Managing flood and coastal erosion risks in England:

1 April 2014 to 31 March 2015

Report by the 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.

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Executive summary

The year 2014 to 2015 proved to be one of challenges and achievements in flood and coastal erosion risk management in England.

By April 2014, one of the biggest ever flood and coastal risk management recovery programmes in England was underway to repair assets damaged by the tidal surge and storms of the previous winter. Few parts of the country escaped the onslaught of winter 2013 to 2014, and risk management authorities across the country identified 890 projects for urgent attention. It is a testament to the commitment of the risk management authorities, councils, communities and contractors working together that, by the end of October 2014, all affected defences provided pre-winter 2013 standards of protection on a permanent or temporary basis, benefitting over 200,000 households. Huge credit is due to all those involved for completing this programme of work in such a short timescale.

At the same time, the Environment Agency, local councils and internal drainage boards completed the largest programme of capital works in any one year. A total of 111 new flood and coastal risk management schemes were completed during 2014 to 2015, reducing flood risk for 31,700 households and reducing coastal erosion risk for a further 1,000.

This brings the total number of households benefiting from investment to reduce risk between April 2011 and March 2015 to 177,300, exceeding the 165,000 target for the period by more than 12,000.

In December 2014, the Chancellor of the Exchequer announced the first 6 year capital funding settlement to reduce flood and coastal risk in England. Risk management authorities worked together through the year to develop a programme that will benefit from £2.3 billion of government grant-in-aid between 2015 and 2021 and provide better protection to 300,000 households. The longer term settlement provides a stable base for collaborative working, efficiency and securing greater investment from partners.

Coinciding with publication of the 6 year programme, the Environment Agency presented a new analysis of the long term costs and benefits of flood and coastal erosion risk management in England. The result shows a number of investment scenarios across a range of risk levels for England as a whole, and considers the potential of other ways to manage risk such as improving the resistance and resilience of individual properties.

Self-help tools and information developed by several participating councils in the Defra funded Flood Resilience Community Pathfinder scheme are now online, providing valuable advice on measures that householders and businesses can take to reduce the impact of flooding and reduce damage and disruption.

The Environment Agency is reaching more and more people through social media and digital services to supplement its direct warnings for flooding from rivers and the sea. Developments such as live warnings on GOV.UK, use of popular channels such as Facebook and Twitter, and third party apps reflect a focus on new ways to reach more people, especially those on the move.

Technology and innovation are key to effective and efficient flood and coastal risk management. During 2014 to 2015, risk management authorities continued to invest in improving systems and the knowledge and the skills of people working on reducing flood and coastal erosion risks. This shared capacity will help us all continue to reduce flood and coastal erosion risks in a continually improving, efficient and effective way.

Dr Paul Leinster CBE

Chief Executive

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1. Introduction

In England, responsibility for flood and coastal erosion risk management (FCERM) rests with risk management authorities. These are the Environment Agency, lead local flood authorities (LLFAs), district councils (where there is no unitary authority), internal drainage boards (IDBs), water and sewerage companies and Highways England. This report summarises how these organisations managed flood and coastal erosion risk over the period from 1 April 2014 to 31 March 2015.

1.1. Scale of flood and coastal erosion risk

Properties in areas at risk from flooding

During 2014 to 2015 the Environment Agency continued to improve its information on the risk of flooding. Overall, the total number of properties in areas at risk of flooding from rivers and the sea and from surface water has remained the same. New flood risk management schemes, more detailed modelling studies and improved counting methods have revised the numbers of properties in some risk categories.

The Environment Agency estimates the number of residential and commercial properties in areas at risk of flooding to be:

- 2.4 million properties in areas at risk of flooding from rivers and the sea
- 3 million properties in areas at risk of flooding from surface water
- approximately 600,000 properties in areas at risk of flooding from surface water, river and / or the sea
- between 122,000 and 290,000 properties in areas at risk of flooding from groundwater (not including properties also in areas at risk of flooding from rivers and the sea, but may include properties also in areas at risk of flooding from surface water)

Within areas at risk of flooding, the level of risk to properties is defined as:

- high - greater than a 1 in 30 (3.3%) chance of flooding in any given year
- medium - between a 1 in 30 (3.3%) and 1 in 100 (1%) chance of flooding in any given year
- low - between a 1 in 100 (1%) and 1 in 1000 (0.1%) chance of flooding in any given year
- very low - less than a 1 in 1000 (0.1%) chance of flooding in any given year

The figures include non-residential properties such as churches, public houses, schools and offices. There is no breakdown for properties in areas at risk of flooding from groundwater.

Level of risk	Number of properties in areas at risk of flooding from rivers and sea	Number of properties in areas at risk of flooding from surface water
High	247,000 (155,000 residential)	290,000 (215,000 residential)
Medium	506,000 (352,000 residential)	481,000 (383,000 residential)
Low	1,597,000 (1,269,000 residential)	2,232,000 (1,809,000 residential)
Very low	93,000 (73,000 residential)	Not assessed
Total	**2,443,000** **(1,849,000 residential)**	**3,004,000** **(2,406,000)**

Table 1 Numbers of properties in areas at risk of flooding

Properties in areas at risk from coastal erosion

Coastal erosion is a process which causes properties to be destroyed completely over time, while flood is a recurring risk which can happen time and again.

The Environment Agency estimates that over 700 properties could be lost to coastal erosion by around 2030, and over 2000 could be lost by around 2060. These estimates take into account the interventions proposed in shoreline management plans (SMPs). Without the interventions, these figures could increase to about 5,000 properties by 2030 and about 28,000 by 2060.

1.2. Legislation updates

Flood and Water Management Act 2010 evaluation

The Department for Environment, Food and Rural Affairs (Defra) is undertaking a post-implementation review of parts of the Flood and Water Management Act 2010 to assess whether Sir Michael Pitt's ambitions for better local flood risk management are being realised. The review will focus on the lead local flood authority role (LLFA) and partnership working under the Act.

To provide the evidence for the review, Defra commissioned an evaluation by external consultants. This considered the arrangements for managing local flood risk, including how lead local flood authorities are undertaking their responsibilities to manage local flood risk.

The evaluation consisted of:

- a review of outputs such as local flood risk management strategies
- a desk study of key documents
- stakeholder interviews
- a telephone survey exploring the extent to which LLFAs are progressing key responsibilities and ways they are delivering and resourcing their duties
- an online capacity-building survey capturing information on experiences, skills and resources of individuals working within LLFAs
- 30 case studies to gain a detailed understanding of the ways in which the requirements of the Act have been implemented in different parts of the country and in different contexts.

The evaluation is due to conclude in July 2015, with a report published in autumn 2015. The Defra-led review of elements of the Act will follow on from this.

Flood Risk Regulations 2009

The Flood Risk Regulations transfer into UK legislation the requirements of the 2007 EU Floods Directive and provide a consistent approach to managing flood risk across Europe. In July 2014 the Environment Agency published scoping reports for flood risk management plans for each river basin district in England. The scoping reports set out how risk management authorities are working together to reduce flood risk. They also describe the approach taken in the strategic environmental assessment of the draft plans.

In October 2014, the Environment Agency launched consultations on draft flood risk management plans, required under the Flood Risk Regulations 2009, and draft updated river basin management plans, required under the Water Framework Directive. Co-ordinating these consultations gave stakeholders the opportunity to take a wider view of opportunities for managing the water environment more effectively. Together, these two planning processes will direct considerable investment and action from 2016, and will provide benefits to people, the economy and the environment.

Water Act

The Water Act 2014 received Royal Assent in May 2014. Water industry reform and flood insurance are the major components of this Act, but there are also provisions relating to environmental protection and regulation which are relevant to flood and coastal erosion risk management. Many of the clauses within the Act are enabling clauses (which allow new regulations to be made). Full implementation of the Act will be a long process, and timetables for implementing the various clauses will vary depending on priorities and the complexity of the various policy areas.

1.3. Regional Flood and Coastal Committee appointments

The Department for Environment, Food and Rural Affairs (Defra) has appointed new chairs to the Anglian (Northern), Trent, Wessex and Yorkshire Regional Flood and Coastal Committees (RFCCs).

The Wessex appointment commenced on 1 January 2015. The others are due to run from 1 July 2015. All the appointments will run until 30 June 2018. Defra has also re-appointed the chairs of Severn and Wye, Southern and Anglian (Eastern) RFCCs, to take effect from 1 July 2015 until 30 June 2018. The Chair of Anglian (Central) RFCC has been extended until June 2016.

Table 2 below shows the Regional Flood and Coastal Committees and their chairs.

Regional Flood and Coastal Committee (RFCC)	Chair
Anglian Central RFCC	Steve Wheatley
Anglian Eastern RFCC	Paul Hayden
Anglian Northern RFCC	Robert Caudwell until 30 June 2015 Eddy Poll from 1 July 2015
North West RFCC	Cllr Derek Antrobus
Northumbrian RFCC	Jonathan Hargreaves
Severn and Wye RFCC	Anne Wheeler
Southern RFCC	Lorraine Brown
South West RFCC	Prof Robert Van de Noort
Thames RFCC	Amanda Nobbs
Trent RFCC	Tim Farr until 30 June 2015 Vij Randeniya from 1 July 2015
Wessex RFCC	David Jenkins
Yorkshire RFCC	Cllr Arthur Barker until 30 June 2015-22 Prof Colin Mellors from 1 July 2015

Table 2 Regional Flood and Coastal Committee chairs

2. Flooding and coastal erosion during 2014 to 2015

The effects of the significant flooding during winter 2013 to 2014 continued into this reporting year. Some communities were affected through into June 2014, notably by groundwater flooding. The likelihood of inland flooding reduced as groundwater and rivers returned to normal levels into the summer period.

Over the summer and autumn months, seasonal thunder storms increased the risk of surface water flooding in some areas. On Saturday 19 July, there were widespread reports of incidents, including in Canvey Island in Essex, where more than a month's rain fell in only 4 hours. This led to significant surface water flooding impacts. Conversely, September of 2014 was the driest on record.

Increased coastal flood risk was flagged every month between August 2014 and February 2015, linked to the long-term 19 year tide cycle. The Flood Forecasting Centre provided information on the combined effects of wind, surges and waves on top of high predicted tide levels, to forewarn and reassure coastal communities.

The periods of flood risk are reflected in the calendar of forecast flood risk below, which shows the number of times the Flood Forecasting Centre's flood guidance statements were at or above yellow status (yellow indicating that there is a low risk of flooding).

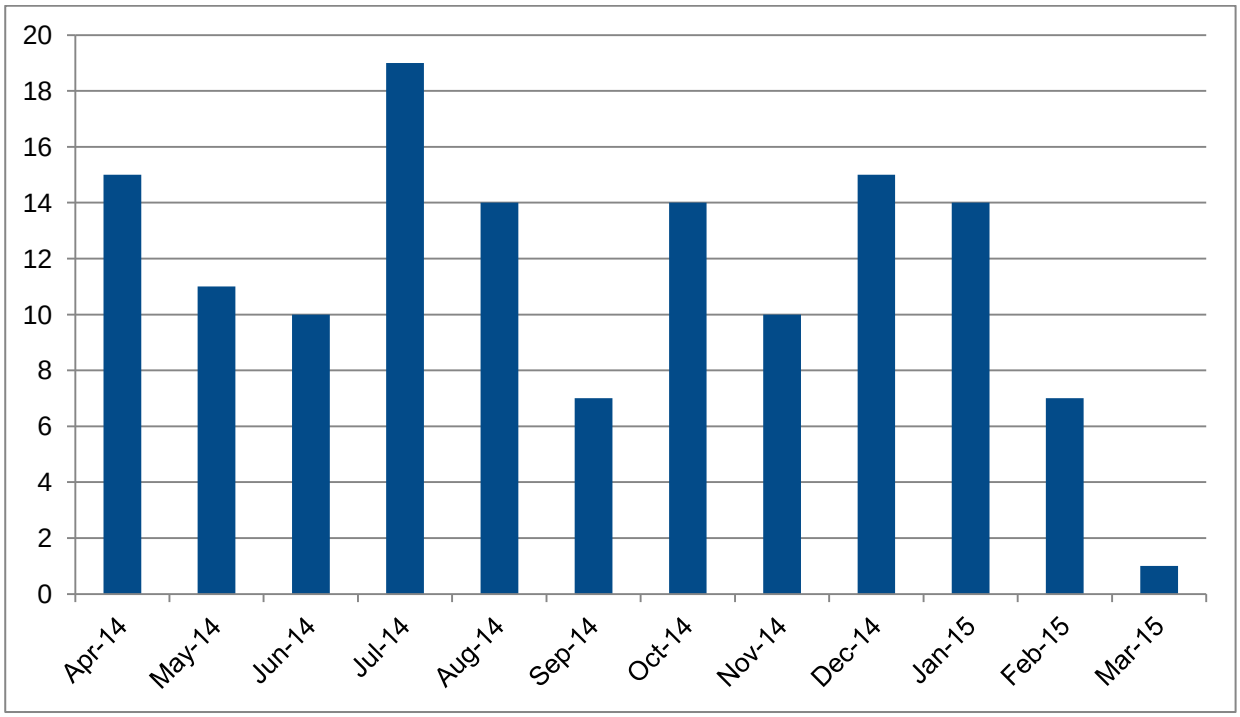

Figure 1 Number of days flood guidance statement was at or above yellow

During flood incidents, government agencies, risk management authorities, emergency services, members of the public and others are encouraged to report the numbers of properties flooded to the Environment Agency, to provide detailed understanding of the scale of the event as it happens. In 2014 to 2015, and subsequent to the 2013 to 2014 flooding, approximately 510 properties were reported to the Environment Agency as flooded. About 100 of these were flooded from main rivers, 20 from coastal flooding and 390 from surface water or a combination of sources. These figures may not include those from small, localised flooding, and subsequent investigations may lead to revision of the figures.

Flood warnings issued

Flood warnings and alerts are issued to help people prepare for flooding. There are 3 categories of warning:

- flood alert - meaning flooding is possible, so be prepared
- flood warning - meaning flooding is expected, immediate action is required
- severe flood warning - meaning there will be severe flooding and a possible danger to life

During this year, 2,497 flood alerts and flood warnings were issued to help people prepare for flooding, but no severe flood warnings, meaning danger to life, were needed. The difference in scale of events this year and last becomes clear when compared to the 147 severe flood warnings that were issued in England in 2013 to 2014, all in the 3 month period between December 2013 and February 2014.

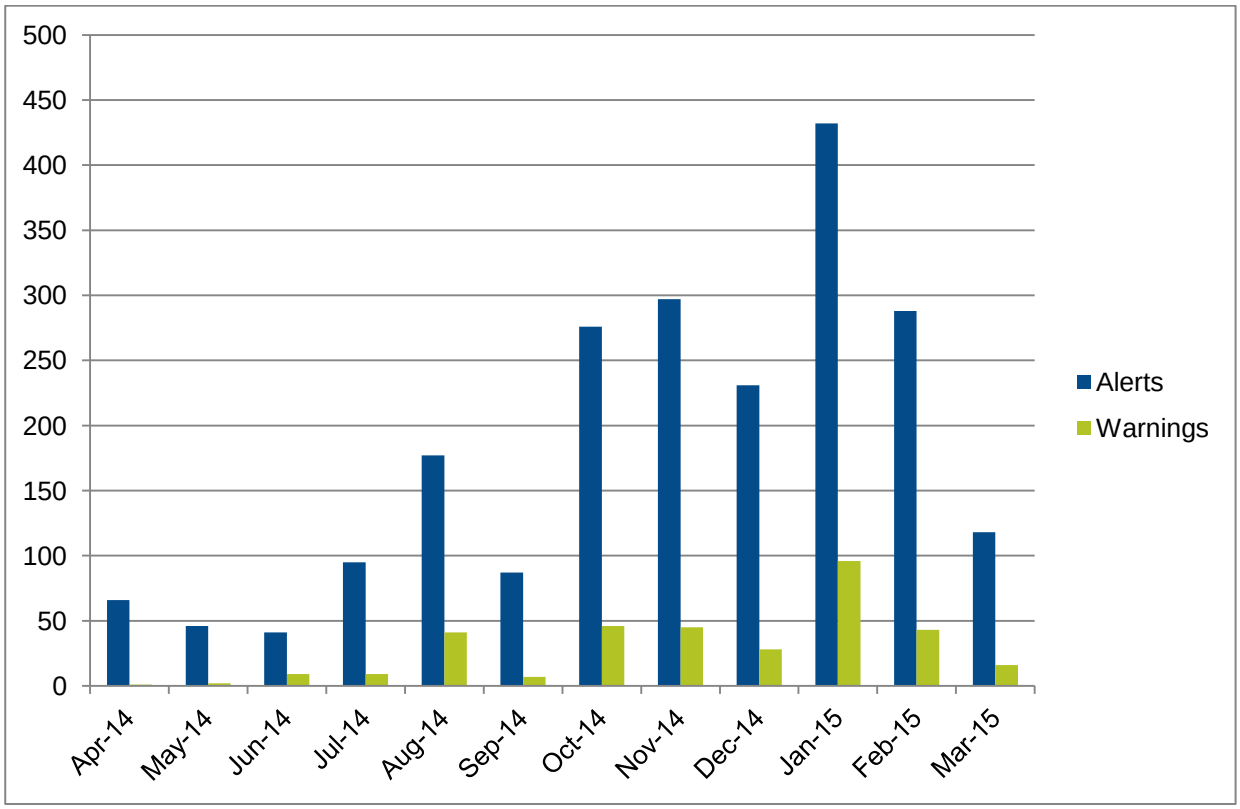

Figure 2 Flood warnings and alerts issued in 2014 to 2015

Economic impacts of flooding

Following significant flooding in 2012 to 2013, the Environment Agency developed a flood cost calculator to estimate the economic impacts of flooding. The calculator was used to provide preliminary information on the economic costs of the winter flooding in 2013 to 2014. The Environment Agency has now carried out a more detailed analysis of the costs of the 2013 to 2014 winter flooding, which will be published in summer 2015. Work to improve the flood cost calculator will also enable more robust preliminary national scale assessments of the costs of significant flood events in future.

3. Investment and funding

During 2014 to 2015, the Environment Agency published a 6 year capital programme of works. The programme will invest £2.3 billion of government grant-in-aid between 2015 and 2021, supplemented by at least £345 million of partnership funding, to provide better protection to 300,000 households.

This investment programme will protect homes, businesses, infrastructure, agriculture and the natural environment. The funding settlement assumes efficiency savings of at least 10% over the programme period, and the securing of partnership funding contributions equivalent to at least 15% of total investment.

The longer term settlement will bring significant economic benefits and provide:

- 6 years of programme visibility, stability and opportunity
- improved confidence of government, partners, supply chain and communities
- greater opportunities for collaborative working
- improved potential for efficiency savings
- the ability to negotiate confidently and secure greater investment from funding partners
- targeted research and development and innovation to support work in the programme where greatest efficiencies can be gained

3.1. Income and investment during the year

During 2014 to 2015, the Environment Agency invested £818 million on flood and coastal erosion risk management in England. Of this, £510 million was capital investment, including £151 million distributed to local councils and internal drainage boards. Defra provided £752 million in grant-in-aid.

Partnership funding

In 2014 to 2015, financial and in-kind contributions to Environment Agency-led flood and coastal erosion risk management projects totalled an estimated £25 million. Other risk management authorities raised an estimated £30 million in financial and in-kind contributions.

This takes the total partnership funding raised since April 2011 to £134 million. Of this total, £57 million has been contributed to Environment Agency-led projects.

Littlehampton East Bank flood alleviation scheme

The town of Littlehampton in West Sussex is vulnerable to sea flooding, and this will increase over time as a result of sea level rise. In March 2015, a scheme to install 2.5km of new and improved tidal flood defences on the east bank of the River Arun in Littlehampton was completed.

The Environment Agency, Arun District Council, West Sussex County Council and Littlehampton Harbour Board worked together in partnership to develop the scheme. The £22 million cost of the scheme was met by FCERM grant in aid and a contribution from Arun District Council of £2.27 million.

The new scheme now reduces risk to 748 residential and 340 commercial properties (including 696 properties in deprived areas). It has also provided an improved promenade, landscaping in the town centre and created 0.9 hectares of intertidal habitat.

Local levy

Other sources of investment in 2014 to 2015 included £32 million in local levy provided by local councils to the 12 Regional Flood and Coastal Committees. Committees invested £24 million this year and the remainder carries forward for future identified investment, now totalling £45 million.

Growth and acceleration funding

In November 2012, the Chief Secretary to the Treasury announced an additional £120 million of funding phased over 2013 to 2015. This was provided to speed up the building of flood risk management schemes that could protect up to 60,000 homes and provide up to £1 billion of economic benefits. An overall programme of 42 schemes was identified, 9 of which met the growth criteria, and 33 which could be accelerated in the remaining two years of the 2010 to 2015 spending review period.

By 31 March 2015, the additional funding had been committed across the programme. All of the growth projects have started and 29 of the 33 accelerated projects are expected to have started or be completed during the first quarter of 2015 to 2016.

Recovery funding

Following the winter floods, the government announced additional funding of £270 million to repair, restore and maintain priority flood risk management assets, of which £180 million was to be invested in 2014 to 2015. The total invested in asset repair during 2014 to 2015 was £105 million, with a small number of projects continuing into 2015 to 2016. The remainder of the additional funding for 2014 to 2015 was invested on construction and maintenance of assets.

The recovery programme of repairs was delivered in addition to the planned capital programme for 2014 to 2015, which was itself the largest programme of flood and coastal erosion risk management schemes in any year due to increased government funding.

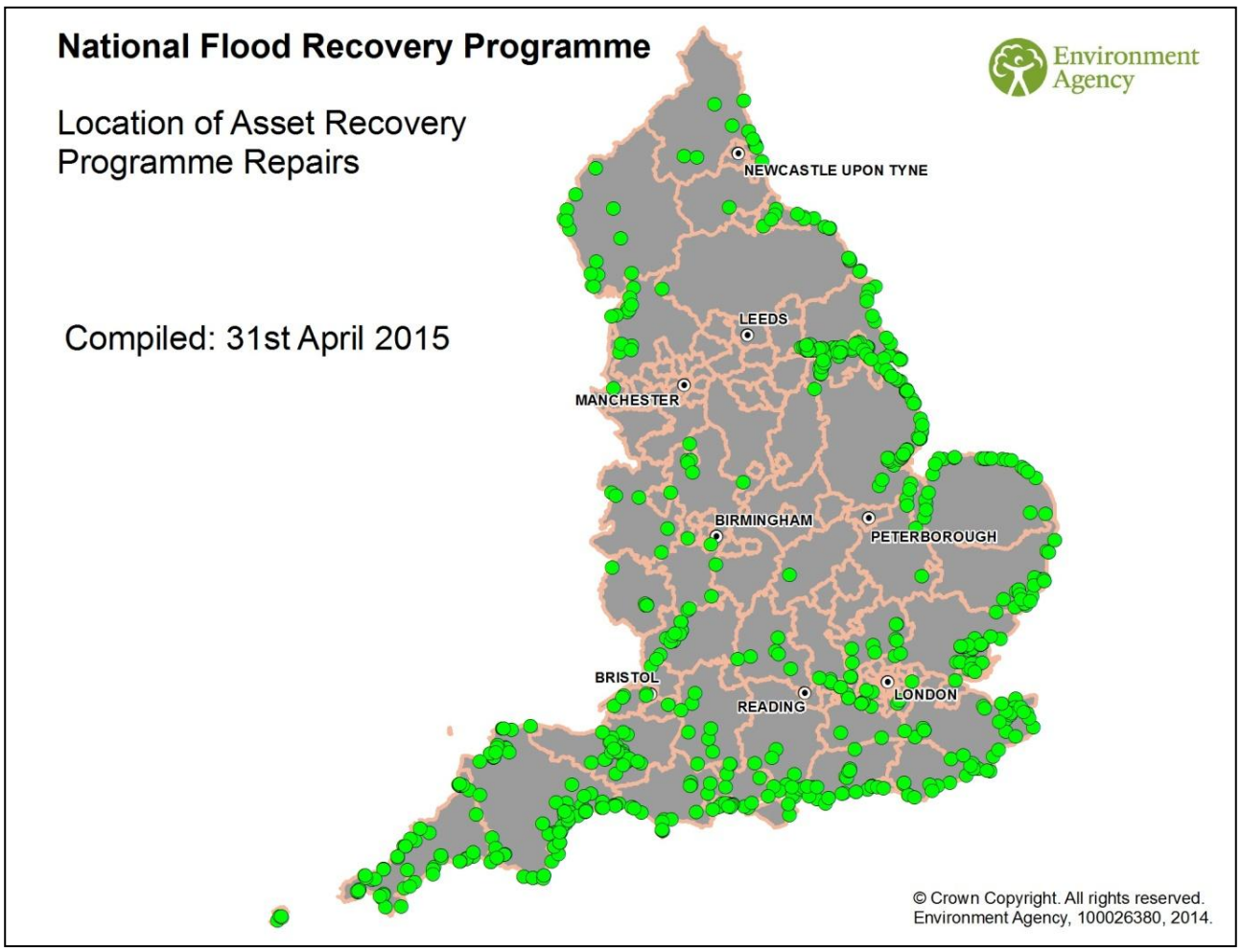

Figure 3 Location of assets repaired during recovery programme 2014 to 2015

EU funding

In 2014 to 2015, the Environment Agency was the lead partner in 2 EU funded projects:

- Coastal Communities 2150, a project involving partners from the UK, Belgium and the Netherlands, helping communities adapt to rising sea levels. The project was part funded by the Interreg IVA 2 Seas programme that provided £350,000. This, combined with a £150,000 local levy contribution, funded 10 community engagement programmes in Sussex, Hampshire and Kent. Strong local support for this work has enabled over £3 million of partnership contributions to be raised for a new scheme at Newhaven and a toolkit for other communities to use in adapting to climate change.
- Living with a Changing Coast was a project involving 9 partners from the UK and France aimed at understanding how communities and habitats are reacting to climate change. The project was part funded by the Interreg IVA Channel Programme. Investment of £1.3 million enabled engagement with the identified communities (Poole Harbour and Exe Estuary in England) about changes to their coasts. This included events to raise awareness; publicity and information documents for practitioners and the public, and an engagement toolkit. This work builds on the shoreline management planning process and local flood risk management strategies and has received an award from the Geographical Association, which supports the furthering of geographical information through education.

Improving value for money

Capital projects undertaken to reduce risk to communities, businesses and infrastructure, and which were completed during 2014 to 2015, achieved whole-life benefits of £1.78 billion against whole-life costs of £161 million. Considering all projects completed between April 2011 and March 2015 gives total whole-life benefits of £16.7 billion against whole-life costs of £1.41 billion. This investment provided a net present value of £13.7 billion and £12 of economic benefit for every £1 investment. Taking into account other capital expenditure, the overall programme benefit-to-cost ratio achieved since April 2011 is 9.8 to 1.

Making savings

The Environment Agency actively seeks to make efficiency savings, to ensure that the best possible value is achieved for the investment of public funds. Opportunities for improving efficiencies are created through a combination of national enabling initiatives and localised project-specific activities. The efficiencies gained are recorded in categories so that their effectiveness can be evaluated. The efficiency categories include:

- innovation and value engineering, such as using innovative solutions, materials or construction methods in schemes to meet project objectives for less cost
- packaging similar projects together, including by geography, project type or timeframe, helping suppliers offer better value and maximising project management benefits
- using different contracting methods to spread risk and gain greater value
- controlling the scope of a project by challenging the agreement of original project scope and outcomes, and to any changes that are proposed during the project

During 2014 to 2015, the Environment Agency saved £27.22 million (against a target of £26.4 million) by using these and other approaches. This brings savings since April 2011 to £71.18 million, against a target of £65.96 million.

Figure 4 below shows how those savings have been achieved.

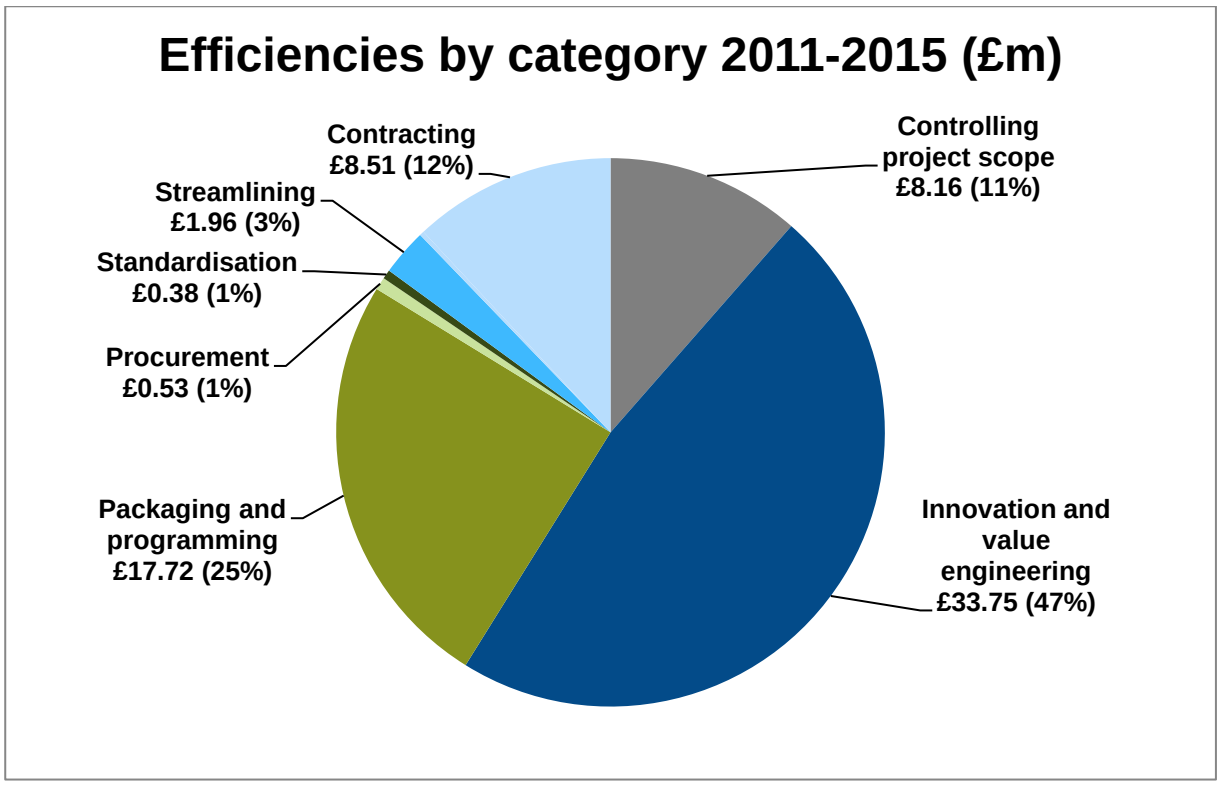

Figure 4 Total efficiencies 2011-2015 by category (indicative figures subject to Cabinet Office review)

3.2. Building, maintaining and improving flood and coastal erosion risk management schemes

Reducing risk to properties

Between April 2014 and March 2015, risk management authorities completed 111 schemes. The majority of schemes (73) were to address risk of river flooding. The remainder comprised schemes to address risk of flooding from the sea (19), surface water (10) and coastal erosion (9).

This work reduced flood risk for over 31,700 households. Over 23,000 of the households that benefited had a risk greater than 1 in 75 (1.33%) in any given year. Almost 9,000 of these are in the 20% most deprived areas.

Since April 2011 the total number of households with reduced risk is166,500. 92,000 of these had a risk greater than 1 in 75 (1.33%) in any given year. 23,600 of these are in the 20% most deprived areas.

Between April 2014 and March 2015 work carried out by risk management authorities reduced the risk of coastal erosion to over 1,000 households, 20 of which are in the 20% most deprived areas. Since April 2011 10,800 households, of which 290 are in the 20% most deprived areas, have a reduced risk of coastal erosion.

The Environment Agency, local councils and internal drainage boards have worked in partnership to complete schemes that have reduced flood and coastal erosion risk to 177,300 households between April 2011 and March 2015, exceeding the 165,000 target for the period by more than 12,000.

Asset condition and maintenance

The Environment Agency maintains 7,000 km of raised walls and embankments on main rivers, 1,000 km of coastal schemes, 22,600 structures and 39,000 km of channels. Local authorities, internal drainage boards and private riparian owners are responsible for maintaining a further 1,700km of raised walls and embankments and 9,600 structures.

Routine maintenance on flood and coastal risk assets prevents deterioration and ensures their operational readiness for flood incidents. The effectiveness of maintenance programmes is monitored by asset condition monitoring.

Figure 5 shows the condition of Environment Agency and third party maintained high consequence assets since April 2011. High consequence assets are those whose failure would result in high consequences for people and property, including in terms of health and safety and a possible risk to life.

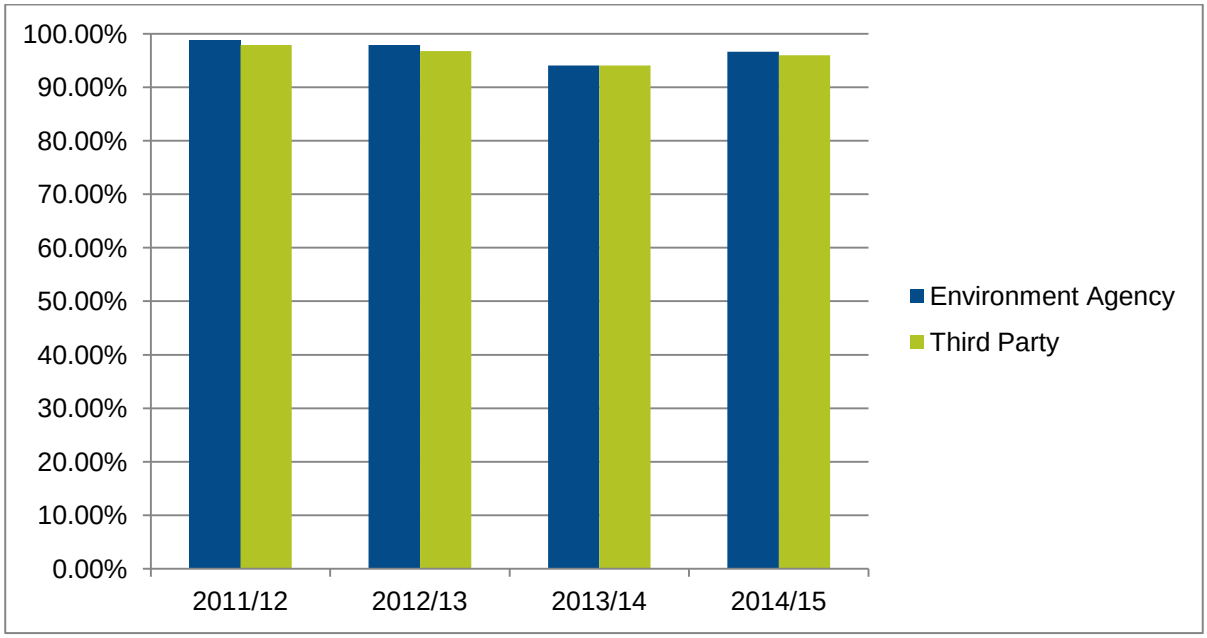

Figure 5 Condition of Environment Agency and third party maintained high consequence assets (assets in favourable condition as a percentage of total assets)

The storms and significant flooding during the winters of 2012 to 2013 and 2013 to 2014 caused significant direct damage to flood and coastal erosion risk management structures. The weather, flooding and consequent ground conditions delayed repairs and maintenance.

At the end of 2014 to 2015, 96.6% of high consequence assets managed by the Environment Agency were in target condition. This is an improvement from 94% in the previous year. The Environment Agency, local authorities and internal drainage boards worked together with suppliers to ensure that, by 31 October 2014, all of the structures that were damaged during the winter storms had been restored to at least the pre-winter 2013 to 2014 standards of protection, protecting over 200,000 households.

Lead local flood authority asset registers

The Flood and Water Management Act 2010 requires each lead local flood authorities (LLFA) to establish and maintain a register of flood risk assets and arrange for the register to be available to the public. In March 2015, 83 (55%) LLFAs reported that their asset register was populated and available for inspection, compared with 64 (42%) last year. 67 (44%) authorities said work on their registers was in progress and only 2 (1%) said they had yet to start.

Reservoirs

Under the Reservoirs Act 1975, the Environment Agency is responsible for regulating the 1,795 third-party-owned large raised reservoirs in England. This is an increase of 21 since last year, as new or existing reservoirs have been registered for the first time. The Environment Agency also operates 209 large, raised reservoirs, mainly for flood risk management purposes. The Act aims to ensure that dams and reservoirs are safe.

The Flood and Water Management Act 2010 amended the Reservoirs Act in 2013, requiring the Environment Agency to designate a large raised reservoir as high-risk if it thinks that, in the event of uncontrolled release of water from a reservoir, human life would be endangered. Only high risk reservoirs will have to meet the full requirements of the Reservoirs Act in future.

The Environment Agency is nearing the end of the risk designation process and expects that around 10% of large raised reservoirs need no longer be designated high risk. These reservoirs will no longer have to comply with the full inspection and supervision requirements of the Act.

The Environment Agency has published maps on its website since 2010 showing areas at risk from flooding in the unlikely event of a reservoir failure. In March 2014, it also published indicative depth and velocity maps for flooding from reservoirs.

During 2015, it will publish around 200 further maps for reservoirs that were not included in the 2010 project. The maps help members of the public understand if they are at risk from reservoir flooding, and who they can contact for further information.

During 2014, there were 5 reportable incidents at dams or reservoirs in England. This compares to an annual average of 7 reports. All reportable incidents are investigated so that lessons can be learned and shared.

The Environment Agency published its 2013 to 2014 biennial report[1] on regulatory and operational activities under the Reservoirs Act in May 2015.

Improving property and community resilience

Resilient communities are places where local people are aware of their local flood risk, know what this means for them and their property, and have the ability to cope with flood events. Increasing the ability of people to protect themselves and their property is a key part of reducing the consequences of flooding.

Property level resilience measures provide a practical way for householders to manage the consequences and reduce damage and disruption experienced as a result of flooding. Improving property level resilience encompasses a wide range of actions, including:

- flood protection products that prevent water getting into property
- minor building maintenance and adaptation to reduce susceptibility to damage from flooding
- active preparation by the householder, such as making a flood plan or signing up to the Environment Agency flood warnings service

The approach is also widely used by water companies to manage the consequences of sewer flooding.

In September 2014, the Environment Agency sponsored an update to the British Standards Institution Publicly Available Standard (PAS1188) for flood protection products. The PAS specifies requirements for the design, testing, production and installation for different types and configurations of flood protection products. Products that meet the requirements receive the BSI Kitemark, providing customers with reassurance that tested products are fit for purpose.

During 2014 to 2015, 2,446 people used the Property Protection Advisor[2] - a tool on the National Flood Forum's website - to find advice on the cost and range of property protection measures they could use to the protect their homes. The tool enables householders to obtain tailored information about what it might cost to install measures to increase the resilience of their homes.

Over the last 2 years, Defra provided £4 million through a Flood Risk Community Pathfinder Scheme to support 13 local community partnership projects. These were in Blackburn, Buckinghamshire, Calderdale, Cornwall, Devon, Liverpool, Northamptonshire, Rochdale, Slough, Southampton, Swindon, Warwickshire and West Sussex. The individual projects were developed by the local authorities to meet local needs.

Dissemination of learning and good practice from the scheme has been an important benefit from the project. Examples of reports and materials now available on local council websites include Northamptonshire[3], Buckinghamshire[4], and the Cornwall Community Flood Forum[5]

Defra is evaluating the scheme as whole and aims to publish a report on lessons learned in autumn 2015. Alongside publication of the report, they will be organising workshops and other events to share findings. Defra is also working with CIWEM and the National Flood Forum, who are organising a national conference on the scheme in December 2015. The National Flood Forum

is developing an information hub and will collate in one place all the learning and materials from the individual projects.

3.3. Environmental improvements

Improving and creating habitat

To offset any adverse impacts of work to reduce flooding and coastal erosion on internationally important wildlife and habitats, and to improve the environment, risk management authorities undertake a programme of habitat management and creation.

During 2014 to 2015, risk management authorities created and improved a record 3,718 hectares of priority habitat.

Removing barriers to eel migration

Across Western Europe, eel numbers have dropped sharply in recent decades. One major reason is that man-made structures such as weirs and dams are stopping young eels reaching the freshwater habitats where they mature. Part 4 of the Eel Regulations 2009 requires action to stop and reverse the decline in eel stock in European waters.

The Environment Agency has now located many of the barriers to eel migration and work is now underway to resolve them where it is cost effective to do so. At the end of this reporting year, the Environment Agency and Internal drainage boards had resolved barriers to eel (and fish) passage on 171 flood and coastal erosion risk management structures.

Weston-Super-Mare integrated urban drainage scheme

During major rainfall events, a combined sewer overflow in Weston-Super-Mare reduces flood risk by taking excess water straight to the sea. Separating foul and surface water in urban areas is often challenging because there is nowhere to divert the run-off. However, ongoing development in Weston-Super-Mare provided the opportunity for partners to make space for diverted water.

Joint working between North Somerset Council, the Environment Agency and Wessex Water has enabled an integrated urban drainage management system to reduce flood risk and improve bathing water quality.

Wessex Water provided 21,000 cubic metres of traditional water storage to reduce the frequency of discharges into the sea. The Environment Agency and North Somerset Council planned a ‘super pond’ that could accept rainfall runoff from proposed new developments in the growing conurbation. Additional storage provided at the super pond, allowed Wessex Water to discharge a further 4,000 cubic metres of surface water (that would otherwise enter the sewerage system) into the pond during rainfall events. Wessex Water contributed to North Somerset Council for the design, construction, use of the land and a commuted sum for future maintenance of the above ground storage area.

Wessex Water has provided 25,000cubic metres of storage by using both traditional and sustainable techniques. This storage reduces combined sewer overflows, improving bathing water quality as well as providing biodiversity and amenity benefits.

Agricultural land, commercial property and other assets protected

During 2011 to 2012, a project was commissioned to consider the wider benefits provided by flood and coastal erosion risk management schemes but not always recognised through outcome measures (OMs). These include benefits to agricultural land, commercial and industrial properties and other assets.

The project has been re-run for 2014 to 2015 and results show that flood and coastal erosion risk management capital schemes completed during the year provided improved protection to over 11,300 commercial properties and 100,000 hectares of agricultural land, of which 48,000 hectares were classified grade 1 or grade 2.

Taking the period April 2011 to March 2015, investment in capital schemes benefited some 28,000 commercial properties; over 330,000 hectares of agricultural land, of which more than 200,000 hectares was classified grade 1 or grade 2; over 8,000 km of roads and 350 km of railway.

Recovering from the December 2013 tidal surge

In the immediate aftermath of the 2013 tidal surge, internal drainage boards (IDBs) along the East Coast of England were involved in the rapid shoring up of coastal defences. Their rapid response limited further damage and enabled permanent repairs to be completed later in 2014.

Where coastal embankments were overtopped or breached, assets and watercourses managed by IDBs helped both to pen and clear flood waters.

In Lincolnshire, Black Sluice IDB took swift action at Wyberton Marsh Pumping Station and mobilised additional temporary pumps. These returned almost 200 million litres of seawater into the Boston Haven over two days following the breach of the coastal embankment at Slippery Gowt. Staff and equipment from adjacent IDBs were used at the pumping station and throughout the catchment, clearing obstructions to allow the uninterrupted free flow of water to the pumping station. The pumping enabled rapid temporary repairs to be completed on the embankment and averted wider flooding to local villages. Permanent repairs have since been completed by the Environment Agency.

4. Understanding and reducing risk and minimising consequences

Risk management authorities work together to improve understanding of the risks from flooding and coastal erosion. This knowledge is used collectively to inform the steps needed to manage those risks and reduce the consequences of flooding and coastal erosion when they occur. This includes strategic long term planning and building and maintaining assets.

4.1. Strategic planning

Long-term investment scenarios

The long-term investment scenarios study[6] published in December 2014, presents a new analysis of the costs and risks of flood and coastal erosion risk management in England. It builds on and extends earlier studies, including 'Foresight Future Flooding' from 2004 and replaces the original long-term investment strategy from 2009. The government made a commitment in response to the floods in winter 2013 to 2014 to publish an update to the 2009 report, alongside a 6 year investment programme.

The Environment Agency has used the latest assessment of present day risk from the National Flood Risk Assessment, alongside data on the performance and condition of flood risk management structures, and properties at risk from river and sea flooding, surface water flooding and coastal erosion. Starting with the present-day assessment, the model is used to simulate future flood risk. It takes account of changes in conditions such as climate-related pressures and the changes in the condition and standards of flood risk management structures over time.

Results are provided for England as a whole and show a number of investment need scenarios across a range of risk levels. The report also considers the potential of other ways to manage risk such as improving the resistance and resilience of individual properties.

Optimum levels of investment will be between £750 million and £800 million per annum over the next ten years, rising to between £850 and £900 million in the longer term in today's prices. The government's investment plans for the next 6 years align closely with this assessment. Planned investment is forecast to reduce risk by about 5% by 2021, and subsequent investment at the optimal level would reduce it by some 12% in the longer term.

Colebrook flood alleviation scheme

The village of Colebrook, near Plymouth in Devon, has experienced repeated flooding, most recently in 2012 when the village flooded 6 times. Residents reported incidents of sewer and surface water flooding. The village is also affected by the Tory Brook and Boringdon Streams.

South West Water, Plymouth City Council and the Environment Agency worked together, using the water company's integrated urban drainage model, to consider options for reducing flood risk from the various sources in the village. The £2 million scheme has increased capacity in the main river, diverted surface water flows and reduced sewer flooding risk, benefitting 47 properties.

South West Water's 'Downstream Thinking' holistic planning initiative helped secure financial contributions and partnership working to reduce flooding from public sewers, highway drainage and main rivers, all of which contributed to historic flooding in Colebrook. This partnership approach was commended by Defra as 'Best Practice'.

Lead local flood authority local flood risk strategies

The Flood and Water Management Act 2010 requires lead local flood authorities (LLFAs) to develop, maintain and monitor strategies for managing local flood risk. Local flood risk includes flooding from surface water, groundwater and ordinary water courses.

In March 2015, 59 (39%) LLFAs said they had completed and published their local flood risk strategies, compared with 24 (16%) in March 2014. 43 (29%) LLFAs said their strategies were out for public consultation**,** or their consultations were complete, compared with 33 (22%) last year**,** and 50 (32%) LLFAs said work on their local strategies was in progress. A list of the LLFAs with strategies in progress is included at Annex A.

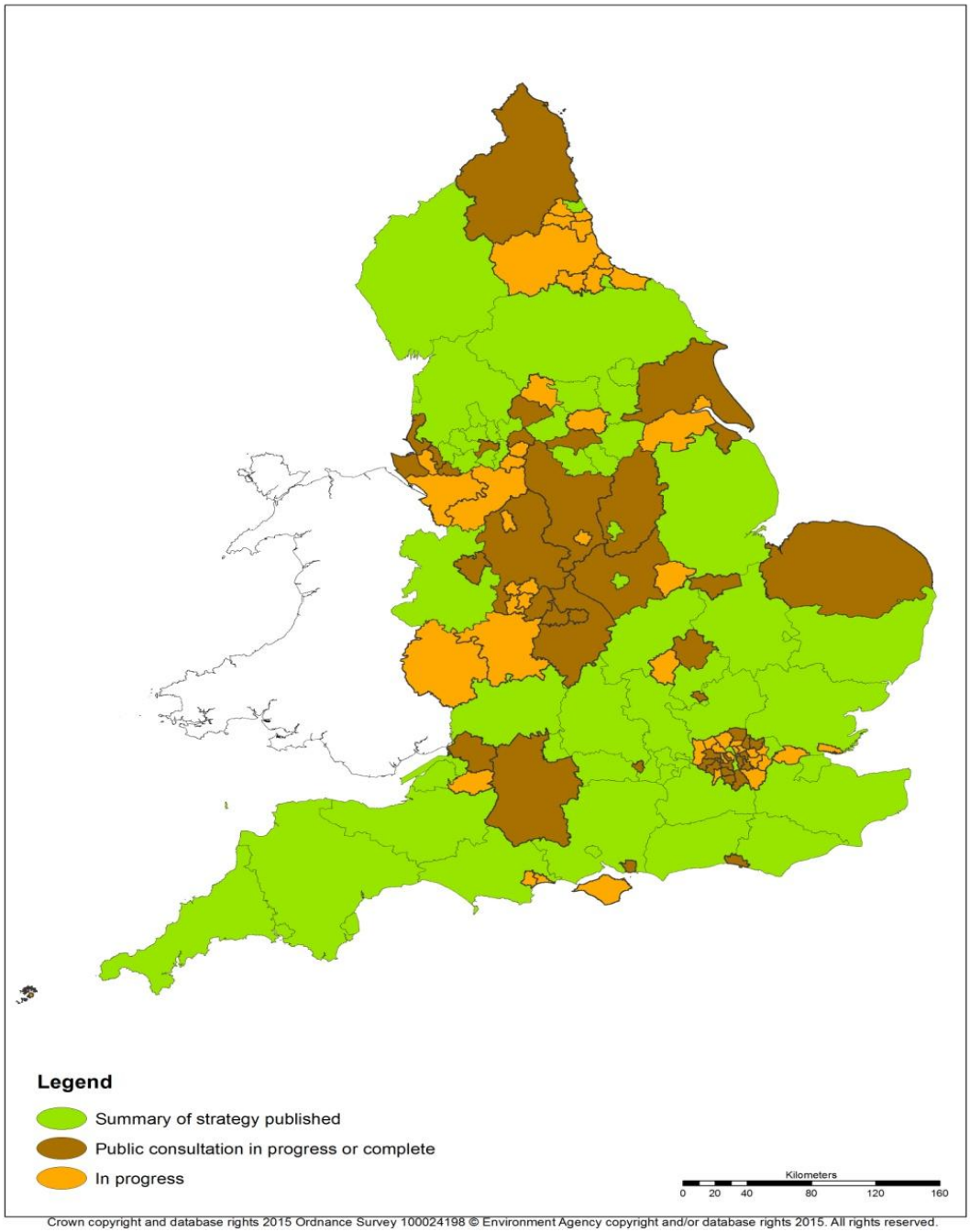

Figure 6 LLFA progress in developing local flood risk management strategies during 2014 to 2015

The Act also requires LLFAs to investigate flooding in their areas, publish the results of their investigations and notify other relevant risk management authorities about them. Across all 152 LLFAs, over 900 investigations were started this year and over 230 published. 17 authorities were carrying out more than 10 investigations.

Flood risk, river basin and shoreline management planning

During this year the Environment Agency published and consulted on draft flood risk management plans and the associated Strategic Environmental Assessment scoping reports. They partnered with lead local flood authorities to ensure the plans cover all forms of flooding and coastal erosion. There were over 400 responses to the consultation and overall the plans were welcomed by partners, stakeholders and communities.

This first cycle of flood risk management plans enables strategic flood risk planning inland and at the coast. They bring together for the first time information within existing Environment Agency and local authority plans, including catchment flood management plans, shoreline management plans and local flood risk management strategies.

This work has taken place alongside development of draft updated river basin management plans to ensure both sets of plans are aligned. This will provide greater opportunities for risk management authorities and partners to work together towards achieving joint and multiple benefits for the water environment.

Shoreline management plans continue to provide the long-term management framework for all coastal risk – both from flooding and coastal erosion. Despite the winter storms of 2013 to 2014, most management policies remain unchanged. Discussions continue about how the policies in these plans will be delivered, what contribution local businesses and communities can make, and when key decisions about improving defences or withdrawing investment should be made.

The actions within shoreline management plans range from implementing projects set within the six year investment programme to ongoing engagement or monitoring activities. Many of these actions are strategic – they will not be addressed until an appropriate point in the future. Activity continues to be monitored and scrutinised by local authorities and the Environment Agency through regional Coastal Groups.

4.2. Development and flood risk

Implementing the National Planning Policy Framework

Government policy requires that, where development does go ahead in areas at risk of flooding or coastal erosion, it must be shown to be necessary, safe and resilient to flooding, and it must not increase risk to others.

The Environment Agency does not object to development in flood risk areas where development is compliant with the National Planning Policy Framework. Examples of resilience measures which would allow development to go ahead in a flood risk area include:

- having adequate flood risk mitigation, such as flood risk management schemes
- floor levels being above the expected flood levels
- demonstrating the safety of people in and around buildings

Each year the Environment Agency provides comments on applications and collects information about the outcome of planning applications to which it objected at some point in the past. The outcomes recorded during each year do not necessarily match the initial objections made in the same period.

In 2014 to 2015 the Environment Agency provided detailed technical comments on 11,010 planning applications. The Environment Agency initially objected to 3,237 applications and continues to work with local planning authorities (LPAs) and developers to resolve issues so that, in many cases, the initial objection can be removed before a planning decision is made.

During 2014 to 2015, the Environment Agency was made aware of 2,272 outcomes of planning applications to which it had objected in the past. These include:

- initial objections that were later removed because a solution was found before the LPA made its decision
- sustained objections, where no solution could be found before the LPA made its decision whether to grant or refuse the application

Based on the 2,272 outcomes:

- across all development types, 96.4% of planning outcomes were in line with Environment Agency flood risk advice
- for applications for development of new homes in 2014 to 2015, over 98% of 77,125 new homes had planning outcomes in line with Environment Agency advice. Between April 2011 and March 2015 this was 99.1% of 249,672 new homes.

Planning outcomes are counted as being in line with the Environment Agency's advice when applications with flood risk issues have been:

- refused by the LPA
- withdrawn by the applicant before an LPA decision could be made
- found to be acceptable following further investigation, for example, when a suitable Flood Risk Assessment was provided by the developer
- redesigned by the developer to be more flood resilient following detailed discussions with the Environment Agency and other technical advisers

Since April 2011, the Environment Agency has provided detailed technical comments on flood risk for 39,390 planning applications and initially objected to 11,438. During this period, 96.5% of the 7,596 planning decisions which were notified to the Environment Agency had been refused or amended in line with development and flood risk advice.

During 2014 to 2015, the Secretary of State for Communities and Local Government called in one application for determination for flood risk reasons under the Town and Country Planning (Consultation) (England) Direction 2009. This was a revised and resubmitted version of an application previously called in during 2013-14. At the time of writing an Inquiry into the resubmission had begun but the outcome was not yet known.

Statutory consultee roles

In December 2014, the Department for Communities and Local Government published a summary of consultation responses on proposed changes to the delivery of sustainable drainage systems (SuDS), focusing on changes to the statutory consultee role of the Environment Agency and the involvement of lead local flood authorities. The results of this consultation led to the following changes:

- lead local flood authorities become statutory consultees on major planning applications with surface water drainage implications to ensure technical advice is available to local planning authorities
- the Environment Agency would continue to be consulted on proposed developments in flood zones 2 and 3, where the risks from sea and river flooding are greatest, as well as areas with critical drainage problems in flood zone 1 where the Environment Agency has notified the local planning authority

The proposed changes were enacted through the Town and Country Planning (Development Management Procedure) (England) Order 2015, taking affect from 15 April 2015. To assist with the changes, Environment Agency area teams will continue to work closely with lead local flood authorities to build capabilities and embed effective working practices to respond to their new statutory consultee role.

4.3. Working with other risk management authorities

Highways England

For the last 10 years, the Highways Agency has been responsible for planning and building new routes and for maintaining the road network. During 2014 to 2015, the Highways Agency has been preparing for its transformation into Highways England[7], a new company wholly owned by the government.

The new company is responsible for operating and improving motorways and major A roads in England. Its remit is to deliver a better service for road users and to support a growing economy. It will work in the interests of taxpayers, road users and the millions of people who rely directly or indirectly on the network each day. Highways England is putting plans in place to help meet these commitments:

- the roads investment strategy (RIS)[8] sets out a commitment to complete a wide-ranging retrofit of the network by 2040 to raise environmental standards by providing ring-fenced funding for environmental improvements
- the delivery plan 2015 to 2020[9] commits the company to invest £78 million over the next five years to address flooding and pollution from highway runoff

These 2 initiatives will help to improve the resilience of the road network; reduce the risk of flooding and pollution to communities adjacent to the network, and improve water quality by using sustainable drainage systems.

Highways England will work with the Environment Agency and others to identify opportunities for delivering wider environmental benefits in partnership with other land-owners and communities.

Internal drainage boards

Internal drainage boards (IDBs) have worked with the Environment Agency during 2014 to 2015 to carry out a range of water level management works and operations which contribute towards reducing flood risk. As a result of investment of over £35 million during this period, in addition to grant-in-aid funding, work has included:

- channel maintenance works
- operation of pumping stations, sluices and other water level control structures
- new and improved flood management and land drainage infrastructure
- contributions to main river maintenance through the Environment Agency precept

These combine to provide important benefits to local landscape, communities and the environment, including the recovery of SSSIs.

Work to establish Public Sector Co-operation Agreements between IDBs and the Environment Agency continued during 2014 to 2015. Around 50 agreements are now either in place or being finalised across England for main river maintenance works and to provide mutual assistance during flood events. The key benefit of these agreements is in finding the most effective local agent, resulting in more efficient working practices and more work on the ground to reduce flood risk for local communities.

North Level District IDB Partnership Projects

Since February 2014, North Level District IDB has delivered £290,000 of projects along the tidal River Nene in Cambridgeshire. In partnership with the Environment Agency, projects to date have included 5km of channel de-silting, bank re-profiling and re-seeding.

These works help maintain channel capacity for conveyance of flood flows. Vegetation control works helped prepare the ground for repairs to embankments around the Whittlesey Washes, which act as a flood storage reservoir, essential to reducing the risk of flooding during combined high tides and river flows. The Washes also provides an internationally important site for birds.

Water and sewerage companies

Water and sewerage companies have invested £258 million this year to reduce the probability of sewer flooding to properties. This investment is part of their asset management plans for 2010 to 2015, agreed in 2009 with Ofwat (the water services regulation authority). Companies have also invested in maintaining the public sewer system, a vital part of national infrastructure, to prevent blockages, flooding and pollution.

Companies have made their water supply and wastewater assets more resilient to flooding. A number of companies have made sections of their sewer networks more resilient to groundwater infiltration. In addition to major investment schemes, companies have provided property-level protection to customers to reduce the likelihood of sewer flooding.

Water companies have worked with others this year to:

- learn lessons from the 2013/14 winter floods and make their assets more resilient to flooding
- deliver schemes which tackle multiple sources of flooding and enhance the environment
- plan for new development and growth
- identify and deliver sustainable drainage solutions with partners
- work with lead local flood authorities on their local strategies and section 19 investigations
- collaborate on joint research initiatives to improve flood management practices.

This year saw the conclusion of the water industry price review, with Ofwat's final determination of companies' business plans in December 2014. Between 2015 and 2021, water companies will be investing approximately £19 billion in wastewater services and £3.5 billion on protecting and improving the water environment. This covers the National Environment Programme (NEP), capital maintenance, sewerage resilience and funding for growth. The number of internal sewer flooding incidents will be reduced by 33% as a result of this investment.

4.4. Improving incident response

Improving access to flood warning information

The ability to make direct contact with people in areas at risk from flooding via telephone landlines has been central to disseminating flood warning messages using Floodline Warnings Direct. This remains a key part of the approach but has become less effective due to changes in the way people communicate: social media and digital services are increasingly popular.

At the end of 2014 to 2015, 54.7% of the properties that can benefit most from early warning of flooding from rivers and the sea can receive the Environment Agency's direct warnings, against a target of 66%. This equates to 953,019 customers.

An on-going reduction in landline ownership means that recruiting landline owners to receive flood warnings is increasingly less effective. This year, a trial of an opt-out service to register mobile customers of the EE network in high risk areas has added over 2,500 properties to Flood Warnings Direct. By the end of 2015 to 2016, over 80,000 will have been added. A further increase in reach via other mobile phone companies of approximately 120,000 will be achieved with the new flood warning system which the Environment Agency plans to introduce by the end of 2016.

As social media and digital services become increasingly popular, the Environment Agency continues to reach more and more people with flood warnings through alternative routes. These include:

- web site pages on gov.uk[10] which include live flood warnings, a flood warnings summary, and a 3 day flood risk forecast
- use of the flood warning widget[11] on sites such as the BBC and local councils.
- social media, including almost 259,000 followers on twitter and 18,000 on Facebook
- third party mobile phone apps – almost 30,000 users have registered with a postcode to receive flood warnings relevant to their location, for example through Facebook flood alerts.

All these new developments reflect the Environment Agency's priorities for improving incident management. This focuses on people as well as property and finding new ways to reach people with flood warnings, especially those on the move.

Dulwich and Herne Hill flood alleviation scheme

Repeated surface water and sewer flooding in the Dulwich and Herne Hill areas of south London have caused serious damage to businesses, homes and public infrastructure. Discussions between the local flood risk partnership group, Southwark Council, Thames Water and the Environment Agency led to agreement for a scheme that addressed surface water and sewer flooding in the area.

The £4.28 million scheme involved new drainage channels and work to improve 3 local parks. As well as reducing risk to nearly 500 homes and business, the scheme improved the local environment. Thames Water provided over half the funding for the scheme, which is the first in London to be delivered by public and private sector organisations in partnership with the local community.

This multi-agency integrated approach meant aligning differing funding requirements and timescales for partners to address flood risk from multiple sources. The scheme has already won two awards: the Partnership category of the Environment Agency Project Excellence Awards 2015 and a special award for Contribution to the Community at the ICE London Construction Awards 2015.

4.5. Improving skills and capacity

Building capacity

The capacity building programme is now led by local authority representatives, with support from the Environment Agency and Construction Industry Research and Information Association. In the period ending March 2015, 17 workshops focusing on sustainable drainage and on partnership funding were delivered. These were attended by over 750 delegates from lead local flood authorities (LLFAs) and other risk management authorities. In addition 24 trainees started the river and coastal engineering foundation degree course at the University of the West of England in September 2014.

A survey of LLFA staff in December 2014, explored the experience, skills and resources of individuals working within LLFAs as well as their use of the capacity building programme. The results showed 85% of respondents feel more confident in carrying out their flood risk management role than in 2013/14. Of these, 88% confirmed that the capacity building programme helped increase their confidence.

Local authorities have increased their staff skills and capability in relation to their role and duties as set out in the Flood and Water Management Act 2010. The number of staff working on flood risk management within local authorities has increased since 2010. The LLFA-led capacity building advisory group continues to meet and advise Defra and the Environment Agency on skills and capacity matters in the wider sector.

Sheffield Lower Don Valley flood alleviation scheme

Sheffield's Lower Don Valley is an important focus for business development and job creation in the city. Flooding in 2000 and in 2007 caused extensive disruption to business and infrastructure. The flood alleviation scheme, delivered in part by Defra Growth Funds, is the first to use contributions from a Business Improvement District (BID).

The BID, developed in partnership by Sheffield City Council and the Chamber of Commerce, has provided both Partnership Funding for capital investment and a 5 year source of income for routine river maintenance.

Another innovative aspect of this project is the engagement of a local social enterprise, the River Stewardship company, to carry out the river maintenance. The £18 million scheme, funded by £5.5 million of Growth Funding and by £1.4 million from the BID, will reduce the flood risk for over 300 businesses which provide 5,000 jobs. This investment will facilitate proposals to create 2,730 new jobs and 42,000 square metres of new commercial floor space.

Research and development

The joint FCERM research and development programme is run by Defra, the Environment Agency, Welsh Government and Natural Resources Wales. The programme provides evidence, information, tools and techniques to flood and coastal erosion risk management authorities in England and Wales. It ensures that high quality science is being used to inform government policy development and operational tools.

The programme has recently refreshed its theme advisory groups to incorporate experts and increase representation from other risk management authorities. Welsh interests have also increased (Natural Resources Wales and Welsh Government).

The programme has increased links with the US Army Corps of Engineers, and is drawing in international best practice.

This year's programme has produced a number of new or updated products and guidance from both Defra and Environment Agency led projects. These include:

- The Channel Management Handbook[12] - provides advice on managing channels for land drainage and flood risk benefits.
- Working with Natural Processes R&D framework[13] – identifies research projects to help risk management authorities manage flood risk sustainably, improving the environment for people and wildlife.
- Investigating and appraising the involvement of volunteers in achieving flood risk management outcomes[14] - explores consistency in evaluating benefits of working with volunteers in flood and coastal erosion risk management England.
- Tools to help quantify the benefits of flood risk management[15] - provides methods to help assess the effectiveness of options for managing flood risk.
- Local flood risk research roadmap[16] - provides a 5 year programme of research projects to improve knowledge and collaboration amongst the local flood risk community

- The long term costing tool[17] - summarises the evidence on the costs of a wide range of flood and coastal erosion risk management measures.
- Modelling decision support framework (MDSF2) for flood risk management strategies[18] - evaluates the software against traditional modelling approaches to support catchment strategy development.
- Radar and rain gauge merging prototype – a new tool, developed by the Environment Agency and Met Office, which will improve rainfall data and, therefore, flood forecasting.

5. Looking ahead

Risk management authorities continue to make progress in reducing the risks of flooding and coastal erosion. Nevertheless, significant challenges still remain, not least the potential risks from future climate change. There is always more to do to ensure investment and actions are properly targeted, and to ensure people know what help will be provided and what they can do to help themselves.

The year ahead will see work progressed in a number of important areas, including legislative review, strategic planning, asset management and incident management and response.

Defra's evaluation of elements of the Flood and Water Management Act 2010 will provide valuable evidence to support decisions on the future direction of government policy on managing local flood risk. For example, this might include addressing barriers to effective local flood risk management and meeting future capacity-building needs, for example.

The Environment Agency will be publishing the final first cycle flood risk management plans and updated river basin management plans in December 2015. All European member states are required to report to the European Commission on production of these plans by March 2016.

The Environment Agency is updating the National Flood Risk Assessment for England using improved modelling and the latest information, and expects this to be available externally from early 2016.

A programme of work over the next year will help the Environment Agency to improve its service to customers of flood forecasting and warning services. This includes:

- a revised river and sea levels service to help people at risk of flooding take timely action, to be available on gov.uk from September 2015
- reviewing user needs for the National Flood Forecasting System which is now 10 years old. Scoping work to be carried out during 2015 will focus on making the system more resilient, efficient and nationally consistent
- development of the Future Flood Warning System, to take account of the changing ways in which people choose to receive flood warning information. Procurement of the system provider will take place in Autumn 2015, selecting a supplier who will deliver a more flexible and personalised flood warning service

The Environment Agency's Creating Asset Management Capacity project is designed to improve effectiveness and efficiency in managing infrastructure assets. During 2015, the project will deliver new technology to support improved maintenance work management, programming and funding allocation. The Environment Agency will also introduce mobile devices for asset inspections and field work. These initiatives are contributing to placing the Environment Agency at the forefront of efficient asset management.

In February 2016 the Environment Agency will convene a 3 day conference, ‘Flood and Coast 2016’, as part of its strategic overview role. Bringing together representatives of the flood and coastal risk management community, the conference will address the theme of risk, resilience and response in a changing climate. It will invite input from risk management authorities, industry, professional associations and community groups and enable mutual learning, sharing of good practice and continuous improvement in flood and coastal erosion risk management.

6. Annex A

Lead local flood authorities with local flood risk management strategies in progress at March 2015

Bath and North East Somerset Council	London Borough of Harrow
Borough of Poole	London Borough of Hillingdon
Bournemouth	London Borough of Islington
Cheshire East	London Borough of Newham
Cheshire West and Chester	Milton Keynes Council
City of Bradford	Newcastle Upon Tyne
Council of the Isles of Scilly	North Lincolnshire Council
County Durham	Redcar & Cleveland Borough Council
Darlington Borough Council	Royal Borough of Greenwich
Derby City Council	Royal Borough of Kingston upon Thames
Dudley	Rutland County Council
Gateshead Council	Sandwell
Hartlepool Borough Council	South Tyneside Council
Herefordshire CC	Southend-on-Sea Borough Council
Hull City Council	Stockport
Isle of Wight Council	Stockton-on-Tees Borough Council
Liverpool	Stoke on Trent
London Borough of Bromley	Sunderland
London Borough of Barking & Dagenham	Tameside
London Borough of Barnet	Thurrock Council
London Borough of Bexley	Wakefield
London Borough of Brent	Walsall
London Borough of Hackney	Westminster City Council
London Borough of Hammersmith and Fulham	Wolverhampton
London Borough of Haringey	Worcestershire County Council

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- Flood Forecasting Centre
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