose particular problems, as significant proportions of flood risk management and drainage infrastructure show evidence of deterioration.

Other key infrastructure includes significant numbers of reservoirs in the NW RBD that are priorities for maintenance given the high consequences of any failure and 3,000 culverts on main rivers which require significant levels of inspection and repair as well as clearance during flood events.

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

**Figure 1 North West RBD catchments and Flood Risk Areas**

The North West RBD FRMP sets out the objectives and measures that have been drawn by risk management authorities from existing plans or newly developed for the FRMP cycle.
period of 2015-2021. Existing measures in the North West RBD FRMP are derived from the following source plans:

- The North West England and North Wales Shoreline Management Plan (SMP)
- Catchment Flood Management Plans (CFMPs)
- Local Flood Risk Management Strategies (FRMS) developed by LLFAs.

The FRMP is divided into the separate plans that are the responsibility of different risk management authorities, as follows:

- Measures within the 12 RBD catchments of the North West RBD that the Environment Agency is responsible for,
- Measures within the Liverpool and Sefton Flood Risk Area (FRA) for local sources of flooding that fall within the Alt and Crossens and Lower Mersey catchments. Liverpool City Council and Sefton Council are responsible for these measures.
- Measures within the Greater Manchester FRA for local sources of flooding that the Lead Local Flood Authorities are responsible for. This FRA covers part of the Irwell, Upper Mersey and Lower Mersey catchments.

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 NW 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 NW 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 North West RBD

Within the North West RBD there are 28 SACs, 13 SPAs, and 13 Ramsar sites. Some of the sites have more than one designation such as Morecambe Bay, parts of which are designated as SPA, SAC and Ramsar.

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

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 13 Ramsar sites, 7 are coastal sites and the remainder are freshwater sites. Most SPAs in the RBD are wetland habitats, and of these most are coastal apart from the freshwater sites of Martin Mere and Leighton Moss. The remaining 3 SPAs are upland sites (Peak District, South Pennine Moors and the Bowland Fells), designated for breeding birds. The 28 SACs in the North West RBD range in size and nature from the relatively small Clints Quarry (12 hectares (ha)), which is designated for its population of Great Crested Newts, to Morecambe Bay (61,506 ha), which is designated for a number of qualifying habitats.

Annex B contains a summary of the European sites present within North West RBD. Table A2 in Annex A presents a summary of the European sites present within the management catchments of the North West 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 North West 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.

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 North West FRMP. The HRA (in particular Sections 4.2, and 5.2 / 6.2 for the two FRAs) 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 North West 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 North West 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.

The table shows that for the North West RBD, 30% of water-dependent SSSI units of European protected area sites are currently not compliant with the condition requirements.
Table 1 Status of water-dependent European sites based on assessment of SSSI units for the North West RBD (Extract from Natural England databases August 2015)

<table>
<thead>
<tr>
<th>Condition</th>
<th>North West RBD (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Favourable</td>
<td>74,505</td>
</tr>
<tr>
<td>Destroyed / Part destroyed</td>
<td>-</td>
</tr>
<tr>
<td>Unfavourable declining</td>
<td>1,253</td>
</tr>
<tr>
<td>Unfavourable no change</td>
<td>3,104</td>
</tr>
<tr>
<td>Unfavourable recovering</td>
<td>27,450</td>
</tr>
<tr>
<td>Total Area Unfavourable</td>
<td>31,807</td>
</tr>
<tr>
<td>% Unfavourable</td>
<td>30</td>
</tr>
</tbody>
</table>

The generic pressures on such sites in the NW region include freshwater point source and diffuse pollution, siltation, forestry and woodland management, agricultural practices and diffuse pollution, under or over grazing, drainage and inappropriate water levels, 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 North West FRMP recognises SIPs include actions where flood risk management is specifically a mechanism for their delivery. The following are the relevant SIPs for the North West RBD:

- Site Improvement Plan: Leighton Moss (SIP119)
- Site Improvement Plan: Martin Mere (SIP133)
- Site Improvement Plan: River Derwent and Bassenthwaite Lake (SIP190)
- Site Improvement Plan: River Kent (SIP194).

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2 Site Improvement Plans for the North West 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 North West River Basin District Flood Risk Management Plan (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:

- North West River Basin District catchments (Environment Agency)
- Liverpool and Sefton Flood Risk Area (LLFAs within the FRA)
- Greater Manchester Flood Risk Area (LLFAs within the FRA).

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 Flood Risk Areas

FRMPs for Flood Risk Areas (FRAs) are being published by the Lead Local Flood Authorities (LLFAs) where the FRAs lie within their administrative boundaries. Production of the FRMPs for the FRAs are the legal duty of the respective LLFAs. The LLFAs responsible for the FRA FRMPs are also the competent authority under the Habitats Regulations.

Where a RBD includes one or more FRA, as is the case for the North West RBD, the measures that have been developed specifically for these FRA FRMPs are presented and assessed separately.

3.1.3 Applying HRA

In applying the HRA process, each RMA plan has been assessed separately. 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 the following chapters:

- Chapter 4: NW River Basin District catchments
- Chapter 5: Liverpool and Sefton Flood Risk Area
- Chapter 6: Greater Manchester Flood Risk Area.

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 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.
The HRA results from Shoreline Management Plans are relatively recent with most published between 2010 and 2011. The HRA results from Catchment Flood Management Plans are a little older with most published between 2008 and 2010. The HRA results from Local Flood Risk Management Strategies are the most recent with the first ones being published around 2012 and most being published much more recently.

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 North West River Basin District Catchments HRA

This chapter sets out the results of carrying out the HRA on the measures for the North West 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’. The Flood Risk Area FRMP information for which other RMAs have responsibility has been considered separately in later chapters of the HRA (see sections 5 and 6).

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 12 management catchments within the NW FRMP.

Figure 3 - Map of the North West 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</th>
<th>Catchment</th>
<th>Number of measures screened in (out)</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></td>
<td></td>
<td>Number of measures related to types of existing plans</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of new measures for cycle 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of new measures and known level of detail</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of European sites</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>% all measures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of measures screened in (out)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of measures from existing plans</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of measures related to types of existing plans</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of new measures for cycle 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of new measures and known level of detail</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of European sites</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>% all measures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Catchments with no screened in measures

All catchments have some screened in measures.

#### Catchments with all measures from existing plans

<table>
<thead>
<tr>
<th>Catchment</th>
<th>Number of measures screened in (out)</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>Alt and Crossens</td>
<td>32 (10)</td>
<td>30 from River Alt and Crossens CFMP</td>
<td>2 from NW England and N.Wales SMP</td>
<td>0</td>
<td>No new measures</td>
<td>5</td>
</tr>
<tr>
<td>Douglas</td>
<td>36 (7)</td>
<td>30 from River Douglas CFMP</td>
<td>6 from NW England &amp; N.Wales SMP</td>
<td>0</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Wyre</td>
<td>6 (17)</td>
<td>6 from River Wyre CFMP</td>
<td></td>
<td>0</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td>74 (34)</td>
<td>66 from CFMPs</td>
<td>8 from SMPs</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>% all measures</strong></td>
<td>17%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Catchments with new measures for cycle 1 of the FRMP

<table>
<thead>
<tr>
<th>Catchment</th>
<th>Number of measures screened in (out)</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>NW RBD</td>
<td>20 (31)</td>
<td>0</td>
<td>0 from existing plans</td>
<td>20</td>
<td>20 strategic/proximity unknown</td>
<td>54</td>
</tr>
<tr>
<td>North West</td>
<td>17 (10)</td>
<td>8 from River Derwent CFMP</td>
<td>3 from NW England and N.Wales SMP</td>
<td>6</td>
<td>1 not in proximity</td>
<td>9</td>
</tr>
<tr>
<td>Irwell</td>
<td>17 (4)</td>
<td>6 from River Irwell CFMP</td>
<td></td>
<td>11</td>
<td>8 not in proximity</td>
<td>3</td>
</tr>
<tr>
<td>Kent and Leven</td>
<td>11 (28)</td>
<td>3 from River Kent and Leven CFMP</td>
<td>3 from NW England and N.Wales SMP</td>
<td>5</td>
<td>3 specific/in proximity</td>
<td>12</td>
</tr>
<tr>
<td>Lune</td>
<td>25 (14)</td>
<td>20 from River Lune CFMP</td>
<td>2 from NW England and N.Wales SMP</td>
<td>3</td>
<td>1 not in proximity</td>
<td>10</td>
</tr>
<tr>
<td>Lower Mersey</td>
<td>17 (13)</td>
<td>2 from Mersey Estuary CFMP</td>
<td>1 from NW England and N.Wales SMP</td>
<td>14</td>
<td>10 not in proximity</td>
<td>12</td>
</tr>
<tr>
<td>South West Lakes</td>
<td>10 (21)</td>
<td>3 from South West Lakes CFMP</td>
<td>4 from NW England and N.Wales SMP</td>
<td>3</td>
<td>3 strategic/proximity unknown</td>
<td>8</td>
</tr>
<tr>
<td>Weaver Gowy</td>
<td>11 (9)</td>
<td>9 from Weaver and Gowy CFMP</td>
<td>1 from LFRMS</td>
<td>1</td>
<td>1 not in proximity</td>
<td>10</td>
</tr>
<tr>
<td>Upper Mersey</td>
<td>15 (6)</td>
<td>13 from Upper Mersey CFMP</td>
<td></td>
<td>2</td>
<td>1 not in proximity</td>
<td>6</td>
</tr>
<tr>
<td>Ribble</td>
<td>32 (9)</td>
<td>25 from River Ribble CFMP</td>
<td>1 from NW England and N.Wales SMP</td>
<td>6</td>
<td>6 not in proximity</td>
<td>7</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td>175 (145)</td>
<td>89 from CFMPs</td>
<td>14 from SMPs</td>
<td>71</td>
<td>28 not in proximity</td>
<td></td>
</tr>
<tr>
<td><strong>% all measures</strong></td>
<td>41%</td>
<td>24%</td>
<td></td>
<td>17%</td>
<td>34 strategic/proximity unknown</td>
<td></td>
</tr>
<tr>
<td><strong>Overall Total</strong></td>
<td>249 (179)</td>
<td>155 from CFMPs</td>
<td>22 from SMPs</td>
<td>71</td>
<td>See above</td>
<td></td>
</tr>
<tr>
<td><strong>% all measures</strong></td>
<td>58%</td>
<td>42%</td>
<td></td>
<td>17%</td>
<td>8% strategic/proximity unknown</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

'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)

'specific' is where a measure is place specific, 'strategic' is where a measure is catchment or RBD-wide
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 428 measures 58% have been screened in for HRA consideration (42% screened out). All management catchments within the NW RBD have some screened in measures and are considered further.

There are 51 measures that are RBD-wide and are considered in section 4.2.4.1.

There are a number of measures from neighbouring river basin districts that were included in NW RBD catchments including measures from:

- The Humber RBD and within the West Midlands FRA which are considered within the Humber RBD HRA
- The Solway Tweed RBD which are considered within the NW RBD HRA catchment sections below.

4.1.1 Risks from existing plan measures

42% of all FRMP measures (excluding Flood Risk Areas) are screened in and from existing plans, 36% are from CFMPs and 5% from SMPs. Most risks are from SMP measures where adverse effects identified in the SMP HRA for specific policy areas are being addressed.

Most risks to European sites that are being addressed by existing plans relate to the (5%) measures in SMPs, and more specifically where the SMP is managing likely adverse effects, such as in the catchments of Alt and Crossens, Lower Mersey and South West Lakes.

4.1.2 Risks from new measures

17% of all FRMP measures (excluding Flood Risk Areas) are screened in for HRA and new measures, 8% are strategic without locations, 7% are not in proximity to any European sites and 2% are more specific improvements that are in proximity to sites. The most likely risks will be related to the development of local actions for the specific improvements in the next FRMP cycle and can be found in the Lower Mersey, Kent and Leven, Lune and Derwent North West catchments. The future strategic measures may also present a risk depending on where they are implemented.

4.2 Screening and Likely Significant Effects

The management catchments that make up the NW 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 NW 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>- Alt &amp; Crossens</td>
</tr>
<tr>
<td></td>
<td>- Douglas</td>
</tr>
<tr>
<td>Management catchments with new measures.</td>
<td>- Derwent North West</td>
</tr>
<tr>
<td></td>
<td>- Irwell</td>
</tr>
<tr>
<td></td>
<td>- Kent and Leven</td>
</tr>
<tr>
<td></td>
<td>- Lune</td>
</tr>
<tr>
<td></td>
<td>- Lower Mersey</td>
</tr>
<tr>
<td></td>
<td>- South West Lakes</td>
</tr>
<tr>
<td></td>
<td>- Weaver Gowy</td>
</tr>
<tr>
<td></td>
<td>- Upper Mersey</td>
</tr>
<tr>
<td></td>
<td>- Ribble</td>
</tr>
</tbody>
</table>

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

All management catchments within the North West 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 North West 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 North West 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 Alt & Crossens 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>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>32</td>
<td>10</td>
</tr>
</tbody>
</table>

The Alt & Crossens management catchment contains 5 European sites. There are no new measures within this catchment; all of the 42 measures are from existing plans.

**Alt & Crossens CFMP**

Most of the measures are from the Alt & Crossens CFMP. The majority of the screened in CFMP measures are protection measures (M3) and are considered further below; the two...
screened out CFMP measures relate to emergency flood event response / contingency planning.

The Alt & Crossens CFMP boundary is the same as the Alt & Crossens management catchment within the NW FRMP. The 30 CFMP protection measures incorporated within the Alt & Crossens management catchment, implement the policies of the CFMP, which were assessed by the Alt & Crossens CFMP HRA. The Ribble & Alt Estuaries SPA and Ramsar site, Martin Mere SPA and Ramsar site, and the Sefton Coast SAC lie within the catchment boundary. The CFMP HRA assessed potential effects on these sites and concluded that the policies and actions within the Alt & Crossens CFMP were not likely to have a significant effect on any European sites.

**North West England and North Wales Shoreline Management Plan**

The remainder of the measures in the management catchment are from the North West England and North Wales Shoreline Management Plan 2 (SMP). Of the 10 measures from the SMP, 8 relate to preparedness for flood events (M44) and have been screened out. The 2 SMP protection measures (M35) are considered further below.

The SMP measures are located within the Seaforth to River Alt Policy Area – Policy Unit 11a8.4 (River Alt Mouth (east and west banks) to the Alt Pumping Station) and the Formby Dunes Policy Area – Policy Unit 11a9.1 (Mouth of River Alt (west bank) to Weld Road, Southport (Formby Dune System)), within sub-cell 11a of the NW and North Wales SMP. The measures are located in proximity to the Sefton Coast SAC, Ribble & Alt Estuaries SPA and Ramsar sites.

The HRA of the SMP concluded a potential adverse effect of the Hold the Line (HTL) policy for Policy Unit 11a8.4 in the long term epoch (incorporating maintaining existing defences and maintaining the River Alt channel position), in relation to the Ribble & Alt Estuaries SPA and Ramsar Site and the Sefton Coast SAC.

For Policy Unit 11a9.1, the HRA concluded that there will not be adverse effects on the integrity of the sites from the proposed (managed realignment) policy options.

**Proposed mitigation** within the SMP, in relation to PU11a8.4, comprises updating the Crosby Marine Lake to Formby Point Coastal Defence Strategy (which includes this and other adjacent and related Policy Units) to demonstrate that the implementation of the HTL policy and potential managed realignment policy elsewhere will not have an adverse effect on the integrity of the Ribble & Alt Estuaries SPA / Ramsar site and the Sefton Coast SAC.

The Crosby Marine Lake to Formby Point Strategy for Coastal Defence, accompanied by a HRA, was approved in 2010. The HRA concluded that the strategy was not likely to result in significant effect on the European sites, provided that the HRAs for the individual components of the strategy conclude that there will be no adverse impacts on the features of the European sites in the strategy area.

**Proposed mitigation** within the SMP, in relation to PU11a9.1, comprises further proposed studies as part of the SMP2 Action Plan to develop and implement dune management

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3 Also known as the Great Ormes Head to Scotland Shoreline Management Plan (SMP).
adaptation strategy, and plans for developing a regional dune habitat restoration programme as a strand of the Regional Habitat Creation Programme. A dunes restoration scheme has subsequently been developed to implement this mitigation – the Hightown Dunes Restoration Scheme.

The SMP HRA determined that, despite mitigation proposals, it cannot be concluded that there will not be adverse effects on the Ribble & Alt Estuaries SPA and Ramsar Site, due to uncertainties surrounding implementation of HTL Policy (in relation to PU11a8.4) in the long term, to be treated as a potential adverse effect with a requirement that habitat to offset adverse impacts may need to be provided as part of the Regional Habitat Creation Programme. Due to this, a statement of case for Imperative Reasons of Overriding Public Interest (IROPI) was required before the SMP2 could be formally adopted.

4.2.3.2 Douglas 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>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Screened in</td>
<td>Screened out</td>
</tr>
<tr>
<td>36</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

The Douglas management catchment contains 2 European sites.

There are no new measures within this catchment; all of the 43 measures are from existing plans.

Douglas CFMP

Most of the measures for this catchment are from the Douglas CFMP. The screened in CFMP measures are all protection measures (M3) and are considered further below; the five screened out CFMP measures relate to flood forecasting and warning (M41).

The Douglas CFMP boundary is the same as the Douglas management catchment within the NW RBD FRMP. The 35 CFMP protection measures incorporated within the Douglas management catchment, implement the policies of the CFMP, which were assessed by the Douglas CFMP HRA\(^4\). The Ribble & Alt Estuaries SPA and Ramsar site lie within the catchment boundary. The CFMP HRA assessed potential effects on these sites and concluded that the policies and actions within Douglas CFMP were not likely to have a significant effect on these European sites.

North West England and North Wales SMP

The remainder of the measures (3 of 43) in the management catchment are from the North West England and North Wales SMP. Of the 3 measures from the SMP, 2 relate to preparedness for flood events (M44) and have been screened out of the assessment. The 1 SMP protection measure (M33) is considered further below.

The SMP measure is located within the Ribble Estuary Policy Area – Policy Unit 11b1.5 (Hesketh Outmarsh East) within sub-cell 11b (Southport to Rossall Point, Fleetwood) of the

NW and North Wales SMP. The measure is located in proximity to the Ribble & Alt Estuaries SPA and Ramsar site.

The HRA of the SMP concluded that there will not be any adverse effects on the integrity of the Ribble & Alt Estuaries SPA and Ramsar site from the proposed policy options (managed realignment followed by HTL) for this Policy Unit.

4.2.3.3 Wyre Management Catchment

<table>
<thead>
<tr>
<th>European sites</th>
<th>New measures</th>
<th>Existing plan measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Screened in</td>
<td>Screened out</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Screened in</td>
<td>Screened out</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>17</td>
</tr>
</tbody>
</table>

The Wyre management catchment contains 4 European sites.

There are no new measures within this catchment; all of the 23 measures are from existing plans.

Wyre CFMP

Approximately half of the measures for this catchment are from the Wyre CFMP. The six screened in CFMP measures are removal / relocation (M22), or other flood risk measures (M61) and are considered further below; the four screened out CFMP measures relate to flood forecasting and warning (M41), emergency event response / contingency planning (M42) and prevention / avoidance measures (M21).

The Wyre CFMP boundary is the same as the Wyre management catchment within the NW RBD FRMP. The 6 CFMP removal / relocation / other measures incorporated within the Wyre management catchment, implement the policies of the CFMP, which were assessed by the Wyre CFMP HRA. The Morecambe Bay SAC, SPA and Ramsar site and the Bowland Fells SPA lie within the catchment boundary.

The CFMP HRA concluded that the policies and actions within Wyre CFMP were not likely to have a significant effect on the Morecambe Bay SAC and Bowland Fells SPA, and would not adversely affect the integrity of the Morecambe Bay SPA / Ramsar site.

Proposed mitigation within the CFMP comprised the requirement for more detailed appraisal and assessment on plans or projects arising out of the CFMP to demonstrate meeting the requirements of the Habitats Regulations; and any measures which require land-take or affect habitats / land use would be located outside the European sites, with no works undertaken within the site boundary.

North West England and North Wales SMP

The remainder of the measures (13 of 23) in the management catchment are from the North West England and North Wales SMP. All of the 13 measures from the SMP relate to preparedness for flood events (M44) or other flood prevention measures (M24) and have been screened out of the assessment.

4.2.4 Management Catchments with New Measures

4.2.4.1 North West River Basin District

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<tr>
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The North West RBD contains 54 European sites. A general summary of the European sites across the RBD is provided in section 2, and Annex B provides a table summary of the sites present within the RBD.

In total there are 51 measures for the North West RBD, all of which are new as part of the FRMP. 31 of the measures are screened out as they relate to prevention, preparedness or recovery and review (M2 / M4 / M5). 20 of the measures relate to flood risk protection (M3) or flood risk prevention (M22) and are screened in, considered further below.

Of the 20 new measures for the North West RBD, 6 relate to natural flood management (M31); 6 are channel, floodplain and coastal works (M33), 7 are other flood protection measures (M35) and 1 is flood risk prevention - removal / relocation (M22).

At the scale of the RBD the proposed measures do not specify particular locations and refer to general opportunities, such as flood risk management programmes including 'Slowing the Flow', integrated catchment planning and natural flood management measures developed with partner organisations. Other RBD wide measures refer in general terms to asset management and maintenance, incorporating and integrating climate change resilience, creating habitats and contributing to the development of ecological networks.

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 Derwent North West Management Catchment

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The Derwent North West management catchment contains 9 European sites.
7 of the European sites in the catchment are SACs, which collectively cover a significant proportion of the catchment, particularly the upland areas to the east of the catchment - the Lake District High Fells SAC, adjacent Borrowdale Woodland Complex SAC and the River Derwent and Bassenthwaite Lake SAC. The River Derwent and Bassenthwaite Lake SAC extends upstream along the rivers and becks of the upper catchment, and along the rivers Derwent, Cocker and Marron downstream through Cockermouth to Workington at the coast. The majority of the remainder of the designations cover coastal areas of the catchment – the Solway Firth SAC and the Upper Solway Flats & Marshes SPA and Ramsar site follow the same boundaries of the Solway Firth to the north west of the catchment.

In total there are 27 measures for the Derwent North West catchment, 7 of which are new as part of the FRMP, 20 are from existing plans.

**New measures**

There are 7 new measures for the Derwent North West catchment, 6 are screened in as they relate to flood risk protection (M3); 2 are channel, floodplain and coastal works (M33), 3 are natural flood management (M31) and 1 is surface water management (M34). 1 measure is screened out as it relates to preparedness for flood events (M44).

4 of the 6 flood risk protection measures relate to a range or programme of measures to be implemented across the catchment, particularly focusing on natural flood risk management. As such these measures may be complementary or beneficial to the functioning of the European sites in the catchment, but there is no information at this stage about the precise location or nature of these measures. The two more localised measures focus on addressing surface water flooding in Keswick and flooding from main river in Wigton; the town of Keswick lies in close proximity to a European site but Wigton does not.

Given the extent of coverage of European site designations in the catchment, the locations of schemes or works arising from these measures may lie in close proximity to the European sites in some cases, although the precise location of the measures is not known. The final solutions for these measures are not yet defined, the FRMP does not constrain how or where the measures are implemented.

Given the avoidance and mitigation options available to ensure adequate project-level controls are in place, the strategic plan-level measures are screened as not likely to lead to significant effect on the 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.

**Existing plan measures - North West England and North Wales SMP**

6 of the measures are from the North West England and North Wales SMP. 3 of these measures are screened out of the assessment, as they relate to preparedness for flood events (M44); the 3 remaining measures are protection measures (M33 / M35), considered below.

The 3 SMP protection measures are located within the Maryport to Dubmill Point and Dubmill Point to Silloth Policy Areas (11e4 and 11e5), within sub-cell 11e of the NW and North Wales SMP (St Bees Head to the Scottish Border). The measures and Policy Areas
are located in proximity to the Upper Solway Flats and Marshes SPA and Ramsar site and the Solway Firth SAC.

The HRA of the SMP concluded that the proposals for these Policy Areas will not lead to adverse effect on the integrity of the European sites.

Proposed mitigation within the SMP action plan for these policy areas comprises a Strategy for the Allonby Bay area and Silloth Bay, accompanied by a more site specific HRA, to demonstrate that the implementation of HTL, No Active Intervention (NAI) and Managed Realignment policies for the Policy Units within these policy areas will not have an adverse effect on the integrity of the Upper Solway Flats and Marshes SPA and Ramsar site, and the Solway Firth SAC.

Allerdale District Council, the risk management authority responsible for implementing the relevant SMP policies, is taking forward proposals within these policy areas, which is to be accompanied by a project-level HRA to assess the effects of the proposals on the European sites potentially affected.

Existing plan measures – River Derwent CFMP

14 of the measures are from the River Derwent CFMP. 6 of these measures are screened out of the assessment, as they relate to preparedness for flood events and flood forecasting and warning (M44 / M41); the 8 remaining measures are protection measures (M33 / M34), considered below.

The River Derwent CFMP boundary is the same as the Derwent North West management catchment within the NW RBD FRMP. The 8 CFMP protection measures incorporated within the Derwent North West management catchment, implement the policies of the CFMP, which were assessed by the River Derwent CFMP HRA.

The CFMP HRA concluded that the policies and actions within River Derwent CFMP had potential to give rise to significant effects on 4 of the European sites: the River Derwent & Bassenthwaite Lake SAC, the Solway Firth SAC and the Upper Solway Flats and Marshes SPA / Ramsar site, but that the plan would not adversely affect the integrity of these sites (taking into account mitigation).

Proposed mitigation within the CFMP comprises the requirement for more detailed appraisal and assessment on future actions, plans or projects arising out of the CFMP to demonstrate meeting the requirements of the Habitats Regulations. In relation to the River Derwent and Bassenthwaite Lake SAC, any flood risk management upstream to be planned and executed in such a way as to minimise downstream siltation, and impacts on designated species of the site; any proposals to increase flooding locally to be assessed at the project stage, taking into account the ecological requirements of the marsh fritillary on the SAC. There is no specific mitigation referenced in the CFMP in relation to the Solway Firth SAC and the Upper Solway Flats & Marshes SPA and Ramsar site.

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The Irwell management catchment contains 3 European sites. The 3 European sites lie to the east of the Irwell management catchment, comprising the Rochdale Canal SAC, the South Pennine Moors SAC and the South Pennine Moors Phase 2 SPA. The two South Pennine Moors designated sites cover the same area, at the eastern boundary of the Irwell management catchment, to the east of Rochdale and Littleborough. The Rochdale Canal SAC is a linear designation covering the Rochdale Canal from Littleborough in the north east of the catchment to Failsworth further south west, to the east of Manchester city centre.

In total there are 21 measures for the Irwell catchment, 15 of which are new as part of the FRMP, 6 from existing plans.

**New measures**

All 15 new measures are from the Environment Agency; 11 of the new measures are protection measures (M3) and are screened in for further consideration; the remaining 4 are measures relating to flood risk prevention, forecasting and warning and preparedness (M24, M41, M44) and have been screened out of further assessment.

Of the 11 Environment Agency new protection measures, the majority are channel, floodplain and coastal works (M33) or natural flood management (M31).

Of the 11 new measures, three cover the area of the River Medlock in Central Manchester; one is at the Alder Forest, in Eccles, to the west of Manchester city centre; one is upstream of Ramsbottom, north west of Manchester, all of which are at significant distances downstream and not hydrologically connected to the European sites in the catchment. 3 of the remaining measures which are the nearer to the European sites, two are along the River Irk in Blackley / Hendham Vale; one is at the River Spodden in Whitworth, over 3km and 4km from the Rochdale Canal SAC and over 15km and 6km from the South Pennine Moors sites respectively. These 8 measures, given the distances to the European sites, are not likely to give rise to significant effects on these sites.

The remaining 3 measures comprise investigations and appraisals to identify potential flood defence works at Littleborough, River Roch and Rochdale, and a catchment wide moorland restoration project. The locations of these measures are in closer proximity to the European sites, although the precise nature of the measures is not known, with all subject to further investigation and appraisal. The final solutions for these measures are not yet defined, the FRMP does not constrain how or where the measures are implemented, and the measures will be subject to subsequent appraisal and assessment at the project level. Project level control through the consenting process for these measures, and associated requirement for consideration of project level HRA (additional detail is provided in section 4.3.3 below) will ensure these measures will not result in adverse effect on European sites.
Given the avoidance and mitigation options available to ensure adequate project-level controls are in place, the strategic plan-level measures are screened as not likely to lead to significant effect on the 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.

**Existing plan measures – River Irwell CFMP**

6 of the measures are from the River Irwell CFMP, all of which are screened in as they are flood risk protection measures (M3), considered below.

The River Irwell CFMP boundary is the same as the Irwell management catchment within the NW RBD FRMP. The 6 CFMP protection measures incorporated within the Irwell management catchment, implement the policies of the CFMP, which were assessed by the River Irwell CFMP HRA. The CFMP HRA concluded that the policies and actions within River Irwell CFMP did not have potential to give rise to significant effects on the European sites in the catchment: the Rochdale Canal SAC and the on the South Pennine Moors SAC / SPA.

### 4.2.4.4 Kent & Leven Management Catchment

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The Kent and Leven management catchment contains 12 European sites.

With the exception of the relatively small sites of the North Pennine Dales Meadows SAC and Esthwaite Water Ramsar site, and the Subberthwaite, Blawith and Torver Low Commons SAC on the western border of the catchment, the majority of the 12 European sites lie to the east and the south of the catchment and at the coast. The coastal sites comprise the Morecambe Bay SAC and SPA / Ramsar site, which follow similar boundaries and extend across the inter-tidal areas of Morecambe Bay and the Kent and Leven estuaries. A number of SACs lie further inland to the north and east, including the River Kent SAC, the boundary of which follows the River Kent and its upstream tributaries to its southern-most point at Sedgwick.

In total there are 39 measures for the Kent and Leven catchment, 5 of which are new as part of the FRMP, 34 from existing plans.

**New Measures**

The 5 new measures are from the Environment Agency, all 5 comprise protection measures – 4 channel, coastal and flood plain works (M33) and 1 natural flood management measure (M31), and are screened in for further consideration.

2 of the measures relate to a programme of measures to be implemented across the catchment, focusing on natural functioning of river systems and management of flood risk to

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7 River Irwell CFMP Appropriate Assessment, August 2008.
trunk roads. The former in particular may be complementary or beneficial to the functioning of the European sites in the catchment, but there is no information at this stage about the precise location or nature of either of these measures.

The remaining 3 measures comprise schemes or a series of schemes to manage flood risk at 3 locations in the catchment: Grange-Over-Sands, Ulverston and the Lyth Valley. Each of the locations lies within reasonable proximity (within approximately 1km) from European sites within the catchment, the Morecambe Bay designations for the former two measures, Morecambe Bay Pavements SAC for the latter. On the basis of information available on the schemes; it is not possible to rule that they wouldn’t be hydrologically connected to these sites.

However, the precise location and nature of the measures is not known. The final solutions / options for these measures are not yet defined, and the FRMP does not constrain how or where the measures are implemented.

Given the avoidance and mitigation options available to ensure adequate project-level controls are in place, the strategic plan-level measures are screened as not likely to lead to significant effect on the 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.

**Existing plan measures – North West England and North Wales SMP**

Of the existing plan measures, 19 have been derived from the North West England and North Wales SMP. However, 16 of these measures relate to preparedness for flood events (M44) and have been screened out; 3 of the measures relate to flood risk protection (M33 / M35), considered below.

The 3 SMP protection measures are located within Policy Areas 11c8, Heald Brow to Humphrey Head, 11c15, Walney Channel (Mainland) and Policy Unit 11c13.1 of Policy Area 11c13, Bardsea to Piel Island and within sub-cell 11c of the North West England and North Wales SMP. The measures and Policy Units / Areas are located in proximity to the Morecambe Bay SAC, SPA and Ramsar Site, and the Duddon Estuary SPA / Ramsar Site.

The HRA of the SMP concluded that the proposals for **Policy Unit 11c13.1 would not result in a significant effect**.

The HRA of the SMP concluded that the proposals for Policy Areas 11c8 and 11c15 (HTL for all epochs through maintaining existing defences) **would not result in adverse effects on integrity of the European sites**.

**Proposed mitigation** for the Policy Areas comprises the provision of a Strategy for the Walney area (and other adjacent / related Policy Units within the sub-cell), to enable the assumptions regarding HTL Policy to be checked. A more site specific HRA will also be undertaken to accompany this strategy, to demonstrate that the implementation of HTL policy will not have an adverse effect on the integrity of the Morecambe Bay SAC, SPA and Ramsar Site, and the Duddon Estuary SPA / Ramsar Site.
Barrow Borough Council is in the process of developing the Walney Island Coastal Protection Strategy.

**Existing plan measures – Kent and Leven CFMP**

15 of the measures are from the Kent and Leven CFMP. 12 of these measures are screened out of the assessment, as they relate to flood risk prevention (M23) and public awareness and preparedness (M43). The 3 remaining measures are protection measures - channel, coastal and floodplain works (M33), considered below.

The Kent and Leven CFMP boundary is the same as the Kent and Leven management catchment within the NW RBD FRMP. The 3 CFMP protection measures incorporated within the Kent and Leven management catchment, implement the policies of the CFMP, which were assessed by the Kent and Leven CFMP HRA.\(^8\)

The CFMP HRA concluded that the policies and actions within Kent and Leven CFMP had potential to give rise to significant effects on 10 of the European sites: the Morecambe Bay SAC, SPA and Ramsar site, the River Kent SAC, Esthwaite Water Ramsar site, North Pennine Dales Meadow SAC, the Leighton Moss SPA / Ramsar site, Roudsea Wood and Mosses SAC and the Witherslack Mosses SAC, but that the plan would not adversely affect the integrity of these sites (taking into account mitigation).

**Proposed mitigation** within the CFMP comprises the requirement for more detailed appraisal and assessment on future plans, strategies or projects arising out of the CFMP to demonstrate meeting the requirements of the Habitats Regulations.

### 4.2.4.5 Lune Management Catchment

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The Lune management catchment contains 10 European sites.

The coastal European sites comprise the Morecambe Bay SAC and SPA / Ramsar site, which follow similar boundaries and extend across the inter-tidal areas of Morecambe Bay and the Lune Estuary to the east of the catchment. Further inland in the catchment, the designations mostly comprise SACs, apart from the Bowland Fells SPA at the southern boundary to the east of Lancaster. The largest of the inland SAC designations is the Ingleborough Complex SAC in the upland eastern area of the catchment at Ingleborough.

In total there are 39 measures for the Lune catchment, 3 of which are new as part of the FRMP, 36 from existing plans. All measures from existing plans are from the Lune CFMP (25) and the North West England and North Wales SMP (11).
**New Measures**

The 3 new measures are from the Environment Agency; all 3 comprise protection measures (M3) and are screened in for further consideration.

The 3 measures comprise schemes to manage flood risk from main rivers at 2 locations in the catchment: Lower Lancaster – Skerton / Halton, and the River Conder at Galgate; and measure aimed at promoting natural flood risk management for main river / ordinary watercourses across the catchment. Each of the location-specific measures lie at a distance (>2km) from the nearest European sites within the catchment, the Morecambe Bay designations, with the measure at Galgate lying at a significant distance upstream (~4km), beyond the estuary tidal limit.

Given the distance (direct and upstream) of the measure at Galgate to the Morecambe Bay sites, it is considered this measure is **not likely to lead to significant effect on the European sites**.

On the basis of information available on the remaining measures; it is not possible to rule that that the measures wouldn’t be hydrologically connected to European sites within the catchment.

The precise location and nature of the measures is not known. The final solutions / options for these measures are not yet defined, and the FRMP does not constrain how or where the measures are implemented.

Given the avoidance and mitigation options available to ensure adequate project-level controls are in place, **the strategic plan-level measures are screened as not likely to lead to significant effect on the 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.

**Existing Plan Measures - North West England and North Wales SMP**

10 of the SMP measures relate to preparedness for flood events (M44) and flood risk prevention (M24) and have been screened out. 2 of the SMP measures relate to flood risk protection (M33 / M35), and are considered further below.

The 2 SMP protection measures are located within the Sunderland Village to Potts Corner Policy Area (11c 4) and the Bolton-le-Sands Caravan Park to River Keer Policy Unit (11c7.4) within the Hest Bank to Heald Brow Policy Area (11c7). These Policy Areas lie within sub-cell 11c of the North West England and North Wales SMP. The measures and Policy Units / Areas are located in proximity to the Morecambe Bay SAC, SPA and Ramsar Site.

The HRA of the SMP concluded that the policies (No Active Intervention (NAI) for all epochs) for Policy Unit 11c7.4 was **not likely to result in significant effects for the European sites**.

The HRA of the SMP concluded that the policies for the Policy Units within Policy Area 11c 4 will not lead to adverse effect on the integrity of the European sites.

**Proposed mitigation** within the SMP action plan for the 11c4 policy areas comprises the provision of a Strategy for the Lune Estuary, in order to further explore the practicality and
feasibility of the Policy Area’s options (HTL / NAI and managed realignment) for the component policy units, accompanied by a more site specific HRA to demonstrate that the implementation of the option within this policy area will not have an adverse effect on the integrity of the Morecambe Bay SAC, SPA and Ramsar site.

**Existing Plan Measures - Lune CFMP**

5 of the CFMP measures are screened out as they relate to preparedness for flooding (M41 / M42 / M43). The majority of the CFMP measures (20 of 25) relate to flood risk protection (M3), these are considered further below.

The Lune CFMP boundary is the same as the Lune management catchment within the NW FRMP. The 20 CFMP protection measures incorporated within the Lune management catchment, implement the policies of the CFMP, which were assessed by the Lune CFMP HRA.

The CFMP HRA assessed potential effects on these sites and concluded that the policies and actions within the Lune CFMP were not likely to have a significant effect on 8 of the European sites.

However, the HRA concluded that it is uncertain whether the CFMP will adversely affect the integrity of North Pennine Dales Meadows SAC and the Ingleborough Complex SAC, and it is uncertain whether all of the avoidance measures for the North Pennine Dales Meadows SAC and the Ingleborough Complex SAC, will not have an adverse effect on the integrity of these European sites.

**Proposed mitigation** within the CFMP comprises: further detailed assessment of the effects of policy 4 on North Pennine Dales Meadows SAC and Ingleborough Complex SAC, and policy 5 on Ingleborough Complex SAC, and the ways in which they may be delivered through specific measures, will need to be undertaken to remove these uncertainties in relation to the CFMP HRA conclusion.

The Lune CFMP has been signed off as setting the strategic direction for managing flood risk in the catchment on the basis that it cannot be put into effect until more detailed appraisal and assessment has taken place on plans or projects arising out of this CFMP to show it and they have met the requirements of the Habitat Regulations.

### 4.2.4.6 Lower Mersey Management Catchment

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The Lower Mersey management catchment contains 12 European sites.

The 12 European sites lie predominantly to the west of the Lower Mersey management catchment, and are predominantly marine / estuarine sites, within or adjacent to the Mersey.

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9 River Lune Appropriate Assessment, August 2008.
10 Calf Hill & Cragg Woods SAC, Bowland Fells SPA, Morecambe Bay SAC / SPA / Ramsar Site, Morecambe Bay Pavements SAC, Asby Complex SAC and Lake District High Fells SAC.
Estuary and within Liverpool Bay. The one exception to this is the Manchester Mosses SAC, which comprises several small areas of designated land to the north east of Warrington and on the southern border of the catchment with Weaver Gowy management catchment to the south.

In total there are 30 measures for the Lower Mersey catchment, 14 of which are new as part of the FRMP and 16 from existing plans. Measures from existing plans are from the Mersey Estuary CFMP (11) and the North West England and North Wales SMP (5).

**New measures**

The 14 new measures are from the Environment Agency; they all comprise measures for flood risk protection (M3) and are screened in for assessment.

Of the 14 Environment Agency new protection measures, 10 are channel, floodplain and coastal works (M33) and 4 are other protection (M35). 11 of the new measures are aimed at addressing flooding from main rivers and ordinary watercourses and 2 from main rivers; only one of the measures considers flooding from the sea.

10 measures target towns, residential and industrial properties in the Lower Mersey catchment at significant distances upstream from the Mersey Estuary designations\(^\text{11}\), and from the Manchester Mosses SAC.

Given the localised nature of these measures and the distances to the European sites, the measures are not likely to lead to significant effect on European sites.

Four measures potentially lie in close proximity to European sites in the catchment; investigations into channel improvements at Astley Brook, Leigh, lies in proximity (approximately 2km to the north) to the Manchester Mosses SAC; and measures at Stewards and Bowers Brooks, Widnes, which discharge to the Mersey Estuary on the North Bank, in proximity to the Mersey Estuary SPA / Ramsar Site. There is also a measure comprising a viability study to consider managed realignment opportunities across the Mersey Estuary. Each of these measures comprises investigations of flood risk and potential improvements, with no solutions yet defined.

Project level control is principally through the consenting process for these measures, with an associated requirement for project level HRA, where European sites are potentially affected (additional detail is provided in section 4.3.3 below).

Given the avoidance and mitigation options available to ensure adequate project-level controls are in place, the strategic plan-level measures are screened as not likely to lead to significant effect on the 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.

**Existing plan measures - North West England and North Wales SMP**

4 of the measures from the North West England and North Wales SMP relate to preparedness for flood events (M44); these have been screened out of the assessment. \(^\text{11}\) Leigh, Hindley & Abram, Haydock, St Helens, Rainford, Childwall, Tyldesley, Howe Bridge and North West Warrington; one measure is ‘Mersey wide’ but comprises property level protection.

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\(^{11}\) Leigh, Hindley & Abram, Haydock, St Helens, Rainford, Childwall, Tyldesley, Howe Bridge and North West Warrington; one measure is ‘Mersey wide’ but comprises property level protection.
SMP measure relates to flood risk protection - channel, coastal and floodplain works (M33), and is considered further below.

The SMP protection measure is located within the North Wirral Policy Area (11a6) within sub-cell 11a of the North West England and North Wales SMP. The measure and policy area is located in proximity to the Dee Estuary SAC, Mersey Narrows & North Wirral Foreshore SPA and the Liverpool Bay SPA, and at a greater distance to the north west of the Mersey Estuary SPA / Ramsar site.

The HRA of the SMP concluded that the policies (HTL for all epochs\(^{12}\)) for the policy units within Policy Area 11a6 would not result in adverse effects on the integrity of the Liverpool Bay SPA, but that it cannot be concluded that there will not be adverse effects on the Dee Estuary SAC, Mersey Narrows & North Wirral Foreshore SPA and Ramsar Site, therefore potential for adverse effect was concluded.

Provisional mitigation within the action plan for the 11a6 policy area comprises the provision of a Strategy for the Liverpool Bay Area, accompanied by a more site specific HRA, to further explore the practicality and feasibility of the policy options and to enable the development of potential mitigation measures for the avoidance of adverse effects on the integrity of the Dee Estuary SAC, Mersey Narrows & North Wirral Foreshore SPA and Ramsar Site.

Due to uncertainties surrounding implementation of HTL Policy in the long term and therefore potential for adverse effect was concluded, with the potential requirement for additional habitat provision as compensatory measures to offset impacts as part of the Regional Habitat Creation Programme. Due to this, a statement of case for IROPI was required before the SMP2 could be formally adopted.

Following on from the SMP, the Wirral Coastal Strategy covering this and adjacent policy areas within the Liverpool Bay area has been developed. The strategy was accompanied by a HRA to consider the potential effects on European sites and any strategy-level mitigation requirements.

**Existing plan measures – Mersey Estuary CFMP**

11 of the measures are from the Mersey Estuary CFMP. 9 of these measures are screened out of the assessment, as they relate to and public awareness and preparedness for flooding (M43 / M44). The 2 remaining measures are protection measures – natural flood management and channel, coastal and floodplain works (M31 / M33), considered below.

The Mersey Estuary CFMP boundary is the same as the Mersey Estuary management catchment within the NW RBD FRMP. The 2 CFMP protection measures incorporated within the Mersey Estuary management catchment, implement the policies of the CFMP, which were assessed by the Mersey Estuary CFMP HRA\(^{13}\).

The CFMP HRA concluded that the policies and actions within Mersey Estuary CFMP did not have potential to result in significant effects on the European sites.

\(^{12}\) The proposed policies for Policy Unit 11a6.3 Wallasey Embankment (Leasowe) to Harrison Groyne (New Brighton) are HTL in the short and medium term, with managed realignment in the long term, subject to further studies and monitoring.

4.2.4.7 South West Lakes Management Catchment

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</table>

The South West Lakes management catchment contains 8 European sites.

The European sites in the catchment predominantly lie at or near the coast. The Duddon Estuary SPA / Ramsar site and the Morecambe Bay SAC follow similar boundaries and extend across the Duddon Estuary and its inter-tidal areas at the southern end of the catchment. Immediately inland of the Duddon Estuary lies the Duddon Mosses SAC, and the Subberthwaite, Blawith and Torver Low Commons SAC, further east at the catchment boundary. Further north up the coastline, the Drigg Coast SAC covers the coastal and inter-tidal areas at Drigg and includes the inter-tidal areas of the rivers Esk, Mite and Irt. The inland sites comprise the High Fells SAC at Wast Water, Sca Fell and Ennerdale, and the River Ehen SAC following the River Ehen from Ennerdale Water to Woodend.

In total there are 31 measures for the South West Lakes catchment, 5 of which are new as part of the FRMP and 26 from existing plans. Measures from existing plans are from the South West Lakes CFMP (8) and the North West England and North Wales SMP (18).

**New measures**

The 5 new measures are from the Environment Agency, 2 of which comprise measures for flood preparedness (M44) and are screened out of further assessment. 3 measures are flood risk protection (M3) and are screened in for assessment.

Of the 3 Environment Agency new protection measures, 2 are channel, floodplain and coastal works (M33) and 1 is natural flood management (M31); 2 target surface water flooding and 1 aims to address flooding from main rivers and ordinary watercourses.

Two of the measures comprise a programme or suite of schemes at a number of locations across the catchment; and one measure does not specify locations, but promotes catchment-wide working to explore natural flood risk management and functioning of Lake District river systems. Given the lack of geographic information on where the measures will be implemented, it is not possible to rule out that the measures will not be in proximity to any of the European sites within the catchment.

Given this general lack of site-specific information on the measures and their components, the nature of the measures and solutions are not yet defined, it is not possible to determine whether the measures are likely to affect designated sites. The FRMP does not constrain how or where the measures are implemented, and the measures will be subject to subsequent appraisal and assessment at the project level.

Project level control through the consenting process for these measures, and associated requirement for project level HRA (additional detail is provided in section 4.3.3 below) will ensure these measures will not result in adverse effect on European sites.

Given the avoidance and mitigation options available to ensure adequate project-level controls are in place, **the strategic plan-level measures are screened as not likely to**
lead to significant effect on the 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.

Existing plan measures - North West England and North Wales SMP

18 measures in the catchment from existing plans are from the North West England and North Wales SMP. 14 of these measures have been screened out as they comprise measures for preparedness for flood events (M44), and a measure for flood risk prevention (M24). 4 of the measures comprise flood risk protection (M33 / M35), considered further below.

The 4 SMP protection measures are located within the Walney Channel and Walney Channel (Mainland), Hodbarrow Point to Selker Policy Areas (11c14 / 11c15 / 11d1), and the Braystones, Nethertown and Coulderton Policy Unit (11d 5.5) within the Seascale to St. Bees Policy Area (11d5). The measures and Policy Areas are located within sub-cell 11c and 11d of the NW and North Wales SMP, and in proximity to the Duddon Estuary SPA and Ramsar Site, and the Morecambe Bay SAC, SPA and Ramsar Site.

The HRA of the SMP for the Walney Channel Policy Area determined that determined that only the policies (HTL for all epochs) for Biggar to Lenny Hill (east side) (PU 14.2) and Hare Hill to Hillock Whins (14.4) was likely to lead to significant effect.

The HRA of the SMP for the Walney Channel (Mainland) Policy Area determined that only the policy (HTL for all epochs) for Westfield Point to Hindpool (Barrow in Furness) (PU 11c15.2) was likely to lead to significant effect.

The HRA of the SMP for the Hodbarrow Point to Selker Policy Area determined that only the policy (HTL/Managed Realignment (MR)/HTL) for the Hodbarrow Point to Haverigg Policy Unit (11d1.1) was likely to lead to significant effect.

The HRA of the SMP for Braystones, Nethertown and Coulderton (PU 11d 5.5) within the Seascale to St. Bees Policy Area (11d5) determined that the policy (MR / NAI / NAI) was not likely to lead to significant effect.

Proposed Mitigation: The SMP2 Action Plan recommended a Strategy for the Duddon Estuary and the Walney area to include the Policy Units within Policy Areas, to further explore the practicality and feasibility of the Policy options. This will also enable the development of mitigation measures to avoid adverse effects from Managed Realignment in the medium term, due to the risks associated with potential freshwater habitat losses, which will potentially be replaced by intertidal habitat. More site specific HRAs will also be undertaken to accompany these strategies, and to demonstrate that the implementation of the policies for these Policy Areas will not have an adverse effect on the integrity of the Morecambe Bay SAC, SPA and Ramsar Site, and the Duddon Estuary SPA / Ramsar Site.

The HRA of the SMP determined that, despite proposals for mitigation and further assessment, it cannot be concluded that there will not be adverse effect on site integrity (of the Duddon Estuary SPA and Ramsar Site), with a potential requirement that additional habitat may need to be provided as part of the Regional Habitat.
Creation Programme. Due to this, a statement of case for IROPI was required before the SMP2 could be formally adopted.

**Existing plan measures – South West Lakes CFMP**

8 of the measures are from the South West Lakes CFMP. 5 of these measures are screened out of the assessment, as they relate to public awareness and preparedness (M43) and flood risk prevention (M23). The 3 remaining measures are protection measures – channel, coastal and floodplain works (M33), considered below.

The South West Lakes CFMP boundary is the same as the South West Lakes management catchment within the NW RBD FRMP. The 3 CFMP protection measures incorporated within the South West Lakes management catchment, implement the policies of the CFMP, which were assessed by the South West Lakes CFMP HRA. The CFMP HRA concluded that the policies and actions within South West Lakes CFMP would not result in adverse effects on the integrity of any of the European sites potentially affected by the CFMP.

**Proposed mitigation** within the CFMP HRA comprises assessment at the project stage to when further project details are available to ensure projects / actions arising from the plan will as not adversely affect site integrity. Specific mitigation recommendations comprise careful scheme design and pollution prevention guidance to ensure that managed silt release / potential water quality effects, sensitive timings for fish (avoiding the spawning season) and other protected species for in-river works or works likely to result in the silt release to watercourses.

**4.2.4.8 Weaver Gowy Management Catchment**

<table>
<thead>
<tr>
<th>European sites</th>
<th>New measures</th>
<th>Existing plan measures</th>
</tr>
</thead>
<tbody>
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<tr>
<td></td>
<td>10</td>
<td>9</td>
</tr>
</tbody>
</table>

The Weaver Gowy management catchment contains 10 European sites.

4 of the SACs: Oak Mere and Manchester Mosses at the northern catchment boundary with the Mersey Estuary, and Rixton Clay Pits and West Midlands Mosses in mid-catchment, south west of Northwich and south east of Nantwich, are all relatively small scale sites (<200ha). These sites and several others within the catchment, such as those at Delamere Forest, also form collective Ramsar sites – Midland Meres and Mosses – Phase 1 and Phase 2. The larger scale designations in the catchment comprise the South Pennine Moors SAC and Peak District Moors (South Pennine Moors Phase 1) SPA, which have similar boundaries in the upland eastern extents of the catchment. The Mersey Estuary SAC and SPA designations also extend into the inter-tidal areas at the north west end of the Weaver Gowy catchment.

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In total there are 20 measures for the Weaver Gowy management catchment, 1 of which is new as part of the FRMP and 19 from existing plans; 18 from the Weaver and Gowy CFMP; 1 from the Staffordshire Local Flood Risk Management Strategy.

**New measures**

There is only 1 new measure, from the Environment Agency, this is screened in as it relates to flood risk protection, channel, floodplain and coastal works (M33), and is considered further below.

The measure is related to the Wharford Farm Flood Basin located at Keckwick Brook, Runcorn, and is to address flooding from main river. Keckwick Brook discharges to the Mersey Estuary approximately 5km upstream from the Mersey Estuary SPA and Ramsar Site, and does not lie in proximity to any other European site designations. A localised solution is considered likely, but the measure includes a further study to determine the most effective solution.

Given the avoidance and mitigation options available to ensure adequate project-level controls are in place, **the strategic plan-level measures are screened as not likely to lead to significant effect on the 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.

**Existing plan measures – Weaver and Gowy CFMP**

18 of the measures are from the Weaver and Gowy CFMP. 9 of these measures are screened out of the assessment, as they relate to emergency event response planning, public awareness and preparedness (M42 / M43 / M44) and recovery and review (M53).

The 9 screened in measures comprise protection measures – natural flood management, channel, coastal and floodplain works and other protection (M31 / M33 / M35), and flood risk prevention - removal / relocation measures (M22) considered below.

The Weaver and Gowy CFMP boundary is the same as the Weaver Gowy management catchment within the NW RBD FRMP. The 9 CFMP protection / prevention measures incorporated within the Weaver Gowy management catchment, implement the policies of the CFMP, which were assessed by the Weaver and Gowy CFMP HRA\(^\text{15}\).

**The CFMP HRA concluded that the policies and actions within the Weaver and Gowy CFMP would not result in adverse effects on the integrity of the West Midland Mosses SAC, Oak Mere SAC, South Pennines Moors SAC and SPA, and the Midland Meres and Mosses Phase I / Phase II Ramsar sites.**

**However, the HRA concluded that it was uncertain whether the plan will adversely affect the integrity of the River Mersey SAC, SPA and Ramsar site.**

**Proposed mitigation** within the CFMP HRA comprises assessment at the project stage to when further project details are available to ensure projects / actions arising from the plan will as not adversely affect site integrity. Specific mitigation recommendations comprise applying best practice in relation to avoiding the spread or introduction of non-native invasive

\(^{15}\) Appropriate Assessment for the Weaver and Gowy Catchment Flood Management Plan, August 2008.
species, ensuring any required/upgraded structures are within the footprint of existing defences or on areas where hardstanding and structures already exist, sensitive land management options taking into account the sensitivities of the European sites and their qualifying features, where potentially affected. Mitigation / avoidance measures specific to the River Mersey SAC / SPA / Ramsar site will be implemented through an action plan to ensure that the plan has no adverse effect on integrity of European sites, including further detailed assessment of the effects of the policy options and their implementation.

The Weaver and Gowy CFMP has been signed off as setting the strategic direction for managing flood risk in the catchment on the basis that it cannot be put into effect until more detailed appraisal and assessment has taken place on plans or projects arising out of the CFMP to show it and they have met the requirements of the Habitat Regulations.

**Existing plan measures – Staffordshire Local Flood Risk Management Strategy**

There is 1 screened in measure from the Staffordshire Local Flood Risk Management Strategy, a surface water management measure (M34). This strategy has undergone a HRA which concluded that, with the adoption of mitigation as detailed in the HRA, the Strategy is **not likely to have any significant negative effects on any European sites, alone or in combination with other plans or projects.**

### 4.2.4.9 Upper Mersey Management Catchment

<table>
<thead>
<tr>
<th>European sites</th>
<th>New measures</th>
<th>Existing plan measures</th>
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<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

The Upper Mersey management catchment contains 6 European sites.

To the east of the catchment are the South Pennine Moors designated as both SAC and SPA (Phases 1 and 2). The south west of the catchment hosts the Rostherne Mere Ramsar site and two of the sites that contribute to the Midlands Meres and Mosses Ramsar site (other sites that are part of the same designation can be found over the border in the Weaver Gowy Catchment). The Rixton Clay Pits SAC can be found in the extreme west of the catchment.

In total there are 21 measures for the Upper Mersey management catchment, 2 of which are new as part of the FRMP and 19 from an existing plan - the Upper Mersey CFMP.

**New measures**

There are 2 new measures, from the Environment Agency, these are screened in as they relate to flood risk protection – natural flood management (M31), and are considered further below.

Both measures are to promote slowing the flow / natural flood management projects; one of which is location specific, to benefit communities at risk of flooding downstream of Dunham Massey, Altrincham. The measure location is downstream and not in close proximity (>2km) to the Rostherne Mere Ramsar site, or any other European sites in the catchment, and is therefore considered **not likely to give rise to significant effects on any sites.**
The remaining measure is not location specific, and does not specify the nature or type of measures that will be implemented. The measures may be implemented in proximity to European sites within the catchment, but the FRMP does not constrain where or how those measures are implemented.

Given the avoidance and mitigation options available to ensure adequate project-level controls are in place, the strategic plan-level measures are screened as not likely to lead to significant effect on the 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.

**Existing plan measures – Upper Mersey CFMP**

19 of the measures are from the Upper Mersey CFMP. 6 of these measures are screened out of the assessment, as they relate to flood forecasting and warning, public awareness and preparedness (M41 / M43 / M44).

The 13 screened in measures comprise protection measures – natural flood management, channel, coastal and floodplain works and other protection (M31 / M33 / M35), and flood risk prevention - removal / relocation measures (M22).

The Upper Mersey CFMP boundary is the same as the Upper Mersey management catchment within the NW RBD FRMP. The 13 CFMP protection / prevention measures incorporated within the Upper Mersey management catchment, implement the policies of the CFMP, which were assessed by the Upper Mersey CFMP HRA16.

The CFMP HRA concluded that the policies and actions within the Upper Mersey CFMP were not likely to result in significant effects on the European sites in the catchment, and further Appropriate Assessment was not required.

### 4.2.4.10 Ribble Management Catchment

<table>
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<tr>
<th>European sites</th>
<th>New measures</th>
<th>Existing plan measures</th>
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<tbody>
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<tr>
<td>26</td>
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The Ribble management catchment contains 7 European sites.

Most of the European sites lie in the upland areas of the catchment. The North Pennine Dales Meadows SAC forms several relatively small sites the in mid-upper catchment in the area around Slaidburn. The Bowland Fells SPA lies further to the west of Slaidburn and spans the boundaries with the Wyre and Lune catchments. The Ingleborough Complex SAC lies in the upland are in the northern part of the catchment north of Settle, across the Lune catchment boundary. The South Pennine Moors SAC and South Pennine Moors Phase 2 SPA follow the same boundaries and lie in the upland areas to the east of Burnley and Colne. The one exception is the Ribble and Alt Estuaries SPA and Ramsar site, which extends to the inter-tidal areas at the downstream end of the catchment.

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16 Upper Mersey Catchment Flood Management Plan, Final Plan, August 2008 (Appendix B – Table B5 - Summary of Appropriate Assessment requirements for Natura 2000 sites).
In total there are 41 measures for the Ribble management catchment, eight of which are new as part of the FRMP, 33 from existing plans - the River Ribble CFMP and the North West England and North Wales SMP.

**New measures**

Of the Environment Agency new protection measures, all 6 target flooding from main rivers, and comprise localised investigations and schemes to address flood risk from this source, with locations specified.

Four of the six new measures cover urban areas within the catchment; two cover areas within Darwen and Blackburn; one is in Padiham, to the northwest of Burnley; and one covers the areas of Broadgate and Lower Penwortham, south Preston. None of these measures are located in close proximity to the European sites in the catchment, the nearest being the Broadgate and Lower Penwortham measure, over 6km upstream from the Ribble Estuary designations. The remaining two measures are in more rural locations; Bolton by Bowland and Trawden, which is the nearest of the measures to a European site, lying approximately 2km to the north and west of the South Pennine Moors Phase 2 SAC. This measure lies downstream of the SAC, does not propose upland land management as part of the measure, and is not considered likely to be connected hydrologically with this site.

These six measures, given the distances to the sites, are **not likely to give rise to significant effects on the European sites.**

**Existing plan measures – North West England and North Wales SMP**

Six of the measures are from the North West England and North Wales SMP; five measures relate to flood preparedness (M44) and are screened out of the assessment; the one SMP protection measure (M35) is considered further below.

The SMP measure is located within the St. Annes to Rossall Point Policy Area – Policy Unit 11b2.1 (St Anne's (northern boundary) to Squires Gate) within sub-cell 11b (Southport to Rossall Point, Fleetwood) of the NW and North Wales SMP. The measure is located in proximity to the Ribble & Alt Estuaries SPA and Ramsar site.

The HRA of the SMP concluded that there will not be any adverse effects on the integrity of the European sites from the proposed policy options (managed realignment followed by HTL in the medium term and long term) for this Policy Unit.

**Proposed mitigation** within the SMP comprises the development of the Joint Blackpool and Fylde Shoreline Strategy for coastal flood and erosion risk management on the Blackpool & Fylde coastline (Naze Point to Anchorsholme) to enable further assessment of the practicality and feasibility of the Policy options.

Separate strategies were subsequently developed, with the policy unit lying within the boundary of the Fylde Council Coastal Strategy 2015-2032 (formerly the Fylde Shoreline Strategy) - Zone 1 Starr Hills Sand Dunes and Beaches. The Strategy is undergoing a period of consultation in 2014-2015 prior to its formal adoption. In relation to the policy unit, the Strategy is supported by a management plan for the upper foreshore and sand dunes to enhance the nature conservation interest of the coastal habitats and surrounding habitats of the Ribble Estuary.
**Existing plan measures – River Ribble CFMP**

27 of the measures are from the River Ribble CFMP. Two measures relate to flood forecasting / warning and preparedness (M41 / M44) and are screened out of the assessment. 25 measures are for flood risk protection (M3) and are considered further below.

The River Ribble CFMP boundary is the same as the Ribble management catchment within the NW RBD FRMP. The 25 CFMP protection / prevention measures incorporated within the Ribble management catchment, implement the policies of the CFMP, which were assessed by the River Ribble CFMP HRA

The CFMP HRA concluded that the policies and actions within the Ribble CFMP were not likely to result in significant effects on the European sites in the catchment, and further Appropriate Assessment was not required.

### 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

42% of measures are from existing plans of which 36% are from CFMPs and 5% from SMPs. Most risks are from SMP measures where adverse effects identified in the SMP HRA for specific policy areas are being addressed.

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.

Most risks to European sites that are being addressed by existing plans relate to the (5%) measures in SMPs and more specifically where the SMP is managing likely adverse effects, such as in the catchments of Alt and Crossens, Lower Mersey and South West Lakes.

#### 4.3.2 Risks from new measures

17% of measures are new of which 8% are strategic and therefore not specific to a particular location. 7% are not in proximity to any European sites and 2% are more specific improvements that are in proximity to sites. The most likely risks will be related to the development of local actions for the specific improvements in the next FRMP cycle and can be found in the Lower Mersey, Kent and Leven, Lune and Derwent North West catchments.

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The future strategic measures may also present a risk depending on where they are implemented.

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 (and Natural Resources Wales where Welsh sites are potentially affected). 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 (and Natural Resources Wales where Welsh sites are affected), 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 Liverpool and Sefton Flood Risk Area HRA

This section sets out the results of carrying out the HRA on the measures for the Liverpool and Sefton Flood Risk Area that are for flooding from local sources (ordinary watercourses surface water, groundwater, etc.) and are the responsibility of the Lead Local Flood Authorities (LLFAs) within the Flood Risk Area. This is the FRMP information for which these LLFAs are 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.

5.1 Summary of Measures

The initial screening and assessment of likely significant effects reviewed the measures for each of the catchments within the Liverpool and Sefton Flood Risk Area (FRA) which are: the Alt and Crossens and the Lower Mersey management catchments, as illustrated in Figure 3 below. An overall summary of the LLFA FRA measures is presented in Table 4.

**Figure 4 Map of the European sites in the Liverpool and Sefton FRA and Management Catchments**
Table 4 Summary of Liverpool and Sefton FRA measures by catchment

<table>
<thead>
<tr>
<th>Management Catchment</th>
<th>Number of measures screened in (out)</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>
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<th>Existing plan measures</th>
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All FRA catchments have some screened in measures.

Catchments with all measures from existing plans

- Alt & Crossens: 12 measures (6 from Liverpool Strategy, 6 from Sefton Strategy), no new measures, 5 European sites.
- Lower Mersey: 12 measures (6 from Liverpool Strategy, 6 from Sefton Strategy), no new measures, 12 European sites.

Of the total of 26 measures, 24 (92%) have been screened in for HRA consideration, and 2 (8%) screened out.

Risks from existing plans measures

24 (92%) of measures are from existing plans, both of which are Local Flood Risk Management (FRM) Strategies. The plans comprise the Liverpool and the Sefton Local FRM Strategies, which cover parts of the catchments of Alt & Crossens and the Lower Mersey (see Figure 3 above).

Risks from new measures

There are no new measures for the Liverpool and Sefton Flood Risk Area.

5.2 Screening and Likely Significant Effects

5.2.1 Alt & Crossens Management Catchment

The Alt & Crossens management catchment contains 5 European sites.
3 of the European sites are located on the coastal / estuarine margin to the west and north of the management catchment - the Sefton Coast SAC and the Ribble Estuary SPA and Ramsar Site. The two inland designations in the catchment follow the same boundary – the Martin Mere SPA and Ramsar Site, which is a small (~120 ha) site to the north west of Burscough.

In total there are 13 measures for the Liverpool and Sefton FRA within the Alt & Crossens management catchment, which are all from existing plans: the Liverpool and Sefton Local Flood Risk Management Strategies.

**Existing plan measures - Liverpool Local Flood Risk Management Strategy**

Of the 13 FRA measures for the Alt & Crossens management catchment, 6 are from the Liverpool Local Flood Risk Management Strategy (LFRMS); all 6 relate to flood risk protection (M3) and are screened in.

3 of the 6 protection measures from the Liverpool LFRMS relate to surface water management (M34) and 3 are channel, coastal and floodplain works (M33).

The 6 flood risk protection measures relate to localised works for replacement or reconstruction of culverts, debris screens and outfall structures to address flooding from ordinary watercourses and main rivers or surface water flooding within urban areas of Liverpool. None of the measures are to address flooding from the sea or coastal erosion. 5 measures include location specific information for culverts / culverted watercourses. Where these discharge to main river (Alt and Fazakerley Brook), they are located within the urban extent of Liverpool at significant distance (>15km) upstream from where the River Alt lies within the designations of the Ribble and Alt Estuaries SPA / Ramsar Site and the Sefton Coast SAC.

Given the localised nature of these measures, and the distance upstream from the European sites, the measures are considered to result in no likely significant effects. No likely

The remaining measure does not specify location information other than being in the Liverpool area, and as such there is less certainty as to the location of works related to this measure. However, the measure is targeting flooding from rivers (main river plus ordinary watercourse) within the urban extent of Liverpool, which for the Alt & Crossens management catchment discharges to the River Alt. The distance upstream from the designations in the catchment will therefore be similar to the other measures. Given the urban location and localised nature of the measure, and the distance upstream from the European sites, the measure is considered to result in no likely significant effects.

**Existing plan measures – Sefton Local Flood Risk Management Strategy**

The remaining 7 of the 13 FRA measures for the Alt & Crossens management catchment are from the Sefton LFRMS. 1 of the 7 measures from the Sefton LFRMS relates to public awareness and preparedness for flood events (M43) and has been screened out of the assessment. The remaining 6 measures are all protect measures - channel, coastal and floodplain works (M33) and are screened in. 4 of the measures address flooding from main rivers plus ordinary watercourses, 1 addresses surface water flooding and 1 addresses flooding from the sea.
All of the 6 measures are strategic, comprising programmes of delivery for plans or strategies within the FRA area. These comprise programmes for coastal monitoring, the Crosby Marine Lake to Formby Point Strategy and Formby Strategic Flood Risk Management, Four Acres, Maghull asset management plan, Sefton Strategic Surface Water Management Plan (SWMP), and the Sefton Flood Storage and Wet Habitat Creation Programme.

The HRA of the Sefton LFRMS\(^{18}\) determined that it is not possible at this higher-level plan stage to determine the scale and location of any works which may arise as a result of the strategy. The HRA concluded that there will be no likely significant effects as a result of the strategy, and there was no requirement for the strategy to progress to the next HRA stage, but that the development and implementation of plans and programmes arising from the strategy will need to be subject to their own HRA.

### 5.2.2 Lower Mersey Management Catchment

<table>
<thead>
<tr>
<th>European sites</th>
<th>New measures</th>
<th>Existing plan measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Screened in</td>
<td>Screened out</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Screened in</td>
<td>Screened out</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>1</td>
</tr>
</tbody>
</table>

The Lower Mersey management catchment contains 12 European sites.

The 12 European sites lie predominantly to the west at the downstream end of the Lower Mersey management catchment, and are predominantly marine / estuarine sites, within or adjacent to the Mersey Estuary and within Liverpool Bay. The one exception to this is the Manchester Mosses SAC, which comprises several small areas of designated land to the north east of Warrington and on the southern border of the catchment with Weaver Gowy management catchment to the south.

In total there are 13 measures for the Liverpool and Sefton FRA within the Lower Mersey management catchment, all 13 are from existing plans; the Liverpool and Sefton Local Flood Risk Management Strategies.

**Existing plan measures - Liverpool Local Flood Risk Management Strategy**

There are 13 FRA measures for the Lower Mersey management catchment from existing plans, 6 of which are from the Liverpool LFRMS.

The 6 FRA measures from the Liverpool FRMS are the same as the FRA measures for the Alt & Crossens management catchment, which also apply to the parts of the Lower Mersey management catchment that lie within the Liverpool and Sefton FRA (see section 5.2.1 and map in Figure 3 above).

All 6 measures relate to localised works addressing flooding from ordinary watercourses and main rivers or surface water flooding within urban areas of Liverpool. Given the locations and localised nature of these measures, they are also considered to result in no likely significant effects on the European sites.

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Existing plan measures – Sefton Local Flood Risk Management Strategy

The remaining 7 of the 13 FRA measures for the Lower Mersey management catchment are from the Sefton LFRMS. 1 of the 7 measures from the Sefton LFRMS relates to public awareness and preparedness for flood events (M43) and has been screened out of the assessment. The remaining 6 measures are all protect measures - channel, coastal and floodplain works (M33) and are screened in.

The 6 FRA screened in measures for the Sefton LFRMS for the Lower Mersey management catchment are the same as the 6 FRA screened in measures for the Alt & Crossens management catchment (see section 5.2.1). All 6 measures are strategic, comprising programmes of delivery for plans or strategies within the FRA area.

The HRA of the Sefton LFRMS determined that it is not possible at this higher-level plan stage to determine the scale and location of any works which may arise as a result of the strategy. The HRA concluded that there will be no likely significant effects as a result of the strategy, and there was no requirement for the strategy to progress to the next HRA stage, but that the development and implementation of plans and programmes arising from the strategy will need to be subject to their own HRA.

5.3 Consideration of results and conclusion

The assessment of likely significant effects has been carried out for each catchment in the FRA in turn, and considered the risks to European sites and existing controls in place for existing plans. There are no actions for the FRA related to new strategic development measures for the next FRMP cycle.

In both the Alt & Crossens and Lower Mersey catchments the conclusions are that measures from the Liverpool LFRMS are sufficiently localised, at a distance from European sites as to not present a risk of likely significant effects.

Of the 6 measures for the FRA from the Sefton LFRMS none are, at this stage, specific enough to be confirmed as ‘in proximity’ to European sites, in either the Alt & Crossens and Lower Mersey catchments. The measures from the Sefton LFRMS are strategic in nature, and their effects will 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 strategy.

5.3.1 Conclusion

At this strategic-plan level of the Liverpool and Sefton FRA 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.
6 Greater Manchester Flood Risk Area HRA

This section sets out the results of carrying out the HRA on the measures for the Greater Manchester Flood Risk Area that are for flooding from local sources (ordinary watercourses, surface water, groundwater, etc.) and are the responsibility of the Lead Local Flood Authorities (LLFAs) within the Flood Risk Area. This is the FRMP information for which these LLFAs are 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.

6.1 Summary of Measures

The initial screening and assessment of likely significant effects reviewed the measures for each of the catchments within the Greater Manchester Flood Risk Area (FRA) which are: the Irwell, Upper Mersey and the Lower Mersey management catchments, as illustrated in Figure 4 below. An overall summary of the LLFA FRA measures is presented in Table 5.

Figure 5 Map of the European sites in the Greater Manchester FRA and Management Catchments
Table 5 Summary of Greater Manchester FRA measures by catchment

<table>
<thead>
<tr>
<th>Management Catchment</th>
<th>Number of measures screened in (out)</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 and known level of detail</th>
<th>Number of European sites</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Catchments with no screened in measures</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All FRA catchments have some screened in measures.</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>
</tr>
<tr>
<td>All FRA catchments have new measures.</td>
<td></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>
</tr>
<tr>
<td>Irwell</td>
<td>29 (8)</td>
<td>11</td>
<td>7 from Manchester Strategy 1 from Rochdale Strategy 3 from River Irwell CFMP</td>
<td>18</td>
<td>17 not in proximity 1 strategic/proximity unknown</td>
</tr>
<tr>
<td>Upper Mersey</td>
<td>26 (6)</td>
<td>7</td>
<td>7 from Manchester Strategy</td>
<td>19</td>
<td>19 not in proximity</td>
</tr>
<tr>
<td>Lower Mersey</td>
<td>4 (3)</td>
<td>0</td>
<td>n/a</td>
<td>4</td>
<td>4 not in proximity</td>
</tr>
<tr>
<td>Douglas</td>
<td>3 (1)</td>
<td>0</td>
<td>n/a</td>
<td>3</td>
<td>3 not in proximity</td>
</tr>
<tr>
<td><strong>Overall Total</strong></td>
<td><strong>62 (18)</strong></td>
<td><strong>18</strong></td>
<td><strong>15 from Local Strategies 3 from CFMP</strong></td>
<td><strong>44</strong></td>
<td><strong>43 not in proximity 1 strategic/proximity unknown</strong></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.

‘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).

‘specific’ is where a measure is place specific, ‘strategic’ is where a measure is catchment or RBD-wide.

Of the total of 80 measures, 62 (78%) have been screened in for HRA consideration, and 18 (22%) screened out.

6.1.1 Risks from existing plans measures

18 (22%) of measures are from existing plans, 15 of which are Local FRM Strategies, 3 are from a CFMP. The plans comprise the Manchester and Rochdale Local FRM Strategies, which cover parts of the Irwell and Upper Mersey management catchments, and the River Irwell CFMP.

6.1.2 Risks from new measures

44 (55%) of measures are new, of which 43 (54%) are not in proximity and 1 (1%) is strategic within the Rochdale area, without a clear location and therefore proximity to European sites for this measure is unknown.
6.2 Screening and Likely Significant Effects

6.2.1 Irwell Management Catchment

<table>
<thead>
<tr>
<th>European sites</th>
<th>New measures</th>
<th>Existing plan measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Screened in</td>
<td>Screened out</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Screened in</td>
<td>Screened out</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>5</td>
</tr>
</tbody>
</table>

The Irwell management catchment contains 3 European sites.

The 3 European sites lie to the east of the Irwell management catchment, comprising the Rochdale Canal SAC, the South Pennine Moors SAC and the South Pennine Moors Phase 2 SPA. The two South Pennine Moors designated sites cover the same area, at the eastern boundary of the Irwell management catchment, to the east of Rochdale and Littleborough. The Rochdale Canal SAC is a small (~26ha) linear designation covering the Rochdale Canal from Littleborough in the north east of the catchment to Failsworth further south west, to the east of Manchester city centre.

In total there are 37 measures for the Greater Manchester FRA within the Irwell management catchment, 21 of which are new as part of the FRA FRMP, and 16 from existing plans - the Manchester and Rochdale Flood Risk Management Strategies and the River Irwell CFMP.

**New measures**

There are 21 FRA new measures for the Irwell management catchment; 3 relate to preparedness for flooding (M44) and flood risk prevention (M23) and have been screened out of the assessment; 18 are protection measures (M3) and are considered further below.

Of the 18 new protection measures, 10 relate to surface water management (M34), 2 are channel, coastal and floodplain works (M33) and 5 are other protection measures (M35)\(^{19}\).

Of the 18 new measures, 5 cover areas which are at a significant distance from the European sites in the catchment (Bolton (2), Horwich, Radcliffe and Salford). The location of these measures in the catchment mean they are not hydrologically connected to the European sites, and given also the distances to the sites, these measures are not likely to give rise to significant effects.

The remaining 13 measures are located in the area around Oldham and Rochdale, and lie in closer proximity to the European sites to the east of the Irwell management catchment, albeit downstream of the South Pennine Moors designations. With the exception of 3 measures\(^{20}\), all are aimed at addressing surface water flooding, and providing protection at the community level. Measure descriptions highlight the localised nature of these measures, which target inadequate surface water drainage / storm overflows and specific surface water culverts, with action locations targeting particular culverts and roads / highways. All of the measures are at a distance (>2km) and located downstream from the South Pennine Moors.

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\(^{19}\) One measure has been categorised as M3 – Protection, but has no further categorisation of the measure.
\(^{20}\) 1 measure is to address sewer flooding, 2 are to address flooding from rivers (main river / ordinary watercourse).
Phase 2 SPA and South Pennine Moors SAC, and also a similar distance (>2km) from the Rochdale Canal SAC.

Given the distance to the European sites and the localised nature of the measures, these are deemed to result in no likely significant effects on the European sites.

One measure lying in proximity (approximately 1km) from the upstream end of the Rochdale Canal SAC is a measure comprising a flood alleviation scheme at Littleborough. Other than a flood attenuation basin, there is no description of the measure, its nature or location, so its precise proximity and potential for hydrological interaction with the Rochdale Canal SAC is not known at this stage.

Project level control through the consenting process for this measure, and the associated requirement for consideration of project level HRA (see Table A3 in Annex A) will ensure this measure is not likely to lead to significant effect on the European site.

**Existing plan measures - Manchester Local Flood Risk Management Strategy**

Manchester Flood Risk Management Strategy (LFRMS) contains 4 measures related to preparedness for flood events (M44), which are screened out of further consideration. The remaining measures from the LFRMS comprise 7 protection measures (M32 / M33 / M34). The protection measures for this strategy lie within the administrative boundary of Manchester Metropolitan District Council, around the urban centre of Manchester city. The boundary is at a significant distance (~12km) to the west of and downstream from the South Pennine Moors Phase 2 SPA and South Pennine Moors SAC. The administrative boundary is closer to the Rochdale Canal SAC, with the eastern boundary adjacent to / along the Rochdale Canal at Moston.

The HRA for the Manchester LFRMS\(^{21}\) concluded that the Rochdale Canal SAC has limited potential to be affected by the implementation of the Strategy, and with consideration of safeguards contained within the Strategy it was concluded that the implementation of the Manchester LFRMS will not have any significant effect on the European site.

**Existing plan measures – Rochdale Flood Risk Management Strategy**

Rochdale Flood Risk Management Strategy contains 1 protection measure (M3). The protection measures for this strategy lie within the administrative boundary of Rochdale Metropolitan District Council, to the north west of Manchester city centre. The easternmost boundary of the strategy is located more than 4km from the nearest European site of the Rochdale Canal SAC, and over 11km from the South Pennine Moors SAC / Phase 2 SPA. The location of this measure means that it is not hydrologically connected to any of the European sites; given this and the distances to the sites, it is determined that the measure is not likely to give rise to significant effects.

**Existing plan measures – River Irwell CFMP**

3 of the measures are from the River Irwell CFMP, all of which are screened in as they are flood risk protection measures (M3), considered below.

\(^{21}\) Habitat Regulations Assessment of the Manchester Local Flood Risk Management Strategy, November 2013.
The River Irwell CFMP boundary is the same as the Irwell management catchment within the NW RBD FRMP. The 3 CFMP protection measures incorporated within the Irwell management catchment, implement the policies of the CFMP, which were assessed by the River Irwell CFMP HRA\textsuperscript{22}.

The CFMP HRA concluded that the policies and actions within River Irwell CFMP did not have potential to give rise to significant effects on the European sites in the catchment: the Rochdale Canal SAC and the on the South Pennine Moors SAC / SPA.

\subsection{Upper Mersey Management Catchment}

<table>
<thead>
<tr>
<th>European sites</th>
<th>New measures</th>
<th>Existing plan measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Screened in</td>
<td>Screened out</td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Screened in</td>
<td>Screened out</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>4</td>
</tr>
</tbody>
</table>

The Upper Mersey management catchment contains 6 European sites.

The 2 Ramsar sites of Rostherne Mere and Midlands Meres and Mosses – Phase 1, lie at the western boundary of the catchment, to the north of Knutsford. Both these sites are relatively small, at approximately 80ha and 512ha respectively. The two SACs and SPAs follow the same boundaries, and lie to the east of the catchment within the Peak District National Park. The Peak District Moors (South Pennine Moors Phase 1) SPA follows the SAC boundary, with the South Pennine Moors Phase 2 SPA extending further north into the Irwell and Aire & Calder management catchments to the north of the Upper Mersey catchment.

In total there are 32 measures for the Greater Manchester FRA within the Upper Mersey management catchment, 21 of which are new as part of the FRA FRMP, and 11 from existing plans - the Manchester Flood Risk Management Strategy.

\textbf{New measures}

There are 21 FRA new measures for the Upper Mersey management catchment; 2 relate to preparedness for flood events (M44) and have been screened out of further assessment. 19 are flood risk protection measures (M3) and are considered further below.

Of the 19 new protection measures, 14 are surface water management (M34), 1 is channel, coastal and floodplain works (M33) and 3 are other protection (M35)\textsuperscript{23}.

Of the 19 new measures that cover the Upper Mersey management catchment, 13 are described as covering the Irwell and the Upper Mersey management catchments in the NW FRMP. These 13 measures have been screened / assessed within the Greater Manchester FRA – Irwell Management Catchment sub-section (above), and has not been repeated here.

Of the 5 new FRA measures that cover the Upper Mersey management catchment only, all 5 fall within the administrative boundary of Stockport Metropolitan District Council, and all relate to surface water management. These new measures are to address surface water run-off, inadequate surface water drainage and culvert capacity at a local scale. None of the

\textsuperscript{22} River Irwell CFMP Appropriate Assessment, August 2008.
\textsuperscript{23} One measure has been categorised as M3 – Protection, but has no further categorisation of the measure.
European sites lie within the Stockport Council administrative boundary, with the nearest sites, the South Pennine Moors SAC and the Peak District Moors (South Pennine Moors Phase 1) SPA, approximately 3km to the east and upstream of the eastern Council boundary.

Given the localised nature of the new measures, their distance and location downstream from the South Pennine Moors SAC and the Peak District Moors (South Pennine Moors Phase 1) SPA, these measures are considered are not likely to result in significant effects on the European sites.

**Existing plan measures – Manchester Local Flood Risk Management Strategy**

There are 11 FRA measures for the Upper Mersey management catchment from existing plans - the Manchester Local Flood Risk Management Strategy; 4 measures are screened out as they relate to preparedness for flood events (M44). 7 measures are screened in as they relate to flood risk protection (M32 / M33 / M34), and are considered further below.

The 7 measures are the same as those for the Irwell management catchment from the Manchester Local Flood Risk Management Strategy, which also apply to the Upper Mersey management catchment. The HRA for the Manchester LFRMS concluded that only the Rochdale Canal SAC has limited potential to be affected by the implementation of the strategy, and with consideration of safeguards contained within the strategy it was concluded that the implementation of the Manchester LFRMS will not have any significant effect on the European site. No other European sites were predicted to be affected the measures within the strategy.

### 6.2.3 Lower Mersey 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>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Screened in</td>
<td>Screened out</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

The Lower Mersey management catchment contains 12 European sites.

The 12 European sites lie predominantly to the west of the Lower Mersey management catchment, and are predominantly marine / estuarine sites, within or adjacent to the Mersey Estuary and within Liverpool Bay. The one exception to this is the Manchester Mosses SAC, which comprises several small areas of designated land (total area ~171ha) to the north east of Warrington and on the southern border of the catchment with Weaver Gowy management catchment to the south.

In total there are 7 measures for the Greater Manchester FRA within the Lower Mersey management catchment, all 7 of which are new as part of the FRA FRMP.

**New measures**

There are 7 FRA new measures for the Lower Mersey management catchment, 1 relates to flood risk prevention (M23), 2 relate to preparedness for flood events (M44) and have been screened out of the assessment. 4 relate to flood risk protection (M3) and are screened in for further assessment, considered further below.
Of the 4 screened in measures, 1 is channel, coastal and floodplain works (M33), 1 is surface water management (M34), and 2 are other protection (M35).

All of the screened in measures target surface water flooding, with one also addressing flooding from an ordinary watercourse. Three of the measures are located near to or upstream of Bolton and in Horwich, to the north eastern end of the Lower Mersey management catchment at its borders with the Irwell and Douglas catchments. These three measures are at the opposite end of the Lower Mersey catchment to majority of the designations, and at significant distance north (>10km) to the nearest European site in the catchment, the Manchester Mosses SAC. The remaining measure is local to the Swinton area, to address surface water flooding, to the east of the boundary of the Irwell and Lower Mersey management catchments, over 5km to the east of the nearest European site in the catchment, and is therefore considered not likely to result in significant effect.

### 6.2.4 Douglas Management Catchment

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

The Douglas management catchment contains 2 European sites.

The 2 European sites are the Ribble & Alt Estuaries SPA and Ramsar site, which follow the same site boundaries, and lie at the north western end of the Douglas catchment, at its boundary to the Ribble and Alt and Crossens management catchment. The SPA and Ramsar site cover the inter-tidal area of the Ribble Estuary and extend part-way up the River Douglas in proximity to the Ribble Estuary.

In total there are 4 measures for the Greater Manchester FRA within the Douglas management catchment, all 4 of which are new as part of the FRA FRMP.

**New measures**

There are 4 FRA new measures for the Douglas management; 3 are screened in as they relate to flood risk protection (M33 / M34 / M25); 1 is screened out as it relates to flood risk prevention (M23).

The three screened in measures all target surface water flooding, with one also addressing flooding from an ordinary watercourse. The three measures are located near to or upstream of Bolton and in Horwich, at the eastern end of the Douglas management catchment at its border with the Irwell catchment. All three measures are at the opposite end of the Douglas management catchment to the Ribble & Alt Estuaries SPA and Ramsar site.

Given the distance of these measures to the European sites in the Douglas catchment they are considered not likely to result in significant effects on the European sites.

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24 The Douglas management catchment is not within the boundary of the Greater Manchester FRA, but there are measures within the Douglas catchment for the purpose of managing flood risk within the Greater Manchester FRA.
6.3 Consideration of results and conclusion

The assessment of likely significant effects has been carried out for each catchment in the FRA in turn, and considered the risks to European sites and existing controls in place for existing plans as well as the potential risks in the development of future local actions related to new strategic development measures for the next FRMP cycle.

In all catchments the conclusions are that measures are sufficiently distant from European sites as not present a risk or that likely significant effects will 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.

The 15 measures of the FRA from existing Greater Manchester LLFA local strategies have referenced control requirements under the planning and consenting regulations that will ensure project level HRAs are carried out when and where relevant.

43 of the 44 new measures for the FRA are at this stage considered to not lie in proximity to the European sites of the four management catchments. The remaining measure is strategic within the Rochdale area, without a clear location and therefore proximity to European sites is unknown. Project level controls will be required when these are developed as local actions, if in proximity to European sites.

6.3.1 Conclusion

At this strategic-plan level of the Greater Manchester FRA 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.
7 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:

- The RBD FRMP with the FRA FRMP
- 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.

7.1 RBD and FRA FRMPs

FRAs geographically overlay one or more RBD catchments and as distinct ‘plans’ addressing local flood sources may have measures that coincide with wider RBD catchment measures addressing flooding from main rivers, sea and reservoirs. Together these measures have the potential to cause in-combination effects on nearby European sites depending on their nature, location and relationship. At the strategic-plan level of the HRA such in-combination effects on specific European sites in unable to be considered. Instead the HRA highlights where risks of in-combination effects may in general be higher and which project level assessments should consider further as follows:

- Most FRAs are in urban areas where there are less European sites present so most measures are less likely to be in proximity to them
- Most measures in FRAs are drawn from existing plans (local strategies and surface water management plans) that will have considered their flood management
measures alongside any in the same strategic area under CFMPs and SMPs, including any in-combination effects on European sites in any HRA.

- The combination of measures with highest risks of in-combination effects not considered under existing plans, will be where there are specific improvement measures that are new in the FRMP under both the RBD catchment (main river/sea flooding) and the FRA (local flooding) that are in close proximity to each other and a European site.

7.2 In-combination effects between RBD FRMPs

The North West RBD shares a border with four other RBDs:

- Solway and Tweed in the north east
- Humber to the east
- Severn to the south (a relatively short border)
- Dee to the south west.

There are some European sites that span these borders of the North West RBD. In the case of the Severn, only small isolated sites can be found either side of the border that together contribute to the Midlands Meres and Mosses Ramsar and SAC sites.

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.

7.3 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. The approach taken was to identify 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:** United Utilities have produced the water resource plan for the North West 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 was undertaken on the plan for the North West and concluded that the plan will have no significant effects on European sites alone or in combination with other known plans and projects.

**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 West Inshore’ and therefore it is not possible to consider the potential for in-combination effects further. However, it is likely that North West Inshore Marine Plan will have been produced when some of the projects arising from this FRMP are assessed, and may therefore need to be assessed in combination with the plan as part of a project-level HRA.
8 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 each of the 3 RMA plans: North West RBD FRMP and the 2 FRA FRMPs: Liverpool and Sefton and Greater Manchester. The HRA 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.
### ANNEX A

#### 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>
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</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 environment such as enhancing artificial drainage capacity or through SuDS</td>
<td>In</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>
<tr>
<td>Measure code</td>
<td>Measure description</td>
<td>Screened in or out</td>
<td>Justification</td>
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<tr>
<td>M4 Preparedness</td>
<td></td>
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</tr>
<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>Measures do not comprise or result in physical changes or interventions.</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>Measures do not comprise or result in physical changes or interventions.</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>Measures do not comprise or result in physical changes or interventions.</td>
</tr>
<tr>
<td>M5 Recovery and review</td>
<td></td>
<td></td>
<td></td>
</tr>
<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>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>M53</td>
<td>Other recovery, review and lessons learnt from flood events, insurance policies.</td>
<td>Out</td>
<td></td>
</tr>
<tr>
<td>M6 Other</td>
<td></td>
<td></td>
<td></td>
</tr>
<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>
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</tr>
</tbody>
</table>
| Alt and Crossens     | Sefton Coast SAC  
                        | Ribble & Alt Estuaries SPA  
                        | Ribble & Alt Estuaries Ramsar site  
                        | Martin Mere SPA  
                        | Martin Mere Ramsar site | Lower Mersey | Manchester Mosses SAC  
                        | Seton Coast SAC  
                        | Liverpool Bay SPA  
                        | Mersey Estuary SPA  
                        | Mersey Estuary Ramsar site  
                        | Mersey Narrows & North Wirral Foreshore SPA  
                        | Mersey Narrows & North Wirral Foreshore Ramsar site  
                        | Dee Estuary SAC  
                        | The Dee Estuary SPA  
                        | The Dee Estuary Ramsar site  
                        | Ribble & Alt Estuaries SPA  
                        | Ribble & Alt Estuaries Ramsar site |
| Derwent North West   | Asby Complex SAC  
                        | Borrowdale Woodland Complex SAC  
                        | Lake District High Fells SAC  
                        | North Pennine Dales Meadows SAC  
                        | River Derwent & Bassenthwaite Lake SAC  
                        | Solway Firth SAC  
                        | Clint's Quarry SAC  
                        | Upper Solway Flats & Marshes SPA  
                        | Upper Solway Flats & Marshes Ramsar site | Ribble | South Pennine Moors SAC  
                        | South Pennine Moors Phase 2 SPA  
                        | Bowland Fells SPA  
                        | Ribble & Alt Estuaries SPA  
                        | Ribble & Alt Estuaries Ramsar site  
                        | Ingleborough Complex SAC  
                        | North Pennine Dales Meadows SAC |
| Douglas              | Ribble & Alt Estuaries SPA  
                        | Ribble & Alt Estuaries Ramsar site | South West Lakes | Drigg Coast SAC  
                        | Duddon Mosses SAC  
                        | River Ehen SAC  
                        | Wast Water SAC  
                        | Duddon Estuary SPA  
<pre><code>                    | Duddon Estuary Ramsar site |
</code></pre>
<table>
<thead>
<tr>
<th>Management Catchment</th>
<th>European site</th>
<th>Management Catchment</th>
<th>European site</th>
</tr>
</thead>
</table>
| Irwell               | - Rochdale Canal SAC  
- South Pennine Moors SAC  
- South Pennine Moors Phase 2 SPA | Upper Mersey | - Rixton Clay Pits SAC  
- South Pennine Moors Phase 2 SPA  
- Midland Meres & Mosses - Phase 1 Ramsar site  
- Rostherne Mere Ramsar site |
| Kent and Leven       | - Morecambe Bay SAC  
- Morecambe Bay SPA  
- Morecambe Bay Ramsar site  
- Morecambe Bay Pavements SAC  
- River Kent SAC  
- Roudsea Wood & Mosses SAC  
- Subberthwaite, Blawith & Torver Low Commons SAC  
- Witherslack Mosses SAC  
- Yewbarrow Woods SAC  
- Leighton Moss SPA  
- Leighton Moss Ramsar site  
- Esthwaite Water Ramsar site  
- North Pennine Dales Meadows SAC  
- Lake District High Fells SAC | Weaver Gowy | - Oak Mere SAC  
- Manchesterosses SAC  
- Rixton Clay Pits SAC  
- West Midlands Mosses SAC  
- South Pennine Moors SAC  
- Peak District Moors (South Pennine Moors Phase 1) SPA  
- Midland Meres & Mosses Phase 1 Ramsar site  
- Midland Meres & Mosses Phase 2 Ramsar site  
- Mersey Estuary SAC  
- Mersey Estuary SPA |
| Lune                 | - Calf Hill & Cragg Woods SAC  
- Ingleborough Complex SAC  
- Bowland Fells SPA  
- Morecambe Bay SAC  
- Morecambe Bay SPA  
- Morecambe Bay Ramsar Site  
- Morecombe Bay Pavements SAC  
- North Pennine Dales Meadows SAC  
- Asby Complex SAC  
- Lake District High Fells SAC | Wyre | - Morecambe Bay SAC  
- Morecambe Bay SPA  
- Morecambe Bay Ramsar site  
- Bowland Fells SPA |
|                      |               |                      |               |
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Table A3 Mitigation and Control Measures

<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, and if likely significant effects predicted, Regulation 73 of the Habitats Regulations places a condition of
<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 |
<table>
<thead>
<tr>
<th>Flooding source</th>
<th>Legal / consenting processes and consideration of Habitats Regulations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>• 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.</td>
</tr>
<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></td>
<td>• 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).</td>
</tr>
<tr>
<td></td>
<td>• 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></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</td>
</tr>
<tr>
<td>Flooding source</td>
<td>Legal / consenting processes and consideration of Habitats Regulations</td>
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</tr>
<tr>
<td></td>
<td>address flooding from rivers (main river / ordinary watercourses).</td>
</tr>
<tr>
<td></td>
<td>• 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></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>
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<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>
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<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>
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<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>
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<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>
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### Annex B – North West RBD European sites

<table>
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<tr>
<th>Site ID</th>
<th>Name of Site</th>
<th>SPA, SAC, Ramsar</th>
<th>Area (ha)*</th>
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</table>

* 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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