

## FAQs following flooding in Calderdale: February 2020

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## Introduction

During Storm Ciara, more than 100mm of rain fell in the upper Calder catchment between 11pm Saturday 8 February and 11am Sunday 9 February. This was the second highest flood event recorded in the Calder valley, second only to the Boxing Day flooding of 2015. Calderdale received more than a month's rainfall over 48 hours during Storm Ciara (129.8mm). This led to many properties and communities being impacted by flooding again. The latest intelligence from Calderdale Council suggests approximately 572 Businesses and 695 properties have been flooded with many others indirectly affected.

Following on from the devastating flooding in the Calder Valley, a series of questions and queries were raised with the EA. Due to the current COVID-19 work restrictions we have been unable to hold all of the organised drops-ins and face to face meetings where we normally have the opportunity to answer any questions.

This document hopes to provide clarity and answers to the frequently asked questions and, includes references to easily accessible external information sources and directs readers to relevant published guidance available.

This document also includes current information relating to the EA's operational response during COVID-19 pandemic.

If you have further questions regarding this document, please contact:

National Customer Contact Centre: 03708 506 506 / [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk)

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**If you need to report a blockage, collapsed or badly damaged river banks, unusual changes in flow or flooding from a main river or an environmental or pollution incident please call the Environment incident hotline Telephone (24 hour service) 0800 80 70 60**

## Environment Agency response to February 2020 flooding

### What did the EA do in the lead up and following the flooding in February 2020?

Leading up to and following Storms Ciara and Dennis we worked closely with the local authority, Category 1 responders, flood wardens and community groups to warn, inform and ensure communities were as prepared and resilient as possible.

The Leeds Area Incident Room was open and fully staffed and operational 24/7 from the 8th of February to the 16th of March.

### Preparing for Storm Ciara

In preparation for Storm Ciara:

- Debris screens were checked and obstructions removed from water courses.
- Temporary defences were installed in Mytholmroyd.
- The EA held daily flood advisory telecoms with partners to update on forecast, discuss impact and share operational information. Partners include local authorities, emergency services and the Army.
- The EA attended daily meetings to support the West Yorkshire Local Resilience Forums (LRFs) preparation and response to the flooding. Further information on LRFs can be found here:  
<https://www.gov.uk/guidance/local-resilience-forums-contact-details>
- The EA supported and attended all emergency response planning meetings, chaired by Calderdale Council.
- The Area Duty team spoke to flood wardens to update on forecast and possible impacts.
- The EA ran a social media campaign to keep people informed.
- The EA has an extensive coverage of flood warnings throughout Calderdale and a flood alert was issued on 8<sup>th</sup> February and from 5am to 11:30am 35 flood warnings were issued for Calderdale alone. The Leeds Area Incident Room covers all of West and South Yorkshire

### Storm Ciara Recovery / Preparing for Storm Dennis

Following Storm Ciara (9<sup>th</sup> February 2020) communities and partners had 6 days to recover and prepare for Storm Dennis, which arrived on the 15<sup>th</sup> February. The EA supported partners and communities by:

- Community hubs across the borough were opened by Calderdale Council following Storm Ciara, these were supported with EA staff.
- Flood sirens were successfully 'silent' tested to ensure they were functional.
- We checked debris screens for damage and obstructions were removed.

- We cleared debris from watercourses and flood defences were checked following flooding.
- We installed temporary defences at Phoenix Bridge in Brighouse as the defences had been damaged during Storm Ciara
- The Army was brought into Calderdale to assist with the recovery from Storm Ciara.
- The Army was brought into Calderdale to build temporary flood defences.
- We had 29 mobile pumps positioned in key locations throughout Yorkshire to help manage flood waters and temporary barriers were in place to protect and divert water away from properties at risk.
- The EA held daily flood advisory telecons for partners, supported meetings chaired by the Local Resilience Forum and attended Calderdale Council emergency planning meetings.

### February flood recovery

- EA staff were present in the community flood hubs to gather information and answer questions in Todmorden, Mytholmroyd, Hebden Bridge, Sowerby Bridge, Brighouse and Elland.
- The EA organised community drop-in events in these towns for members of the community to talk to a range of partners: Calderdale Metropolitan Borough Council, Yorkshire Water, River and Canals Trust and Healthy Minds, about their experiences and to find out about what is being done to improve flood resilience in Calderdale. The three drop-ins that took place at Todmorden, Elland and Mytholmroyd had over 150 people attend. Unfortunately drop-ins at Hebden Bridge, Brighouse and Sowerby Bridge were cancelled due to government guidance on social distancing due to COVID-19.
- We briefed MPs, councillors, and the Yorkshire Region Flood and Coastal Committee. Immediately after the floods the EA helped arrange visits to affected areas for senior officials to see at first hand the extent of the flooding.
- Our staff door knocked many of the affected communities to gain information and update on flood alleviation schemes and other work, and offer support where needed.
- EA staff responded to over 80 enquiries following the flooding in Calderdale.
- We held a number of meetings with stakeholders and community groups around the Mytholmroyd and Hebden Bridge flood alleviation schemes.
- We visited a number of impacted businesses to talk about resilience measures and available funding.
- EA staff were in Calderdale validating flood warnings, so if necessary the river levels where flood warnings would be issued can be checked for accuracy and improved if needed.
- EA qualified asset inspectors visited many locations within Calderdale to check on flood assets and defences that may have been damaged and in need of repair

following on from the flooding. These were then triaged in order of flood risk so they can be repaired. The EA also inspect third party assets, if these appear to be damaged we will write to the owners informing them.

## **Community support available after flooding**

### **How does the Environment Agency support a community after a flood event?**

After any flood incident a full review of the flooding event is conducted. This involves many EA departments including flood resilience, partnership and strategic overview, asset performance, field operations and environment teams. We also work with partners and communities. This is an opportunity to understand what happened, lessons learnt and plan for recovery and identify any mitigation measures that can be taken to reduce future flood risk. Through sharing this learning we can support communities to be better prepared for flooding.

This review also identifies communities that could benefit from a flood mitigation scheme. This could be an engineering solution or working with natural processes. The EA will then work with partners and consult with communities to identify the most cost effective solutions. The EA will then work with partners to develop and approve business cases and secure funding. Depending on the size and complexity of a scheme, it can take a number of years from inception to construction.

We continue to work 24/7 to monitor weather forecasts and river levels, and to issue flood warnings to at-risk communities to give them time to prepare. We deploy teams on the ground to check and operate flood defences, clear blockages, and deploy pumps, sandbags, and barriers to manage flood waters and protect properties.

The EA also support communities by ensuring we have staff on the ground providing advice where possible. Following Storm Ciara the EA supported multi-partnership engagement activities in key flooded locations, as well as locations where we have been actively engaging, warning and informing particularly in the Calder Valley.

The EA Flood Resilience team work closely with flood warden and community groups to review flood plans and promote resilience measures.

Calderdale Council as the Lead Local Flood Authority (LLFA) has a responsibility to investigate flood incidents under Section 19 of the Flood and Water Management Act 2010. The EA provides extensive information for the council to complete its investigation and reporting. Again this report can support communities to be better prepared for flooding.

## What support is there for physical and mental wellbeing after a flooding event?

Working with our partners we make practical advice available relating to flood recovery, emotional support following flooding and staying healthy and safe after a flooding event. The Calderdale flood partnership supports vulnerable community members and wider community members as our priority is to ensure the safety of people affected by flooding.

Extended flooding events can have profound effects on an individual's mental health and well-being. It is common to feel distress for a short and temporary period of time during a flood event. In some instances individuals can develop further mental health problems as a result of the trauma experienced. If so, they should visit their GP who can help identify further support. Good social support can protect against the detrimental psychosocial impacts of flooding. The Calderdale flood action plan includes actions to support community mental health as a result of flooding including providing access to information and support in flood hubs immediately after flood events and providing some funding for the work of Healthy Minds which is helping to build mental health resilience in the Upper Calder communities.

Prior to flood events the EA asks individuals to familiarise themselves with its 'Prepare, Act, Survive' guidance - a simple set of instructions to help keep people and their possessions safe in a flood. The guidance includes simple effective advice such as preparing a bag with medication, important documents and moving valuable and sentimental items upstairs or to higher ground. We work closely with Calderdale flood groups and flood wardens to promote household and community flood plans so that everyone can ensure they are as well prepared as possible.

More detailed information and support for mental and physical wellbeing during and post flood even is available and readily accessible on the community website – Eye on Calderdale.

<https://eyeoncalderdale.com/>

### Mental health support volunteer

Healthy Minds is a mental health charity based in Halifax, West Yorkshire. Healthy minds recognises that flooding events have the potential to affect psychological wellbeing and consequently a variety of services are available to help improve and maintain emotional health and wellbeing.

Support groups are held fortnightly across Calderdale and cover numerous themes including; anxiety and depression, mindfulness and self-management. Healthy minds welcomes those who wish to volunteer, particularly volunteers who feel they have a personal understanding of the particular theme of the group

There are multiple volunteering opportunities including:

- Supporting the group members to feel comfortable and relaxed by meeting and greeting, making tea, coffee etc.
- Co-facilitating or facilitating a group (following training and working to this at your own pace)
- Helping out with the publicity and marketing of the group
- Delivering a relevant talk or presentation.

For further information visit their website, <http://www.healthymindscalderdale.co.uk/> or call 01422 345154.

### **How can I be better prepared to respond to flooding?**

A key message to remember in terms of resilience is that it begins with the individual, the householder, the business. When floods occur, the roads flood, emergency services can have trouble getting to us and we are thrown onto our own resources. We need to make these as good as we can. The best person to understand your risk and what you can do about it, is you. Look at your home, think about flooding and what steps you can take to limit the impact of these events. Think about what you need to do if alarms sound, and be prepared. Think about your neighbours, if they may need help in times of crisis, and talk to them.

If you live in a flood risk area, you should prepare a [flood plan](#) outlining what you will do in the event of a flood. A flood plan should be shared with everyone in your household / business / community group and kept in a place which is easily accessible, for example, in an [emergency flood pack](#). A flood plan should include useful contacts, a trigger for action, steps to take and a list of essential items to have if it floods. The EA has free flood plan templates which provide advice on basic flood preparation.

Specific warnings about river flooding within identified 'at risk' areas come from the EA's Flood Warning Service called Floodline. You can [sign up for free flood warnings online](#) or by contacting Floodline on 0345 988 1188. These warnings only cover the possibility of river flooding. If you think you might be at risk of other types of flooding, [Sign Up For Weather Alerts](#), contact your local flood group or contact Floodline on 0345 988 1188. For further information and guidance on creating a flood plan or signing up for flood warning visit the [Eye on Calderdale](#) webpage.

Partners have established a network for community flood action groups to share learning and ideas and set up a database of volunteers who can help out during and after a flood. More information can be found at: <https://eyeoncalderdale.com/community/volunteering-opportunities>.

As we deliver and complete more of the actions in the Flood Action Plan we also want to ensure that any new proposals to improve Calderdale flood resilience are still considered.

If you would like to make a suggestion or have an idea which you or your community think would support flood resilience in Calderdale please email Sally Kelling: [Sally.Kelling@environment-agency.gov.uk](mailto:Sally.Kelling@environment-agency.gov.uk) or visit the [Eye on Calderdale](#).

## **I would like to protect my property from further flooding, how do I go about it?**

It is possible for homeowners and businesses to build private flood defences to protect their properties, but you may need an environmental permit for flood risk activities if you want to work in, under, over or near a main river (including where the river is in a culvert), on or near a flood defence on a main river, in the flood plain of a main river or near a sea defence.

You're breaking the law if you carry out these activities without a permit if you need to have one. Please call 03708 506 506 to discuss your intentions or email [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk) or [floodriskpermityorkshire@environment-agency.gov.uk](mailto:floodriskpermityorkshire@environment-agency.gov.uk).

A private defence will only be approved if the proposer can demonstrate that it will not increase the risk of flooding to other properties. You may also require planning permission to carry out these works. You may need an ordinary water consent from the local authority for any work which may affect work on watercourses which are not main-river. Further information can be found here:

<https://www.calderdale.gov.uk/v2/residents/environment-planning-and-building/flooding/watercourses-land-drainage>

If you own a watercourse that is within or adjacent to your property, you are a riparian owner and have a number of legal responsibilities, including reporting incidents, letting water flow naturally, preventing pollution and protecting wildlife. As a riparian owner you can be liable if flooding occurs due to a lack of watercourse maintenance. For an overview of the rights and responsibilities of a riparian owner visit the [Eye on Calderdale](#) website or download the [Managing a Watercourse leaflet](#).

Homeowners can also consider making their homes more resilient to the effects of flooding by installing Property Flood Resilience (PFR) measures such as door barriers and air-brick covers. Depending on where you live, grants may be available for these measures. Further information on what you can do to make your home more resilient and details of the products on offer can be found on [Eye on Calderdale](#) and on the National Flood Forum's (NFF) website at [www.floodforum.org.uk](http://www.floodforum.org.uk). The NFF may also be able to advise further on taking forward plans for private flood defences.



## How do I access current flood grants if I was flooded on Feb 9<sup>th</sup>?

Around 1200 residential and business properties across Calderdale were flooded on Sunday the 9th of February 2020. Between 2016 and 2018 the Council paid out grants of more than £6 million to householders and £2.6 million to businesses who were affected by flooding on Boxing Day 2015. We also need to do more to ensure residents in private rented homes also know how to improve their flood resilience. For further information on creating a flood resilient business / property visit the [Eye on Calderdale](#) website and the EA's guide on [preparing your property for flooding](#).

### Grants

Residents can now apply for:

- a financial hardship payment of up to £500;
- 3 months Council Tax Exemption for their household.

Funds up to £2,500; are also available to support businesses that were affected by the recent flooding where:

- The business was flooded directly or;
- The business suffered indirect losses.

### Property resilience fund

Government announced that flood-hit homes and businesses will be able to receive up to £5,000 to help protect them from future flooding. The purpose of the scheme is to assist property owners to improve the flood resilience of their individual properties when they repair them after a flood. The outcome from this funding should be that if flooding were to reoccur, damage levels would be considerably lower and householders and businesses could return to their properties much more quickly. Details are still awaited about this scheme.

The community Foundation for Calderdale has [emergency grants](#) for householders and charities affected by the recent floods.

To access and apply for financial support visit:

[www.calderdale.gov.uk/flood-grant](http://www.calderdale.gov.uk/flood-grant) and <https://eyeoncalderdale.com/>

Further enquiries can be emailed to [floodfundingteam@calderdale.gov.uk](mailto:floodfundingteam@calderdale.gov.uk) alternatively contact Calderdale Council on 01422 288001 and ask to be directed to the Calderdale Flood Recovery and Resilience Programme team.

## How can I help do more to prevent flooding in Calderdale?

### Community flood groups and flood wardens

Since the recent flooding in 2012, 2013 and 2015, community flood groups have been set up in Todmorden, Hebden Bridge, Mytholmroyd, Luddendenfoot, Sowerby Bridge, Copley, Elland and Brighouse. These groups consist of local residents who aim to help their communities before, during and after flooding.

Flood wardens, trained local volunteers, have been essential to providing flood information to Calderdale Council, the EA and emergency services, and delivering vital information to communities prior to, during and post flood events. Flood wardens are local volunteers, who are supported by the EA and Calderdale Council.

If you would like to know more about volunteering with a flood group or are interested in becoming a flood warden visit <https://eyeoncalderdale.com/community/volunteering-opportunities> or contact the EA by emailing [YorkshireFloodResilience@environment-agency.gov.uk](mailto:YorkshireFloodResilience@environment-agency.gov.uk).

### Natural flood management and countryside volunteers

Natural flood management (NFM) involves using natural processes to slow the rate of water runoff and increase the volume of water that the landscape can hold in order to reduce the risk of flooding. This catchment-based approach is an evolving area of work nationally, regionally and locally, and forms a discrete theme in the Calderdale Flood Action Plan with local organisations playing a key role in developing an evidence base to promote implementation on a wider scale.

The actions on the plan are being delivered by a range of partners in collaboration with various landowners, from Yorkshire Water and the National Trust to homeowners and farmers, to complement engineering works in the borough.

A diverse range of environmental projects are currently active in the Calder Valley. These projects are led by:

- Treesresponsibility / Forus Trees
- Countryside Services
- Calder Future
- Slow the Flow
- Moors for the Future Partnership
- Calder Rivers Trust
- Canal and Rivers Trust
- Yorkshire Invasive Species Forum

If you are interested in implementing natural flood management on your land, contact [nfm@calderdale.gov.uk](mailto:nfm@calderdale.gov.uk) to find out how you could benefit and discuss potential opportunities

for delivery and funding. For further information on NFM or if you are interested in volunteering for a NFM project, visit the [Volunteering Opportunities](#) page.

### Reduce water flowing from your property in heavy rainfall

Flooding can happen very quickly, giving you little time to act. Being prepared for a flood is the best way to protect yourself, your family/colleagues/community and your property/belongings from the risk of flooding, or from the effects of flooding if the worst should happen.

Introducing small interventions such as green roofs, permeable paving, leaky water butts, raised planters and attenuation ponds in our homes and gardens, businesses, schools and public spaces could result in a significant amount of water being temporarily stored during storm events in our urban areas.

This could help to reduce peak flows which, together with catchment management and traditional flood defences, would contribute to reducing the scale and damaging effects of flood events.

Calderdale Council is taking steps to promote the use of sustainable drainage systems in new properties and their associated highway infrastructure. In December 2018 it published its [Draft Flood Risk and Drainage Supplementary Planning Guidance](#) (SPG) for use when considering planning applications to supplement and support the Local Plan.

The SPG has now been consulted upon with comments sought from internal and external stakeholders. Feedback from the consultation is being reviewed and the SPG will be updated and submitted alongside the emerging Local Plan.

Slow The Flow has online and printable guides to the general principles of SuDS and their use at home, at work, at school and in public spaces. For further information see [You Can Slow The Flow](#).

### Driving and Floodwater

Whether you are driving or walking, if you come to a flooded road, always remember this one simple rule: **Turn Around, Don't Drown**. This rule is extremely important because you won't know the depth of the water, and you won't know the condition of the road underneath the water.

Remember that flooding can occur anytime and anywhere, and as little as 15cm (6in) of fast-moving flood water can knock you off your feet. 30cm (12in) of flowing flood water can move a car, while 60cm (24in) is enough to float most vehicles including sport utility vehicles and 4x4s. Driving through flood water can also create waves and push water into people homes.

While most floods can't be prevented, if you are outside or away from your home there are simple steps you can take to protect your life and property.

### **If flooding occurs:**

- Move to higher ground immediately and stay away from flood prone areas.
- Do not allow children to play near high water, storm drains or ditches. Remember: hidden dangers often lie beneath the water.
- Remember that significant dangers may be hidden by floodwaters, such as open drains and manholes. Never drive on a flooded road.
- Be especially cautious at night when it is harder to recognise flood dangers.

### **Will the Environment Agency's approach to flood management change in light of the recent flooding?**

The EA has a strategic responsibility for main river flooding across England and leads through an evidence based approach. Our investigations and research highlights the need to take a catchment wide approach, looking at both engineered options such as raised walls, embankments and flood storage areas, as well as natural flood management measures which work with natural processes and manage the sources and pathways of flood water. Therefore following any flood incident, the EA would review our catchments plans and identify communities where we need to investigate capital schemes or other flood mitigation work. Where we are already developing flood alleviation schemes, the EA project team would review designs to ensure that any new evidence is taken into account.

The Calderdale flood action plan which was launched in 2016 outlines all the work being delivered in Calderdale to improve flood resilience. The plan has been reviewed and revised each year since and the Calderdale Flood Partnership board meets on a quarterly basis to review progress on delivery. The plan has four major aims: to improve flood defences, strengthen key infrastructure (utilities and transport), support community resilience, and develop and deliver natural flood management. There are over 200 actions in the flood action plan under these four themes which are in delivery, have been completed or have now become 'business as usual' for partner organisations.

For further information on the Calderdale Flood Action Plan visit:

<https://eyeoncalderdale.com/flood-action-plan>

## **Will the Environment Agency now undertake dredging of the river bed and increase channel maintenance in light of the recent flooding?**

The effectiveness of dredging in managing flood risk varies substantially for each stretch of river, depending on local conditions. The government's flood risk management work focuses on where it delivers the greatest flood risk benefit to people and property. Dredging and other work to improve the river channel's ability to carry increased flow (conveyance) often forms an important part of our maintenance regime.

We assess its value on a location-by-location basis, in consultation with local communities and organisations where appropriate. In some areas dredging is the most cost effective approach. In some cases, however, dredging is not the best long-term solution and can result in the river simply flooding further downstream.

The primary objective of dredging is to increase the overall carrying capacity of a river channel. The Calder valley has steep sides and a narrow bottom, which varies in width, at points not wider than a few hundred metres. Dredging in the past has been utilised as a solution to managing and mitigating flood risk in the valley, however computer modelling, and geological surveys conducted in the past 5 years indicate that dredging is now not a suitable solution.

Channel sections with large shoal accumulations are located in the wide and slow flowing sections of the river and valley. In the smaller, narrower and faster flowing sections of the channel there are minimal / no shoal accumulations, making dredging inappropriate in these areas. Studies conducted in relation to dredging the wider sections of the channel to increase channel capacity determined that dredging these areas would reduce water levels by 2-5cm (1-2inch) but would not improve the overall standard of protection against flooding, to a level which would be acceptable.

Other measures such as providing better flood storage upstream, slowing down the flow of water using land and vegetation management techniques or building traditional hard defences such as flood walls, would be more effective.

## **Have government cuts affected the maintenance of rivers?**

No, the budget for river maintenance has not been cut. We know how important river channel maintenance is to reducing flood risk. Our staff regularly clear debris from trash screens and remove obstructions that might cause a blockage. We may remove silt and shoals where it will significantly reduce the risk of flooding.

The Secretary of State for Environment, Food and Rural Affairs, has committed to maintain funding for maintenance work in real terms through this parliament.

Local authorities and riparian owners also play a vital role in maintaining watercourses. The EA works in close partnership with councils and regularly discuss local watercourse maintenance plans with them. We are also keen to support councils in taking on responsibility for maintenance of rivers where they are best placed to do so.

### **Will the Environment Agency begin to implement Natural Flood Management techniques to help reduce flood risk?**

The Calderdale Flood Action Plan has ongoing or completed work on over 50 actions to strategically deliver more NFM – securing funds, engaging with landowners, providing practical advice, improving our understanding of the catchment and working collaboratively with statutory, community, third sector and private sector organisations to deliver more NFM where this will provide the greatest benefits. As we review recent flooding events, the EA will continue to work with partners and landowners to explore the potential flood risk management benefits of tree planting and using other natural flood management measures.

Natural processes can provide sustainable and cost-effective options as part of a range of measures to manage flood risk. They can also bring added benefits to habitats and wildlife, while offering opportunities to regenerate both rural and urban spaces. Tree planting can contribute to managing flood risk to communities alongside other flood risk management measures. Woodlands can help slow down and store water which may help reduce the risk of flooding. It is important that the trees are planted in the right location to provide the greatest benefit to reduce flood risk. In the most recent edition of the Calderdale Flood Action Plan, natural flood management actions include temporarily storing water, planting trees or changing the way farmland and moorland is managed so that it absorbs more water.

An EA [guide](#) has been created by Moors for the Future for landowners to help them design and implement natural flood management measures such as leaky dams, tree planting or alternative stock management. Agri-environment schemes help support flood management, and SOURCE partners have developed a [grant scheme](#) which was launched by Calderdale Metropolitan Council and the EA in 2018 to help more farmers and land managers undertake natural flood management projects.

Third sector partners – the National Trust, Treesponsibility and Slow the Flow continue to lead the delivery of NFM interventions in the Upper Calder Valley. Yorkshire Water has also secured funding for a high-profile project at Gorphey reservoir. Local and regional groups such as Calder Future continue to support statutory organisations with river stewardship and combating invasive plants. Calderdale Metropolitan Borough Council and the EA are reviewing all our NFM modelling work and have developed proposals with university partners

to support our understanding of current catchment management in Calderdale. The EA has also launched a national evidence base – [‘Working with Natural Processes’](#). [A number of pieces of work are looking at identifying where are the best](#) opportunities for NFM, including developing NFM maps across the catchment.

It is important to note that whilst natural flood management aims to reduce the scale of flooding by slowing the flow, the current evidence demonstrates that more tree cover or other natural flood management measures would not alone prevent the severity of recent flood events( in 2012, 2015 and 2020) due to the volume of water in the catchment.

If you are interested in implementing natural flood management on your land, contact [nfm@calderdale.gov.uk](mailto:nfm@calderdale.gov.uk) to find out how you could benefit and discuss potential opportunities for delivery and funding. For further information on natural flood management details can be found on the [Eye on Calderdale](#) website and the [Calderdale Flood Action Plan](#).

### **Will flooding on this scale happen again?**

As extreme weather events become more common, we will never be able to prevent all flooding. However it is important that the country is as prepared and resilient as it can be to future flood risk. This means that all partners need to review what changes may be needed to manage flood risk impacts in the light of these extreme weather events. The Calderdale partnership includes all the statutory organisations with flooding responsibilities including the EA, Calderdale Council, Yorkshire Water and many other private sector and local community and voluntary groups. We know how important it is to work with communities that have been impacted by flooding to help provide reassurance about future flood risk, about our flood warnings and how best to minimise impacts on properties.

There is a long history of flooding within the Calder Valley with many areas are at high risk (typically 20% in any given year) in many locations. The valley is particularly vulnerable to flash flooding, caused by intense downpours, which can turn roads, railways and hillsides into fast flowing channels for flood waters. The valley has steep sides and a narrow bottom, at points no wider than a few hundred metres. River levels respond rapidly and can quickly spill out of the river channel and combine with the surface water drainage network inundating hundreds of homes and businesses in a matter of hours. There are multiple nests of reservoirs, flashy tributaries and rapid runoff from the steep hillsides, all of which result in a technically complex picture of flood risks. This is why the plan to tackle flooding in Calderdale involves over twenty partners and is holistically looking at strengthening defences, improving infrastructure, wider management of the catchment and the resilience of communities.

## EA and Calderdale climate action

As the biggest environmental regulator in Europe, the EA is well placed to provide leadership in the field. We aim to inspire those around us to help the country not just to survive but to prosper through the inevitable challenges of a changing climate. We want to play our part in keeping people safe. We are tackling the cause of climate change by regulating industry to reduce their waste, energy use and greenhouse gas emissions.

The EA and Calderdale council share a common goal in mitigating the impacts of climate change. In 2019 a state of climate emergency was declared in Calderdale following a warning delivered by The United Nations Intergovernmental Panel on Climate Change (UNIPCC). The warning stated that failure to mitigate against rising carbon dioxide levels and global temperatures in the next 12 years will result in irreversible environmental change. These changes include: significant sea level rise which has the potential to increase flood risk, changes in weather patterns resulting in unusual seasonal temperature fluctuations, crop failure causing food shortages, mass plant, animal and insect extinction and global economic disruption.

Following UNIPCC guidance, Calderdale council's cabinet formed the Calderdale Climate Change Committee; a working party which actively meets with the public and wider local authorities in West Yorkshire to develop and gradually introduce targets and initiatives with the aim of become carbon neutral and minimising the impacts of climate change. The Council and Calderdale are currently on track to reduce carbon dioxide emissions by 40% by 2020 and 80% by 2050.

Direct correlation between Calderdale's climate action plan and the EA's [e:Mission](#) and sustainability statements can be appreciated. e:Mission is the EA's sustainability strategy which sets out how the agency will actively seek to reduce this negative impact on the environment and help others do the same.

If you would like to know more about the climate emergency in Calderdale you can visit the Calderdale council [website](#) or alternatively contact Calderdale council Environmental Management Team at: [environment@calderdale.gov.uk](mailto:environment@calderdale.gov.uk) or 01422 392250.

## How will climate change impact flooding in the future?

Climate change will alter rainfall patterns, river flows, sea levels and water availability. This will inevitably affect our work on flood and coastal risk, water management, biodiversity and freshwater fisheries. Climate change has the potential to:

- Limit water availability for people, agriculture, business and the environment.
- Increase flooding and coastal erosion.
- Alter biodiversity in water and wetlands.



We are committed to adapting and improving regulatory mechanisms and approaches to take climate change into account, and to make it easier for those we regulate to mitigate and adapt to its impacts. This is especially important for our work on environmental protection, and protecting and improving waters. Actions under this theme include addressing unsustainable water abstraction and continuing to work with Defra to reform the abstraction management system, developing flexible water quality permitting options, ensuring regulated industry sector plans reflect a changing climate, and ensuring environmental permits contain adequate plans to respond to severe weather conditions.

We will also work with partners to explore the impact of climate change on water bodies as part of river basin and catchment management. To ensure we are using climate science and impact information in a consistent way across the business, we will produce climate scenarios for use in planning for a changing climate.

In the recent 2020 budget report, the government announced that investment into flood and coastal defenses in England will be doubled to £5.2 billion from £2.6 billion to ensure better protection of a further 336,000 homes and non-residential properties such as businesses, schools and hospitals from flooding and coastal erosion by 2027. The EA is working in close collaboration with partners to deliver a future which is more flood resilient.

The government has worked with the EA to update how the level of government funding is allocated to projects. The changes will take account of the wider environmental and social benefits that come with reducing the risk of flooding. Further information can be found here:

<https://www.gov.uk/government/news/building-flood-defences-fit-for-the-future>

### **How does the EA forecast flooding?**

The Flood Forecasting Centre (FFC); a partnership between the EA and the Met Office, combines meteorological and hydrological data to provide a specialised hydrometeorology service. The centre forecasts the potential risk from natural flooding - river, surface water, tidal/coastal and groundwater.

The FFC provides the best possible intelligence and support to the emergency response community, EA and Met Office weather warning services for England and Wales. By combining knowledge and experience, the ability to deliver longer lead time flood forecasts and more accurate, targeted information to responders who have roles and responsibilities in handling emergency situations increases.

The EA use models, evidence from previous flood events, and flood maps to illustrate and display current flood warnings, future forecasts; up to five days into the future; and the long term flood risk from rivers, surface water and reservoirs. This creates a warning area and establishes a series of risk levels which help to determine response actions we need to take

in the occurrence of a flood event. [Check your flood risk online](#) by calling Floodline on 0345 988 1188. You should check and monitor these resources regularly.

The EA uses a network of monitoring stations across the country to monitor river levels. Each monitoring station has its own datum - a height in metres fixed relative to mean sea level. The river levels stated for each monitoring station are all relative to its site datum. In the Calder Valley a series of monitoring stations are positioned along the valley at strategic points in order to effectively monitor river levels throughout the valley.

The river monitoring stations send river level data to EA duty officers, and as rivers rise to “trigger” levels, a level at which our officers review the current situation, forecasts, and intelligence from the ground and establish whether property is expected to flood. By continually collecting data from these stations, projections of future river levels (up to 36hrs into the future at some stations) can be modelled. Members of the public can access river level monitoring data online on either the [Eye on Calderdale](#) website or at GOV.UK via the [flood information service website](#).

The EA and our partners are always working with the best data available, which can vary in certainty along with forecasts. We review rivers levels after every flood event and information from the public is vital to help us refine these. Useful data includes timings where flood impacts were seen, water heights, and any information on how things flooded. Data from previous flood events has helped us to increase the number of communities we offer a flood warning to.

Earlier, clearer and better communication of flood risk enables national and local responders to support the public and local communities at risk of flooding. This provides people more time to take action to protect themselves and their homes and businesses from flooding.

## **Environment Agency response to COVID-19**

### **How are the EA operating under the COVID-19 restrictions?**

The EA is working hard with Government and other emergency responders on protecting the public and the environment from the effects of Coronavirus. We are following Government’s guidance for blue light services and ensuring those in critical roles are able to do their essential work. We are doing everything we can to support our communities, our Government and the NHS by abiding by the measures set by the Government.

The EA remains fully operational, with the majority of our staff working from home, and frontline staff remaining active on the ground tackling flood risk whilst ensuring they are complying with the government’s social distancing guidance. Inspections of damaged flood risk assets are still underway using local inspectors.

We are prioritising our work to protect the most at-risk communities to ensure they continue to remain resilient. We will carry out a full assessment of the impact of Coronavirus on the asset repair programme as the situation develops, but we will continue to prioritise work that poses a significant risk to lives and livelihoods. We are reviewing and revising our community engagement plans to follow government's advice on social distancing and reducing the risk of infection. If repairs to major infrastructure assets are disrupted by the Coronavirus, we will where possible put in place temporary mitigation for the risk, pending a full repair.

Our incident teams are still on call 24/7 to deal with any flooding, pollution or environmental incidents.

Where appropriate, construction work can progress as it is classed as an essential service throughout the COVID-19 lockdown period. Key repair and maintenance work on roads in Calderdale is continuing to go ahead where safe working procedures can be followed. Contractors' will be following strict government guidance while carrying out this work. This includes maintaining a two metre distance between workers (or working in pairs if this isn't feasible) and following strict hygiene regulations, such as regular hand washing.

In line with government advice, we are continuing to deliver all of our Flood and Coastal Risk Management projects where it is safe for our teams and delivery partners to do so. We are following the latest guidance from Public Health England regarding safe working on construction sites. The safety of our staff, partners and the communities we work in remains a priority for us.

We will continue to review and prioritise our work so that we can focus resources on our critical activities including operating and maintaining existing flood assets and responding during flooding. This will help us react quickly to any changes to the COVID-19 guidance.

For further information, visit:

<https://www.gov.uk/government/organisations/environment-agency>

As we are unable to hold public events at this time, we are looking at alternative arrangements to ensure we can maintain engagement with communities. We are working hard to ensure work continues and that delays to any projects caused by the knock-on effect of this pandemic are kept to an absolute minimum.