



Catchment Flood Management Plans  
Annual Report 2012

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.

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# Foreword

Catchment Flood Management Plans enable flood risk management measures to be planned over the long-term across a catchment.

We published Catchment Flood Management Plans for England and Wales from 2009 to 2011 and this is our second annual report on progress in implementing them.

Since our first report, we have completed over 500 actions. The most progress has been made with asset management and maintenance actions, development planning and adaptation and high level awareness and engagement. This is a reflection of our work supporting Lead Local Flood Authorities with their new responsibilities, continued review of our asset management plans, progression of flood risk management schemes and implementing lessons learned from recent flood events.

We will continue to work in partnership with others, delivering the actions set out in the plans. As understanding about all sources of flood risk improves, we will look at how catchment plans could accommodate this evidence to reflect the shared priorities of ourselves and our partners.

We consulted recently on the approach to developing Flood Risk Management Plans under the Flood Risk Regulations. We want to adapt Catchment Flood Management Plans to meet the requirements of the Regulations in an efficient and effective way. We are considering the consultation responses and will discuss with partners how best to do this shortly.



**David Rooke**

**Director of Flood and Coastal Risk Management**

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# 1 Current and future flood risk

The Environment Agency estimates that 2.5 million properties in England are at risk of flooding from rivers or the sea. There are also an estimated 3.8 million properties susceptible to surface water flooding. This includes around one million that are also at risk of flooding from rivers or the sea. In Wales, approximately 357,000 properties are at risk of flooding from rivers, the sea or surface water. This includes 220,000 properties at risk of flooding from rivers or the sea, 97,000 of which are also at risk of surface water flooding. Another 137,000 are at risk from surface water flooding alone.

Catchment Flood Management Plans (CFMPs) consider all sources of inland flooding: from rivers, ground water, surface runoff and also tidal flooding from rivers and estuaries. CFMPs do not include flooding directly from the sea. Since the CFMPs were published understanding of flood risk from surface runoff, in particular, continues to improve. Lead Local Flood Authorities are developing Local Flood Risk Management Strategies to share this understanding and set out their approach to managing flood risk in their areas. The CFMPs have helped inform those Local Strategies of the risks across a catchment. The Environment Agency is updating the national Flood Map for Surface Water, fully informed by Local Authority data. This will help to give everyone an improved understanding of flooding from surface water.

Catchments covered by a CFMP are divided into smaller areas called 'policy units'. One of the six policy options, specified by Government and outlined below, is then assigned to each unit, along with a series of actions that, together, can deliver the policy for that area.

The six different Government specified policies that provide a general direction for flood risk management activities in an area, depending on the existing management and the current, and likely future risk, are as follows:

## Flood Risk Management Policy Options

**Policy 1:** Areas of little or no flood risk where we will continue to monitor and advise

**Policy 2:** Areas of low to moderate flood risk where existing flood risk management actions can generally be reduced

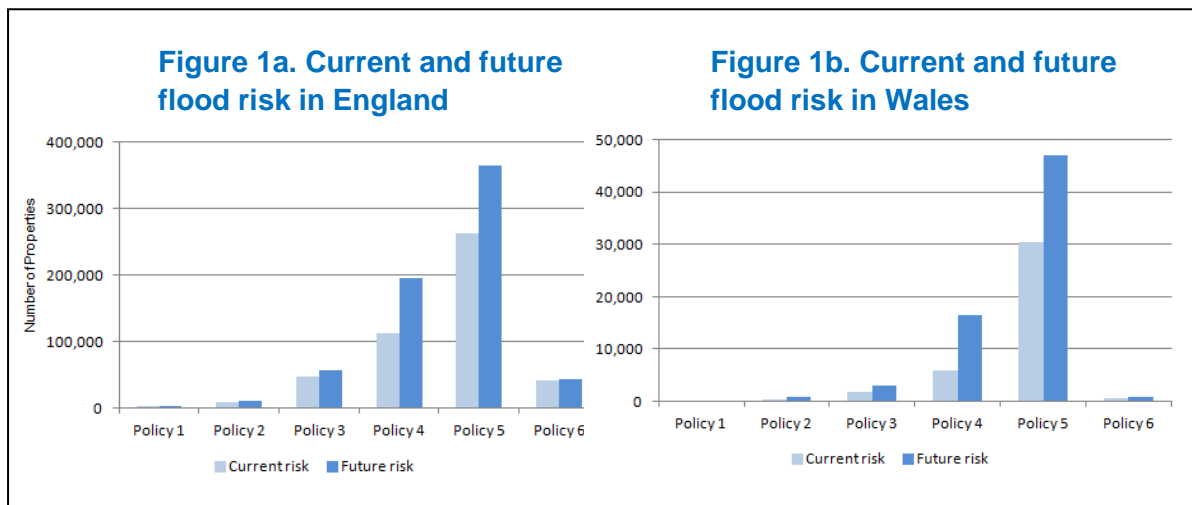
**Policy 3:** Areas of low to moderate flood risk where existing flood risk is generally managed effectively

**Policy 4:** Areas of low, moderate or high flood risk where flood risk is generally managed effectively but where further actions may be needed to keep pace with climate change

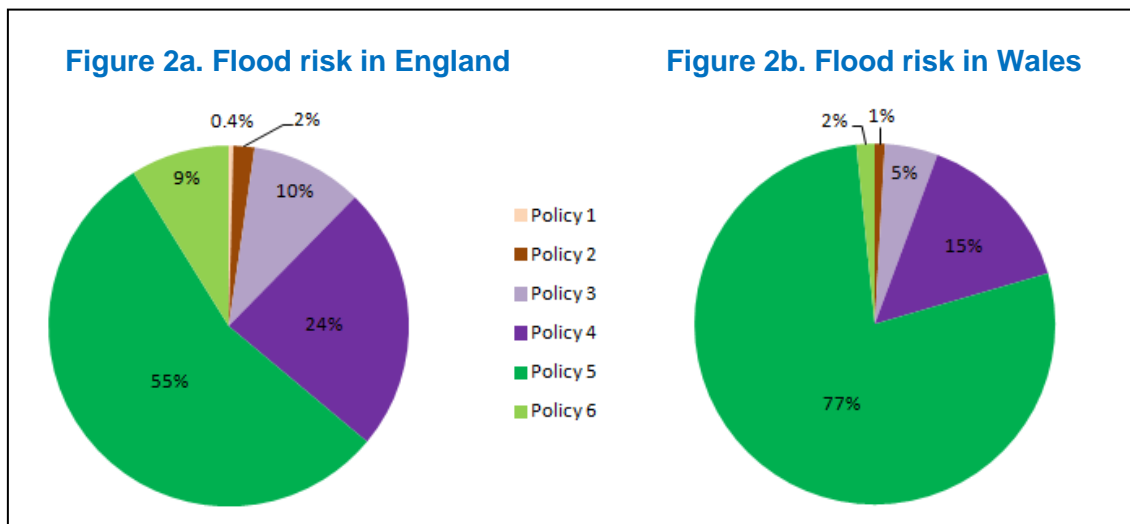
**Policy 5:** Areas of moderate to high flood risk where further action is required to reduce flood risk

**Policy 6:** Areas of low to moderate flood risk where action will be taken to store water or manage run-off in locations that provide overall flood risk reduction or environmental benefits

The number of properties at risk in a 1% annual probability flood (1 in 100 years) is shown below (Figures 1a and 1b). The future risk takes climate change by 2100 into account.



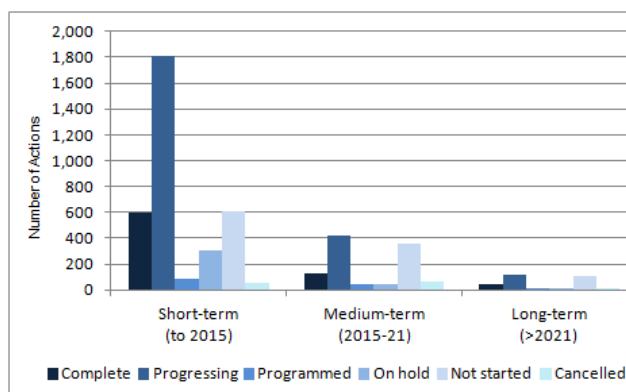
Figures 2a and 2b show the proportion of properties currently at risk of flooding according to the assigned policy. These charts indicate that of those properties currently at risk of fluvial flooding in a 1% annual probability (1 in 100 years) flood, over 260,000 (~50%) in England and 30,000 (~80%) in Wales are within areas where further action can generally be taken to reduce risk. A further quarter of the properties (around 110,000) currently at risk in England and 15% (around 5,500) in Wales are where the risk is currently being managed sufficiently but further action may be needed in the future to manage the increased risk resulting from climate change.



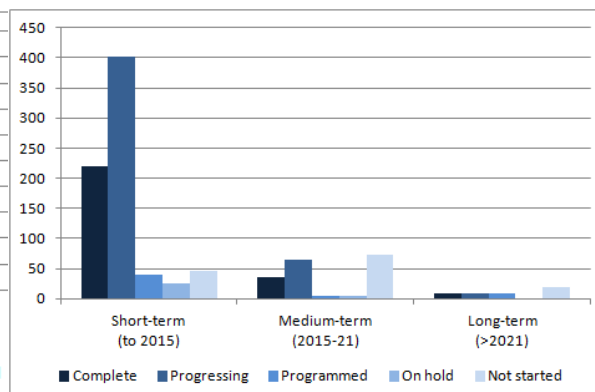
## 2 Progress

This report covers the period from 1 April 2011 to 31 March 2012. We are monitoring progress over three planning cycles: the short-term (to 2015), medium-term (2015 to 2021) and long-term (after 2021). We are also monitoring the delivery of actions according to seven themes that reflect the main approaches to managing flood risk. Figures 3a and 3b summarise the overall progress in actions across these planning cycles, where Table 1 breaks this progress down according to the types of actions.

**Figure 3a. Progress in England**



**Figure 3b. Progress in Wales**



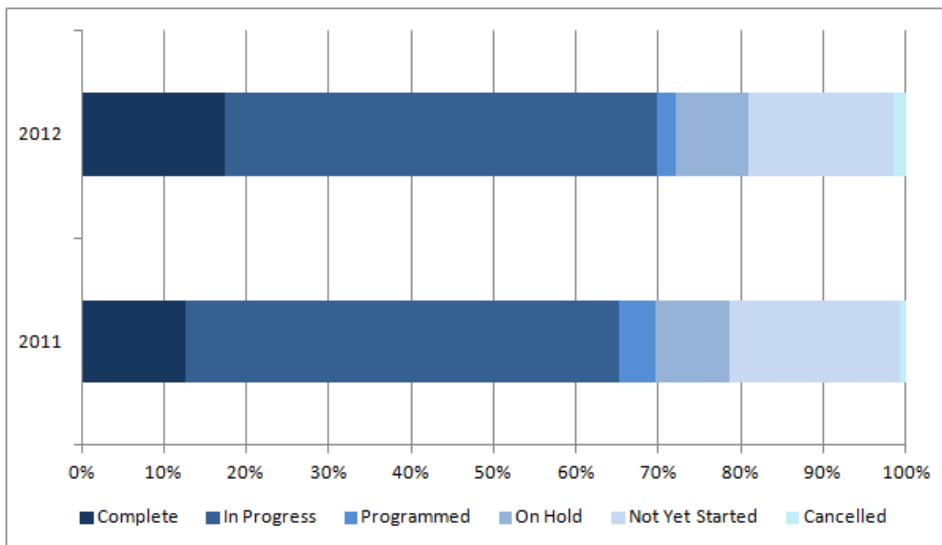
**Table 1. Progress in implementing actions across all three planning cycles**

Type of Action	England				Wales			
	Number of actions	Percent of all actions	Percent of actions complete	Percent of actions progressing	Number of actions	Percent of all actions	Percent of actions complete	Percent of actions progressing
Development planning and adaptation	735	15%	6%	67%	157	16%	48%	45%
Flood forecasting, warning and response	832	17%	20%	50%	318	33%	11%	64%
Land, cultural and environmental management	693	14%	5%	23%	57	6%	2%	4%
Asset management and maintenance	848	18%	37%	51%	224	23%	43%	41%
Studies, assessments and plans	1664	34%	13%	49%	133	14%	23%	53%
High level awareness and engagement	50	1%	4%	60%	69	7%	33%	54%
Monitoring	10	0.2%	0%	40%	2	0.2%	0%	50%
<b>Total</b>	<b>4832</b>	<b>100%</b>	<b>16%</b>	<b>49%</b>	<b>960</b>	<b>100%</b>	<b>27%</b>	<b>50%</b>

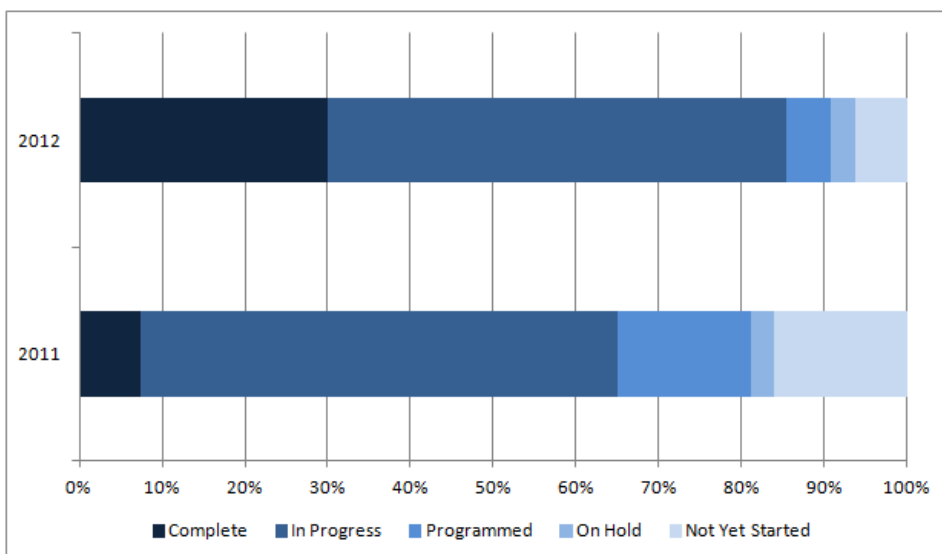
We are monitoring progress on approximately 5700 actions from the plans. Approximately half of the actions in England and Wales are being progressed while roughly 16% of the actions in England are completed and 27% of the actions in Wales. This is an increase from last year of 7% and 20% respectively. Approximately 330 actions have been completed in England since last year's report and 200 in Wales.

In the short term (up to 2015) we plan to carry out nearly 3300 actions in England and 730 in Wales. Figures 4a and 4b illustrate the progress of these short-term actions and provide a comparison with last year's figures.

**Figure 4a. Progress of short-term actions in England (to 2015)**



**Figure 4b. Progress of short-term actions in Wales (to 2015)**





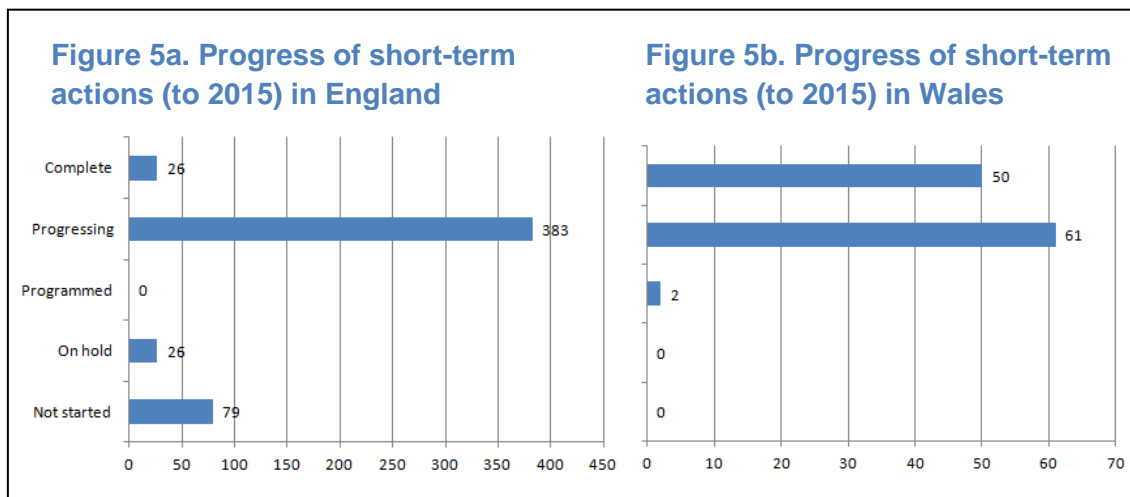
Since the publication of the Annual Report for 2011, the actions have been reviewed and in some cases may have been changed or removed if, for example, understanding has changed and they are no longer appropriate. In some cases, new actions have been added to reflect, for example improved evidence.

The next sections detail progress on each theme:

- Development planning and adaptation
- Flood forecasting, warning and response
- Land, cultural and environmental management
- Asset management and maintenance
- Studies, assessments and plans
- High level awareness and engagement
- Monitoring

## 2.1 Development planning and adaptation

Actions for development planning and adaptation include those on spatial planning and water cycle studies. Since the publication of last year's report, there has been a lot of work undertaken by Local Authorities to better understand local flood risk, particularly surface water. Strategic Flood Risk Assessments and Surface Water Management Plans have identified opportunities to manage risk through the planning system, for example through the use of Sustainable Drainage Systems (SuDS). Figures 5a and 5b illustrate progress against short-term actions for England and Wales.



### Case Study: Shropshire Council Core Strategy

**Lead:** Shropshire Council (in consultation with the Environment Agency)

**Action:** Working with local authorities to raise awareness of flood risk issues and develop Strategic Flood Risk Assessments (SFRAs) to ensure that flood risk does not increase as a result of development

**Background:** The SFRAs for Shropshire identify flood risks from rivers in addition to increased surface water runoff.

**Progress:** The Shropshire Core Strategy has been adopted and includes a policy to ensure that certain types of development will need to make a financial contribution towards managing flood risk.

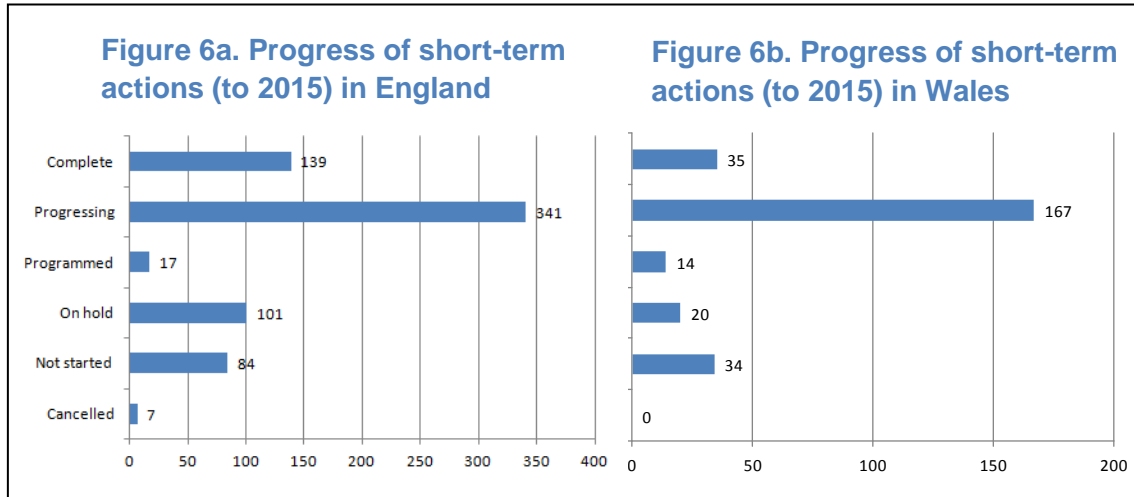
This policy includes providing further funding for:

- Surface Water Management Plans
- flood risk management infrastructure
- ongoing maintenance for sites that directly benefit from demountable defences
- provision of flood gauges and warning systems.



## 2.2 Flood forecasting, warning and response

A number of these actions relate to the Extended Direct Warnings (EDW) and Flood Warnings Direct project and are now complete. Multi-Agency response was tested in March 2011 through Exercise Watermark and the lessons learned from that have influenced the delivery of a number of actions in the CFMPs. Further improvements have been made to forecasting tools and products. We have also introduced a new flood warning service for flooding from groundwater in areas of England with a history of this type of flooding. Figures 6a and 6b summarise progress of actions under this theme.



### Case Study: Rapid response catchments in the South West

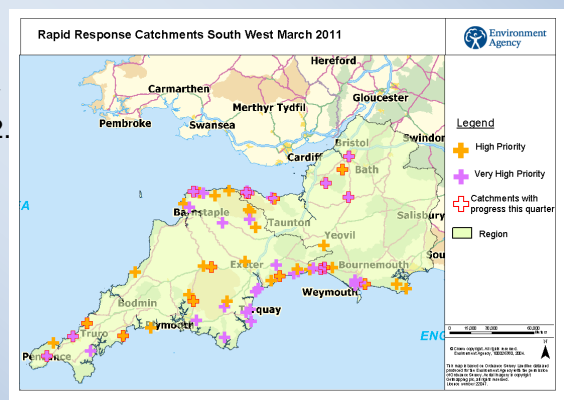
**Lead:** Environment Agency

**Action:** Improve response to flood warnings through raising awareness

**Background:** There are 68 priority rapid response catchments across the South West. Action plans for these catchments were completed in December 2010 and we are now working to implement them. The main objectives are to reduce the risk to life from flooding, work with communities and our partners to find the most acceptable way to manage flood response and to ensure communities and our partners understand what flash flooding is and what it means for them.

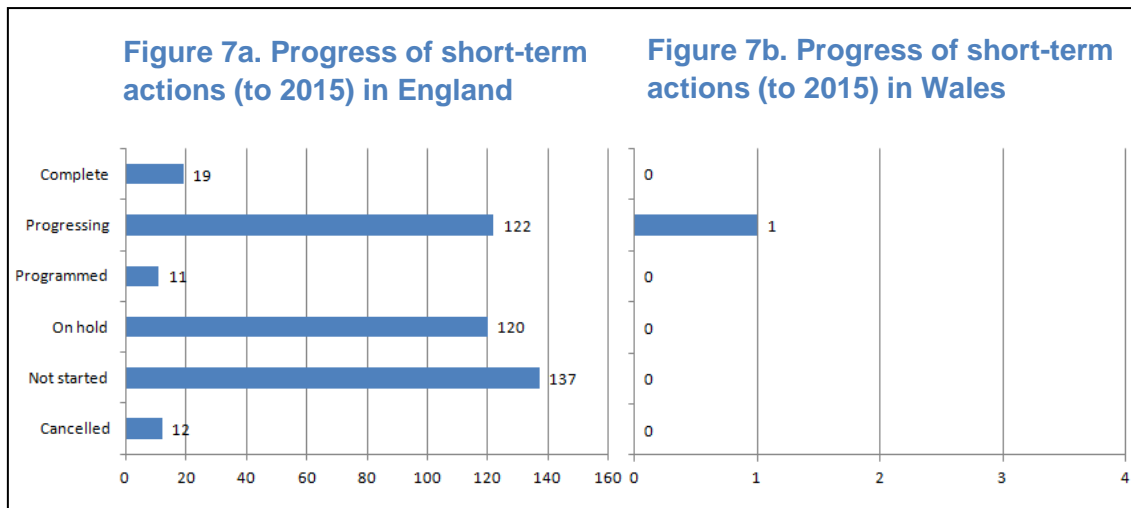
**Progress:** Nearly 1,000 actions were identified in the catchment action plans, over 300 of which were completed by March 2012. The main focus is on improving flood forecasting, increasing flood awareness and working with vulnerable groups and communities. Completed actions include:

- two new flow gauges in the Penzance catchment and one at Cheddar
- a new flood forecasting model for the Winford Brook at Chew
- ten completed community flood plans with a further 58 in development.



## 2.3 Land, cultural and environmental management

Flood risk management activities can play a big part in delivering Water Framework Directive (WFD) objectives. In each of the 25 WFD catchment pilots in England, we are working closely with partners and local communities to test approaches to improved engagement, information sharing and co-ordination of action at a catchment level. The case study below describes one of a number of projects that have been set up in the Adur and Ouse catchment. Further information can be found on our [website](#). Progress against these actions is shown in Figures 7a and 7b.



### Case study: Middle Ouse Restoration of Physical Habitats (MORPH)

**Lead:** Environment Agency in partnership with the Ouse and Adur Rivers Trust

**Action:** River restoration, floodplain storage and inundation on the Middle Ouse, to reduce flood risk downstream in areas including Lewes

**Background:** Restoring the natural river and its floodplain will reduce flooding downstream as well as improve wildlife habitats. Weirs and mills disrupt the river's natural flow and the channel has been over-widened and deepened for navigation. After heavy rain, the extra water flows quickly downstream, where it can make flooding worse. Through the MORPH project, we will improve 15 sites on the River Ouse including using the floodplain to store water, improving habitat and making it easier for fish to move up and down the river.

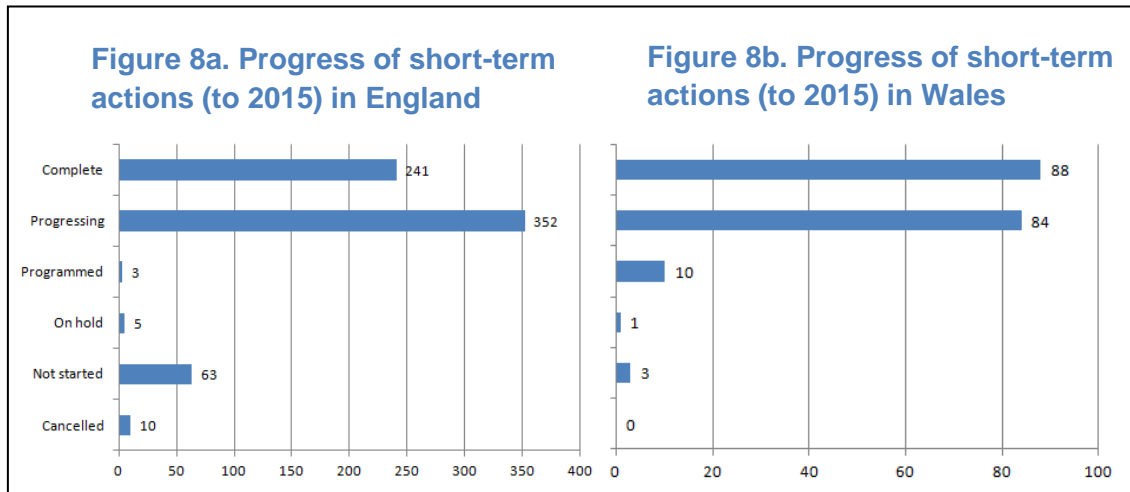


**Progress:** The four priority sites - Buxted Park (shown left), Sheffield Park, Sharpsbridge (shown above) and East Mascalls - have all gone through a detailed design process and further consultation has been undertaken. Work at Sharpsbridge was completed in November 2012 and the other sites are progressing well despite delays due to bad weather. The MORPH team is also looking at the next phase of projects which are due to start in summer

2013. These projects are located at Anchor Sluice, Sutton Hall Weir and further upstream of Sheffield Park.

## 2.4 Asset management and maintenance

Over 800 actions are associated with asset management in the England CFMPs, and 200 in Wales. We have been reviewing our system asset management plans (SAMPs) to ensure they align with the direction established in the CFMPs and this is reflected in the high number of completed actions. Ongoing work continues to maintain the condition of defences and the conveyance of watercourses. A number of flood risk management schemes were completed this year including the Hoe Valley Scheme in Woking, the River Chelt scheme in Gloucestershire and the Ripon Flood Alleviation Scheme in North Yorkshire. Figures 8a and 8b illustrate that the majority of this work is either completed or progressing.



### Case study: Ripon Flood Alleviation Scheme (FAS)

**Lead:** Environment Agency

**Action:** Continue to work closely with our partners to implement the Ripon FAS to reduce the risk of fluvial flooding from the Rivers Ure and Skell through the installation of upstream flood storage raised defences, flood arch debris clearance and alterations to the height of the weir and the road.

**Background:** Ripon has a long history of flooding because it is situated where the rivers Skell, Laver and Ure meet. The floods in 1982, 1991, 1995 and 2005 were from the River Ure flooding and the flooding that occurred in 2000 was from the River Skell. In 2000 the River Skell flooded twice, flooding 100 properties in the autumn. Flooding also occurred in 2007 causing damage to properties.

**Progress:** The scheme will reduce flood risk to 548 homes and 96 commercial properties in Ripon, in a 1% chance in any one year (1 in 100 year) flood.

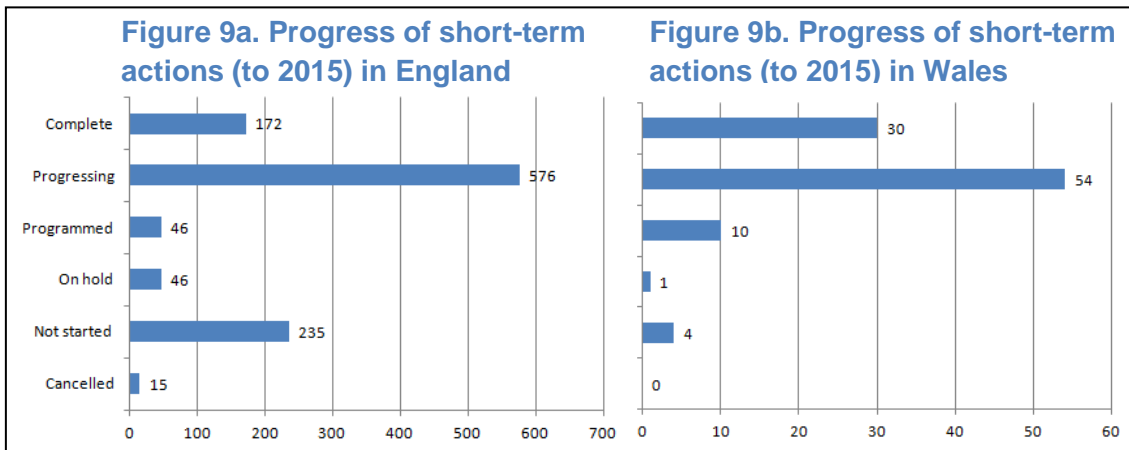
Work is being carried out in five main areas:

- Laver Dam (storage reservoir at Birkby Nab on the River Laver)
- Borrage Lane (works around individual properties)
- Fisher Green (150 metres of new 1 metre high earth embankments),
- North Bridge (237 metres of new earth embankments and minor road raising works and clearance of arches)
- lowering of the existing Alma Weir and restoring a more natural flow to the river, also enabling fish passage upstream.



## 2.5 Studies, assessments and plans

These actions involve further understanding of flood risk issues and identifying more sustainable approaches to managing risk. CFMPs have identified where this work should be carried out and therefore will help us and our partners take a risk based approach to investment. Government's introduction of Flood and Coastal Erosion Resilience Partnership Funding in England has incentivised risk management authorities to apply for grant in aid funding and encourages them to secure funding from other sources. This has allowed for the development of a number of local studies and projects, identified through CFMPs and Local Authority surface water management plans that would previously not have been eligible for national funding. Progress is summarised in Figures 9a and 9b.



### Case Study: Bin Brook Individual Property Protection (IPP)

**Lead:** Environment Agency in partnership with local flood action groups

**Action:** Bin Brook IPP Scheme (Newnham, Cambridge)

**Background:** When the Gough Way estate was constructed in the 1970s, the Bin Brook was culverted under part of the estate. This culvert has insufficient capacity to pass flood flows. Despite construction of a flood relief channel, 28 properties were reported to have flooded in October 2001. IPP was put forward as a suitable approach to manage the flood risk in the area and proved more cost-effective than creating an upstream flood storage area.

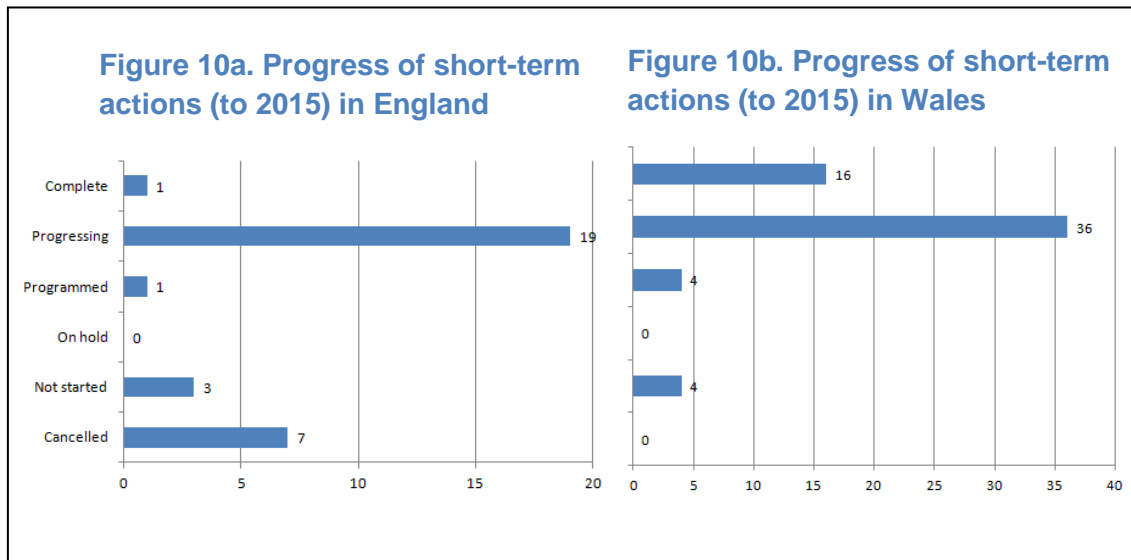
**Progress:** We have worked closely with the local flood action group to provide individual property protection to improve the flood resistance to 26 properties in Newnham. Properties which flooded in 2001 and are located in an area with a 1.3% chance (1 in 75 year) of flooding from the Bin Brook were eligible for the scheme, with a 90% take-up rate achieved.

Surveys were carried out and individual measures recommended for each property. The measures installed consisted of door barriers, air brick covers or replacement smart air bricks, toilet bungs, non return valves, sealing around service pipes and waterproofing of walls. The scheme cost approximately £108,000.



## 2.6 High level awareness and engagement

The CFMPs tended to focus on planning to deliver risk management actions, so many of the plans did not explicitly include the need for high level awareness raising or engagement. However, effective partnerships rely on sharing a common understanding of risks and aims, and we are keen to share our experience of flood risk management and learn from our partners. This year has seen further enactments of the Flood and Water Management Act and we have been very active in supporting and advising Lead Local Flood Authorities with all aspects of their new role. Progress against these actions is summarised in Figures 10a and 10b.



### Case Study: Exeter Flood Simulation

**Lead:** Environment Agency

**Action:** Take action to reduce the impact of flooding, through improved flood forecasting and engaging local partners and community in flood awareness, incident management and emergency response. Make use of new technology as this becomes available.

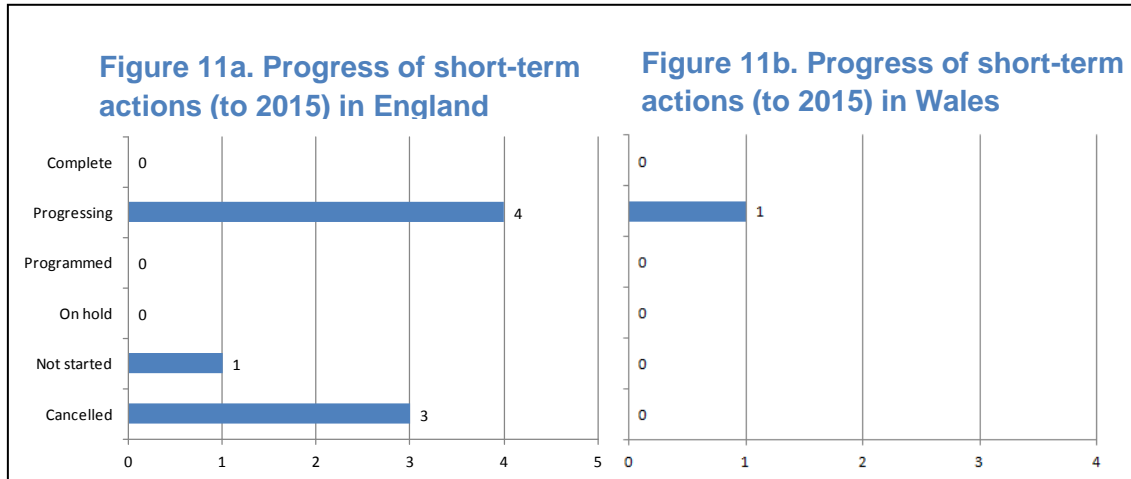
**Background:** Work is underway to support and complete this action. For example, in order to commemorate the Exeter Floods 50th Anniversary, various awareness events were held in order to communicate the flood risk management message. Exeter has the largest fluvial flood risk in the south west and a visually impressive scheme protects against this.

**Progress:** Modelling work has been undertaken to demonstrate the flood risk to Exeter in the following scenario: a flood with a 1 in 100 chance of happening in any one year, with all defences in operation, with present day flows (no allowance for climate change). Various data sources were combined to produce a realistic 3D fly through illustrating where flood waters would flow once defences were overtopped. This short film was shown to local businesses and members of the public to raise awareness of the flood risk in Exeter.



## 2.7 Monitoring

The majority of actions to monitor and advise were proposed for areas associated with Policy 1 and highlighted our continued strategic overview role in these areas. The total number of monitoring actions has decreased from last year (there were 16 actions in England and two in Wales). A number of these have now been re-classified under a different theme or are now considered as part of our ongoing 'day job' work. Progress with the remaining actions is summarised in Figures 11a and 11b.



### Case Study: Mapping of flood risks for LLFAs in the North West

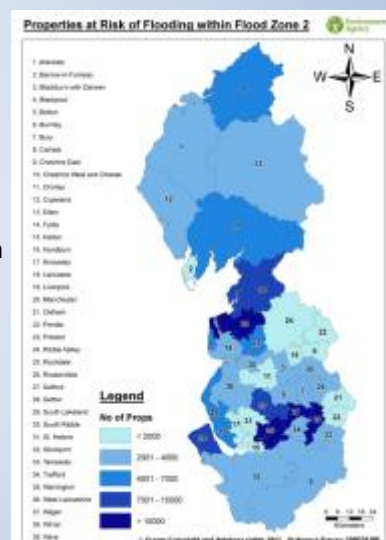
**Lead:** Environment Agency in partnership with United Utilities and Local Authorities

**Action:** Mapping of flood risk from all sources for Lead Local Flood Authorities (LLFAs)

**Background:** The aim was to identify the scale and location of flood risk within each LLFA area from each source of flooding to indicate the challenge faced by each LLFA, the Environment Agency and United Utilities; highlight where collaboration is a higher priority and where it may provide greater benefit; and to help focus discussions between Risk Management Authorities.

**Progress:** We used GIS mapping to analyse data received from United Utilities and our own datasets to calculate properties at risk of flooding from all sources – surface water, rivers, the sea, groundwater, reservoirs and sewers. The results are a guide to where potential flooding issues occur and from what source, at a strategic level. LLFAs can use the results and associated maps to develop their Local Flood Risk Management Strategies and focus their resources on areas of greatest risk.

We will revise the results whenever there is a significant change to the data or Local Authority boundaries change. The results of this analysis have already been shared with United Utilities and LLFAs.





## 3 Updating the CFMPs

Since the publication of last year's report, there have been no major changes to the CFMPs in terms of their policy unit boundaries or individual policy decisions.

However, since April 2012, we have been progressing two changes, which are detailed below. These involve changes to the boundary of a policy unit in the Tyne CFMP and preparing a new action plan for an area in Cumbria. Both changes have been through a public consultation and are progressing through formal approval by the relevant Regional Flood and Coastal Committees over the coming months. These proposed changes are outlined below.

### 3.1 Revisions to the Tyne CFMP

Since the publication of the Tyne CFMP in 2009, significant improvements have been made in understanding flood risk, particularly risk from surface water flooding.

Working with our partners, we decided to divide the Lower Tyne policy unit into two units; a tidal policy unit (Lower Tyne Tidal) and a fluvial policy unit (Ouseburn). We did this for a number of reasons:

- To reflect better the specific flood characteristics in the urban environment that relate to the River Tyne. Also to reflect better the steepness of the Ouseburn catchment and the rapidly responding rivers
- To focus on tidal flooding, as well as the fluvial flooding
- To identify and highlight the ownership and importance of assets, for example the Ouseburn Barrage
- To highlight the severity of increased summer rainfall in the Ouseburn catchment and the impact of sea level rise on the Ouseburn Barrage

We worked closely with our partners on the Lower Tyne Policy Review. The Northumbria Regional Flood and Coastal Committee approved the changes at their July 2012 meeting.

### 3.2 Developing a new action plan in Cumbria

When CFMPs for England were completed in 2008, no action plan was produced for the Longtown Border area of Cumbria, a small part of the Border Esk Catchment, the majority of which is in Scotland. We have developed this over the last year.

To develop the plan and ensure social, economic and environmental issues were taken into account, we worked with many organisations, including the Scottish Environment Protection Agency (SEPA), Dumfries and Galloway Council and Carlisle City Council.

The Longtown Border Area drains generally westwards into the Solway Firth and comprises the lower reaches of the Border Esk, including the tributaries of Liddel

Water, Carwinley Burn and the Lyne River. The area covers approximately 360 square kilometres which represents about 30% of the Esk Catchment on the English side of the border.

In the Longtown Border Area, flood risk is relatively low and is mainly from rivers, although there are some isolated areas with surface water, sewer and tidal flood risk. There are approximately 95 properties at risk of flooding from a 1% annual probability river flow. The most significant flood in recent years occurred in October 2005, when flooding affected approximately 28 residential properties in Longtown.

We completed a pre-consultation review of the plan with key partner and stakeholder organisations during early 2012, followed by public consultation mid 2012. Small alterations are now being made to the document to reflect feedback from the consultation. Approval for the final CFMP will be sought from the North West RFCC in summer 2013.

# 4 Links to other high-level plans

## 4.1 Shoreline Management Plans

CFMPs consider all types of inland flooding but not flooding directly from the sea, (coastal flooding), which is covered in Shoreline Management Plans (SMPs). SMPs provide a long-term framework for dealing with coastal flooding and erosion over a large area. SMPs take into account risks to people and the developed, historic and natural environment. They also take climate change into account in planning long-term coastal management.

SMPs set out the approach to the long term sustainability of flood and coastal defences for a specific stretch of coastline. Their aim is to provide the basis for sustainable shoreline management policies, and set out how they should be achieved over the next 100 years.

Of the 22 SMPs, 18 are solely along the coast of England and two are along the Welsh coastline. A further two straddle the border between England and Wales.

Further information and links to all the SMP documents can be found on our website:

<http://www.environment-agency.gov.uk/research/planning/105014.aspx>

A map showing the location of different SMPs around the coastline of England and Wales is available on the Defra website:

<http://archive.defra.gov.uk/environment/flooding/documents/who/cgsmp2.pdf>

## 4.2 Tidal strategies

Nationally, there are a number of large-scale tidal strategies that cover whole estuaries and link with the CFMPs in that area. Figure 12 shows the location of CFMP policy units and the tidal strategies described below.

### 4.2.1 Thames Estuary 2100

Today, 1.25 million people and £200-billion worth of property are at risk from tidal flooding in London and the Thames estuary. The Thames Estuary 2100 project, led by the Environment Agency started work in 2002 to develop a comprehensive action plan to manage tidal flood risk for the River Thames.

The TE2100 Plan is the result of a detailed assessment of the options available to manage flood risk and their economic costs, benefits and environmental impacts. It sets out the strategic direction for managing flood risk across the estuary, and contains recommendations on what actions we and others will need to take in the short term (next 25 years), medium term (the following 15 years) and long term (to the end of the century).

The plan is based on current guidance on climate change, but is adaptable to changes in predictions for sea-level rise and climate change over the century. Our investigations have shown that we are unlikely to see the need for major changes to the existing tidal flood defence system for the next 25 years but the existing system will need to be maintained. From 2035 the current system may need to be upgraded to retain the current levels of protection.

We are now looking at the most cost-effective way to implement the recommendations in the TE2100 Plan starting with the first ten years. But we cannot manage future tidal flood risk alone and will be working with partners and communities to find the best way to meet the future demands for flood risk management on the Thames estuary.

The TE2100 strategy has now been approved by Defra and is available to view on our website:

<http://www.environment-agency.gov.uk/homeandleisure/floods/125045.aspx>

#### **4.2.2 Humber strategy**

Nearly 400,000 people live or work on low-lying land around the Humber Estuary so it is one of the many places that will be affected by rising sea levels. Based on current sea level rise predictions up to 2110, it is clear that long-term protection of communities and habitats is required in this area.

The strategy outlines potential flood risk management proposals for the Humber Estuary for the next 25 years and beyond. It looks at different ways of managing flood risk; raising defences where appropriate, but also introducing sites for managed realignment and flood storage which will help maintain internationally important habitats and deliver more effective flood risk management.

The strategy aims to deliver a good standard of protection against tidal flooding for people living behind Humber defences, and for the important industrial areas, though substantial local contributions will be needed if defences are to be improved in the rural areas especially.

The strategy is being updated to account for the changes that have taken place since it was published in March 2008. Agreement is being sought with all six affected Local Authorities to the approach to management and funding. The documents on our website identify those areas that could be affected and answer some of the key questions related to the strategy:

<http://www.environment-agency.gov.uk/homeandleisure/floods/31704.aspx>

### 4.2.3 Severn strategy

The aim of the Severn Estuary Flood Risk Management Strategy (SEFRMS) is to identify the most effective and sustainable way to manage flood risk in the estuary over the next century. The Strategy covers the northern coastline from Lavernock Point near Cardiff to Gloucester, and back down the southern coastline to Hinkley Point in Somerset.

Following the responses to the consultation on the draft SEFRMS strategy last year, we have been talking to those communities and individuals most affected by proposals for managed re-alignment of tidal flood defences that were suggested at that time. We have responded to requests from communities to take more time in helping them to understand current and potential future flood risk and exploring the flood risk management options based on this.

Strategy options to manage flood risk are being linked to actual levels of sea level rise rather than specific dates based on predictions. We are continuing discussions and subject to agreement of strategy content with communities, hope to be in a position to set out revised documentation in May 2013.

Following planning consent in April 2012 we are proceeding with work to create 1,400 acres of wildlife habitat on the Steart peninsular in Somerset. This is a fundamental part of the overall flood risk management approach in the estuary.

We are working with landowners and the community on the development of a major project to improve defences on the Congresbury Yeo tidal banks. We anticipate work will start in 2014.

Once the revised documentation is published, it will be available to view through the Severn Estuary Gateway website:

<http://www.severnestuary.net/frms/>

### 4.2.4 Other flood risk management proposals

There are other, smaller strategies and projects under development to manage flood risk to communities and the environment. Please see our website for further details of the work planned in your local area:

<http://www.environment-agency.gov.uk/research/planning/118129.aspx>

## 4.3 River Basin Management Plans

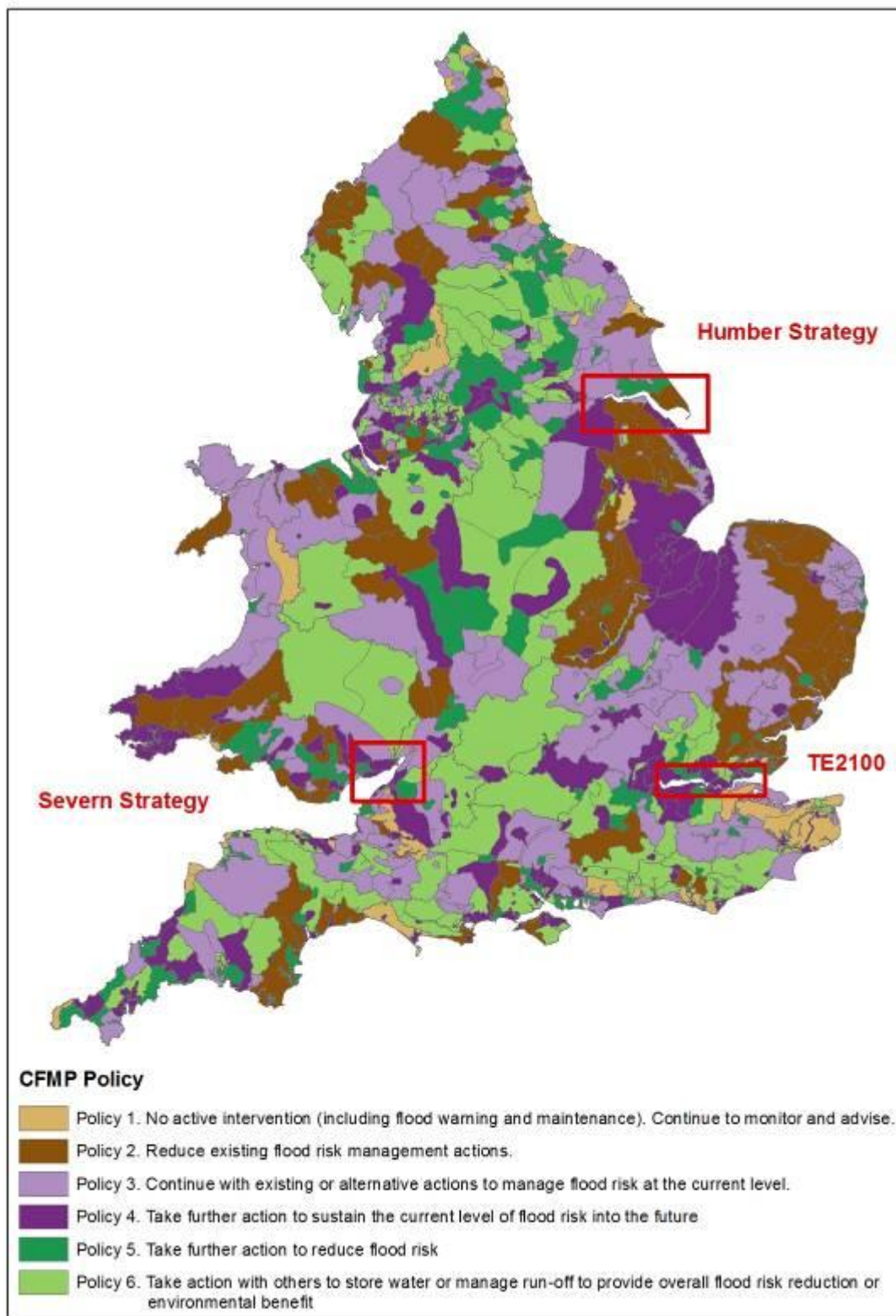
Water in rivers, estuaries, coasts and aquifers will improve under measures set out in the river basin management plans, drawn up for river basin districts across England and Wales under the Water Framework Directive.

River basin management plans outline actions to protect and improve the water environment and have been developed in consultation with organisations and individuals. They contain the main issues for the water environment and the actions necessary to deal with them.

The river basin management plans have been approved by the Secretary of State for the Department for Environment, Food and Rural Affairs, and the Welsh Minister

<http://www.environment-agency.gov.uk/research/planning/33106.aspx>

Figure 12. Location of CFMP policy units and tidal strategies



## 5 The future of CFMPs

Under the Flood Risk Regulations 2009, some Lead Local Flood Authorities (LLFAs) and the Environment Agency are required to produce Flood Risk Management Plans by December 2015 in England and Wales.

The Regulations implement the requirements of the European Floods Directive which aims to provide a consistent approach to managing flood risk across Europe. It puts in place a six year cycle of producing Preliminary Flood Risk Assessments (PFRAs) to identify Flood Risk Areas (areas where the risk of flooding is significant), prepare flood hazard and risk maps and prepare Flood Risk Management Plans (FRMPs). We are currently in the first cycle of implementation. Once this cycle is complete in 2015, the second cycle will begin in 2016. There is further information available on our website at <http://www.environment-agency.gov.uk/research/planning/125459.aspx>

A FRMP sets out how risk management authorities and communities can reduce the potential adverse consequences of flooding on human health, the environment, cultural heritage and economic activity.

The Environment Agency is required to publish FRMPs for each river basin district (the units of management for these Regulations as well as the Water Framework Directive). We have consulted with LLFAs and other interested parties to help shape and develop the approach to producing the plans, specifically:

- the scale at which the plans are prepared
- the level of co-ordination or integration across plans for different sources of flooding
- the use of existing plans (Catchment Flood Management Plans, Shoreline Management Plans and Local Flood Risk Management Strategies)
- how we work together on this
- the approach to future planning cycles

We are working with Defra and Welsh Government to consider the feedback from the consultation and set out the next steps, including how we may build on CFMPs to deliver the FRMPs required for the Floods Directive.



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