



Managing the risk of flooding in the Severn River Basin District

What's being planned and when

June 2014

This is a joint plan from the Environment Agency and Natural Resources Wales.

Environment Agency

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.

Natural Resources Wales

On 1 April 2013, Natural Resources Wales brought together the work of the Countryside Council for Wales, Environment Agency Wales and Forestry Commission Wales, as well as some functions of the Welsh Government.

Our purpose is to ensure that the natural resources of Wales are sustainably maintained, used and enhanced, now and in the future.

We will work for the communities of Wales to protect people and their homes as much as possible from environmental incidents like flooding and pollution. We will provide opportunities for them to learn, use and benefit from Wales' natural resources

We will work for Wales' economy and enable the sustainable use of natural resources to support jobs & enterprise. We will help businesses and developers to understand and consider environmental limits when they make important decisions.

We will work to maintain and improve the quality of the environment for everyone. We will work towards making the environment and natural resources more resilient to climate change and other pressures.

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Foreword

Over the next two years, the Environment Agency and Natural Resources Wales 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, Natural Resources Wales, Local Authorities, Water Companies, Highways Authorities and Internal Drainage Boards 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, Natural Resources Wales and Lead Local Flood Authorities are already doing in partnership but now the Environment Agency and Natural Resources Wales are 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 Severn 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, Natural Resources Wales and Lead Local Flood Authorities are carrying out on those draft plans.

The Environment Agency National Resources Wales will be consulting on a draft flood risk management plan for the whole of the Severn 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 7 Lead Local Flood Authority areas as a statutory requirement

flooding issues for local sources (ordinary watercourses, surface water and groundwater) for 9 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, 10 Lead Local Flood Authorities within Wales will prepare separate FRMPs as a statutory requirement, covering local sources of flooding and consult on those as set out below..

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.

Director Operations, West, Mark Sitton-Kent (Environment Agency)

Director, Graham Hillier (Natural Resources Wales)

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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

1. 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 and Wales

- The roles and responsibilities of different flood risk management authorities (RMAs) in [England](#)¹ and [Wales](#)² are set out in the [Flood and Water Management Act, 2010](#)³. This act also requires the Environment Agency and the Welsh Government to set out the approach to managing flood and coastal erosion risk in England and Wales in a [National Flood and Coastal Erosion Risk Management Strategy for England](#)⁴ and the [National Strategy for Flood and Coastal Erosion Risk Management in Wales](#)⁵. Both strategies aim 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](#)⁶ aims to provide a consistent approach to managing flood risk across Europe. The Directive is implemented through the [Flood Risk Regulations 2009](#)⁷ 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 on the approach to developing Flood Risk Management Plans in England and Wales considered options for delivering FRMPs. See [the findings from that consultation](#)⁸. 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 and Natural Resources Wales (NRW) 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 the Environment Agency [website](#)⁹ for plans covering England and the Natural Resources Wales [website](#)¹⁰ for plans covering Wales

The National Flood and Coastal Erosion Risk Management Strategy for England and the National Flood and Coastal Erosion Risk Management Strategy in Wales provide national frameworks for all Risk Management Authorities to work within. A hierarchy of strategic and delivery plans establish the approach for the various RMAs to deliver the aims and objectives of the national strategies. Over time, FRMPs will consolidate and replace many of the main plans produced by RMAs.

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
Flood Risk Management Plans ¹¹ (FRMPs) Flood Risk Management Plans in Wales ¹²	<p>To manage flooding from rivers, the sea, reservoirs, surface water and groundwater.</p> <p>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.</p>	<p>Required under the European Floods Directive; implemented in England and Wales by the Flood Risk Regulations 2009.</p> <p>FRMPs for this first cycle of planning must be published by December 2015.</p>	<p>Lead Local Flood Authorities for flooding from surface water, groundwater and ordinary watercourses.</p> <p>Environment Agency and Natural Resources Wales for flooding from main rivers, the sea and reservoirs.</p>
Local Flood Risk Management Strategy ¹³	<p>To manage local flood risk in each Lead Local Flood Authority across the whole of England and Wales. These also include, objectives and measures for the management of local flood risk (i.e. from surface water, groundwater and ordinary watercourses).</p>	<p>Statutory requirement under the Flood and Water Management Act 2010.</p> <p>No statutory deadline for production.</p>	<p>All Lead Local Flood Authorities must prepare a Local Flood Risk Management Strategy.</p>
Surface Water Management Plans ¹⁴ in England (SWMPs)	<p>To establish preferred approach to managing surface water flooding.</p>	<p>Voluntary plans for co-ordinated measures to manage surface water flooding.</p>	<p>Likely to be Lead Local Flood Authorities, in partnership with others.</p>
Catchment Flood Management Plans ¹⁵ (CFMPs)	<p>Current and future inland flood risk management across all catchments.</p> <p>These plans set out preferred policies for inland flooding in England and Wales.</p>	<p>Voluntary plans. Published in 2009-10.</p>	<p>Environment Agency.</p>

Shoreline Management Plans ¹⁶ (SMPs)	<p>Current and future flood and coastal erosion risk management along the coastline.</p> <p>These plans set out preferred policies for the coast line of England and Wales.</p>	<p>Voluntary plans.</p> <p>Second round of SMPs published in 2010-13.</p>	<p>Coastal Groups.</p>
Other river, estuary and coastal investment strategies ¹⁷	<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>
Water Level Management Plans (WLMPs)	<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>Natural Resources Wales, Drainage Authorities and land owners</p>
Reservoir Flood Plans in England ¹⁸ Reservoir Flood plans in Wales ¹⁹	<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>
Long-Term Investment Strategy ²⁰	<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>
Future flooding in Wales: Flood defences	<p>This considers the possible costs of building and maintaining river and coastal defences over the next 25 years.</p>	<p>Voluntary plans.</p>	<p>Natural Resources Wales</p>

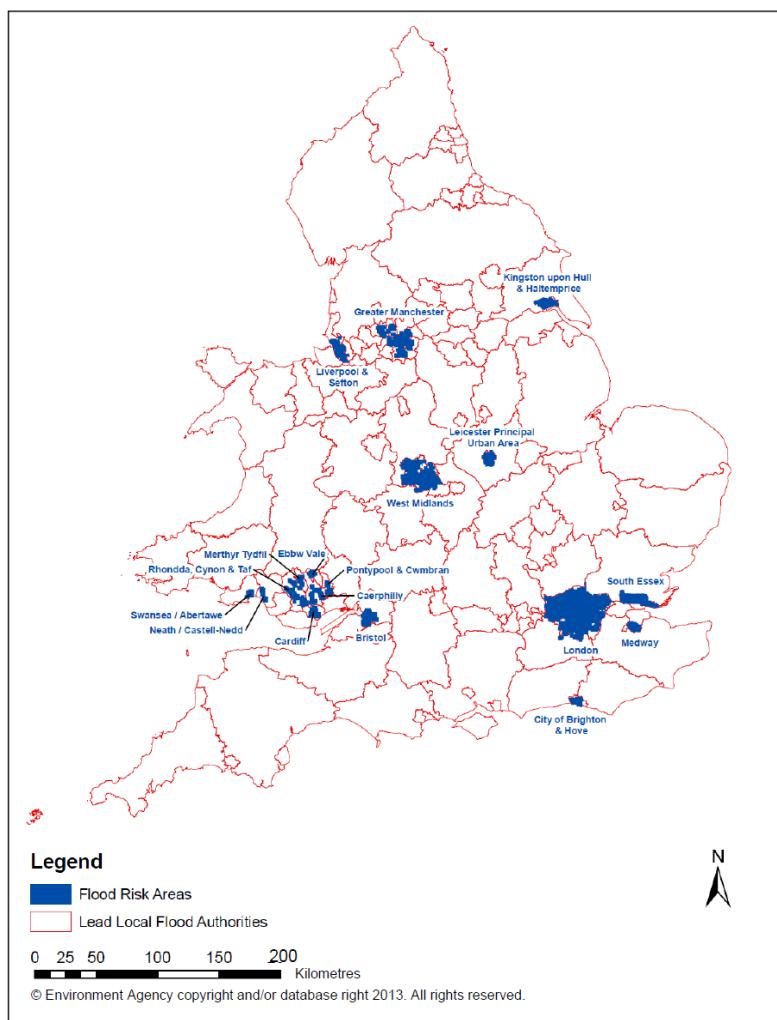
The National Flood and Coastal Erosion Risk Management Strategy for England ²¹	The approach to managing flood and coastal erosion risk in England.	Statutory requirement under the Flood and Water Management Act 2010.	Environment Agency.
National Strategy for Flood and Coastal Erosion Risk Management ²²	Sets out the policies on flood and coastal erosion risk management in Wales.	Statutory requirement under the Flood and Water Management Act 2010.	Welsh Government.

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 legislation, the Floods Directive, has formalised this. 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 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

* 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 Severn River Basin District

Overview

The Environment Agency and Natural Resources Wales need to prepare a FRMP which covers the whole of the Severn RBD, while the Flood Risk Regulations only require LLFAs to prepare FRMPs for areas defined as Flood Risk Areas (see Figure 1 in Section 4). LLFAs can choose to develop separate plans or to prepare a FRMP jointly with the Environment Agency and Natural Resources Wales so that in those areas, the joint plan covers all sources of flood risk. In addition, LLFAs that do not have Flood Risk Areas can also choose to prepare a FRMP jointly with the Environment Agency and Natural Resources Wales on a voluntary basis.

Within the Severn RBD, the seven LLFAs in England with Flood Risk Areas have chosen to prepare a FRMP jointly with the Environment Agency. In addition, two LLFAs that do not have a Flood Risk Area have chosen to contribute to the joint FRMP, on a voluntary basis. All the LLFAs in Wales that fall within the Severn RBD have made the commitment to produce separate FRMPs. Six of these LLFAs have Flood Risk Areas so will be producing FRMPs to meet the requirements of the Flood Risk Regulations.

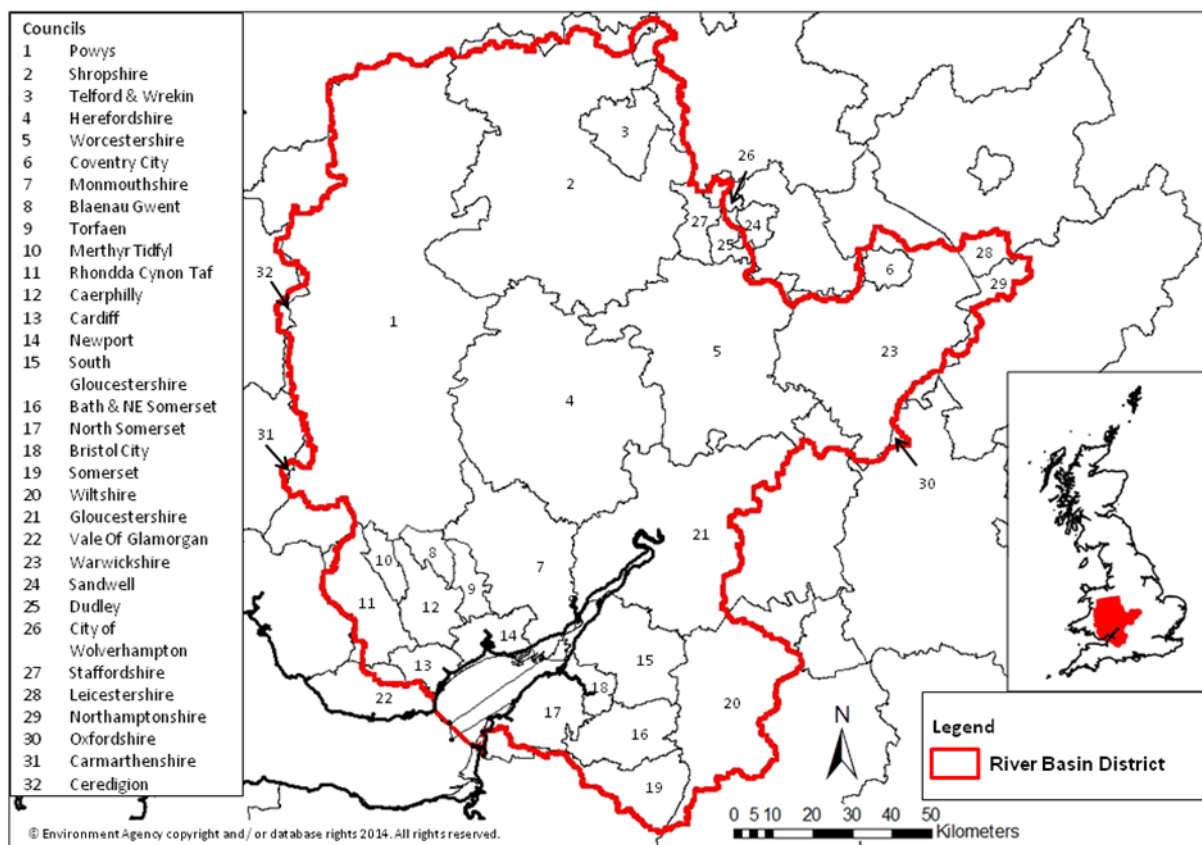


Figure 2: Lead Local Flood Authorities in Severn RBD

Box 3 shows the FRMPs being prepared in the Severn RBD and Figure 3 below shows the flood risk information that will be included.

The Severn RBD FRMP produced by the Environment Agency and Natural Resources Wales intends to consolidate information from a number of existing and developing plans covering different sources of risk, prepared by different authorities across the RBD.

Annex 1 lists these and the dates of previous consultation.

Of particular relevance are the Catchment Flood Management Plans (CFMPs) and the Shoreline Management Plans (SMP2s) that have been developed for the whole of England and Wales; and Local Flood Risk Management Strategies prepared by LLFAs to meet the requirements of the Flood & Water Management Act 2010. Local Flood Risk Management Strategies consider the management of flooding from surface water, ground water and ordinary watercourses.

The SMP2s have recently been developed. Generally it is the intention to take forward the SMP2 policies and actions into the FRMP except in the small number of locations where these now differ following development of more up to date strategies. In Wales, actions will be taken forward in the FRMP in relation to flooding from the sea where they correspond with those communities at greatest risk from flooding.

The CFMPs are more dated and contain a number of completed actions. The CFMP policies will be taken forward along with any incomplete actions that are still relevant. Currently it is intended that CFMPs will be retained but not updated.

The aspiration is that the FRMP will, in time, include a full list of actions at the community level.

This first plan includes a number of these actions.

In Wales, the Communities at Risk Register is a tool that has been produced to allow prioritisation of flood risk management operations for rivers and the sea using a risk based approach. This tool includes actions for managing flood risk at those locations at greatest risk. This can include actions to improve flood warning and undertake awareness raising activities, as well as operations on the ground to actively reduce flood risk. The Communities at Risk Register will be developed further and used for community scale actions within the Severn RBD FRMP.

In England, over time, we shall be considering further community level actions within the RDB. The aspiration is to add these in future cycles of the plan. FRMPs will be reviewed on a six year cycle.

Box 3. FRMPs in Severn RBD being prepared and consulted on

For the Severn RBD, 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 Severn RBD that covers:

- flooding from main rivers the sea and reservoirs for the RBD (as a statutory requirement)
- all sources of flooding for the following areas:
 - Bristol City Council (statutory and voluntary)
 - Bath & North East Somerset Council (statutory requirement for part of the Flood Risk Area and as voluntary information for the remaining part of the council area)
 - North Somerset Council (as above)
 - South Gloucestershire Council (as above)
 - Somerset County Council (as voluntary information)
 - City of Wolverhampton (statutory and voluntary)
 - Sandwell Metropolitan Borough Council (statutory and voluntary)
 - Dudley Metropolitan Borough Council (statutory and voluntary)
 - Northamptonshire County Council (as voluntary information)

An Environmental Report will also be published with the draft FRMP for consultation. (See 'Environmental Report and draft FRMP' in Section 6).

PLUS

Consultation on separate draft Flood Risk Management Plans that cover only local sources of flooding for the following areas (further information is available on the appropriate local authority websites):

- Blaenau Gwent County Borough Council (statutory)
- Cardiff City Council (statutory)
- Caerphilly County Borough Council (statutory)
- Rhondda Cynon Taff County Borough Council (statutory)
- Merthyr Tydfil County Borough Council (statutory)
- Torfaen County Borough Council (statutory)
- Newport County Borough Council (voluntary)
- Monmouth County Council (voluntary)
- Powys County Council (voluntary)
- Vale of Glamorgan County Borough Council (voluntary)

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

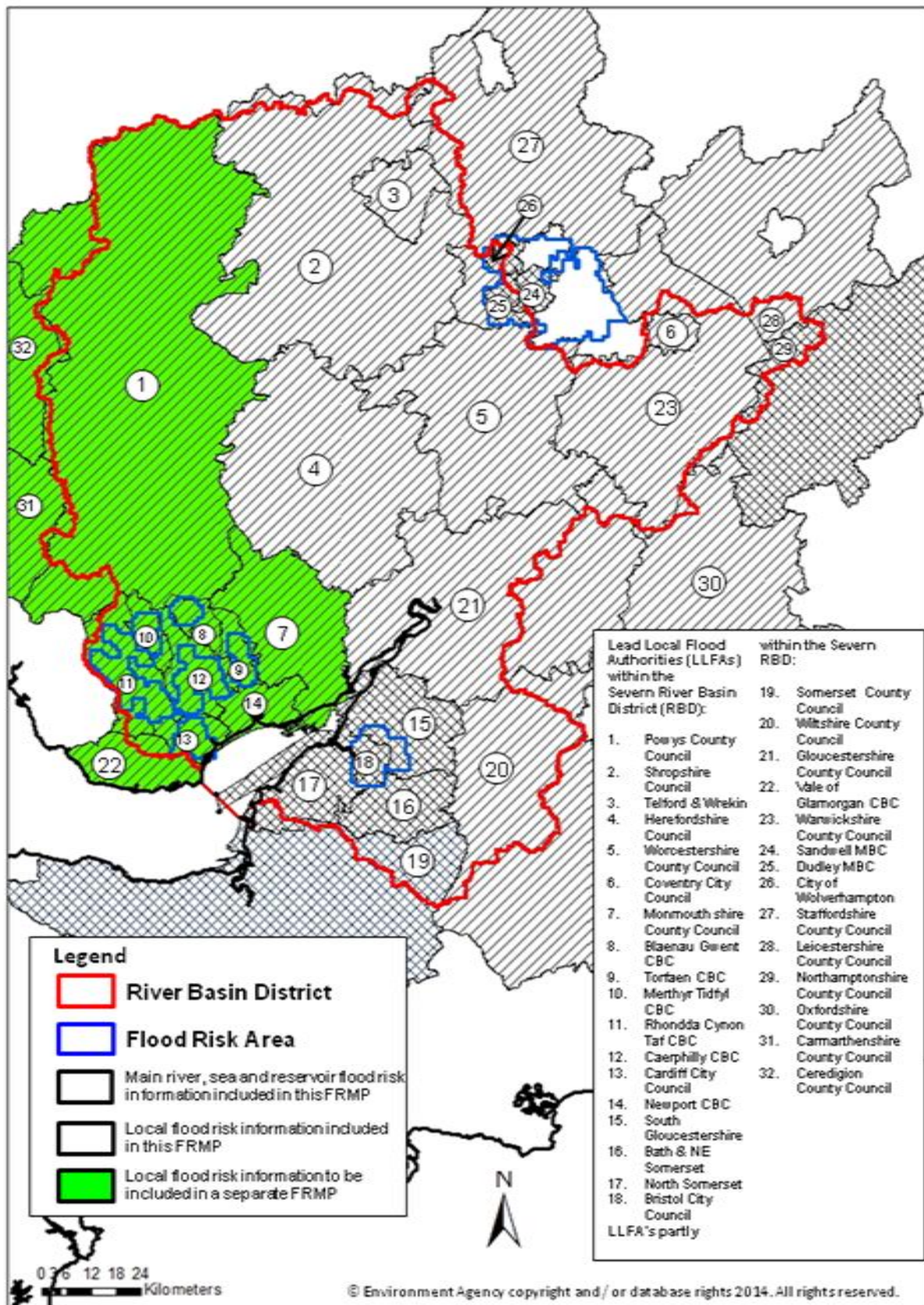


Figure 3: Scope of Flood Risk Management Planning for Severn River Basin District

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](#)²³.

The FRMP for each river basin district is intended to consolidate 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 Severn River Basin District 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 and Natural Resources Wales 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 and Natural Resources Wales 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 Severn RBD FRMP

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 Severn 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

The SEA for the Severn RBD FRMP will address the plan as a whole covering all areas in England and Wales.

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 work. 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 and National Resources Wales 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

Content of the FRMP	Will it be considered in the cumulative SEA i.e. for the whole plan?	Will a more detailed assessment be required i.e. at the measure level?
Flood risk maps	No, this provides factual information	No
Flood risk management objectives	Yes, we will assess the likely impacts of our objectives. This will be a high-level assessment at a river basin district scale.	No
Flood risk management measures	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.
Flood Risk Area FRMP	Yes, we will provide a summary of the significant environmental effects and use this to help identify cumulative impacts.	Plan owner to decide.

Other polices 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 RBD 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 RBD, 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, National Resources Wales 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. <https://www.gov.uk/flood-risk-management-information-for-flood-risk-management-authorities-asset-owners-and-local-authorities>
2. <http://wales.gov.uk/topics/environmentcountryside/epq/flooding/floodwaterbill/?lang=en>
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11. <https://www.gov.uk/government/collections/flood-risk-management-plans-frmps>
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13. http://www.local.gov.uk/local-flood-risk-management/-/journal_content/56/10180/3618366/ARTICLE
14. <https://www.gov.uk/government/publications/surface-water-management-plan-technical-guidance>
15. <https://www.gov.uk/government/collections/catchment-flood-management-plans>
16. <https://www.gov.uk/government/publications/shoreline-management-plans-smps>
17. <https://www.gov.uk/government/collections/flood-risk-management-current-schemes-and-strategies>
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20. <https://www.gov.uk/government/publications/flood-and-coastal-risk-management-in-england-long-term-investment>
21. <https://www.gov.uk/government/publications/national-flood-and-coastal-erosion-risk-management-strategy-for-england>
22. <http://wales.gov.uk/topics/environmentcountryside/epq/flooding/nationalstrategy/strategy/?lang=en>
23. <http://www.legislation.gov.uk/uksi/2004/1633/contents/made>

Annex 1: A summary of information for inclusion in the Severn RBD 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 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).

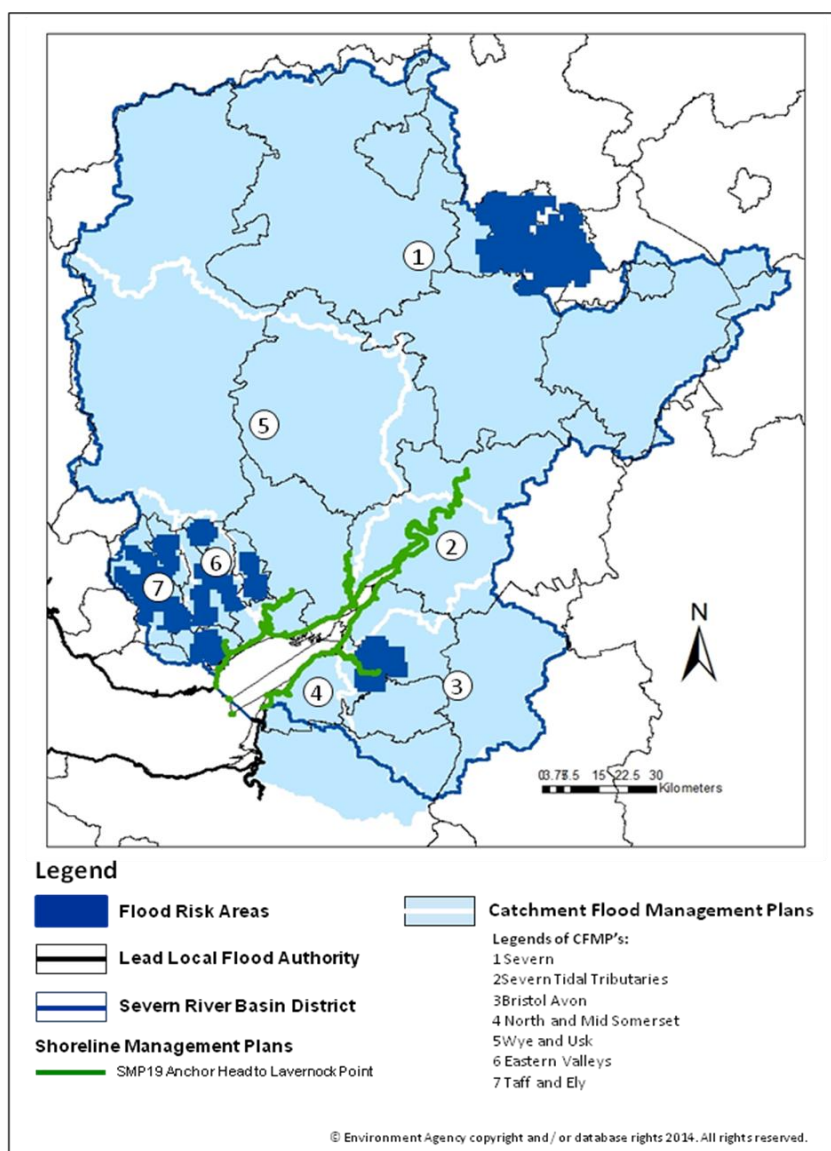


Figure 4: CFMPs and SMPs in Severn River Basin District

Tables A1 and B1 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 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.

Table A1. Information compiled by the Environment Agency and Natural Resources Wales related to flooding from rivers, the sea and reservoirs.

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)
Information from the following Catchment Flood Management Plans:											
1	River Severn	Flooding from main rivers	statutory: this information informs the statutory requirements for Flood Risk Management Plans under the Flood Risk Regulations	For any plan or part of a plan that falls within Wales, 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 transferred CFMP actions with more specific community level actions that are targeted at those communities of greatest risk. For any plan or part of a plan that falls within England, we will retain the agreed strategic direction for management of flood risk, where it is still appropriate. We will take forward any CFMP actions that are still appropriate and transfer them into FRMP measures/actions. We may also supplement these with additional/alternative objectives and measures/actions.	May to July 08	Yes, a voluntary Environmental Report was prepared to accompany the draft plan and consulted on at the same time.	Yes	Stage 3	No	Jan-10	Environment Agency: Contact: National Customer Contact Centre on: 03708 506 506 or email: enquiries@environment-agency.gov.uk
2	Severn Tidal Tributaries				Jan to Apr 07		Yes	Stage 2	No	Jan-10	
3	Bristol Avon				May-07		Yes	Yes	No	Sep-08	
4	North And Mid Somerset				Oct-06		Yes	Yes	No	Sep-08	
5	Wye and Usk				Nov 08 - Jan 09		Yes	Stage 3	No	Mar-09	
6	Eastern Valleys				Sept 08 - Dec 08		Yes	Stage 4	No	Mar-09	
7	Taff & Ely				Sept 08 until Dec 08		Yes	Stage 5	No	Mar-09	

No. on CFM P / 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)
Information from the following Inland, coastal and estuary strategies and plans											
	Severn Estuary Strategy	Flooding from main rivers and tidal	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 draft strategy. We will include appropriate actions in the FRMP. For areas of the plan that fall within Wales, we will not be making changes to the existing strategy. We will take forward any actions that are appropriate and coincide with those communities of greatest risk within the River Basin District.	May to Jul 13	Yes	Yes	Stage 3	Yes	2014	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)
	Fluvial Severn Flood Risk Management Strategy	Flooding from main rivers		For areas that fall within England, the existing strategy will be retained. Appropriate actions will be included in the FRMP. For areas that fall within Wales, changes will not be made to the existing strategy and actions will be taken forward that are appropriate and coincide with those communities of greatest risk within the RBD	Jul-05	Yes	No	No	No	Oct-06	
Information from the following Shoreline Management Plans:											
	SMP19 : Lavernock Point to Anchor Head	Flooding from the sea	statutory: this information informs the statutory requirements for Flood Risk Management Plans under the Flood Risk Regulations	The Severn Estuary Shoreline Management Plan 2 and associated action plans will remain as plans in their own right. Generally it is the intention to include agreed policies and actions in the FRMP except in the small number of locations where those now defer following development of the draft Severn Estuary Flood Risk Management Strategy. For areas of the plan that fall within Wales, we will not be making changes to the existing plan. We will retain the SMP Policy Units and agreed strategic direction 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.	Oct09 - Jan 10	Yes	Yes	Yes	No	SMP2 - Not yet issued. SMP1 - November 2000	Severn Estuary Coastal Group: Contact: Severn Estuary Partnership on: 09290 879111 or email: severn@cardiff.ac.uk
	SMP18 : Anchor Head to Hartland Point				Jan-09	Yes	Yes	Yes	No	SMP2 - Not yet issued. SMP1 - 1998	North Devon and Somerset Coastal Advisory Group: Contact: Chairman Phil Perkins at email phil.perkins@Sedgemoor.gov.uk

Table B1. Information compiled by Lead Local Flood Authorities related to 'local' sources of flooding (i.e. flooding 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 Severn RBD FRMP?	Status of information in 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)
26	Wolverhampton City Council	Local Sources	Yes	Yes	Statutory and Voluntary	In progress	LLFA will review and include relevant information from their Local FRM Strategy and SWMP. The SEA is likely to advise increased focus upon incorporation of multi-functional use within flood measures as well as trying to capture cumulative benefits from the measures	A draft SEA has been undertaken as part of the LFRMS	There are no European sites within Wolverhampton so no HRA has been undertaken. Once proposals are provided then they will be screened to confirm the absence of effects on sites beyond WCC	HRA has not been required, but this will be reviewed once draft proposals are received	Unlikely to be required, but can only be determined once draft proposals are received	Dudley Metropolitan Borough Council Council House, Priory Road Dudley, West Midlands, DY1 1HF 0300 555 2345 dudleycouncilplus@dudley.gov.uk

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 Severn RBD FRMP?	Status of information in FRMP (statutory or voluntary)	Local Strategy progresses (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)
25	Dudley Metropolitan Borough Council	Local Sources	Yes	Yes	Statutory and Voluntary	In progress	Council to review and consider which actions contained in the Local Flood Risk Strategy need to be included in the FRMP	Yes	Yes	Yes	No	Dudley Metropolitan Borough Council Council House, Priory Road Dudley, West Midlands, DY1 1HF 0300 555 2345 dudleycouncilplus@dudley.gov.uk
24	Sandwell Metropolitan Borough Council	Local Sources	Yes	Yes	Statutory and Voluntary	In progress	To be confirmed	To be confirmed	To be confirmed	To be confirmed	To be confirmed	Sandwell Metropolitan Borough Council PO Box 2374 Oldbury, B69 3DE 0845 358 2200 contact@sandwell.gov.uk

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 Severn RBD FRMP?	Status of information in 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)
18	Bristol City Council	Local Sources	Yes	Yes	Statutory and Voluntary	Public consultation on strategy in progress or complete	To build on info from the PFRA. Include relevant Actions and info from FRM Strategy	Yes	Yet to be determined	Yet to be determined	Yet to be determined	Bristol City Council Brunel House, St. George's Road Bristol, BS1 5UY 0117 922 2000 customer.services@bristol.gov.uk
17	North Somerset Council	Local Sources	Yes	Yes	Statutory and Voluntary	Public consultation on strategy in progress or complete	Review and include relevant information from LFRMS	Yes	Yes	Not required	No requirement identified at this stage. Will be explored on project specific basis.	North Somerset Council Town Hall, Walliscote Grove Road Weston-super-Mare, BS23 1UJ 01934 888888 customer.services@n-somerset.gov.uk

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 Severn RBD FRMP?	Status of information in 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)
15	South Gloucestershire Council	Local Sources	Yes	Yes	Statutory and Voluntary	In progress	Review and include relevant information from LFRMS	Yes (planned)	Yes (planned)	Yet to be determined	Yet to be determined	South Gloucestershire Council Castle Street Thornbury, BS35 1HF 01454 868009 01454 868009 customer.services@n-somerset.gov.uk
16	Bath and North East Somerset	Local Sources	Yes	Yes	Statutory and Voluntary	In progress	Review and include relevant information from LFRMS	Yes	No	No	No	Bath & North East Somerset Council Riverside, Temple Street Keynsham, Bristol, BS31 3LA 01225 477000 enquiries@bathnes.gov.uk

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 Severn RBD FRMP?	Status of information in 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)
19	Somerset County Council	Local Sources	No	Yes	Voluntary	Summary of strategy published	Review and include relevant information from LFRMS	Yes	Yes	No	No	Somerset County Council County Hall Taunton, TA1 4DY 0845 345 9166 Generalenquiries@somerset.gov.uk

Annex 2 Results of SEA scoping process

Table A2 provides the results of an early review of the proposed Environment Agency and national Resources Wales 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.

Plan or Community at Risk	Level of changes for FRMP	Outcome of plan review	Initial SEA scoping results
Communities at Risk (River Severn Basin District)	New actions in the FRMP	<p>For England, actions at the community level are under consideration. This FRMP is likely to include some new and existing actions taken forward from existing plans.</p> <p>For Wales, the FRMP will include community level actions as informed by the Communities at Risk register and targeting those communities at greatest risk</p>	<p>Detailed scoping of new actions is an ongoing process</p> <p>As developed new actions will be assessed at an appropriate level</p> <p>All actions will be scoped in to the high level assessment</p>
CFMPs	For areas within England , the existing	Existing CFMP appraisals to provide	Detailed scoping of new actions is an ongoing

<p>River Severn Severn Tidal Tributaries</p> <p>Bristol Avon</p> <p>North and Mid Somerset</p> <p>Wye and Usk</p> <p>Eastern Valleys</p> <p>Taff and Ely</p>	<p>plans will be retained. It is likely the existing policies will be carried forward unchanged to the FRMP where still appropriate. Actions that are not yet delivered and still relevant will be carried forward to the FRMP.</p> <p>For areas within Wales, the existing plans will be retained. Actions will be taken forward to the FRMP that are appropriate and relevant and yet to be delivered.</p>	<p>basis of FRMP supporting evidence</p>	<p>process</p> <p>As developed new actions will be assessed at an appropriate level</p> <p>All actions will be scoped into the high level assessment</p>
<p>Lavernock Point to Anchor Head (SMP2)</p>	<p>For areas that fall within England, the existing plan and associated action plan will be retained. It is intended to include agreed policies and actions in the FRMP except where these are updated by the Severn Estuary FRM Strategy</p> <p>For areas of the plan that fall within Wales, the existing plan and action plan will be retained unchanged. The SMP Policy Units and the agreed strategic direction will be retained. The FRMP will include agreed actions from the SMPs in relation to flooding from the sea where they correspond with those communities of greatest risk</p>	<p>Existing SMP appraisals to provide basis of FRMP supporting evidence</p>	<p>All actions will be scoped into the high level assessment and are unlikely to require detailed assessment</p>
<p>Severn Estuary Flood Risk</p>	<p>For areas that fall within England, the existing</p>	<p>Existing Severn Estuary FRM Strategy</p>	<p>All actions will be scoped into the high</p>

Management Strategy (draft)	<p>strategy will be retained. Appropriate actions will be included in the FRMP.</p> <p>For areas that fall within Wales, changes will not be made to the existing strategy and actions will be taken forward that are appropriate and coincide with those communities of greatest risk within the RBD</p>	<p>appraisal to provide basis of FRMP supporting evidence</p>	<p>level assessment and are unlikely to require detailed assessment</p>
Fluvial Severn Flood Risk Management Strategy	<p>For areas that fall within England, the existing strategy will be retained. Appropriate actions will be included in the FRMP.</p> <p>For areas that fall within Wales, changes will not be made to the existing strategy and actions will be taken forward that are appropriate and coincide with those communities of greatest risk within the RBD</p>	<p>Existing Fluvial Severn FRM Strategy appraisal to provide basis of FRMP supporting evidence</p>	<p>All actions will be scoped into the high level assessment and are unlikely to require detailed assessment</p>

Table A2: Summary of the SEA scoping 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
A Water Strategy for Wales (In Consultation)	Welsh Government	2014
National Planning Policy Framework	Communities & Local Government (CLG)	2012
Planning Policy Wales (including Technical Advice Notes : Various)	Welsh Government	2012
People, Places, Futures - The Welsh Spatial Strategy	Welsh Government	2008
Natural environment white paper: The natural choice: Securing the value of nature	Defra	2012
Environment Strategy For Wales	Welsh Assembly Government	2006
Sustaining a Living Wales: A Green Paper on a New Approach to Natural Resources Management in Wales	Welsh Government	2012
The Welsh Government Strategy for Tourism 2013-2020. Partnership for Growth.	Welsh Government	2013
Biodiversity 2020: A strategy for England's Wildlife and Ecosystem Services	Defra	2012
Wales Biodiversity Framework	Welsh Biodiversity Partnership	2010
Wales Fisheries Strategy	Welsh Assembly Government	2008
Government Forestry & Woodlands Policy Statement	Defra	2013
Woodland Strategy for Wales	Forestry Commission Wales	2009
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	Defra	2005

guidance.		
Climbing Higher - The Welsh Government's 20 year strategy for sport and physical activity in Wales	Welsh Assembly Government	2005
Safeguarding our soils: A strategy for England	Defra	2009
Wales Soils Action Plan (In Consultation)	Welsh Government	2014
Understanding the risks, empowering communities, building resilience: The national flood and coastal erosion risk management strategy for England	Defra & Environment Agency	2011
Understanding the risks, empowering communities, building resilience: The national flood and coastal erosion risk management strategy for Wales	Welsh Government	2011
UK Marine Policy Statement	HMG, NI Executive, Scottish Government, Welsh Assembly Government	2011
Welsh Marine Spatial Plan (Emerging)	Welsh Government	tbc
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
Climate Change Strategy for Wales	Welsh Assembly Government	2010
Low Carbon Wales	Welsh Assembly Government	2010
Low carbon Revolution - The Welsh Government Energy Policy Statement	Welsh Assembly Government	2010
Preparing Wales for Climate Change - Energy Wales a Low Carbon Transition	Welsh Government	2012
The Government's Statement on the Historic Environment for England 2010	HMG	2010
Valuing the Welsh Historic Environment	Valuing Our Environment Partnership	2010
All Landscapes Matter	Natural England	2009
Historic Landscape Register for Wales	CADW, CCW, ICOMOS	2001
Welsh Government Strategic Policy Position on Water	Welsh Government	2011
Rural Development Plan for Wales (2007-2013 and 2014-2020)	Welsh Government	2010
Wales Sustainable Development Scheme : One Wales, One Planet	Welsh Assembly Government	2009
Making the Most of Wales' Coast: ICZ Management Strategy for Wales	Welsh Assembly Government	2007
Farming, Food and Countryside: Building a Secure Future - A New Strategy for Farming	Welsh Government	2009

National Waste Strategy for Wales: Towards Zero Waste 2009-2050	Welsh Government	2010
Metal Mines Strategy for Wales	Environment Agency Wales	2002
Minerals Planning Policy Wales	National Assembly for Wales	2001
Wales Transport Strategy	Welsh Assembly Government	2008

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 Severn RBD

Policy / Plan / Programme	Published by	Year
Emerging River Basin Management Plans [Humber; Thames; Anglian; Western Wales; Dee; South West]	Environment Agency Natural Resources Wales	Ongoing
Unitary Development Plans / Local Development Plans	Local Authorities - Various	Various
Minerals and Waste Plans	Local Authorities - Various	Various
Local and Regional Transport Plans	Various	Various
Strategic Economic and Investment Plans	Local Enterprise Partnerships	Various
Catchment Flood Management Plans [River Severn; River Severn Tidal Tributaries; Wye and Usk; Bristol Avon; North and Mid Somerset; Eastern Valleys; Taff and Ely]	Environment Agency Environment Agency Wales	2009
Severn Estuary Flood Risk Management Strategy	Environment Agency Natural Resource Wales	Ongoing
Wales and Midlands Regional Catchment Abstraction Management Strategies (CAMS)	Environment Agency Environment Agency Wales	Various
Shoreline Management Plans (SMP19 Anchor Head to Lavernock Point)	Coastal Group Partnerships	Various
Fluvial River Severn Flood Risk Management Strategy	Environment Agency	2006
River Severn at Gloucester Flood Risk Management Strategy	Environment Agency	2005
River Severn Eel Management Plan	DEFRA	2010
Salmon Action Plans – Various	Environment Agency Environment Agency Wales	Various
Surface Water Management Strategies (Various)	Local Authorities – Various	Various

Water Resources Management Plans (Various)	Water Companies – Various	Ongoing
Drought Plans	Various	Various
SSSI River Restoration Strategies (Teme, Wye & Lugg)	Environment Agency/Natural England	Various
Nature Improvement Areas (Birmingham and Black Country; Meres and Mosses of the Marches)	Various	Various
Nutrient Management Plans	Environment Agency/Natural England	Various
Brecon Beacons National Park Management Plan 2010-2015	Brecon Beacons National Park Authority	2010
Areas of Outstanding Natural Beauty Management Plans	Various	Various
Strategic Waterway Plans (Various)	Canals & Rivers Trust	2013
Ironbridge Gorge World Heritage Site Management Plan	WHS Steering Group	2001
Green Infrastructure Strategies	Various	Various
Biodiversity Action Plans	Various	Various

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 addressed by the high level assessment?
Biodiversity, flora and fauna	<ul style="list-style-type: none"> • Across the RBD there are many important habitats and wildlife areas of national and international importance, including the Severn Estuary a European Marine Site and a designated Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar site • Of the European protected sites in the RBD 5 SPAs and 28 SACs are water dependent. Many Sites of Special Scientific Interest (SSSI) also have close links with the water environment • The RBD contains a significant number of water bodies that support Salmon and Trout (906 Freshwater Fish Waters), including the Severn Estuary which is protected as a migratory route for Salmon, Sea Lamprey, Shad and Eels with protected spawning grounds in the Severn Uplands, Teme and Wye catchments • In the RBD there are over 3,800 river obstructions that potentially stop fish from migrating freely with the result that approximately 11% of rivers have low numbers of fish • Water bodies and wetlands in the RBD support protected species (e.g. otter, water vole) and Priority Species listed in the UK Biodiversity Action Plan • Although not causing widespread problems, invasive non-native species include Japanese Knotweed, Himalayan Balsam, Giant Hogweed and American Mink, American Signal Crayfish (e.g. River Isbourne, Worcestershire), Common Cord Grass (e.g. Severn Estuary) and Zebra Mussels (e.g. Cardiff Bay and 	Yes

	lower and middle Severn)	
Population and human health	<ul style="list-style-type: none"> • The RBD has a population of over 5.3 million people with major urban centres including the Black Country, Bristol, Coventry, Cardiff, the South Wales Valleys and parts of the West Midlands conurbation • Beyond the main population centres, including Telford, Rugby, Leamington Spa, Gloucester, Cheltenham, Newport, the shire towns of Worcester, Shrewsbury, Hereford, and the border towns of Welshpool, Newtown, Oswestry and Brecon, the RBD is relatively sparsely populated with less than 10% of the area urbanised • Growth and development pressures are particularly associated with the major towns and cities, but also increasingly the wider settlement network of market towns and villages. Other development pressures include wind energy and transport infrastructure • Drinking water abstraction is significant in the RBD with the headwaters of many of the rivers modified by dams to form reservoirs to supply drinking water (e.g. Elan Valley, Clywedog and Vrynwy reservoirs and the headwaters of the River Usk). 11% of rivers in the RBD already experience lack of flow that affects their condition • Recreational opportunities within the RBD are extremely varied from angling and other water sports to walking and popular visitor and tourism destinations such as Bath, Stratford on Avon, the River Severn towns, the Brecon Beacons National Park, the Cotswolds Area of Outstanding Natural Beauty and the Forest of Dean 	Yes
Soil / Geology	<ul style="list-style-type: none"> • Concentrations of limestone quarrying in the Mendip Hills and sand and gravel extraction along the River Severn Valley • Coal mining in the South Wales Valleys has left a legacy of pollution. Other areas with former mining include metal mining in Shropshire (e.g. Stiperstones) and open cast mining around Telford • Fforest Fawr Geopark is within the Brecon Beacons National Park and its geological heritage is of European significance. • Soil types are strongly influenced by topography. Soil quality has been adversely affected by inappropriate management, reliance on pesticides and loss of nutrients and organic wastes from agricultural sources, all of which also impact on water. Some soils are also vulnerable to acidification • Parts of the district have areas of peatland habitat, such as upland blanket bogs and the lowland Meres and Mosses of north Shropshire. When in good condition these areas are valuable for biodiversity, carbon storage and sequestration, regulation of stream base flows, water runoff and nutrient 	Yes

	regulation and retention	
Water	<ul style="list-style-type: none"> • As well as the River Severn and its main tributaries, the Warwickshire Avon and the Teme, the RBD includes the Bristol Avon and rivers of south east Wales including the Wye, Usk and Taff • The water bodies of the district's 11 catchments comprise over 7,500km of river, 71 lakes, 36 canals, 40 areas of groundwater and 545 sq km of estuary • Of the 872 surface water bodies, in 2009 29% (253) are recorded as meeting good ecological status/potential or better and 71% (619) not meeting good ecological status/potential • The most significant water management issues for the district are pollution from rural areas (especially from agriculture), this affecting nearly 40% of waters; pollution from waste water, affecting nearly 30% of water bodies; and manmade alterations that affect almost a quarter of the water bodies in the RBD. • 44% of the land area is covered by Nitrate Vulnerable Zones, this reflecting the rural character of the basin with three quarters of the land managed for agriculture 	Yes
Air	<ul style="list-style-type: none"> • 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 	No
Climatic factors	<ul style="list-style-type: none"> • UKCIP predictions show that by the 2050s summer temperatures across the RBD could rise between 1.2 and 4.4°C and winter temperatures between 1.2 and 3.2 °C. Rainfall may change in summer from a decrease of 37% to an increase of 6% and in winter rainfall may increase between 2% and 27% 	Yes
Infrastructure	<ul style="list-style-type: none"> • The rail and motorway network linking the South West to the West Midlands, Wales and London (M5, M42, M54, M50, M4) and the primary road network, including to the west the A5, A49, A483 and to the east the A429 and A44 • Commercial ports at Bristol (Avonmouth and Royal Portbury Docks), Cardiff, Newport and Sharpness; airports at Bristol and Cardiff; and major river crossings, including the Severn Bridge and Second Severn Crossing • The canal network such as the Kennet and Avon, Montgomery, Monmouthshire and Brecon, Gloucester and Sharpness canals and the River Severn Navigation • The local economy of the RBD includes key sectors related to business, transport, health and tourism and recreation together with important areas of manufacturing, such as along the Severn at Avonmouth, and the minerals industry with notable concentrations of limestone extraction in the Mendip 	Yes

	<p>Hills and sand and gravel extraction associated with the Severn Valley</p> <ul style="list-style-type: none"> • Within the district 80% of the land is in use for agriculture and forestry, the sector including beef and sheep farming, large-scale dairy farms, coniferous forestry plantations and some arable and specialist horticulture • There has been an increasing number of hydropower schemes (e.g. Rivers Teme and Severn) with continuing demand, including in association with the restoration of historic mills such as in Herefordshire 	
Cultural heritage	<ul style="list-style-type: none"> • A wealth of designated heritage assets (e.g. scheduled monuments, listed buildings, registered parks and gardens, conservation) as for example associated with the district's historic riverside towns (e.g. Shrewsbury, Hereford, Worcester, Tewkesbury) • The RBD also includes the internationally recognised World Heritage Sites of the Ironbridge Gorge, Blaenavon Industrial Landscape and the City of Bath • Across the RBD many designated and non-designated heritage assets (e.g. weirs, dams, water mills, bridges) are directly associated with the water environment and also including historic landscape features such as the extensive network of water meadows along the River Lugg in Herefordshire. Extensive deposits of peat are also of archaeological interest and include intertidal and submerged deposits associated with coastal areas (e.g. Goldcliff near Newport, Bristol, Somerset, Gloucestershire) as well as inland areas, such as the Shropshire Meres and Mosses • In the Welsh part of the RBD several areas are on the register of Landscapes of Historic Interest (e.g. Gwent Levels, Blaenavon, Lower Wye Valley) 	Yes
Landscape	<ul style="list-style-type: none"> • Predominantly rural in character the basin covers an area of over 21,000 sq km extending from the uplands of Wales, down through valleys and rolling hills, to the lowlands and Severn Estuary • Designated landscapes include the Brecon Beacons National Park and Areas of Outstanding Natural Beauty within or partly with the basin (e.g. Mendip Hills, Cotswolds, Shropshire Hills, Malvern Hills, Wye Valley) 	Yes

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