

# Report to Environment & Economy Overview and Scrutiny Panel

Agenda  
Item:  
**A.4**

Meeting Date: 15th September 2016  
Portfolio: Cross Cutting  
Key Decision: No  
Within Policy and  
Budget Framework No  
Public / Private Public

Title: FLOOD UPDATE REPORT  
Report of: Deputy Chief Executive - Darren Crossley  
Report Number: SD 18/16

## Purpose / Summary:

This report is part of a series of update reports prepared for Overview and Scrutiny Committees on flood recovery activities and future programmed work.

This report will cover:

- Council assets programme of work including Green Spaces;
- Update on the Flood Ready Plan (formerly known as Winter Plan);
- Latest Flood Grants and household payment financial information;
- Overview of responsibilities of the organisations involved in the flood recovery (for information)

## Recommendations:

1. That member of the Environment and Economy Overview and Scrutiny Committee Panel consider this report and the progress made to date in the continued efforts to reinstate a range of Council assets.

## Tracking

Executive:	
Overview and Scrutiny:	<b>15<sup>th</sup> September 2016</b>
Council:	

## **1. BACKGROUND:**

- 1.1 This is the third in a series of reports updating Members on the status of works following the extensive flooding in December 2015. This report focuses on the recovery work programme and future actions.
- 1.2 The Cumbria Flood Action Plan was released at the end of June and sets out what the Environment Agency and partners are doing to reduce flood risks across Cumbria, based around river catchments. Further information can be found at <https://www.gov.uk/government/publications/cumbria-flood-action-plan>
- 1.3 A copy of the combined Cumbria Flood Action Plan and Carlisle Community Action Table can be found at Appendix A.

## **2. CITY COUNCIL ASSET RECOVERY PROGRAMME**

- 2.1 Phase 2 of the Asset Reinstatement programme is underway. The Council has employed WYG as programme managers. WYG are to design, specify and deliver the reinstatement works to all scheduled properties, including the procurement process and management of the construction works. A number of controls are in place to ensure effective delivery of the programme to budget, quality and time. A plan is in place for effective communication of progress and for early identification of any issues and emerging risks. During the detailed design stages, consultation and sign-off procedures will be scheduled to ensure the relevant stakeholders are involved in the process.

This programme includes the flood damaged properties owned by the City Council with the exception of the Civic Centre, which is the subject of a separate project.

The target start and end dates for individual assets have been updated and are shown below:

Warwick St properties	06/2016 - 12/2016
Adriano's	06/2016 - 02/2017
Sands Centre and Swifts	07/2016 - 01/2017
Stoney Holme (inc. Depot)	08/2016 - 02/2017
John St properties (Hostel and Annex)	06/2016 - 02/2017
Shaddongate Resource Centre	06/2016 - 02/2017
Botcherby Community Centre	06/2016 - 01/2017
Bitts Park (Depot, Lodge, Pavilion & WCs)	Dates to be confirmed
Caldew Riverside Properties	06/2016 - 03/2017
Old Fire Station	06/2016 - 09/2016
Sheepmount	dates to be confirmed

Funding for the recovery of these assets is the subject of ongoing work with our insurers.

## **2.2 Civic Centre and Customer Contact Centre**

Customer contact services continue to be provided from the temporary portababin accommodation located in the car park as the ground floor and basement remain out of action. Work has commenced on investigating options for the future use of the Civic Centre and Customer Contact Centre. This exercise includes investigations into:

- Accommodation requirements having regard to current and future staffing, service delivery needs and working practices;
- The current costs of occupying, running and maintaining the Civic and comparison with the costs of relocation;
- The scope and demand in the marketplace for alternative uses for the ground floor, basement and any surplus office space in the tower from both the public and private sector, and the income generating potential which might arise;
- Any building and engineering constraints and opportunities, together with associated costs, which need to be taken into account if alternative uses are considered;
- Practical and cost efficient flood resilience measures which can be built into the reinstatement;
- The insurance monies available to fund the cost of reinstatement.

## **2.3 The Sands Centre**

The impact on the Sands Centre was relatively minimal (despite the entire ground floor being flooded) and the centre reopened within 10 days of the flood and all services / functions are now operational. There remain minor repair works to undertake to the various floorings (which will be scheduled to minimise disruption) but the centre is essentially fully recovered.

We have already opened discussions with Sport England Architects to seek advice on ensuring that any future development of the site involves suitable flood resilience measures (particularly given the increased footprint, value and complexity of service media and plant on the site).

## **2.4 Stony Holme**

Stony Holme golf course has been recovered and has been open to members and the public since May this year. Limited temporary ancillary facilities are in place for users and staff on site.

The clubhouse remains closed. However, as part of the Council's wider reinstatement programme, we are aiming to have the required clubhouse works out to tender before Christmas and a construction firm on site early in the New Year.

We have revisited some of the parties that expressed an interest in operating our golf services as part of last year's leisure contract soft market testing, and they have confirmed they remain interested in tendering.

## **2.5 Bitts Park**

The upper courts have been open to the public since Easter. Permanent repair works to the fencing and floodlighting for these courts will commence imminently (in time for the winter months).

The lower courts remain out of action, however they were due to be resurfaced and redeveloped as part of the proposed canopy development. On that basis we have not progressed repair works as they will be unnecessary as and when the canopy project commences. We are currently awaiting the release of funds from the LTA (Lawn Tennis Association) Trust but envisage works starting in the autumn.

The Kiosk was insured and will form part of the Council's reinstatement programme, however we are still working alongside White Young Green to form a view on the best provision and layout of facilities in the park (taking account of future needs and the insurance settlements and functions of the Kiosk, Park Keeper's Lodge and Bitts Park Depot).

## **2.6 The Sheepmount**

The Athletics facilities have reopened in a limited and controlled manner. They have extremely limited ancillary facilities at this stage (a small portacabin and portaloos). The jump pits still need to be temporarily reinstated. However the track and some field facilities are back open for club training.

Temporary changing rooms are being sourced ahead of the football season and repair works to the pitches and turf have been completed to ensure that the facility can provide some football pitches from September.

The changing rooms and buildings will now be considered as part of the Council's reinstatement programme although an outline timetable for this work is still subject to confirmation.

We are in discussions with Sport England and other specialist providers to explore what resilience measures could be built into the athletics track and facilities if they are to be fully reinstated at the Sheepmount site.

## **2.7 Green Spaces Asset Recovery**

3 play areas were flooded and extensively damaged during Storm Desmond; Bitts Park (Castle) Broad Street (St Aidan's) and Eden Park Crescent (Botcherby). Broad Street and Eden Park Crescent have now been fully reinstated. At Bitts Park the new

dry-play equipment is currently being installed including an all-new 'wheelchair swing', specially designed to accommodate anyone who needs to stay in their wheelchair for safety reasons. The chair is clamped to the swing platform and the whole assembly swings together. This apparatus has been funded by the Cumbria Waste Management Environment Trust (Landfill Tax). A 'sky cabin' adventure climbing unit is also being installed. The rebuilt play area will be greatly superior to the old one in terms of play value and resilience against future floods.

Alternative arrangements for deploying operational staff away from Bitts Park Depot are now well embedded and we do not intend to re-occupy the depot except for the storage of low-value bulk items. The main building has been stripped but has not been repaired at this stage, being a lower priority than other assets. It is not currently in use by Green Spaces.

Investigations will commence shortly into the future use of the Bitts Park assets, specifically looking at combining the Pavilion and toilets into one facility.

### **3. CARLISLE FLOOD RESPONSE PLAN 2016/17** (formerly known as Winter Plan):

The Council has been working in partnership with the Environment Agency and the County Council on a Flood Response Plan for 2016/17. The plan summarises the work that is currently or planned to take place during this financial year to reduce flood risk for the residents in Carlisle by all relevant authorities. It draws upon and references the Cumbria Floods Partnership action plan and other relevant areas of work. There is a particular emphasis on preparation for the coming winter but the plan equally applies to weather and events leading to and recovering from flooding at any time throughout the year.

The Plan is divided into five sections:

- Section 1: Reducing the risk - recovery after Storm Desmond. This includes repairing damaged embankments, removal of debris and gravel and localised damage.
- Section 2: Reducing the risk – longer term investment. This identifies key areas where investment will be considered as part of a longer term strategy.
- Section 3: Preparation for flooding. This section includes actions which will ensure that in the event of a flood that all partners are prepared and ready to take action e.g. Carlisle Emergency Plan.
- Section 4: Responding to flooding. This includes routine activities which are continually in place in preparation for and responding to flooding e.g. flood patrols and asset inspection and debris clearance.
- Section 5: Recovery from flooding. This section focuses on communication and implementation of clean-up plans.

The overall objective directing the action in this plan is that by the 01 December 2016 all authorities working to reduce flood risk and improve community resilience across the Carlisle City Council area will have:

- a) Restored and repaired existing flood defence assets and bridges to full operational capability following the previous winter's storms.
- b) Completed a programme of removing gravel, river debris and vegetation at critical locations to reduce flood risk in preparation of winter.
- c) Will communicate activities and progress being made with communities.
- d) Created and be delivering plans for the on-going inspection and maintenance of flood defence and drainage structures, and areas prone to aggravating flood risk in rivers and surface water drainage networks.
- e) Informed people how to prepare and respond in the event of flooding being forecast this winter; encouraged more residents to join the Environment Agency's flood warning service.
- f) Tested flood response procedures with communities.
- g) Will update communities on planned flood risk reduction works in 2017/18.

#### **4. FLOOD GRANTS & HOUSEHOLD PAYMENTS (FIGURES AS OF 5<sup>th</sup> AUGUST 2016)**

##### **4.1 Community Support Grant - £500 Household Scheme**

Further to the floods the Government announced an immediate assistance scheme targeted to support households affected by the event. This offered a one off Community Support Grant payment of £500 to each household.

Up to 5th August, 1,670 households have been confirmed as flooded by Storm Desmond, of these 1,601 are eligible for the £500 community support grant. The Council has made payments made to 1,560 households equating to 97.4% and totalling £780,000.

This is being recovered from the County Council upon submission of fortnightly grant claims.

##### **4.2 £5,000 Flood Resilience Grant**

Flood resilience grants are available to assist householders and business to make their properties more flood resilient in future. The grants can be used to cover costs associated with resistance products such as flood doors and barriers or they can be used to make properties more resilient, so water proof plaster, moving electric, boilers etc. above the flood water. Since the introduction of the scheme, the Housing team have provided advice to over 500 flood affected property owners, through online enquires, telephone, advice sessions. The scheme has also been widely publicised through partner agencies, local press and social media.

The Council are also now working in partnership with JBA consulting, which are able to provide independent Property Protection reports. The report costs are covered by

the £500 allowance within the grant and the Council are arranging payment on behalf of the owner through the process, so there are no upfront costs for the property owner. The report will be invaluable for those who require advice on what measures might be best to future protect their properties.

The Council has received 490 grant applications and granted funded measures to 403 properties (7 were not eligible and 80 were incomplete), totalling £1,637,757. Of these the Council has paid out - 180 totalling £605,010.

#### 4.3 Council Tax & NNDR discount schemes

County wide schemes have now been approved with the DCLG paying £400,000 to the County Council to fund the local discretions (second homes / empty properties / flood affected businesses) contained within the County wide schemes.

Districts are submitting monthly claims to recover the costs incurred. Funding for discounts offered in line with the Government Scheme will be paid through a S31 grant directly to us. Council tax discount awarded to 2,130 householders which amounts to £2,661,269 for the affected properties. Business rates discount awarded to 104 properties amounting to £489,831 in total.

The total number of businesses affected was 205, with 110 properties now being re-occupied.

### 5. RESPONSIBILITIES OF THE ORGANISATIONS INVOLVED IN THE FLOOD RECOVERY: LEGISLATIVE CONTEXT

#### 5.1 Flood and Water Management Act 2010

- Environment Agency Strategic Overview for all sources of flooding
- Local Authority (Lead Local Flood Authority - LLFA) responsibility for local flood risk management (Cumbria County Council):
  - Risk-based approach to reservoir regulation;
  - Responsibility for surface water and groundwater flooding;
  - Groundwork for consolidating existing flood and coastal legislation;
  - Flood Risk Regulations 2009

#### Risk Management Authorities – Who does what under this Act

Flood Source	Environment Agency	LLFA	District	Water Company	Highways Authority
Main River	✓				
The Sea	✓				
Surface Water		✓			
Highway Surface Water					✓
Sewer Flooding				✓	
Ordinary Watercourse		✓	✓		
Groundwater		✓			

Reservoirs	✓				
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## 5.2 Civil Contingencies Act 2004

- Establishes a coherent framework for emergency planning and response ranging from local to national level.
- Legal obligation upon emergency services and local authorities (defined as "Category 1 responders" under the Act) to assess the risk of, plan, and exercise for emergencies, as well as undertaking Business continuity Management. Category 1 Responders are also responsible for warning and informing the public in relation to emergencies. Finally, local authorities are required to provide business continuity advice to local businesses. It also places legal obligations for increased co-operation and information sharing between different emergency services and also to non-emergency services that might have a role in an emergency such as electric companies.

## 5.3 Environment Agency (EA)

The EA is an executive non-departmental public body, sponsored by DEFRA. It has responsible for taking a strategic overview of the management (overarching body) of all sources of flooding and coastal erosion and also an operational responsibility for managing the risk of flooding from main rivers, reservoirs, estuaries and the sea.

The EA is working in partnership with the County Council on the Section 19 flood Investigations. This flood investigation report has been produced by the Environment Agency as a key Risk Management Authority under Section 19 of the Flood and Water Management Act 2010 in partnership with Cumbria County Council as Lead Local Flood Authority. The Cumbria Flood Partnership will produce the Flood action plans.

## 5.4 Cumbria County Council

Lead Local Flood Authorities (unitary authorities or county councils) are responsible for developing, maintaining and applying a strategy for local flood risk management in their areas and for maintaining a register of flood risk assets. They also have lead responsibility for managing the risk of flooding from surface water, groundwater and ordinary watercourses.

Cumbria County Council is the Lead Local Flood Authority under the Flood and Water Management Act:-

- Local Flood Risk Management Strategy (LFRMS)
- Consent for works on Ordinary Watercourses
- Flood Assets registers



- Section 19 flood Investigations
  - ❖ Unprecedented number of Section 19 Reports produced in partnership with the Environment Agency
  - ❖ Community combinations
  - ❖ 5 Stage process
  - ❖ Consultation through Flood Forums throughout
  - ❖ Final stage leads to a programme of work
  - ❖ Carlisle first version 3 May (Carlisle Flood Investigation Report)
  - ❖ Low Crosby first version 29 June
  - ❖ Warwick Bridge first version 4 July
  - ❖ Dates of final version to be confirmed - Catchment reports will provide a summary of the separate Section 19 reports for a river catchment area. These are likely to begin once separate Section 19 reports are finalised.
- Consultees to Local Planning Authorities

## 5.5 Carlisle City Council

District Councils are key partners in planning local flood risk management and can carry out flood risk management works on minor watercourses, working with Lead Local Flood Authorities and others, including through taking decisions on development in their area which ensure that risks are effectively managed.

Carlisle City Council has responsibilities under the Civil Contingencies Act 2004 (CCA) as a Category 1 responder. These duties are carried out within a multi-agency environment working together to prepare, respond and recover from different emergencies, through the Cumbrian Resilience Forum:-

- co-operate with other local responders
- share information with other local responders
- assess the risk of emergencies in the area
- put in place business continuity management arrangements.
- put in place arrangements to warn, inform and advise the public in the event of an emergency.
- provide advice and assistance to businesses and voluntary organisations about business continuity

The Carlisle Emergency Plan (part of duty as a Category 1 responder) is currently under review and will be presented to SMT (Senior Management Team) for sign off. In addition, through work with the Cumbria Resilience Forum (CRF) a number of plans and reports are under review:-

- Internal debrief report. This report has fed into the CRF debrief work and has contributed to the recommendations in the CRF Storm Desmond Report.
- CRF Storm Desmond Debrief Report

- This report was discussed at the recent Cumbria Resilience Forum Programme Board (23 June 2016) and the task and finish group has been convened to prioritise work on the recommendations. Carlisle City Council will be represented on this Task & Finish Group by the Policy & Communications Manager. The actions most pertinent to Carlisle City Council are in the Policy & Communications Service Plan.
- **Emergency Assistance Centres Plan**  
The CRF Emergency Assistance Centres Plan was thoroughly exercised during the Storm Desmond event. As part of the ongoing development of Emergency Assistance Centres, Cumbria County Council Resilience Unit hosted a workshop looking to learn from the recent activations and to investigate and integrate some of the ideas from staff involved. The workshop focused on:
  - ❖ Flexibility within the plan.
  - ❖ Roles and responsibilities.
  - ❖ Integrated working and communication with the wider response.
  - ❖ Skills and Training
  - ❖ Resources
- **Supporting People in Emergencies Plan**  
The CRF Supporting People in Emergencies Plan was also activated during the Storm Desmond event. This plan is also being reviewed with the specific aim of widening the welfare aspects the plan. The reviewed plan will be developed to cover Responder Welfare, including voluntary agencies.
- **New Cumbria Resilience Forum Welfare Plan**  
The culmination of workshops, meetings and debriefs will see the Emergency Assistance Centre Plan, Supporting People Plan and CVAC Protocols being pulled together into a new Welfare Plan under the general response section of the Cumbria Emergency Plan. This new plan will be launched in draft at a workshop in September, initiating the 30 day consultation period. The key areas of the new plan are:
  - ❖ Welfare Steering Group
  - ❖ Emergency Assistance Centres
  - ❖ Responder Welfare
  - ❖ Community Welfare
  - ❖ Reassurance Monitoring
  - ❖ Community Offers of Support (including spontaneous volunteers)

Further specific duties and responsibilities include:

- **Development of Flood Ready Plan 2016/17:** The plan is focused on finding ways to improve the preparedness and resilience of the city region. Carlisle City Council actions will be incorporated into the Cumbria Flood Partnership Flood Action Plan.
- **Administering the Community Support Grant £500 per household scheme.**

- Administering the Flood Resilience grants for properties affected by storm Desmond or Eva. The grants are for resilience / resistance measures up to a maximum of £5,000.
- Duties as Strategic Housing Authority.
- Street Cleaning.
- Contribute staff to a shared resource pool of trained officers for the CRF. In particular, we have been approached by Cumbria County Council's Resilience Unit to provide additional Briefing Officers.
- Working through the CRF to look at mutual aid across all the Resilience Forums.

## 5.6 Cumbria Resilience Forum

The Cumbria Resilience Forum (CRF) consists of all organisations and agencies involved with emergency response in Cumbrian communities. The CRF was set up in response to the Civil Contingencies Act 2004 to co-ordinate the response to major incidents in Cumbria.

Major incidents are managed through three levels of control: Operational Command (Bronze), Tactical Command (Silver) and Strategic Command (Gold).

**The Strategic Recovery Coordination Group** is Cumbrian wide and is responsible for the strategic planning and implementation of the recovery phase. There are also **Recovery Subgroups**, namely Business and Economy, Communication, Community Recovery Group, Environment, Finance and Legal, Health and Welfare, Housing, Infrastructure, Skills and Learning, and Flood Planning. A number of these groups are attended by City Council representatives. The Housing Subgroup is chaired by Jane Meek.

## 5.7 Cumbria Flood Partnership

Set up by Central Government, the group is made up of local authorities, the Environment Agency, community flood defence groups and is chaired by Rory Stewart. Jason Gooding and Jane Meek represent the City Council. It is carrying out work to identify additional flood protection measures for Cumbrian communities affected by the floods.

Key issues the Partnership will consider include what improvements to flood defences in the region may be needed, look at upstream options for slowing key rivers to reduce the intensity of water flows at peak times and build stronger links between local residents, community groups and flood defence planning.

The Group will produce an Action Plan. This was to be published 27 July (delayed due to the referendum / draft 20 May) gathering all the actions for the three catchments that have been completed since December, are underway or have been put forward by the Cumbria Floods Partnership, covering the full range of activities to reduce flood risk and improve resilience. The Action Plan will be updated in the autumn.

## 5.8 National Flood Resilience (NFR)

The Department for Environment Food and Rural Affairs (DEFRA) is to take a fresh look at how it calculates flood risk, in light of recent events, to be delivered by a new cross Government team. This will see the Government updating 'worst case scenario' planning, considering the future impacts of climate change and carrying out a risk assessment of critical infrastructure, like electricity substations.

The National Infrastructure Review is being led by the Chancellor of the Duchy of Lancaster Oliver Letwin. At the 'Moving on after the floods: planning for a more resilient future' workshop run by DLCG, 18 July 2016, a preview of the report was presented by the lead officer. There are three main themes:

- Modelling, looking at the worst-case scenario for future flooding as a thorough stress testing of resilience.
- A cross departmental review of critical infrastructure. This has been completed with a focus on providers preparing protection measures against future flooding. Additional work to be done on the inter-connectivity of this infrastructure and the impact of loss or disruption.

- Building flood resilience in to long term future investment strategies  
<https://www.gov.uk/government/consultations/national-flood-resilience-review-call-for-evidence>

DEFRA is launching a Flood Risk Management Competition, to create an opportunity for a wide range of interested parties to apply their particular areas of expertise to a specific flood risk management challenge. The competition will focus on the following question:

*If you were responsible for managing the Eden catchment in Cumbria, what flood risk management approaches would you recommend, and why?* The closing date is 30 September.

<https://consult.defra.gov.uk/water-and-flood-risk-management/flood-risk-management-modelling-competition>

## 5.9 North West Regional Flood and Coastal Committee (NWR FCC)

There are eleven Regional Flood and Coastal Committees in England. These are responsible for ensuring coherent plans are in place for identifying, communicating and managing flood and coastal erosion risks across catchments and shorelines; for promoting efficient, targeted investment in flood and coastal erosion risk management; and for providing a link between flood risk management authorities and other relevant bodies to develop mutual understanding of flood and coastal erosion risks in their areas:

- Provides 'link' between national and local strategies
- Provides local democratic accountability
- Delivers Strategic Overview at a local level
- Sets and spends Local Levy (CCC £300k)

- Agrees EA Investment programme (GIA)
- Advocates risk management through local leadership

<https://www.gov.uk/government/groups/north-west-regional-flood-and-coastal-committee>

#### 5.10 Carlisle Flood Action Group

This is a local group, led by Dr Stephen Gibbs.

*Formal community group acting as powerful voice for Carlisle & District flood victims, run by flood victims, holding government and agencies to account.*

[www.carlislefloodaction.org.uk](http://www.carlislefloodaction.org.uk)

#### 5.11 National Flood Forum

The National Flood Forum is a national charity dedicated to supporting and representing communities and individuals at risk of flooding. This is done by:

1. Helping people to prepare for flooding in order to prevent it or mitigate its impacts
2. Helping people to recover their lives once they have been flooded
3. Campaigning on behalf of flood risk communities and working with government and agencies to ensure that they develop a community perspective.

#### 5.12 Carlisle Flood Recovery Centre

This is a drop-in centre managed by Paul Hendy, for wide ranging advice and support for those affected by the floods.

#### 5.13 Carlisle Flood Recovery Group

This is a local committee group, led by Ted Thwaites at Cumbria County Council. A representative from the City Council attends. The aim of the Group is that people and communities affected by flooding are supported by public authorities, third sector organisations and charities to recover from the impacts of Storm Desmond, as effectively as possible. The Group has focussed on signposting and supporting local residents. This has been achieved by providing residents with regular updates and key information on items such as housing, council tax exemption, grant information and donated goods. Specialist one to one support has also been provided by the Cumbria Law Centre, Carlisle and Eden Citizens Advice Centre, Flood Advice Centre and Eden Flood Volunteers, all of which are members of this Group.

Following feedback from local residents the demands on the group have recently switched more towards community resilience and engagement. Residents are keen to find out what agencies have achieved over the last 6 months, what they plan to do over the next 6 months and how residents can become more 'flood ready' for the future.

The Group is in the process of developing a new action plan that will focus on engaging with communities over the next 6 months. The Group is keen for face to face engagement to occur with residents, businesses, registered social landlords etc, and for the creation of new empowered community groups.

The Group has produced a draft Carlisle Engagement Plan, to engage residents and businesses to

1. provide opportunities for engaged groups to work with us to influence plans to reduce future flood risk locally and within the catchment;
2. to ensure people/groups are more flood resilient by being better aware, prepared and able to take effective action to reduce impacts of flooding.

#### **5.14 Business Emergency Resilience Group (BERG)**

An initiative of His Royal Highness The Prince of Wales, the Business Emergency Resilience Group helps businesses and communities across the UK to prepare for, respond to and recover from emergencies such as flooding, cyber-attacks and civil unrest. BERG helps small to medium-sized business owners recognise and plan for significant risks, and sign-posts support from larger organisations, helping them recover more quickly following an emergency. [www.bitc.org.uk](http://www.bitc.org.uk)

**Contact Officer: Darren Crossley**

**Ext: Ext. 7003**

**Appendices** Appendix A Cumbria Flood Action Plan  
**attached to report:**

**Note: in compliance with section 100d of the Local Government (Access to Information) Act 1985 the report has been prepared in part from the following papers: • None**

#### **CORPORATE IMPLICATIONS/RISKS:**

**Chief Executive's –**

**Deputy Chief Executive –**

**Economic Development –**

**Governance –**

**Local Environment –**

**Resources -**

# Reducing flood risk from source to sea

First steps toward an integrated catchment plan  
for Cumbria



# Foreword

The floods in Cumbria were truly terrible. They were horrendous in their extent: three complete river systems – the Eden, the Derwent and the Kent – flooded simultaneously.



They were horrendous in their intensity – we now know that the Eden experienced the highest flow levels, recorded on any river in England; following the highest day of rainfall recorded. They were horrendous in their human impact – one and a half thousand homes flooded in Kendal alone; a similar number in Carlisle, and hundreds in Appleby, Keswick and Cockermouth – and, while the media attention was on the larger areas, dozens of outlying villages were suffering terribly. A hundred bridges were damaged some – like Pooley Bridge – which had stood for more than a hundred years were swept away; others – like Eamont Bridge – which had stood for six hundred years were undermined. The slopes of Helvellyn collapsed, spilling rubble into the river, and flooding Glenridding, three times in a week – and on the other side, destroying the A591.

In recognition of these terrible events the Secretary of State appointed me, as Minister for Flooding, to establish and chair this Cumbria Floods Partnership. Our first responsibility as a government was the emergency response to protect lives. We owe a huge thanks to mountain and bay rescue teams, police, military, councils, churches, volunteers, the Environment Agency, and dozens more organisations – and particularly to the communities themselves – for responding so calmly and professionally to something so extreme and unprecedented.

The second stage has been recovery. Collectively the government has spent over £150 million to support recovery in Cumbria, over the last six months. This has extended from emergency funds for households, and businesses, to repairing Cumbrian roads and bridges allowing, among many other projects, Eamont Bridge to be reopened, and Pooley Bridge to be replaced, and the A591 to be rebuilt.

The third stage is now to prepare Cumbria for flooding in the future. I'm pleased that we have been able to provide affordable flood insurance for households across Cumbria through FloodRe. We must also make individual homes more resilient, so we have provided a £5,000 grant for every flooded home, to protect that home better in the future.

I have asked the Environment Agency to appoint a Director for each main river catchment - one for the Eden, one for the Derwent, and one for the Kent and Leven. This document records their initial work to make communities safer for this winter, from repairing damaged flood defences, to building new defences, and establishing new warning areas. But this is just the beginning.

Now the most important task is to improve our flood defences for the long-term. So I have asked the Catchment Directors, as their next task, to re-examine the river systems in Cumbria, from the source to the sea, and to make sure that the money we spend on the environment, farming, and water supply continues to contribute to flood protection,

rather than ignoring it. The plans will rely on state-of-the-art engineering, and scientific modelling of water movement. But it will also rely on listening to communities, and farmers – who live alongside these rivers, know the most detailed local problems, and have seen the behaviour of the rivers at first hand.

By the time these plans are completed, we should be able to analyse all the ways in which you can control a flood - holding water back on the hills, through tree-planting and bogs; working closely with water companies (to use their reservoirs), and with farmers in their fields. In some places we may have to slow the water down, through weirs, and in other places – such as under bridges – we will have to speed it up through dredging. We have to connect all these actions ultimately to individual houses, flood walls, and pumping systems.

And finally, we have to fund all this work. So we have already allocated up to £72 million to invest in flood defence across Cumbria. This is a considerable sum of money.

We owe an enormous thanks to Cumbrian communities for their resilience through this terrible period. I would like to add my thanks to all the partners who have worked so hard and so patiently with the Environment Agency to bring these plans together, which will be vital over the coming years for our businesses, for our homes, and our families.

**Rory Stewart OBE MP**  
June 2016



# Cumbria better prepared for winter – about this plan

Flooding is devastating. The 6,300 householders and businesses across Cumbria flooded in December 2015 have spent much of the last 6 months dealing with its effects.

The Environment Agency and our partners have worked hard, and continue to do so, to repair damaged infrastructure and help ensure Cumbria is better protected and prepared for the coming winter, and for the future.

## Since December 2015, we have:

- Secured an additional £58 million, including up to £25 million for Carlisle.
- Inspected over 3,300 raised defences and repaired 75% of the 159 flood defences damaged by Storm Desmond. All will be repaired by autumn 2016.
- Completed new flood protection schemes in Appleby, Keswick and Threlkeld on the Gategill Beck.
- Started the construction of flood protection schemes in Kendal, Ulverston, Braithwaite, Ennerdale Bridge, Keswick, Maryport and Egremont.
- Created 7 new flood warning areas taking the total to 72 areas and providing warnings to over 6,500 properties across Cumbria.
- Improved 91 drains, rebuilt 7 walls, repaired 3 bridges and used 2,500 tonnes of concrete to rebuild and resurface 44,000 square metres of the A591 (Highways England).

## By winter 2016, with our partners we will:

- Remove 70,000 tonnes of gravel and debris from local rivers in communities such as Glenridding and Kendal.
- Spend over £1 million to make sure that our existing flood defences are well-maintained and are fit for purpose, including over 50km of walls and embankments across Cumbria.
- Make available national supplies of up to 250 water pumps, 500,000 additional sand bags and additional temporary defences.
- Establish a network for the 48 flood action groups so that they can better help communities to prepare, respond and recover. Create a further 6 new flood warning areas to provide better warning to communities – taking the total to 78 in Cumbria.
- Hold a flood risk modelling competition to kick-start changes to the way we manage and plan for water.

## Looking further ahead we will work together to:

- Invest a total of up to £72 million in Cumbria to provide better protection from flooding to at least 4,300 homes by 2021.
- Restore 350 hectares of peatland to hold water upstream for longer at several sites in the headwaters of the Eden, Derwent and Kent and Leven catchments.
- Make changes to the way that United Utilities operates its Thirlmere reservoir to provide flood protection without compromising the security of water supply for its customers.
- Work with 4 small communities to test what integrated flood and land management looks like in practice.
- Implement measures to slow the flow where feasible, including woody debris dams and floodplain storage upstream of Gamblesby, Cumrew and Stockdalewath in the Eden catchment, and channel meandering on the Whit Beck in the Derwent catchment.
- All Local Planning Authorities in Cumbria will update key spatial planning documents in light of learning from Storm Desmond to ensure that new development is safe and resilient by summer 2017.

You can find a comprehensive list of actions online by visiting [www.gov.uk](http://www.gov.uk) and searching for 'Cumbria Flood Action Plan'. We will also produce a series of Community Action Tables; some are already available on the same web page.

As well as the actions in the 3 catchments most severely impacted by Storm Desmond, the government continues to invest in flood resilience and water management across the whole county. Over £11.6 million of government funding has been allocated to projects over the next 5 years in Ulverston, Dalton-in-Furness, Barrow-in-Furness, Whitehaven, Ennerdale and Egremont to better protect over 1,600 homes.

# Cumbria better prepared – timeline of action

December 2015		
<p>Storm Desmond.</p> <p>Wettest calendar month on record.</p> <p>Record rainfall hits Cumbria resulting in record river levels and devastating flooding.</p>		
2016		
<p><b>January</b></p> <p>First meeting of the Cumbria Floods Partnership.</p> <p>Flood defence repairs started.</p> <p>30,000 tonnes of gravel and debris removed.</p>	<p><b>February</b></p> <p>Catchment Directors appointed.</p> <p>100% of assets inspected.</p> <p>9% of flood defence repairs complete.</p> <p>New flood gates installed in Appleby.</p>	<p><b>March</b></p> <p>An additional £58 million for flood defences announced.</p> <p>Work on Ulverston flood protection scheme started.</p> <p>Temporary bridge at Pooley Bridge opened.</p>
<p><b>April</b></p> <p>33% of flood defence repairs complete.</p> <p>Further 25,000 tonnes of gravel and debris removed.</p> <p>7 new flood warning areas went live.</p> <p>Appleby flood defence scheme completed.</p> <p>Work started on new flood defence wall at Glenridding.</p>	<p><b>May</b></p> <p>A591 repaired and reopened.</p> <p>Grasmere flood recovery repairs completed.</p> <p>Keswick flood defence repairs started.</p>	<p><b>June</b></p> <p>Create a network for the 48 flood action groups.</p> <p>Elliot Park flood protection scheme for Keswick complete.</p>
<p><b>July</b></p> <p>Flood risk management and modelling competition launched.</p> <p>75% of flood defence repairs complete.</p>	<p><b>August</b></p> <p>United Utilities confirm scope and timing of changes to operation of Thirlmere reservoir.</p> <p>Work on Ennerdale Bridge flood protection scheme starts.</p>	<p><b>September</b></p> <p>Further 25,000 tonnes of gravel and debris removed bringing the total to 70,000 tonnes.</p> <p>National supplies of more pumps, sand bags and temporary defences available.</p>
<p><b>October</b></p> <p>All flood defence repairs complete and ready for the winter.</p> <p>Gategill Beck, Threlkheld scheme complete.</p>	<p><b>November</b></p> <p>Publish interactive version of the Cumbria Flood Action Plan.</p> <p>Confirmation of how up to £25 million on new flood defences in Carlisle will be spent.</p>	<p><b>December</b></p> <p>Cumbria will be operationally prepared for winter.</p>
January 2017 and beyond		
<p>Invest a total of £72 million to better protect at least 4,300 homes by 2021.</p> <p>Implement ‘slow the flow’ projects across Cumbria.</p> <p>Take an integrated catchment approach to water management.</p>		

# Cumbria better prepared – a summary of actions

In order to respond to the enormity of the flooding, we are taking a comprehensive and detailed approach to protecting Cumbria with more than 100 separate actions. We have grouped these into 5 themes:



## Strengthening Defences

We took immediate action to repair and strengthen infrastructure, such as flood defences, roads, bridges, water and sewage works, so that they are operational for the winter and can reduce the impact as flood water travels through towns and villages. We have constructed over 30 new flood defence projects in communities such as Carlisle, Kendal, Ulverston, Pooley Bridge, Braithwaite and Grasmere. By the winter, we will also have more mobile flood defences and portable pumps available for use in Cumbria.

We will continue to work with partners and review the flood risk of roads, railways, water and power supplies that are locally critical, and we will take action to protect them. We are also looking at the role played by bridges to see what we can do to reduce flood risk and plan to replace Staveley Bridge with a single span bridge. We will take coordinated action on the flood management of reservoirs, water courses and drains with United Utilities and other local partners.



## Upstream Management

We are working with farmers, landowners, communities and organisations, such as United Utilities and The Rivers Trust to identify how to use and manage the landscape to slow the flow of water and reduce peak river levels. We will use land-management techniques such as soil aeration, bunds, leaky dams, woodland creation and river restoration to absorb water and slow the flow in locations across Cumbria including Whit Beck, Kentmere, River Gowan and Longsleddale.

We are restoring at least 350 hectares of high priority peatland to absorb water upstream of communities, and we are creating natural flood storage areas upstream of Gamblesby, Cumrew and Stockdalewath. Agri-environmental schemes will help support flood management, and we are exploring the opportunities for upstream engineered water storage. United Utilities is currently reviewing the operation of existing reservoirs such as Thirlmere and Birds Park to manage flood flows.

We are piloting this integrated approach to flood and land management in specific sub-catchments in Patterdale, Glenridding, Stockdalewath, Braithwaite and Staveley. We will share what we find out from these pilots with farmers, landowners and communities across Cumbria, and the lessons we learn will help us in our work in the rest of England.



## Maintenance

The Environment Agency is updating its routine maintenance activities in light of Storm Desmond. Along with partners, we have repaired and maintained flood defences, rivers, bridges, roads and other infrastructure, so that they remain in good working order and can hold as much flood water as possible. We have repaired over 150 damaged flood and coastal defences and pumping stations. Damaged highways and bridges have been repaired and reopened, and across the Lake District National Park footpaths have been restored.

United Utilities have made sure that reservoirs and water treatment works returned to full operation, and we removed over 70,000 tonnes of gravel and debris from local rivers and streams. We will remove the further build-up of gravel in Kendal, Carlisle and Workington. We are also making it easier for communities to find out what maintenance we are planning to do and supporting local communities to carry out their own maintenance work.



## Resilience

We are ensuring that people and property are as prepared for and resilient to flooding as possible and that action is taken beforehand so that life can get back to normal as quickly as possible after a flood. We will establish a network for community flood action groups to share learning and ideas, and local flood action groups are recruiting more flood volunteers, particularly those who live outside flood risk areas. We are also working with children and young people affected.

Multi-agency flood plans are ready for the winter, and we have provided support and grants to make homes and businesses more prepared and resilient. Warning is essential, and we are providing more flood warnings to over 6,500 properties across Cumbria as well as using new methods to warn communities in areas where river levels rise quickly. Local authorities are updating local spatial plans so that inappropriate development can be avoided. The insurance sector are also trialling a new approach to the availability of business insurance in flood risk areas.



## Water Level Management Boards

Water Level Management Boards are locally run, public bodies that manage areas of special drainage need. They manage water levels for the benefit of the local economy, environment and the community. We continue to develop proposals and consult on the setting up of new Water Level Management Boards in the Lyth Valley and Waver Wampool.

# Cumbria better protected and prepared – investment



In the immediate aftermath of Storm Desmond and the December 2015 floods, the Secretary of State announced the formation of the Cumbria Floods Partnership, and government agreed to invest more money in flood risk management across Cumbria.

We have worked with partners to ensure that we spend this money where it can add the most benefit to the preparedness and protection of the communities of Cumbria. This will pave the way for a new approach to protecting homes, businesses, and the local economy against flooding. The evidence from Cumbria County Council's flood investigation reports will be used to identify where additional investment may be required in the future.

## Government and partners have committed:

- A total of up to £72 million of government funding allocated to Cumbria to better protect at least 4,300 homes from flooding by 2021. Up to £58 million of this is new funding agreed since December 2015. **This includes:**
  - £4.7 million of government funding for projects within the Derwent catchment to better protect at least 525 homes in Flimby, Maryport, Braithwaite and Keswick. Projects totalling £1.15 million were completed in March 2016 at Threlkeld and Elliot Park, Keswick.
  - £6.5 million of government funding for projects in the Eden catchment to better protect at least 503 homes in Appleby, Eamont Bridge, Wigton, Pooley Bridge, Rickerby Park and Gamblesby.
  - Up to £25 million for projects in Carlisle. We will confirm how this will be spent by November 2016.
  - £24.3 million of government funding for projects in the Kent and Leven catchments to better protect at least 1,217 homes in Grasmere, Grange-over-Sands and Kendal.
  - Over £11.6 million of government funding has also been allocated to projects over the next 5 years in Ulverston, Dalton-in-Furness, Barrow-in-Furness, Whitehaven and Egremont to better protect over 1,600 homes.
  - To help Cumbria's households and businesses recover from the December floods, government has provided a total of over £150 million. **This includes:**
    - £9.7 million of government funding is being invested in 159 recovery projects to be complete by autumn 2016 including repairs to walls, embankments, pumping stations, gauges, removal of large trees and over 70,000 tonnes of gravel and checking the safety of 1,600 bridges.
    - £117 million of government funding has been allocated to Cumbria County Council for investment in critical highways and bridges.
    - £10 million has been invested in repairing and improving the A591.
  - £20.6 million for Cumbria County Council to distribute through its Community and Business Recovery Scheme, as payments to flooded households, businesses and resilience measures in flooded properties.
  - £5.5 million for district councils in Cumbria to provide council tax and business rate relief for flooded properties.
  - £3 million government investment to repair and improve pathways within the Lake District National Park and £500,000 for paths in Cumbria outside the National Park.
  - Cumbria County Council is investing £3.5 million from capital reserves for repairs across the county to ensure that communities remain connected.
  - There have been over £10 million in charitable donations to the Cumbria Community Foundation's flood recovery appeal to support people and families in hardship and vital community organisations. This includes £4.7 million funding from government.

# Catchment management in Cumbria – long-term vision

In the future, we will increasingly work at a catchment scale to integrate land management, development and resilience in areas at risk, from the tops of the fells down to the coast.

Achieving this will require:

## **Catchment-level leadership:**

we have trialled new ways of working with Catchment Directors leading engagement with partners and communities.

**Next steps:** we will now consider how to evolve these roles to support innovation and coordinate planning not just across water and flood risk, but also forestry, land management, biodiversity and other functions.

**A strong evidence base:** we have commissioned research to understand the impact of soil condition on run-off and worked with partners to pinpoint locations for measures to slow the flow, such as tree planting.

**Next steps:** we have launched a hydrological modelling competition for the Eden to generate more sophisticated river modelling and kick-start changes to how we manage and plan for water. The competition will support development of an interactive tool to bring the actions in this plan to life.

## **Collaborative working:**

working collaboratively allows us all to understand others' views, experiences and expertise, and to collate local knowledge. It will help us to make more informed decisions about what is right for Cumbria and to deal with issues such as what integrated land management means in practice, and who has the authority to take decisions.

## **Next steps:**

we will work in partnership to co-produce solutions – beginning with the 4 pilot areas – to deliver innovative solutions and understand long-term governance needs.

Operate public water supply reservoirs so that they help to manage flood risk and provide secure water supplies.

Use uplands to slow the flow by planting trees, installing woody dams and restoring peatland.

Work with farmers and landowners to manage farmland to reduce run-off and restore meandering rivers.

Actively manage gravel to ensure it does not increase flood risk.

Protect our villages and towns by building flood defences, maintaining the flow under bridges and making existing and new buildings safe and resilient.

Collaborative working with communities and partners across water and land-management issues to form and deliver innovative solutions.





# Cumbria Floods Partnership – working together for a better prepared Cumbria

This document has focused on the actions we and partners have taken over the last 6 months since the storms of December 2015. Many were about recovering damaged infrastructure. They were complemented by communities and organisations implementing their own actions. Together, these actions will make sure that Cumbria is better prepared and protected against flooding for winter 2016 to 2017 and beyond.

At the same time we have formed the Cumbria Floods Partnership. This has created a framework for communities, public, private and third sector organisations to work together. It has focused on doing more with the money that is invested by doing things differently. Its aim is to work collaboratively to create one vision through shared meetings, shared ownership and joint planning. Its initial work has focused primarily on the 3 most affected catchments – the Derwent, the Eden and the Kent and Leven. The Cumbria Floods Partnership is looking, for the first time, at how we manage flood risk across the length of these river catchments, rather than looking at communities in isolation.

It is early days for the Cumbria Floods Partnership. The catchment actions on pages 9 to 11 represent the first step towards developing a plan to reduce risk and improve resilience. Its aim is to form an action plan that inspires communities, and all involved in flood risk management, to work together and combine their knowledge and resources to reduce flood risk along river catchments from source to sea.

The way in which the Cumbria Floods Partnership works will be crucial to its success. It wants to encourage:

- 1 Collaborative working – working together to share information, coordinate funding and provide communities with a single point of contact.
- 2 Catchment approach – improving what we know about river catchments and taking actions that manage risk from source to sea.
- 3 Integrated solutions – ensuring that actions reduce flood risk but also deliver wider benefits for people and wildlife.
- 4 Community-focussed decision-making – sharing information and data with communities, groups and organisations so they can help us to best protect our communities from flooding.
- 5 Evolution and learning – using learning from Storm Desmond and the best information available to work closely with communities and identify actions.

It will trial this approach in 4 pilot areas: Stockdalewath, Patterdale and Glenridding, Staveley and Braithwaite. Organisations such as the Environment Agency and The Rivers Trusts will trial community-led projects to reduce local flood risk.

Across Cumbria there are 48 flood action groups bringing together communities and organisations to make sure they are better protected and prepared for flooding. By June 2016, the Cumbria Floods Partnership will form a network for these flood action groups so they can support one another, share best practice and help communities better respond to, and recover from flooding. The Cumbria Floods Partnership will also help to identify single points of contact into the various organisations who can work with them.

# Initial key actions across the Eden catchment



- Town
- River
- Lake/Reservoir



## Strengthening defences

- 1 Up to £25 million for new flood defences and flood storage in and upstream of Carlisle. Full business case completed by September 2017.
- 2 £6.5 million of investment allocated to Appleby, Eamont Bridge, Wigton, Pooley Bridge, Rickerby Park and Gamblesby providing protection to over 500 homes.



## Upstream management

- 3 Hold a flood risk modelling competition by autumn 2016 to encourage development of integrated solutions to managing risk from source to sea.
- 4 Install woody debris dams, reduce soil compactions and identify locations for additional storage of floodwater upstream of the villages of Gamblesby, Cumrew and Stockdalewath.
- 5 Complete planting of trees in ghylls and wet areas at Mallerstang, upstream of Appleby.
- 6 Launch community-led flood and land management pilot projects in Patterdale, Glenridding and Stockdalewath by summer of 2016.
- 7 Scope an investigation by end of July 2016 into using Haweswater and Wet Sleddale reservoirs to reduce flooding downstream.



## Maintenance

- 8 Remove gravel and debris in Carlisle by the end of August 2016.



## Resilience

- 9 Carlisle City Council and local flood action groups to develop a Carlisle flood plan.
- 10 Produce a strategic flood risk assessment for the development area of Carlisle South by early 2017.

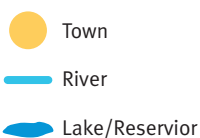


## Water Level Management Boards

- 11 Continue work to develop proposals and re-consult on a new Waver Wampool WLMB by spring 2017.



# Initial key actions across the **Derwent** catchment



## Strengthening defences

- 1 £4.6 million of investment allocated to increase flood protection in Flimby, Maryport, Braithwaite and Keswick.
- 2 Complete the works at Penrith Road in Keswick by March 2020 and review the Keswick and Cockermouth flood investigation reports to help identify any additional new needs.



## Upstream management

- 3 Make changes to the way United Utilities operates its Thirlmere reservoir to provide flood protection without compromising the security of supply for its customers.
- 4 Restore rivers and floodplains above Cockermouth and Workington to slow the flow by 2021.
- 5 Modify the channel on Whit Beck to slow the flow by 2017.
- 6 Launch community-led flood and land management pilot project in Braithwaite by summer 2016.



## Maintenance

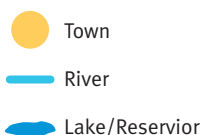
- 7 Remove build-up of gravel from the Derwent in Workington and Cockermouth by the end of September.



## Resilience

- 8 Long-term options for the Gote Road area of Cockermouth developed by Allerdale District Council.
- 9 Update the Allerdale Strategic Flood Risk Assessment by summer 2017.

# Initial key actions across the Kent and Leven catchment



## Strengthening defences

- 1 £24.3 million of investment in Kendal, Burneside, Staveley and Carrus Green.
- 2 Replace bridge at Staveley with a single span bridge by June 2017.
- 3 Review the effect of bridges on flooding in Kendal, Ambleside and Backbarrow.



## Upstream management

- 4 Develop proposals for river and peat restoration to slow the flow in the Kentmere, River Gowan, Longsleddale, River Mint and River Sprint catchments by summer 2017.
- 5 Investigate the use of redundant Birds Park reservoir to reduce flood risk downstream in Kendal by March 2017.
- 6 Launch community-led flood and land management pilot project in Staveley by summer 2016.



## Maintenance

- 7 Remove further gravel in Kendal by autumn 2016.
- 8 Improve understanding of impact of water levels in Windermere and the operation of sluices at Newby Bridge by autumn 2016.



## Resilience

- 9 Develop the Kendal town centre development masterplan by November 2016.
- 10 Work with children and young people affected by flooding to help them cope and build resilience by winter 2017.



## Water Level Management Boards

- 11 Continue work to develop proposals and re-consult on a new Lyth Valley WLMB by spring 2017.

# Next steps – for the plan

This plan is our first response to the December 2015 floods. It sets out the key actions that we have taken and intend to take to prepare for next winter and reduce flood risk across the 3 catchments most affected: the Eden, Derwent, and Kent and Leven.

The Cumbria Flood Action Plan is a living document. We want to continue working with local partners and communities to develop it further, including an interactive version in the autumn. This will also provide an opportunity for an update on progress. We need you, your community and your organisation to help us do this by providing specific, localised information on catchment management and taking actions to make homes, communities and businesses more resilient to flooding.

Here are 3 key things you can do now:

1. Sign up for flood warnings – call Floodline on 0345 988 1188 or log on to [www.gov.uk/flood](http://www.gov.uk/flood)
2. Make your home more resilient to flooding – advice is available via [www.gov.uk/flood](http://www.gov.uk/flood)
3. Share your local knowledge, suggestions and ideas for catchment management with Cumbria Floods Partnership at [CumbriaFloodsPartner@environment-agency.gov.uk](mailto:CumbriaFloodsPartner@environment-agency.gov.uk)


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LIT 10471


<p><b>Cumbria flood action plan</b></p> <p><b>Carlisle community action table</b></p> <p>The purpose of this action table is to highlight the flood management that is currently in place and the specific actions that are happening or proposed within Cumbria flood action plan for this community.</p> <p>Please read this table in conjunction with the full Cumbria flood action plan and summary document, which can be found online by visiting <a href="http://www.gov.uk">www.gov.uk</a> and searching Cumbria flood action plan.</p>	<p><b>Carlisle better protected</b></p> <p><b>1) Do now (within next 12 months):</b></p> <ul style="list-style-type: none"> <li>• Complete repair and recovery work</li> <li>• Set up temporary defences and pump deployment plan before winter 2016</li> <li>• Complete emergency plans</li> <li>• Register properties on Floodline Warnings Direct</li> <li>• Publish and review flood investigation report</li> <li>• Initiate development of flood risk management improvement works</li> </ul> <p><b>2) Develop (2-5 years):</b></p> <ul style="list-style-type: none"> <li>• Improvements to flood risk management assets and watercourses in response to the flood investigation report.</li> <li>• Continue to support sharing knowledge and best practice through the network for Community Action Groups</li> </ul> <p><b>3) Explore (5+ years):</b></p> <ul style="list-style-type: none"> <li>• Implement opportunities for natural flood risk management and engineered storage upstream of Carlisle.</li> </ul>
<p><b>Catchment:</b> Eden</p> <p><b>Impact of December 2015 flood:</b> Approximately 1,900 homes and businesses were flooded</p> <p><b>Description:</b> The three large rivers in Carlisle are the Eden, Caldew and Petteril. Key infrastructure includes the sewage works and electricity substation which were affected by flooding and are located on Willow Holme Industrial Estate. The main west coast railway line and Cumbria's principal hospital both located nearby were also affected during Storm Desmond.</p>	

	What's already in place	What we're going to do and what this will achieve	When this work will take place	Who's responsible for this work	How much will it cost/ Sources of funding
<p><b>Strengthening flood defences</b></p> 	<p>Flooding in Carlisle is reduced by over 6.3km of raised embankment and 5km of flood wall. These defences work together to manage river flows through the town. There are 2 flood storage basins, two pumping stations to manage flows, 32 floodgates, 3km of culvert and numerous flap valves on drainage outfalls.</p>	<p><b>Improved defences</b></p> <p>£26.2million of capital funding has been allocated from within the Flood and Coastal Erosion Risk Management Investment Programme. This funding will be used to promote the options for managing flood risk which may include strengthening defences, improving the capacity of watercourses and surface water drains and upstream storage and 'slow the flow' interventions.</p> <p>Provide access to additional national mobile defences</p>	<p>Medium term (5 years)</p> <p><b>Available before winter 2016</b></p>	<p>Environment Agency</p>	<p>£26.2m from central government</p>
		<p>Review the recommendations from the Section 19 Flood Investigation Report and National Resilience Review to develop integrated flood risk management solutions and review maintenance practices.</p>	<p>Flood Investigation Report due <b>summer 2016</b></p>		


	What's already in place	What we're going to do and what this will achieve	When this work will take place	Who's responsible for this work	How much will it cost/ Sources of funding
		<b>Repairing damages from Storm Desmond</b>  Work completed; Repairs to the storage basin at Durranhill and the pumping stations on the Little Caldew and Durranhill.  Work ongoing and planned; In June and July projects will start to remove gravel from the river Caldew at Holme Head, repair walls at Botcherby Bridge and remove gravel and a significant number of fallen trees in the channel of the river Petteril between London Road and Melbourne Park.	Complete  Short term (within 12 months)		£1.4m from central government
		<b>Modelling and forecasting post-event model re-runs</b>  Update the river level model with the most recent flow data available from Storm Desmond to develop and support any future schemes.  Hold a flood risk management and modelling competition on the Eden catchment.	Short term (within next 12 months)  Short term (within next 12 months)	Environment Agency  Defra	£70,000 (Cumbria wide spend)
		<b>Understanding Bridges</b>  Review the role that bridges play in flood risk and their vulnerability during a flood	Short term – strategic review within the next 12 months	Cumbria County Council Environment Agency	
		<b>Understanding railway structures</b>  Assess the vulnerability of the West Coast Main Line Railway particularly at bridge crossings, and take action where appropriate.	Short Term – <b>May 2017</b>	Network Rail Environment Agency and Cumbria County Council as lead local flood authority	
<b>Upstream management</b>  	Currently there is limited use of Upstream Management in the sub-catchments upstream of Carlisle.  Projects are underway in the Eden valley to install natural flood management features and practices such as woodland planting, managing soil to improve infiltration, leaky dams and peatland restoration.	Explore opportunities for engineered and natural flood management solutions to be used upstream of Carlisle in order to 'slow the flow' and manage peak river levels  By January 2017 it will be easier for farmers and landowners to get natural flood management advice and adopt natural flood management practices through the countryside stewardship scheme.	Medium term (5 years) or long term (over 5 years)  Short term <b>January 2017</b>	Farmers Landowners Community Groups Trusts  Natural England	

	What's already in place	What we're going to do and what this will achieve	When this work will take place	Who's responsible for this work	How much will it cost/ Sources of funding
		<p>The Cumbrian River Restoration Strategy aims to protect Cumbria's special areas and create better places for local communities, with reducing flood risk and adaptation to climate change being key considerations. This is achieved through projects such as weir removal, re-meandering channels and re-connecting rivers to the natural flood plain.</p> <p>On the River Caldew there are projects planned to work with landowners to look at gravel management, possible weir removal and re-connect parts of the river to the flood plain.</p>	Medium term (5 years)	Eden Rivers Trust Environment Agency Cumbria County Council Carlisle City Council Land owners Natural England	
		Scope an investigation into using Haweswater and Wet Sleddale reservoirs to reduce flooding downstream.	Medium term (5 years)	United Utilities	
		Natural flood management approaches will be trialled and developed in the future across the Eden catchment for affected areas, for example at Stockdalewath, Patterdale and Gamblesby. This will be part of a co-ordinated approach to develop natural flood risk management across the catchment. The longer term aim is to see how this could be scaled up for the benefit of Carlisle.	Medium term (5 years)	Farmers Landowners Community Groups Trusts	
<b>Maintenance</b>  	<p>Flooding in Carlisle is reduced by over 6.3km of raised embankment and 5km of flood wall. These defences work together to manage river flows through the town. There are 2 flood storage basins, two pumping stations to manage flows, 32 floodgates, 3km of culvert and numerous flap valves on drainage outfalls.</p> <p>These assets and the river channel are maintained by the Environment Agency on an ongoing basis. This includes managing vegetation and removing gravel. The flood wall, embankment and other structures are also inspected and any necessary works carried out.</p> <p>The planned maintenance programme is available at: <a href="https://www.gov.uk/government/publications/river-and-coastal-maintenance-programme">https://www.gov.uk/government/publications/river-and-coastal-maintenance-programme</a></p> <p>Cumbria County Council maintains the ordinary watercourses, surface water drainage and highway drainage.</p>	<p>New Environment Agency system will make it easier for communities to understand maintenance in their area. Improvements will show exactly when, where and what maintenance is being planned each year.</p> <p>Make sure that communities understand how they can access information on planned maintenance at: <a href="https://www.gov.uk/government/publications/river-and-coastal-maintenance-programme">https://www.gov.uk/government/publications/river-and-coastal-maintenance-programme</a></p>	Short (within next 12 months)	Communities Environment Agency Parish and district Councils	



	What's already in place	What we're going to do and what this will achieve	When this work will take place	Who's responsible for this work	How much will it cost/ Sources of funding
<b>Resilience</b> 	<p>There are 2 active Flood Action Groups (FLAG) in Carlisle. An Emergency Plan has been completed for the Carlisle FLAG and another is currently being developed through the Willow Holme FLAG with support from the Environment Agency.</p>	<p>Work with the FLAG's and community groups to ensure that they are able to continue into the future.</p> <p>Continue to work with communities to establish a network of Emergency Groups to share learning and best practice.</p> <p>Carlisle City Council are producing a strategic flood risk assessment for the development area of Carlisle South.</p>	<p>Emergency Plan to be in place <b>before winter 2016</b>.</p> <p>Short term –<b>Early 2017</b></p>	<p>Environment Agency (Flood Warning &amp; Community Resilience) Communities Parish &amp; District Councils Local Government</p>	<p>Local Levy, central government Flood Defence Grant in Aid</p>
		<p>Identify and make up a 'core' team of Carlisle City Council staff to respond in the event of flooding.</p> <p>Ensure available sandbags are targeted to specific areas where their use may be most effective and Carlisle City Council to agree with community groups the deployment arrangements.</p> <p>Carlisle City Council to continue work on developing the Carlisle Business Continuity Plan.</p>		<p>Carlisle City Council</p> <p>Carlisle City Council</p> <p>Carlisle City Council</p>	
		<p>Work with the Emergency Group to increase uptake of residents registered to the flood warning service</p>	<p><b>Before winter 2016 / complete</b></p>	<p>Environment Agency (Flood Warning &amp; Community Resilience) Communities Parish &amp; District Councils Local Government</p>	
	<p>Carlisle currently receive Flood Warnings with an uptake of 79% of at risk properties registered to the service</p>	<p>Named Carlisle City Council officer will be appointed to receive the Environment Agency/Met Office flood warnings.</p> <p>Carlisle City Council to develop engagement plan that will support the dissemination and gathering of information during an event. A clean-up plan is also to be developed/activated.</p>		<p>Carlisle City Council</p>	
		<p>Provide additional support to DCLG and Local Authorities to improve the uptake of the £5,000 Government resilience grants to help people better protect their homes. Applications can be made up until December 2016. A further £2,000 top up grant can also be applied for from the Cumbria Flood Recovery Fund.</p>	<p>Closing date for Grant applications – <b>end of December 2016</b></p>		<p>Resilience grants of £5k per property</p>
	<p>Carlisle City Council is administering flood recovery and resilience grants</p>	<p>Carry out further investigations with respect to the feasibility of local temporary defences and pumping, with the aim of having plans prepared for Winter 2016. With the outcome to increase resilience in communities where either there are no formal defences in place or where additional contingency is required.</p>	<p><b>Before winter 2016</b></p>	<p>Environment Agency</p>	



	What's already in place	What we're going to do and what this will achieve	When this work will take place	Who's responsible for this work	How much will it cost/ Sources of funding
<b>Water Level Management Boards</b> 	There are no Water Level Management Boards in this area				

June 2016 LIT 10479