



# Managing the risk of flooding in the North West River Basin District

What's being planned and when

We are the Environment Agency. We protect and improve the environment and make it a better place for people and wildlife.

We operate at the place where environmental change has its greatest impact on people's lives. We reduce the risks to people and properties from flooding; make sure there is enough water for people and wildlife; protect and improve air, land and water quality and apply the environmental standards within which industry can operate.

Acting to reduce climate change and helping people and wildlife adapt to its consequences are at the heart of all that we do.

We cannot do this alone. We work closely with a wide range of partners including government, business, local authorities, other agencies, civil society groups and the communities we serve.

Published by:

Environment Agency  
Horizon house, Deanery Road,  
Bristol BS1 5AH  
Email: [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk).

Further copies of this report are available from our publications catalogue: <https://www.gov.uk/government/organisations/environment-agency> or our National Customer Contact Centre: T: 03708 506506

© Environment Agency 2014

All rights reserved. This document may be reproduced with prior permission of the Environment Agency.

# Foreword

Over the next two years, the Environment Agency will be undertaking considerable planning work, culminating in the publication of Flood Risk Management Plans (FRMPs) and updated River Basin Management Plans (RBMPs). Together, these plans will shape important decisions, direct considerable investment and action and deliver significant benefits to society and the environment.

RBMPs identify the state of, and pressures on, the water environment. They consider the technical and economic viability of beneficial actions, set objectives and coordinate/monitor delivery of agreed actions. In so doing they set direction to maintain and improve the quality of all surface, ground water and coastal waters.

FRMPs identify the risk from flooding and set out objectives and measures for managing that risk. In so doing, they aggregate information about all sources of flooding - and coastal erosion where appropriate - to better inform prioritisation, decision making and work programming.

The Environment Agency, Local Authorities, Water Companies, and Highways Authorities carry out a 'Risk Management Authority' role in relation to flooding. We all work together to help communities and businesses understand their flood risk, deliver solutions to minimise this and support them to adapt to flooding and become more resilient, if the worst should happen.

Recently published information about the areas that get flooded and what's affected by the flooding means that understanding of flood risk is improving. We and other risk management authorities are in a good position to set out, with communities, how best to manage the risk of flooding. Planning to manage flood risk is something that the Environment Agency and Lead Local Flood Authorities are already doing in partnership but now the Environment Agency is setting out plans for flood risk management across each river basin district. These river basin districts (RBDs) are areas identified to manage the water environment effectively. Each RBD has a defined drainage area so that what happens in one RBD is independent of another: this document covers the North West RBD.

This document is not a consultation, but it highlights the scope of those plans: what sources of flooding are included and what consultation the Environment Agency and Lead Local Flood Authorities are carrying out on those draft plans.

The Environment Agency will be consulting on a draft flood risk management plan for the whole of North West RBD that sets out the objectives and measures we are proposing to manage flood risk. The draft plan will also include objectives and measures that some Lead Local Flood Authorities are also proposing. The draft plan will include:

- flooding issues for main rivers, the sea and reservoirs across the whole of the RBD
- flooding issues for local sources (ordinary watercourses, surface water and groundwater) for No. 10 Lead Local Flood Authority areas as a statutory requirement
- flooding issues for local sources (ordinary watercourses, surface water and groundwater) for No. 22 Lead Local Flood Authority areas included on voluntary basis

Consultation on the draft FRMP will be from September 2014 to December 2014. We will publish the final FRMPs in December 2015.

In addition, the following Lead Local Flood Authorities will prepare separate FRMPs as a statutory requirement, covering local sources of flooding and consult on those as set out below.

- Sefton Council: consultation dates are yet to be decided

This Scoping Report sets out the approach to the Strategic Environmental Assessment and we have consulted the statutory environmental bodies in developing it.

We hope that in understanding what plans are being developed, by whom and when, you will be able to join us in shaping those flood risk management plans, and be part of a more resilient country.

**Steve Moore**

Director of Operations North and East, Environment Agency

**Mark Sitton-Kent**

Director of Operations West, Environment Agency

# Table of Contents

<b>Foreword</b> .....	<b>3</b>
<b>1. Why produce this document</b> .....	<b>6</b>
<b>2. How we plan for flood and coastal erosion risk</b> .....	<b>7</b>
<b>3. What planning is happening now</b> .....	<b>10</b>
<b>4. What this means for the North West River Basin District</b> .....	<b>11</b>
<b>5. Strategic environmental assessment</b> .....	<b>17</b>
<b>References</b> .....	<b>20</b>
<b>Annex 1: A summary of information for inclusion in the Flood Risk Management Plan</b> .....	<b>21</b>
Table A1. Information compiled by the Environment Agency related to flooding from rivers, the sea and reservoirs, and by local authorities related to coastal erosion risk management .....	25
Table B1. Information compiled by Lead Local Flood Authorities related to 'local' sources of flooding (ie flooding surface water, groundwater and ordinary watercourses) .....	27
<b>Annex 2 Results of SEA scoping process</b> .....	<b>30</b>
<b>Annex 3: Policies, plans and programmes to be considered by the Strategic Environmental Assessment</b> .....	<b>31</b>
<b>Annex 4: Environmental Baseline Summary to be considered by the Strategic Environmental Assessment</b> .....	<b>33</b>

# 1. Why produce this document

The impacts of flooding on homes and businesses, the communities directly affected, are clear, but flooding can have a much wider indirect effect. We want communities to be actively involved in planning for managing the risk posed by floods.

## **Box 1. The purpose of this document**

This document is not a consultation. It sets out:

- what flood risk planning is going on across the river basin district
- the timing of specific consultations
- which organisations lead on those consultations

By highlighting these activities early on we hope that you will get involved in shaping the plans and be part of managing the risk from floods.

The document also includes the proposed scope of the strategic environmental assessments for the plan that we are preparing. We are sharing our proposals with statutory environmental bodies so they can help shape our proposed approach.

## 2. How we plan for flood and coastal erosion risk

### Legislation and strategy in England

The [roles and responsibilities](#) of different flood risk management authorities (RMAs) in England and Wales are set out in the [Flood and Water Management Act, 2010](#). This act also requires the Environment Agency to set out the approach to managing flood and coastal erosion risk in England in a [National Flood and Coastal Erosion Risk Management Strategy for England](#). This strategy aims to improve flood and coastal erosion risk management for communities and businesses, and deliver greater environmental gain. The Strategy also establishes ways of working for risk management authorities:

- focusing on communities and working in partnership
- co-ordinating across management catchments and coastlines
- considering sustainability issues
- taking a proportional, risk-based approach
- seeking to deliver multiple benefits
- encouraging beneficiaries to contribute to invest in flood risk management

### European requirements

In addition, the [European Floods Directive](#) aims to provide a consistent approach to managing flood risk across Europe. The Directive is implemented through the [Flood Risk Regulations 2009](#) and we are currently in the first cycle of planning which means Flood Risk Management Plans (FRMPs) need to be prepared by December 2015.

### How we are delivering Flood Risk Management Plans

Our [previous consultation](#)<sup>6</sup> on the approach to developing Flood Risk Management Plans in England and Wales considered options for delivering FRMPs. See the [findings from that consultation](#)<sup>7</sup>. In parallel to flood risk management planning, we also work with others to improve the quality of the water environment through River Basin Management Planning. As we develop FRMPs we aim to co-ordinate effectively with the River Basin Management Planning so we and others can deliver more for the environment.

#### **Box 2. Co-ordinating Flood Risk Management Planning with River Basin Management Planning**

The Environment Agency leads on the development of Flood Risk Management Plans and River Basin Management Plans.

We aim to co-ordinate our work effectively, and support others to do the same, so that we can do more for the environment when we manage flooding.

If you want to know more about River Basin Planning, or get involved, visit our [web site](#)<sup>9</sup>.



The National Flood and Coastal Erosion Risk Management Strategy for England provides a national framework for all Risk Management Authorities to work within. A hierarchy of strategic and tactical plans then establish the governance and approach for the various RMAs to delivering the aims and objectives of the national strategy.

The table below summarises the main plans and who leads on them.

**Table 1: Flood and coastal erosion risk management plans and strategies**

Plan or Strategy	Purpose and scope of plan or strategy	Drivers	Lead authority
<a href="#">The National Flood and Coastal Erosion Risk Management Strategy for England</a> <sup>18</sup>	The approach to managing flood and coastal erosion risk in England.	Statutory requirement under the Flood and Water Management Act 2010.	Environment Agency.
<a href="#">Flood Risk Management Plans</a> <sup>10</sup> (FRMPs)	To manage the risk of flooding from rivers, the sea, reservoirs, surface water and groundwater.  These may be separate plans for Flood Risk Areas that need to be co-ordinated across each river basin district in the whole of England.	Required under the European Floods Directive; implemented in England by the Flood Risk Regulations 2009.  FRMPs for this first cycle of planning must be published by December 2015.	Lead Local Flood Authorities for flooding from surface water, groundwater and ordinary watercourses.  Environment Agency for flooding from main rivers, the sea and reservoirs.
<a href="#">Local Flood Risk Management Strategy</a> <sup>11</sup>	To manage local flood risk in each Lead Local Flood Authority across the whole of England. These also include objectives and measures for the management of local flood risk (i.e. from surface water, groundwater and ordinary watercourses).	Statutory requirement under the Flood and Water Management Act 2010.  No statutory deadline for production.	All Lead Local Flood Authorities must prepare a Local Flood Risk Management Strategy.
<a href="#">Surface Water Management Plans</a> <sup>12</sup> (SWMPs)	To establish preferred approach to managing surface water flooding.	Voluntary plans for co-ordinated measures to manage surface water flooding.	Likely to be Lead Local Flood Authorities, in partnership with others.
<a href="#">Catchment Flood Management Plans</a> <sup>13</sup> (CFMPs)	Current and future inland flood risk management across all catchments.  These plans set out preferred policies for inland flooding in England and Wales.	Voluntary plans.  Published in 2009-10.	Environment Agency



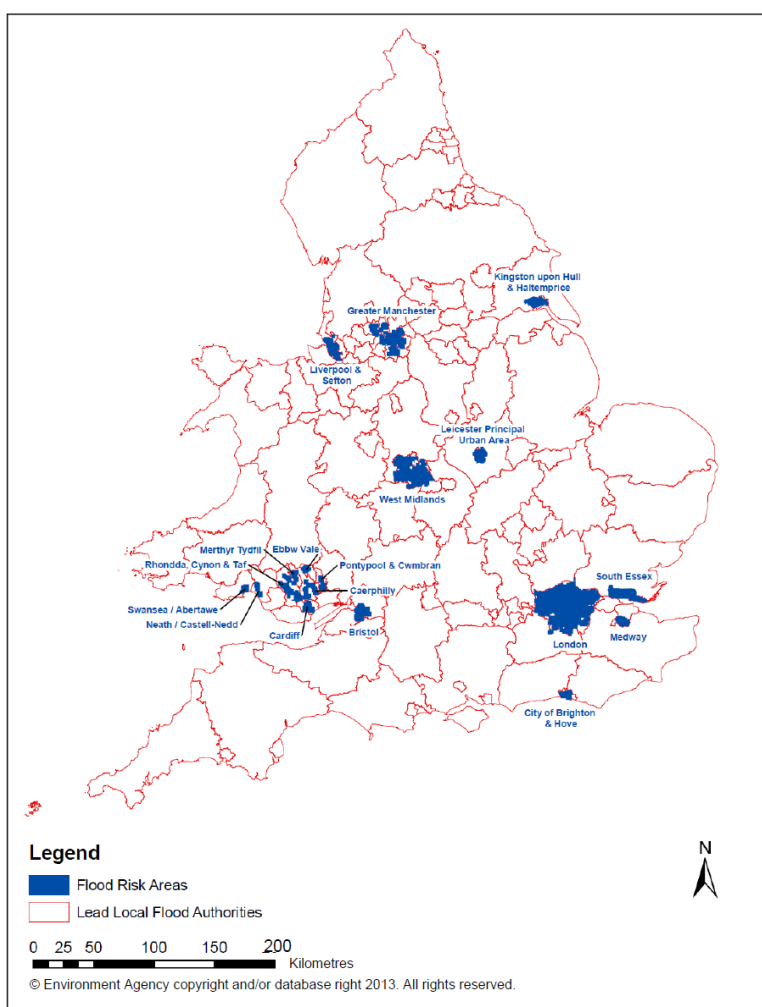
<a href="#">Shoreline Management Plans</a> <sup>14</sup> (SMPs)	<p>Current and future flood and coastal erosion risk management along the coastline.</p> <p>These plans set out preferred policies for the coastline of England and Wales.</p>	<p>Voluntary plans.</p> <p>Second round of SMPs published in 2010-13.</p>	<p>Coastal Groups.</p>
<a href="#">Other river, estuary and coastal investment strategies</a> <sup>15</sup>	<p>Outline investment proposals for flood and coastal erosion risk management. Prepared to support an investment proposal for funding.</p>	<p>Voluntary plans.</p>	<p>Operating authorities.</p>
<b>Water Level Management Plans (WLMPs)</b>	<p>Approach to managing water levels in environmentally sensitive areas. These plans are developed to enable agreement between different users of water.</p>	<p>Voluntary plans.</p>	<p>Drainage Boards, other operating authorities and land owners</p>
<a href="#">Reservoir Flood Plans</a> <sup>16</sup>	<p>These include on-site and off-site flood plans that set out procedures for the management of flood risk in the event of an emergency.</p> <p>On-site plans deal with the management of the on-site risk and off-site plans deal with the risk in areas adjacent to the reservoir.</p>	<p>Voluntary plans.</p>	<p>On-site Flood Plans are developed by the owners of the reservoir.</p> <p>Off-site Flood Plans are developed by the Local Resilience Forums.</p>
<a href="#">Long-Term Investment Strategy</a> <sup>17</sup>	<p>Long-term strategic assessment of funding scenarios for flood and coastal erosion risk management. This evidence is used to support government's decision making on funding as part of periodic spending reviews.</p>	<p>Voluntary plans.</p>	<p>Environment Agency.</p>

### 3. What planning is happening now

Flood risk management planning is something that Risk Management Authorities (RMAs) do already, domestic legislation, in particular the Flood and Water management Act 2010 supports this, as does new European Floods Directive. The Floods Directive aims to provide a consistent approach to managing flood risk across Europe. The Directive is implemented through the Flood Risk Regulations and we are currently in the first cycle of planning which means Flood Risk Management Plans (FRMPs) need to be prepared by December 2015.

For this cycle of plans, Lead Local Flood Authorities (LLFAs) need to prepare Flood Risk Management Plans that cover local sources of flooding (i.e. from surface water, groundwater and ordinary watercourses) for the 10 Flood Risk Areas<sup>1</sup> in England and eight in Wales (see Figure 1). The Environment Agency, and Natural Resources Wales need to prepare FRMPs, for main rivers the sea and reservoirs covering the whole of England and Wales.

FRMPs are important because they set out how risk management authorities and communities will work together to reduce the impacts of flooding.



*Note:*

*All Lead Local Flood Authorities (upper tier and single tier authorities) under took a Preliminary Flood Risk Assessment in 2011 to prioritise planning for flood risk management. They determined a number of areas where local flooding was particularly significant (Figure 1). The priority for the first planning cycle under the Flood Risk Regulations is to prepare FRMPs by December 2015 for these "Flood Risk Areas".*

*All Lead Local Flood Authorities also need to prepare Local Flood Risk Management Strategies but there is no statutory deadline to develop these.*

**Figure 1: Flood Risk Areas in England and Wales**

<sup>1</sup> Flood Risk Areas have been identified through a Preliminary Flood Risk Assessment published in December 2011. In this first cycle of planning, to 2015, LLFAs are only required to prepare FRMPs in Flood Risk Areas (as described in [Government guidance](#)).

# 4. What this means for the North West River Basin District

## Overview

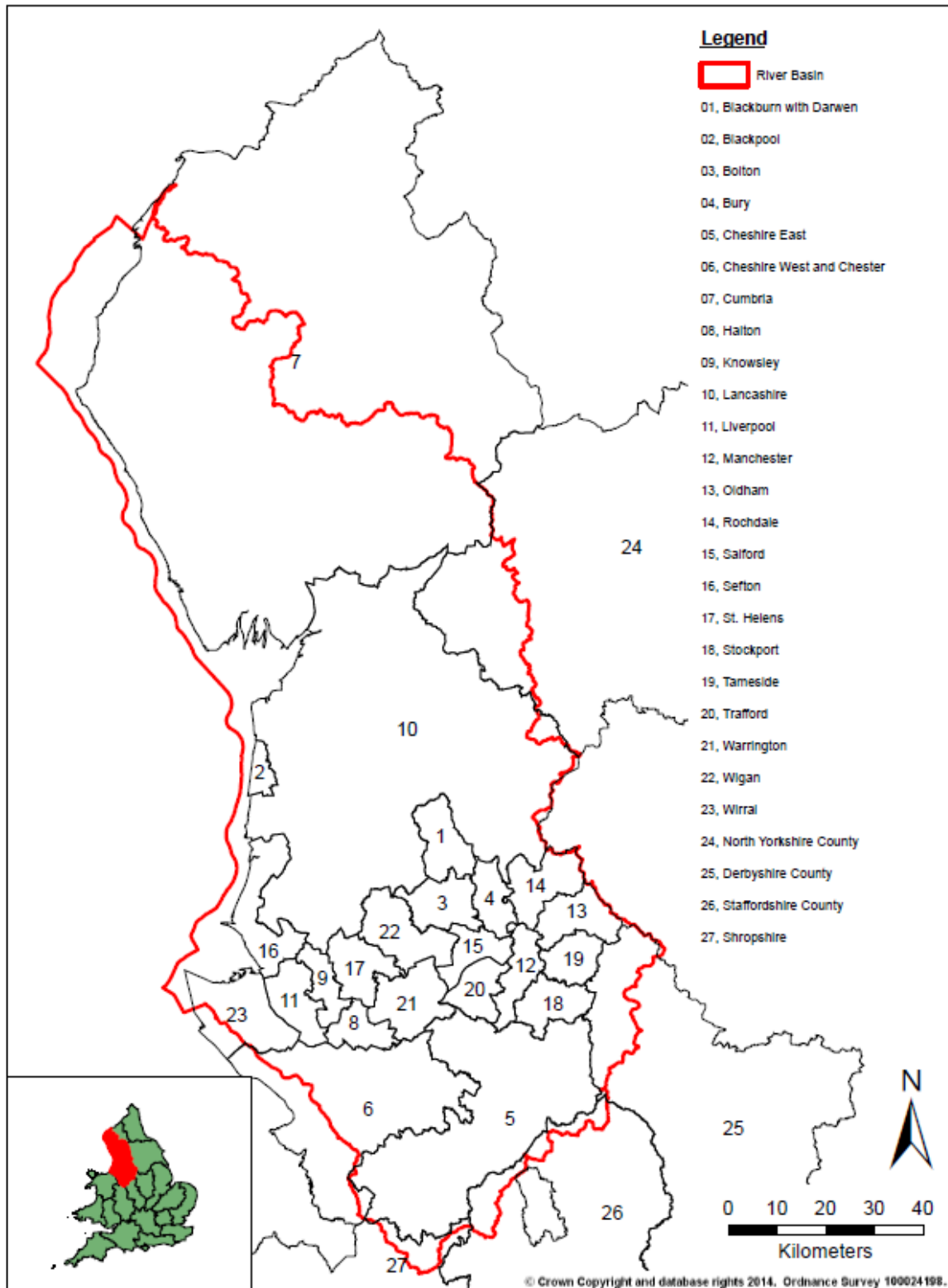
The Environment Agency and LLFAs can develop separate plans for managing the risk from the various sources of flooding for which each is responsible. This means that LLFAs can prepare FRMPs that deal with flooding from surface water, groundwater and ordinary watercourses, while the Environment Agency will prepare FRMPs that deal with flooding from main rivers the sea and reservoirs. Alternatively, LLFAs can decide to prepare FRMPs jointly with the Environment Agency so that, in those areas, the plans cover all sources of flood risk.

While the Flood Risk Regulations only require LLFAs to prepare FRMPs by December 2015 for areas defined as Flood Risk Areas (see Figure 1), all LLFAs are already required under the Flood and Water Management Act to prepare Local Flood Risk Management (FRM) Strategies for their area (see Table 1). These Local FRM Strategies also need to consider the management of flooding from surface water, ground water and ordinary watercourses. The Environment Agency has to prepare FRMPs for the whole of each river basin district.

Some LLFAs outside significant Flood Risk Areas have chosen to prepare FRMPs jointly with the Environment Agency, on a voluntary basis. These LLFAs are using their Local FRM Strategies and sharing a more complete picture of flood and coastal erosion risk management by including flooding from all sources.

Lead Local Flood Authority areas are shown in Figure 2.

**Figure 2: LLFAs in North West River Basin District**



Box 3, and Figure 3 below, shows the LLFAs within the North West River Basin District (RBD) which have included within the FRMP for the North West RBD the management of flooding from surface water, groundwater and ordinary watercourses as well as flooding from main rivers, the sea and reservoirs included by the Environment Agency. They also show the Flood Risk Area for which a separate FRMP will be prepared by the LLFA.

In developing Flood Risk Management Plans, we would also like to include information about coastal erosion risk management that is set out within Shoreline Management Plans. In this way, risk management authorities can share information about all sources of flooding and coastal erosion risk management in one place, in a way that is more accessible to the various authorities involved in planning, as well as interested communities and the public.

Annex 1 lists the plans and strategies that have been drawn from to develop the draft FRMP for the North West RBD, and the dates of previous consultation.

### **Box 3. FRMPs in the North West RBD being prepared and consulted on**

For the North West River Basin District, for the first cycle of planning under the Flood Risk Regulations, risk management authorities will prepare the following plans and consult the public on draft plans during the dates set out below:

#### **Consultation from September 2014 to December 2014 on a draft single Flood Risk Management Plan for the North West RBD that covers:**

- flooding from main rivers the sea and reservoirs for the RBD (as Statutory requirement)
- coastal erosion risk management (as Voluntary information)
- all sources of flooding for the following areas:
  - Bolton Council (as Statutory requirement)
  - Bury Council (as Statutory requirement)
  - Manchester City Council (as Statutory requirement)
  - Oldham Council (as Statutory requirement)
  - Rochdale Borough Council (as Statutory requirement)
  - Salford City Council (as Statutory requirement)
  - Stockport Council (as Statutory requirement)
  - Tameside Metropolitan Borough Council (as Statutory requirement)
  - Trafford Council (as Statutory requirement)
  - Liverpool Council (as Statutory requirement)
  - Blackburn with Darwen Borough Council (as Voluntary information)
  - Blackpool Council (as Voluntary information)
  - Cheshire East Council (as Voluntary information)
  - Cheshire West and Chester Council (as Voluntary information)
  - Cumbria County Council (as Voluntary information)
  - Halton Borough Council (as Voluntary information)
  - Knowsley Council (as Voluntary information)
  - Lancashire County Council (as Voluntary information)
  - St Helens Metropolitan Borough Council (as Voluntary information)
  - Warrington Borough Council (as Voluntary information)
  - Wigan Council (as Voluntary information)
  - Wirral Council (as Voluntary information)
  - North Yorkshire County Council. (as Voluntary information)
  - Staffordshire County Council (as Voluntary information)
  - Derbyshire County Council (as Voluntary information)

## **PLUS**

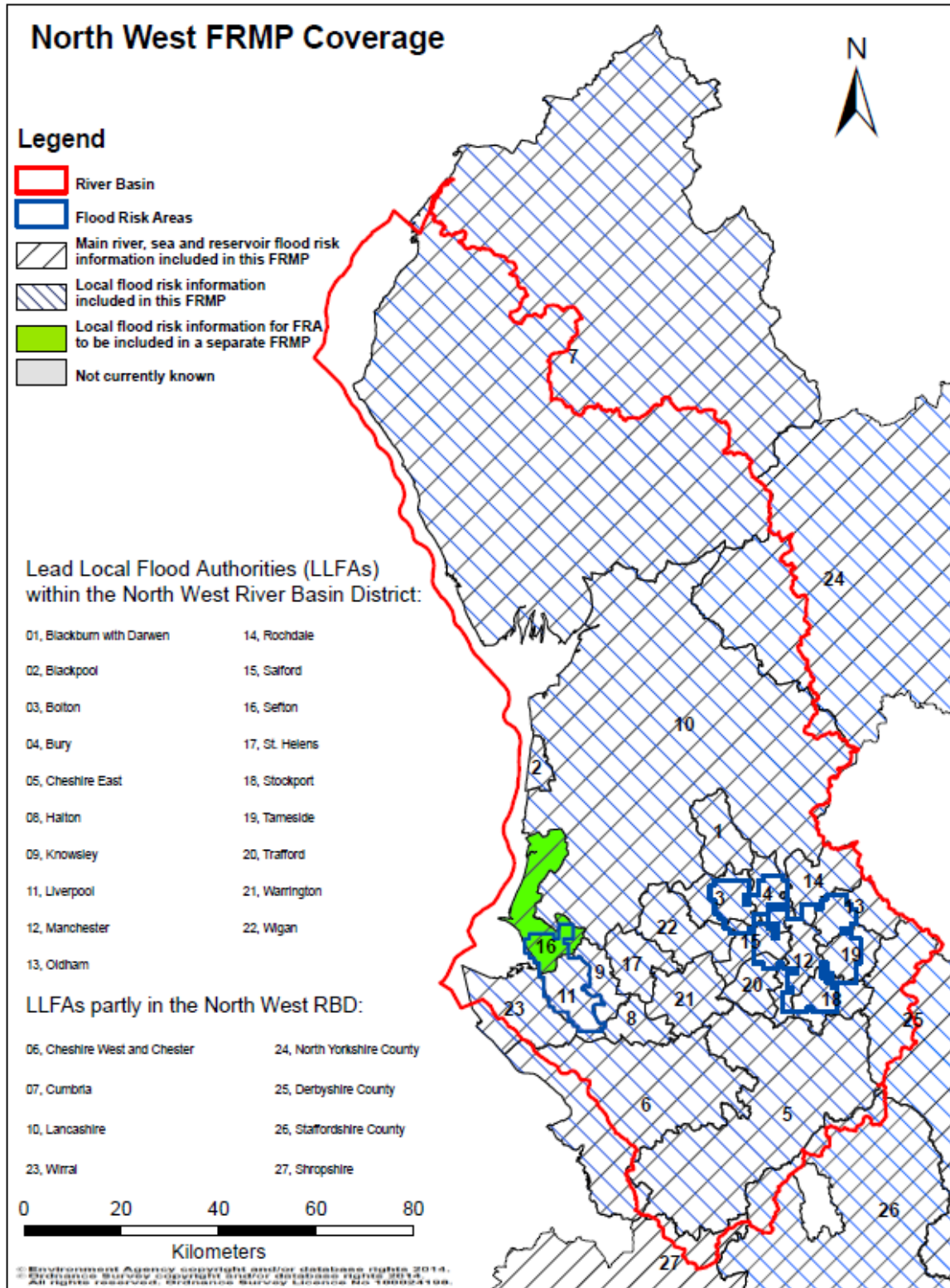
**Consultation from October 2014 to December 2014 on a separate draft Flood Risk Management Plan that covers only local sources of flooding for the following areas:**

- Sefton Council (as Statutory requirement)

These areas and sources of flood risk are shown in Figure 3.



**Figure 3: Scope of Flood Risk Management Planning for North West River Basin District**



# 5. Strategic environmental assessment

The primary purpose of a strategic environmental assessment (SEA) is to ensure that wider environmental effects are considered during the development of a plan. SEA aims to contribute to a higher level of protection of the environment and promote sustainable development. The relevant legislation sets out the [requirements for SEA](#)<sup>19</sup>.

The FRMP for each river basin district is intended to bring together information from a number of plans covering different sources of risk, prepared by different authorities across the river basin district. A list of the plans from which information has been drawn to compile the FRMP, alongside a record of any SEA reports, is shown in Annex 1.

SEA is a statutory requirement under the SEA Regulations for FRMPs. For the joint information brought together in the FRMP from Risk Management Authorities, the Environment Agency proposes that the scope will need to include:

1. a high level assessment at the river basin district scale of all objectives and measures brought together in the draft FRMP
2. a detailed assessment at a more local scale of any new measures or changes to measures in existing plans where they may have significant effects on the wider environment

As the lead for the FRMP, the Environment Agency will consider the effects of the plan at the catchment scale to ensure that we consider how any nationally designated environmental features would be affected. We consider it more appropriate that local designations are considered at lower tiers of planning or within projects.

We will refine our approach to SEA by taking into consideration the views of statutory bodies in response to scoping letters and will continue to work with them on this.

## A high level assessment of the FRMP for each RBD

The high level assessment covering the RBD will consist of:

- a summary of baseline information covering environmental and social indicators of current status and trends for the North West RBD, and we will take into account any significant changes that might influence decisions that had been taken in previous plans. See Annex 4.
- a summary of other policies and plans that will have an influence on the objectives of the FRMP or will be influenced by it. See Annex 3.
- a high level assessment of the appropriate objectives, measures and actions included in the FRMP

## Detailed assessment of flood risk management measures

Risk Management Authorities will be responsible for considering if the high-level assessment of the whole FRMP is sufficient for the information they are proposing in the FRMP or if further more detailed assessment is required. As part of this consideration, a scoping exercise may be applied to any changes to a measure or action drawn from an existing plan and to any new measures included in the FRMP, for example from an analysis of communities at risk. This would identify whether such measures are likely to have significant environmental effect and will need a more detailed environmental assessment. The results of the first stage of the scoping exercise undertaken on Environment Agency information is set out in Table A2, Annex 2.

## How the SEA high level and detailed assessment relate to the FRMP content

Table 3 outlines the content of the draft FRMP and describes the parts of the FRMP that will be included in the SEA.

**Table 3: Proposed scope of the assessment**

<b>Content of the FRMP</b>	<b>Will it be considered in the high level SEA i.e. for the whole plan?</b>	<b>Will a more detailed assessment be required i.e. at the measure level?</b>
<b>Flood risk maps</b>	No, this provides factual information	No
<b>Flood risk management objectives</b>	Yes, we will assess the likely impacts of our objectives. This will be a high-level assessment at a river basin district scale.	No
<b>Flood risk management measures</b>	Yes, we will provide a summary of the significant environmental effects and use this to help identify cumulative impacts.	A scoping exercise will be undertaken to consider whether measures are likely to have significant environmental effects and consider existing evidence. If significant environmental effects are likely then a more detailed assessment will be carried out. If significant environmental effects are not likely then they will not be included in the assessment. The scoping exercise will be clearly documented in the Environmental Report.
<b>Flood Risk Area FRMP</b>	Yes, we will provide a summary of the significant environmental effects and use this to help identify cumulative impacts.	Plan owner to decide.

## Other policies and plans

We have set out the plans that we consider to be relevant to the River Basin District in Annex 3 to this document. We will be producing an Environmental Report to be published with the draft Flood Risk Management Plan, that will provide a brief commentary of the key issues arising from the plans, policies and programmes and how we have taken them into account.

## Habitats Regulations Assessment

We will undertake a Habitats Regulations Assessment (HRA) as the FRMP is developed. At this stage, it is likely that HRAs undertaken for existing plans will be used to provide information for an HRA for the FRMP at the River Basin District scale. We will discuss HRA requirements with Natural England and Natural Resources Wales as the FRMP is formulated.

## **Water Framework Directive Assessment**

The FRMP will be closely aligned with the River Basin Management Plan. As the plans are both being prepared at the river basin district scale and following the same timescales, we will use much of the same information (environmental baseline and contextual information) for the SEAs. Opportunities for the FRMP to contribute to WFD objectives will be explored as part of the FRMP preparation process and will be highlighted in the Environmental Report.

WFD compliance assessment requirements will be incorporated into the SEA and reported in the Environmental Report.

## **The SEA Environmental Report and draft FRMP**

The SEA process will deliver an Environmental Report to be published with the draft FRMP for consultation (from September to December 2014). It will describe the environmental baseline of the river basin district, explain how the environmental assessment was carried out, identify the environmental impacts of the plan along with mitigation measures and set out our proposals for monitoring.

## **Statement of Environmental Particulars and Final FRMP**

Feedback from consultation on the draft FRMP and Environmental Report will be reviewed and taken into account by the Environment Agency and the LLFAs contributing to the FRMP. The draft FRMP will then be finalised and published alongside a Statement of Environmental Particulars that will include how feedback on the draft plan and Environmental Report have been taken into account and how environmental impacts will be monitored.

# References

1. [http://ec.europa.eu/environment/water/flood\\_risk/](http://ec.europa.eu/environment/water/flood_risk/)
2. <http://webarchive.nationalarchives.gov.uk/20140328084622/http://www.environment-agency.gov.uk/research/planning/125459.aspx>
3. <https://www.gov.uk/flood-risk-management-information-for-flood-risk-management-authorities-asset-owners-and-local-authorities>
4. <http://www.legislation.gov.uk/ukpga/2010/29/contents>
5. <https://www.gov.uk/government/publications/national-flood-and-coastal-erosion-risk-management-strategy-for-england>
5. <http://wales.gov.uk/topics/environmentcountryside/epq/flooding/nationalstrategy/strategy/?lang=en>
6. <https://consult.environment-agency.gov.uk/portal/ho/flood/plans/approach>
7. <https://consult.environment-agency.gov.uk/portal/ho/flood/plans/approach>
8. <http://watermaps.environment-agency.gov.uk/wiyby/wiyby.aspx?topic=floodmap#x=357683&y=355134&scale=2>
9. <https://www.gov.uk/government/policies/improving-water-quality>
10. <http://webarchive.nationalarchives.gov.uk/20140328084622/http://www.environment-agency.gov.uk/research/planning/135520.aspx>
11. [http://www.local.gov.uk/local-flood-risk-management/-/journal\\_content/56/10180/3618366/ARTICLE](http://www.local.gov.uk/local-flood-risk-management/-/journal_content/56/10180/3618366/ARTICLE)
12. <https://www.gov.uk/government/publications/surface-water-management-plan-technical-guidance>
13. <https://www.gov.uk/government/collections/catchment-flood-management-plans>
14. <https://www.gov.uk/government/publications/shoreline-management-plans-smps>
15. <https://www.gov.uk/government/collections/flood-risk-management-current-schemes-and-strategies>
16. <https://www.gov.uk/reservoirs-a-guide-for-owners-and-operators>
17. <https://www.gov.uk/government/publications/flood-and-coastal-risk-management-in-england-long-term-investment>
18. <https://www.gov.uk/government/publications/national-flood-and-coastal-erosion-risk-management-strategy-for-england>
19. <http://www.legislation.gov.uk/uksi/2004/1633/contents/made>

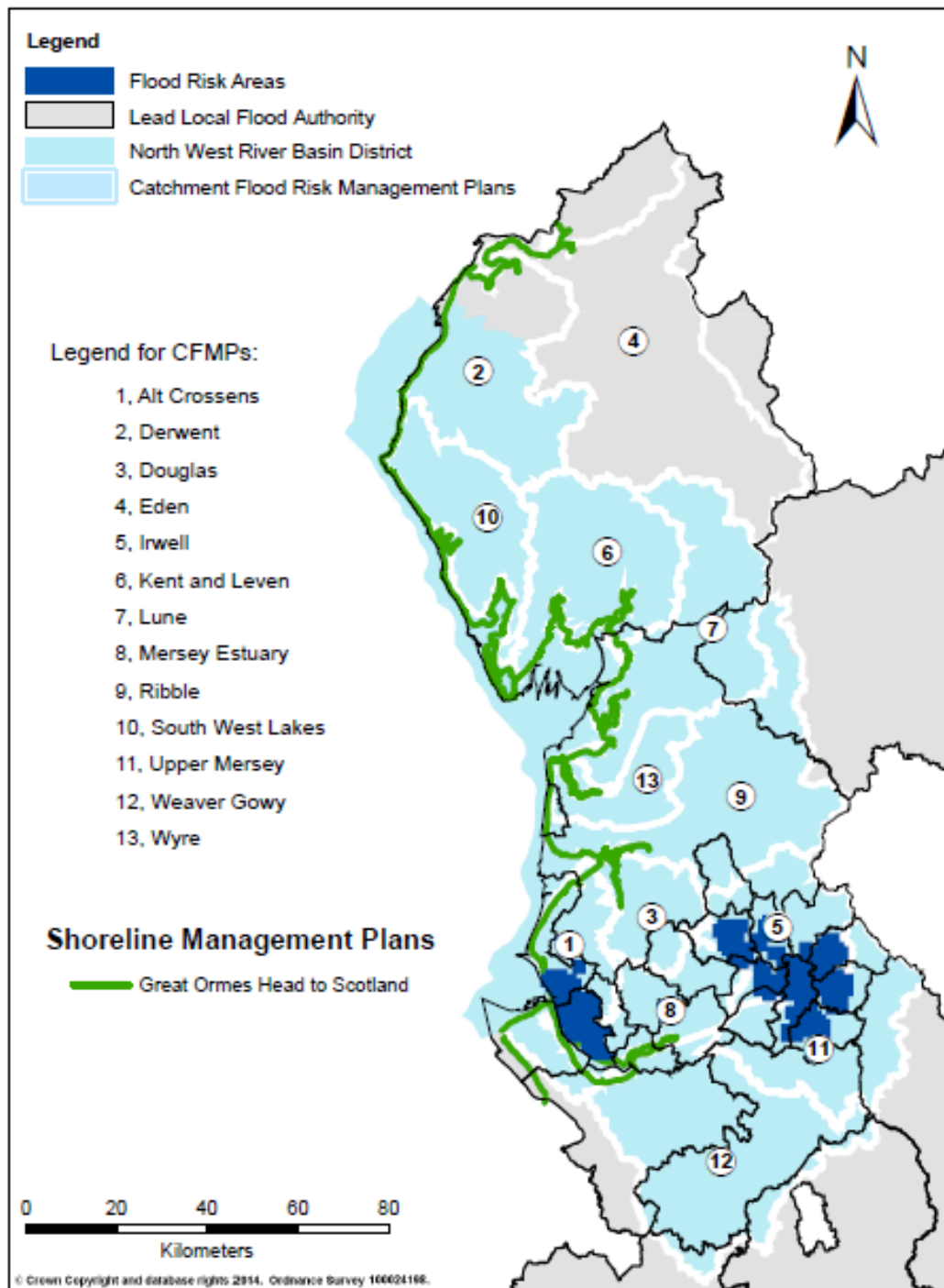
# Annex 1: A summary of information for inclusion in the Flood Risk Management Plan

This annex sets out the information that will be drawn from other flood and coastal erosion risk management plans in order to develop the FRMP. Of particular relevance are the Catchment Flood Management Plans (CFMPs) and Shoreline Management Plans (SMPs) that have been developed for the whole of England and Wales. Figure 4 shows which of these plans are relevant for the North West River Basin District.

Proportionate measures for managing flood risk from reservoirs are likely to comprise the preparation of on-site and off-site Reservoir Plans. In some cases, such plans have already been developed and the FRMP will aim to broadly set out if these measures are already established and propose where such measures need to be developed by reservoir owners and Local Resilience Forums (details will be subject to further discussion from security services).



Figure 4: CFMPs & SMPs in North West River Basin District



Tables A1 and A2 list the plans that risk management authorities are specifically drawing on and where previous consultation has been undertaken. They also show, if environmental assessment has been undertaken and any assessment related to the Habitats Regulations. The table also highlights the major changes we propose to make (if any) to those plans as we use the information to develop FRMPs.



Importantly, both tables also show if the information being used is for statutory purposes (used to fulfil a legal requirement of the FRMP), or voluntarily by the RMA to help present a more complete picture of flood and coastal erosion risk for the river basin district.

Contact details for the lead authorities are also included in the table so that the public can contact the relevant authorities should they want further information about specific plans.

Of particular importance for FRMPs and Local FRM Strategies are the Lead Local Flood Authorities (see figure 5 below). We also welcome inclusion of objectives and measures developed by other risk management authorities, such as Water and Sewerage Companies.

Figure 5: LLFAs in North West River Basin District

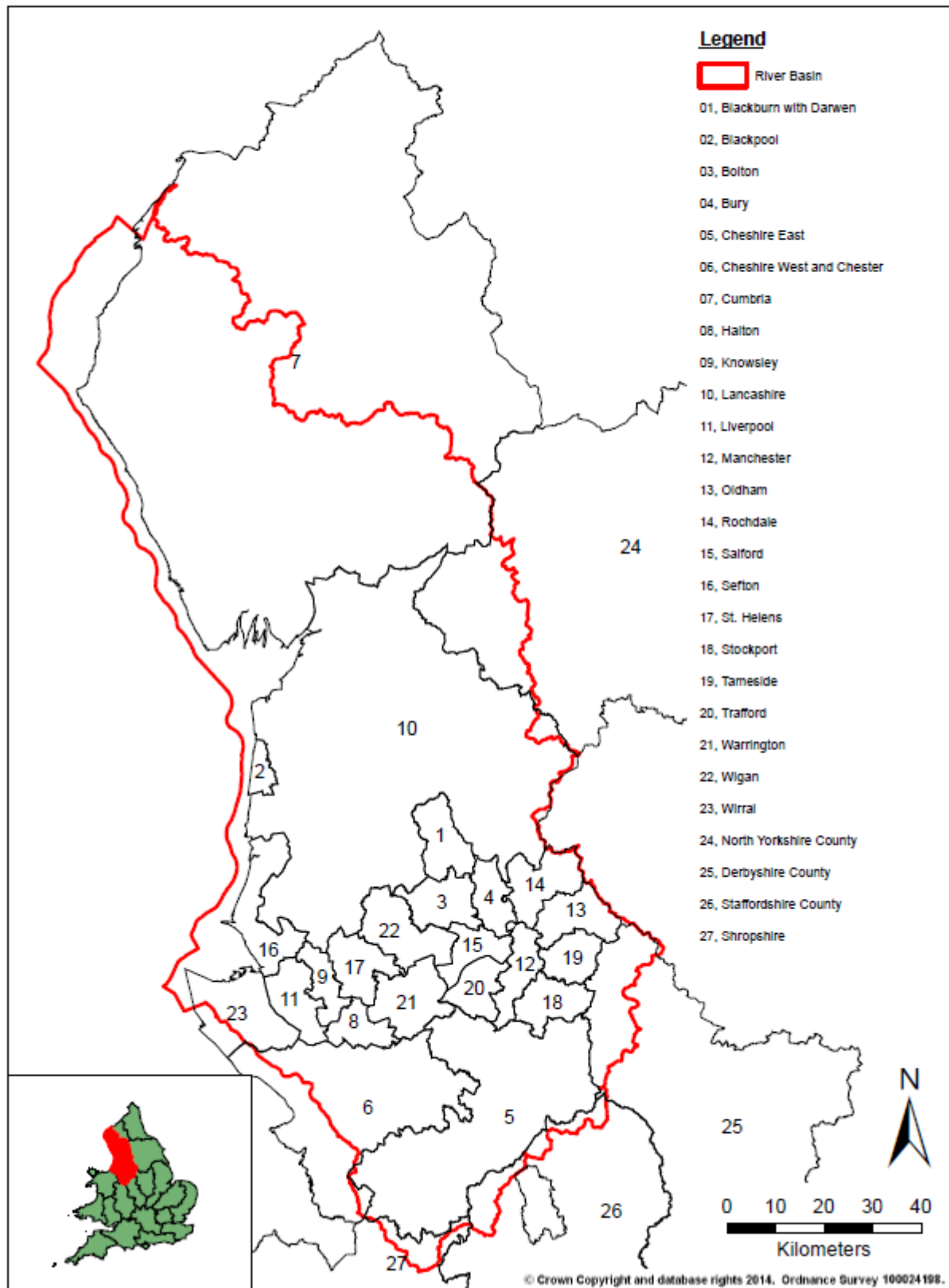


Table A1. Information compiled by the Environment Agency related to flooding from rivers, the sea and reservoirs, and by local authorities related to coastal erosion risk management

No. on CFMP / SMP map	Title of plan used to develop draft FRMP	Sources of risk drawn from plan	Status of information in FRMP (statutory or voluntary)	Comments on proposed changes to the information contained in the original plan for inclusion in the FRMP	Dates of consultation on draft plan	Was an Environmental Assessment of the plan undertaken?	Was a Habitats Regulations Assessment undertaken?	Was an Appropriate Assessment (under the Habitats Regulations) undertaken?	Was compensatory habitat needed (and a case agreed with the relevant Minister(s))?	Publication date of final plan	Lead Authority (Who to contact for further information)
<b>Information from the following Catchment Flood Management Plans:</b>											
1	Derwent	Flooding from main rivers	Statutory: this information informs the statutory requirements for Flood Risk Management Plans under the Flood Risk Regulations	We will retain the CFMP Policy Units and agreed strategic direction for management of flood risk (current and future). We will take forward any CFMP actions that are still appropriate and relevant and are yet to be delivered. We will supplement the transitioned CFMP actions with more specific community level actions that are targetted at those communities of greatest risk.	2008	Yes	Yes	Yes	No Compensatory habitat was required	Dec-09	Environment Agency: Contact: National Customer Contact Centre on: 03708 506 506 or email: enquiries@environment-agency.gov.uk
2	Eden										
3	Southwest lakes										
4	Kent and Leven										
5	Lune										
6	Wyre										
7	Ribble										
8	Alt Crossens										
9	Douglas										
10	Irwell										
11	Mersey Estuary										
12	Upper Mersey										
13	Weaver Gowy										
<b>Information from the following Shoreline Management Plans</b>											
14	North West and North Wales	Flooding from the sea	Statutory: this information informs the statutory requirements for Flood Risk Management Plans under the Flood Risk Regulations	We will not be making changes to the existing plan. We will retain the SMP Policy Units and agreed strategic direct for the management of the coast. The Shoreline Management Plans and associated action plans will remain as plans in their own right but we will bring in agreed actions in relation to flooding from the sea where they correspond with those communities of greatest risk from flooding.	October 2009-February 2010	Yes	Yes	Yes	Yes (case awaiting agreement from Welsh Government, Defra agreement in place)	Final Plan approved by local authorities. Awaiting Welsh Government sign-off.	Environment Agency: Contact: National Customer Contact Centre on: 03708 506 506 or email: enquiries@environment-agency.gov.uk  You may also wish to contact the relevant groups that lead on the development of SMPs (see below)

No. on CFMP / SMP map	Title of plan used to develop draft FRMP	Sources of risk drawn from plan	Status of information in FRMP (statutory or voluntary)	Comments on proposed changes to the information contained in the original plan for inclusion in the FRMP	Dates of consultation on draft plan	Was an Environmental Assessment of the plan undertaken?	Was a Habitats Regulations Assessment undertaken?	Was an Appropriate Assessment (under the Habitats Regulations) undertaken?	Was compensatory habitat needed (and a case agreed with the relevant Minister(s))?	Publication date of final plan	Lead Authority (Who to contact for further information)
<b>Information from the following Shoreline Management Plans</b>											
15	North West and North Wales	Coastal erosion risk	Voluntary: this information will be included in the FRMP on a voluntary basis and should not be considered to form part of the statutory FRMP.	We will not be making changes to the existing plan. We will retain the SMP Policy Units and agreed strategic direct for the management of the coast. The Shoreline Management Plans and associated action plans will remain as plans in their own right but we will bring in agreed actions in relation to flooding from the sea where they correspond with those communities of greatest risk from flooding.	October 2009-February 2010	Yes	Yes	Yes	Yes (case awaiting agreement from Welsh Government, Defra agreement in place)	Final Plan approved by local authorities. Awaiting Welsh Government sign-off.	Blackpool Borough Council General Enquiries on: 01253 477477 or email:customer.first@blackpool.gov.uk

Table B1. Information compiled by Lead Local Flood Authorities related to 'local' sources of flooding (i.e. surface water, groundwater and ordinary watercourses)

Number on LLFA map	Lead Local Flood Authority	Sources of risk drawn from plan	Within a Flood Risk Area identified in the PFRA? (Yes/No)	Is local flood risk information included in North West RBD FRMP?	Status of information in North West RBD FRMP (statutory or voluntary)	Local Strategy progress (as of 31 March 2014)	Comments on proposed changes to the information contained in the original plan for inclusion in the FRMP	Was an Environmental Assessment of the plan undertaken?	Was a Habitats Regulations Assessment undertaken?	Was an Appropriate Assessment (under the Habitats Regulations) undertaken?	Was compensatory habitat needed (and a case agreed with the relevant Minister(s))?	Lead Authority (Who to contact for further information)
1	Blackburn with Darwen Borough Council	Local FRM strategy	No	Yes	Voluntary	Public consultation on strategy in progress or complete	Information from LFRMS to be included in EA-produced FRMP	No	No	No	Not yet applicable	Blackburn with Darwen Borough Council 01254 585585
2	Blackpool Council	Local FRM strategy	No	Yes	Voluntary	Public consultation on strategy in progress or complete	Information from LFRMS to be included in EA	No	No	No	Not yet applicable	Blackpool Council 01253 477477
3	Bolton Council	Local FRM strategy	Yes	Yes	Statutory & Voluntary	Summary of strategy published	Information from LFRMS to be included in EA	Yes	No	No	No	Bolton Council 01204 333 333
4	Bury Council	Local FRM strategy	Yes	Yes	Statutory & Voluntary	Summary of strategy published	Information from LFRMS to be included in EA	Yes	Yes	No	No	Bury Council 0161 253 5795
5	Cheshire East Council	Local FRM strategy	No	Yes	Voluntary	Public consultation on strategy in progress or complete	Information from LFRMS to be included in EA	No - planned	No- planned	No	Not yet applicable	Flood Risk Management Team Cheshire East Council 01270 685893
6	Cheshire West & Chester Council	Local FRM strategy	No	Yes	Voluntary	In progress	Information from LFRMS to be included in EA	Not yet applicable	Not yet applicable	Not yet applicable	Not yet applicable	Cheshire West and Chester Council 01244 973183
7	Cumbria County Council	Local FRM strategy	No	Yes	Voluntary	In progress	Information from LFRMS to be included in EA	Not yet applicable	Not yet applicable	Not yet applicable	Not yet applicable	Cumbria County Council 01228 606060
8	Halton Borough Council	Local FRM strategy	No	Yes	Voluntary	In progress	Information from LFRMS to be included in EA	Not yet applicable	Not yet applicable	Not yet applicable	Not yet applicable	Halton Borough Council Planning, Policy and Resources Directorate 0303 333 4300
9	Knowsley Council	Local FRM strategy	No	Yes	Voluntary	In progress	Information from LFRMS to be included in EA	Not yet applicable	Not yet applicable	Not yet applicable	Not yet applicable	Knowsley Council 0151 489 6000

Number on LLFA map	Lead Local Flood Authority	Sources of risk drawn from plan	Within a Flood Risk Area identified in the PFRA? (Yes/No)	Is local flood risk information included in North West RBD FRMP?	Status of information in North West RBD FRMP (statutory or voluntary)	Local Strategy progress (as of 31 March 2014)	Comments on proposed changes to the information contained in the original plan for inclusion in the FRMP	Was an Environmental Assessment of the plan undertaken?	Was a Habitats Regulations Assessment undertaken?	Was an Appropriate Assessment (under the Habitats Regulations) undertaken?	Was compensatory habitat needed (and a case agreed with the relevant Minister(s))?	Lead Authority (Who to contact for further information)
10	Lancashire County Council	Local FRM strategy	No	Yes	Voluntary	Public consultation on strategy in progress or complete	Information from LFRMS to be included in EA	No	No	No	Not yet applicable	Lancashire County Council 0300 123 6780
11	Liverpool Council	Local FRM strategy	Yes	Yes	Statutory & Voluntary	In progress	Information from LFRMS to be included in EA	Not yet applicable	Not yet applicable	Not yet applicable	Not yet applicable	Liverpool Council 0151 233 3021
12	Manchester City Council	Local FRM strategy	Yes	Yes	Statutory & Voluntary	Summary of strategy published	Information from LFRMS to be included in EA	No	No	No	Not yet applicable	Manchester City Council 0161 234 4958
13	Oldham Council	Local FRM strategy	Yes	Yes	Statutory & Voluntary	Public consultation on strategy in progress or complete	Information from LFRMS to be included in EA	Yes	No	No	Not yet applicable	Oldham Council 0161 770 3000
14	Rochdale Borough Council	Local FRM strategy	Yes	Yes	Statutory & Voluntary	Summary of strategy published	Information from LFRMS to be included in EA	No	No	No	Not yet applicable	Rochdale Borough Council 0300 303 8873
15	Salford City Council	Local FRM strategy	Yes	Yes	Statutory & Voluntary	In progress	Information from LFRMS to be included in EA	Not yet applicable	Not yet applicable	Not yet applicable	Not yet applicable	Salford City Council 0161 909 6545
16	Sefton Council	n/a	Yes	No	n/a	In progress	Information from LFRMS will not be included in EA produced FRMP	Not yet applicable	Not yet applicable	Not yet applicable	Not yet applicable	Sefton Council 0845 140 0845
17	St Helens Metropolitan Borough Council	Local FRM strategy	No	Yes	Voluntary	Public consultation on strategy in progress or complete	Information from LFRMS to be included in EA-produced FRMP	Yes	No	No	Not yet applicable	St Helens Metropolitan Borough Council 01744 676789
18	Stockport Council	Local FRM strategy	Yes	Yes	Statutory & Voluntary	In progress	Information from LFRMS to be included in EA-produced FRMP	Not yet applicable	Not yet applicable	Not yet applicable	Not yet applicable	Stockport Council 0161 474 4395
19	Tameside Metropolitan Borough Council	Local FRM strategy	Yes	Yes	Statutory & Voluntary	In progress	Information from LFRMS to be included in EA-produced FRMP	Not yet applicable	Not yet applicable	Not yet applicable	Not yet applicable	Tameside Metropolitan Borough Council 0161 342 8355
20	Trafford Council	Local FRM	Yes	Yes	Statutory & Voluntary	Public consultation	Information from LFRMS to be	Yes	No	No	Not yet applicable	Trafford Council 0161 912 2000

Number on LLFA map	Lead Local Flood Authority	Sources of risk drawn from plan	Within a Flood Risk Area identified in the PFRA? (Yes/No)	Is local flood risk information included in North West RBD FRMP?	Status of information in North West RBD FRMP (statutory or voluntary)	Local Strategy progress (as of 31 March 2014)	Comments on proposed changes to the information contained in the original plan for inclusion in the FRMP	Was an Environmental Assessment of the plan undertaken?	Was a Habitats Regulations Assessment undertaken?	Was an Appropriate Assessment (under the Habitats Regulations) undertaken?	Was compensatory habitat needed (and a case agreed with the relevant Minister(s))?	Lead Authority (Who to contact for further information)
		strategy				on strategy in progress or complete	included in EA-produced FRMP					
21	Warrington Borough Council	Local FRM strategy	No	Yes	Voluntary	Public consultation on strategy in progress or complete	Information from LFRMS to be included in EA-produced FRMP	Yes	No	No	Not yet applicable	Warrington Borough Council 01925 443322
22	Wigan Council	Local FRM strategy	No	Yes	Voluntary	In progress	Information from LFRMS to be included in EA-produced FRMP	Not yet applicable	Not yet applicable	Not yet applicable	Not yet applicable	Wigan Council
23	Wirral Council	Local FRM strategy	No	Yes	Voluntary	In progress	Information from LFRMS to be included in EA-produced FRMP	Not yet applicable	Not yet applicable	Not yet applicable	Not yet applicable	Wirral Council 0151 606 2000
24	North Yorkshire County Council	Local FRM strategy	No	Yes	Voluntary	In progress	Information from LFRMS to be included in EA-produced FRMP	Not yet applicable	Not yet applicable	Not yet applicable	Not yet applicable	North Yorkshire County Council 0845 241 1307
25	Derbyshire County Council	Local FRM strategy	No	Yes	Voluntary	Public consultation on strategy in progress or complete	Information from LFRMS to be included in EA-produced FRMP	No	No	No	Not yet applicable	Derbyshire County Council 01629 533190
26	Staffordshire County Council	Local FRM strategy	No	Yes	Voluntary	In progress	Information from LFRMS to be included in EA-produced FRMP	Not yet applicable	Not yet applicable	Not yet applicable	Not yet applicable	Staffordshire County Council 0300 111 8000
27	Shropshire Council	n/a	No	No	n/a	In progress	Information from LFRMS will not be included in EA produced FRMP	Not yet applicable	Not yet applicable	Not yet applicable	Not yet applicable	Shropshire Council 0345 678 9000



# Annex 2 Results of SEA scoping process

Table A2 provides the results of an early review of the proposed Environment Agency information for the FRMP. It identifies whether the objectives/measures/actions included are from existing plans and are likely to change as they are brought into the FRMP. It also identifies if new objectives/measures/actions are being proposed. This is important because it determines whether such information is adequately covered by existing SEA reports or if this information requires a further detailed level of environmental assessment (note all objectives/measures/actions will be scoped into the high level environmental assessment). SEA scoping is an ongoing process and table A2 is subject to future change.

**Table A2: Summary of the SEA scoping for detailed assessment**

Plan or Community at Risk	Level of changes for FRMP	Outcome of plan review	Initial SEA scoping results
<b>CFMPs</b>	CFMPs will be retained. Objectives/ policies/ measures/ actions in CFMPs are all being reviewed and those that are still relevant and not completed will be brought forward into the FRMP. It is likely that those actions will be carried forward unchanged.	Existing CFMP appraisal is basis of FRMP supporting evidence	Scoped into the high level assessment only
<b>North West and North Wales SMP</b>	The SMP will be retained. Objectives/ policies /measures/ actions in FRMP are all being reviewed and those that are still relevant and not completed will be brought forward into the FRMP. It is likely that those actions will be carried forward unchanged	Existing SMP appraisal remains in effect	Scoped into the high level assessment only
<b>Communities At Risk</b>	New measures/actions will be included in FRMP	The type of measure/action and previous CFMP policy support is likely to determine the level of new FRMP supporting evidence (e.g. these measures may be delivering previously assessed CFMP Policies)	All measures/ actions will be scoped into the high level assessment  Measures/ actions will be scoped in/out for detailed assessment

# Annex 3: Policies, plans and programmes to be considered by the Strategic Environmental Assessment

Table A3 sets out the national plans, policies and programmes and Table B3 those that are only relevant to the catchment or River Basin District. Rather than identify every possible plan or programme we intend to focus on those that are likely to significantly influence the plan or our consideration of the environmental effects.

**Table A3: National plans, policies and programmes to be considered in the SEA**

Policy / Plan / Programme	Published by	Year
Water white paper: Water for life	Defra	2011
Water for people and the environment: Water resources strategy for England and Wales	Environment Agency	2009
National Planning Policy Framework	Communities & Local Government (CLG)	2012
Natural environment white paper: The natural choice: Securing the value of nature	Defra	2012
Biodiversity 2020: A strategy for England's Wildlife and Ecosystem Services	Defra	2012
Government Forestry & Woodlands Policy Statement	Defra	2013
The invasive and non-native species framework strategy for Great Britain	Defra, Scottish Government, Welsh Assembly Government	2008
Coastal squeeze: Implications for flood management. The requirements of The European Birds and Habitats Directives. Defra policy guidance.	Defra	2005
Safeguarding our soils: A strategy for England	Defra	2009
Understanding the risks, empowering communities, building resilience: The national flood and coastal erosion risk management strategy for England	Defra & Environment Agency	2011
UK Marine Policy Statement	HMG, NI Executive, Scottish Government, Welsh Assembly Government	2011
National Policy Statements (Overarching Energy, Renewable Energy, Fossil Fuels, Oil and Gas Supply and Storage, Electricity Networks, Nuclear Power, Ports, Hazardous Waste, Waste Water Treatment)	HMG	2011-12
Managing the Environment in a Changing Climate	Environment Agency	2010
The Government's Statement on the Historic Environment for England 2010	HMG	2010
All Landscapes Matter	Natural England	2009

When identifying plans, policies and programmes relevant to the RBD, we have concentrated on those plans that are similar in scale to the River Basin Management Plan or are likely to directly impact on the catchments within the RBD. We anticipate that as plans and projects are implemented, the implications of any local plans will also be considered. There are some plans that provide comprehensive coverage across the RBD, for example local authority core strategies. Rather than list these individually, we have identified the type of plan, and when we undertake the assessment we will consider all of the plans of this type that are relevant to the RBD.

**Table B3: Plans, policies and programmes relevant to the North West RBD**

Policy / Plan / Programme	Published by	Year
Core Strategies	Local authorities	Various
Minerals and Waste Plans	Local authorities	Various
(Cell 11) North West England and North Wales Shoreline Management Plan	North West England and North Wales Coastal Group partnership	2011
North West Catchment Abstraction Management Strategies (8)	Environment Agency	2003
Catchment Flood Risk Management Plans	Environment Agency	Various
Coastal and Flood Risk Management Strategies	Various	Various
Regional Transport Plans	Local authorities	Various
North West Region Drought Plan	Environment Agency	2012
Water resources strategy: Regional Action Plan for North West Region	Environment Agency	2009
Draft Statutory Drought Plan	United Utilities	2012
Water Resources Management Plan	United Utilities	2009
Eel Management Plan: North West River Basin District	Defra	2010
Heritage at Risk Register 2012: North West	English Heritage	2012
The North Pennines AONB Management Plan 2009-2014	The North Pennines AONB Partnership	2009
Arnsdale and Silverdale AONB Statutory Management Plan 2009	Arnsdale and Silverdale AONB Partnership	2009
Forest of Bowland AONB Management Plan 2009-2014	Lancashire County Council	2009
Biodiversity Action Plans (Cumbria, Lancashire, Gtr Manchester, Cheshire, North Merseyside)	Various	Various
River Derwent Restoration Strategy	Natural England, Environment Agency	2010
River Kent Restoration Strategy	Natural England, Environment Agency	2010

# Annex 4: Environmental Baseline Summary to be considered by the Strategic Environmental Assessment

The SEA regulations set out a number of environmental factors to be considered during the assessment. In this FRMP assessment we want to focus on those effects that are likely to be significant, whether positive or negative at the scale of the plan which is for the river basin district. The following table sets out the environmental topics referred to in the regulations along with key baseline information for the river basin district and indicates whether we intend to consider it within the high level assessment

**Table A4: Range of environmental topics for consideration in the high level assessment**

Environmental topic	Baseline facts and figures	To be considered by the high level assessment?
<b>Biodiversity, flora and fauna</b>	<ul style="list-style-type: none"> <li>The North West River Basin District contains important wetland and intertidal habitats. Around 80% of the coastline is included in European Sites (Special Protection Areas and Special Areas of Conservation) designated for their wildlife importance. These include the Sefton Coast Special Area of Conservation and the Mersey Estuary Special Protection Area.</li> <li>In addition to a large portion of England’s intertidal mudflats and saltmarsh, the North West also contains a large portion of England’s remaining blanket bog and lowland raised bog.</li> <li>The North West also has a greater area of designated rivers and open waters than any other English region while many of the major lakes and larger tarns of the Lake District are Sites of Special Scientific Interest.</li> <li>Water bodies and wetland areas within the river basin district support a number of protected species (such as Otters and Water Voles) and priority species listed in the UK Biodiversity Action Plan (such as freshwater White-clawed Crayfish).</li> <li>Invasive species are present in many of the catchments across the river basin district, in particular Japanese Knotweed, Floating Pennywort, Himalayan Balsam, Signal Crayfish, Mink and Giant Hogweed. Invasive species out-compete native vegetation and compromise habitats which other aquatic or semi-aquatic wildlife rely on and cause bank erosion.</li> </ul>	Yes
<b>Population and human health</b>	<ul style="list-style-type: none"> <li>Almost 7 million people live in the North West river basin district.</li> <li>87% population live in urban areas mainly to the</li> </ul>	Yes

	<p>south of the river basin district (Manchester and Liverpool).</p> <ul style="list-style-type: none"> <li>• The North West has the lowest projected population increase of all the English regions, albeit that some areas will experience high growth and others a decrease.</li> <li>• The North West has a large number of areas (32%) classified as in the 20% most deprived in England. Greater Manchester and Merseyside together contain nearly three-quarters of the region's population living in the most deprived areas.</li> <li>• Unemployment slightly higher than the UK average with high unemployment rates in some urban areas.</li> <li>• Life expectancy is lower than the national average with significant health index differences between affluent and deprived communities.</li> <li>• Successful regeneration projects have taken place in recent decades on some of the North West's iconic waterfronts including Salford Quays and Liverpool's Albert Docks.</li> <li>• Recreation and tourism contributes 7% to the North West economy and accounts for around 400,000 jobs. Notable features include iconic cities and historic towns, National Park and other sparsely populated landscapes as well as traditional coastal hotspots such as Blackpool.</li> </ul>	
<b>Soil</b>	<ul style="list-style-type: none"> <li>• The majority of the bedrock geology of the North West River Basin District is characterised by limestone, sandstone and mudstone. The Cumbrian fells and dales for example contain 50% of the UK's limestone pavement.</li> <li>• The North West is geologically diverse with local mineralisation in the Lake District and Pennines giving rise to a rich mining heritage, most of which have since declined.</li> <li>• Minewater contamination is an issue in the River Basin District. Oil and gas are extracted in Morecambe Bay and Liverpool Bay. Aggregate production, including crushed rocks, sands and gravels, still occurs in the Mersey catchment.</li> </ul>	Yes
<b>Water</b>	<ul style="list-style-type: none"> <li>• There are 12 river catchments and 749 water bodies in the North West. In 2012, 29% of surface water bodies (rivers, coastal waters, estuaries, canals, surface water transfers, reservoirs and lakes) are classified 'good' or better. 22 North West water bodies have shown an improvement in Water Framework Directive status since 2009. As a result, 355 kilometres of river and 19 hectares of lake are in a better ecological condition.</li> <li>• The 7 most significant issues that are currently believed to impact North West's waters are physical modifications, pollution from waste water, pollution from rural areas, pollution from towns, cities and</li> </ul>	Yes

	<p>transport, changes to the natural flow and level of water, pollution from mines and the negative effects of non-native species.</p> <ul style="list-style-type: none"> <li>The main water supplier, United Utilities, supplies water to some 6.9 million people and 0.2 million non-household customers in Cumbria, Lancashire, Greater Manchester, Merseyside, most of Cheshire and a small part of Derbyshire. More than 90% of the water supplied comes from rivers and reservoirs, with the remainder from groundwater. This contrasts with the rest of England, where an average of only 60% is supplied from rivers and reservoirs. Forty per cent of water used in public supply comes</li> </ul>	
<b>Air</b>	<ul style="list-style-type: none"> <li>While individual actions may have a small localised impact on air quality, at a strategic level, it is very unlikely that the Flood Risk Management Plan would have a significant effect on air quality within the river basin district.</li> </ul>	No
<b>Climatic factors</b>	<ul style="list-style-type: none"> <li>UKCIP predicts (under a medium emissions scenario) that by the 2050s winter temperatures across the river basin district could rise by between 1.1OC and 3.4OC and summer temperatures by between 1.2OC and 4.2OC. Rainfall may change in summer from a decrease of 36% to an increase by 6%, and winter rainfall may increase by between 2% and 29%.</li> </ul>	Yes
<b>Infrastructure</b>	<ul style="list-style-type: none"> <li>The North West is at the crossroads of nationally strategic east-west and north-south transport corridors as well as two major international airports.</li> <li>The canal network links North West towns and cities with those in the Midlands and North East. Notable among these is the Manchester Ship Canal which is a 36 mile canal from the Mersey Estuary to Salford Quays handling around 8 million tonnes of cargo annually and partially drains the Irwell and Mersey river catchments.</li> <li>The Port of Liverpool is a major seaport handling 5% of all UK sea freight annually, with smaller ports and docks dotted along the North West coast.</li> <li>There are 467 historic landfill sites and 222 authorised landfill sites of which 37 are classified as hazardous.</li> <li>Over 80% of the North West is classed as rural land with around 60% being managed for agricultural use. Approximately 10,000 farm holdings in the North West region are involved in cattle, sheep and dairy farming, and over 29% of the rural land use in the region is dairy farming. There are 21 Nitrate Sensitive Areas in the North West River Basin District and they cover 33% of the District. Water quality issues associated with agriculture is a significant issue in the river basin district.</li> <li>Flood defences line much of the 910km coastline of the river basin district and many of the rivers also have flood defences associated with them.</li> </ul>	Yes



	<ul style="list-style-type: none"> <li>• There are 568km of flood defences within the catchment, as well as significant flood storage facilities such as at Sale, Wigan, Thacka Beck, Catterall and Garstang.</li> </ul>	
<b>Cultural heritage</b>	<ul style="list-style-type: none"> <li>• According to the Heritage at Risk Register, the North West contains a relatively high proportion of historic assets at risk of damage or decay and in need to action to preserve them. Defra also identify the need for improved conservation and management of archaeological rich landscapes including, in particular wetland areas in the region. The North West has a rich historic environment resource which includes: <ul style="list-style-type: none"> <li>• Two World Heritage Sites, Hadrian's Wall and Liverpool Maritime Mercantile City on Liverpool's waterfront.</li> <li>• 1,336 Scheduled Ancient Monuments (SAMs).</li> <li>• 70 Registered Historic Parks and Gardens.</li> <li>• 3 registered battlefields.</li> <li>• Over 2,000 thousand listed buildings.</li> </ul> </li> </ul>	Yes
<b>Landscape</b>	<ul style="list-style-type: none"> <li>• The North West covers an area of 13,140 km<sup>2</sup> from fertile Cheshire plains in the south to England's highest peaks in the Lake District.</li> <li>• A large proportion of the North West region (18%) is designated as a National Park – mainly the Lake District National Park with smaller parts of the Yorkshire Dales and Peak District National Parks. A further 11% is designated as an Area of Outstanding Natural Beauty (AONB) comprising the Forest of Bowland, Arnside and Silverdale and North Pennines.</li> <li>• The North West River Basin District contains a diverse range of landscapes, very few of which have not been altered through human intervention. As an example, an estimated 98% of peat bogs have been lost in the North West Region.</li> <li>• Artificial water bodies such as reservoirs and canals form a strong component of landscapes in the District.</li> <li>• On the Cheshire plains there is a wealth of natural meres created at the end of the last ice age and more-recently, ponds, many of which are associated with historic salt extraction.</li> <li>• The North West coastline has a range of features including a fifth of England's dunes.</li> <li>• There are 10,000 areas of discrete Forestry Commission woodland in the District, the largest of which are in the Lake District National Park. Significant areas of the North West are covered by ancient semi-natural woodlands.</li> <li>• The North West has the largest stock of brownfield land of any English region, containing 25% of England's derelict land, mainly situated in Greater Manchester, Merseyside and Central Lancashire.</li> </ul>	Yes

**Would you like to find out more about us,  
or about your environment?**

**Then call us on  
03708 506 506 (Mon-Fri 8-6)**

**email  
enquiries@environment-agency.gov.uk  
or visit our website  
[www.gov.uk/environment-agency](http://www.gov.uk/environment-agency)**

**incident hotline 0800 80 70 60 (24hrs)  
floodline 0345 988 1188 / 0845 988 1188 (24 hrs)**

**[Find out about call charges www.gov.uk/call-charges](http://www.gov.uk/call-charges)**



**Environment first: Are you viewing this on screen? Please consider the environment and only print if absolutely necessary. If you are reading a paper copy, please don't forget to reuse and recycle if possible.**