



Northumberland
County Council

Flood investigation report August 2019



Northumberland
County Council

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REVISION SCHEDULE

Northumberland County Council - Flood Investigation report
Investigation of the August 2019 floods

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1. Introduction

According to the Met Office, Northumberland was the second wettest county relative to average summer rainfall, seeing August as the wettest month¹.

The weekend of 9-11th August 2019 the northeast saw heavy and thundery downpours Friday through Sunday. Yellow warnings of rain were issued as rain pushed northwards bringing heavy rain throughout the northeast region.

The Environment Agency issued flood alerts for Upper River Coquet, Lower Coquet, North Tyne, River Tyne, River Rede, Coastal Rivers North Northumberland, Rivers Pont and Blyth, River Wansbeck for 10th to the 11th August 2019. Additionally, flood warnings were issued for the River Coquet at Brinkburn and Weldon, River Font at Netherwitton and River Rede at Otterburn, West Woodburn and Redesmouth for the 10th through to the 11th August 2019. The EA incident room opened along with West Hartford Civil Contingencies team as a Category 1 responder.

This persistent heavy rainfall caused pluvial and fluvial flooding throughout Northumberland. The river Rede reached its highest recorded level at Otterburn. A total of 13 properties and businesses across Northumberland were flooded during this event.

1.1 Lead Local Flood Authority (LLFA) investigation

Northumberland County Council, as the Lead Local Flood Authority (LLFA), has a responsibility under Section 19 of the Flood and Water Management Act 2010 to investigate flooding incidents in its area to the extent it considers necessary and appropriate. Section 19 states:

1. *On becoming aware of a flood in its area, a lead local flood authority must, to the extent it considers necessary or appropriate, investigate –*

Which risk management authorities have relevant flood risk management functions.

Whether each of those risk management authorities has exercised, or is proposing to exercise those functions in response to the flood.

2. *Where an authority carries out an investigation under section (1) it must –*

Publish the results of its investigation.

Notify any relevant risk management authorities.

The circumstances for triggering a Section 19 investigation in Northumberland are defined within the Northumberland Local Flood Risk Management Strategy, in particular where flooding results in:

- Internal flooding to 5 or more residential or commercial properties; and / or
- Critical infrastructure disruption for over 5 hours.

¹ <https://www.metoffice.gov.uk/about-us/press-office/news/weather-and-climate/2019/summer-2019-statistics>

1.2 Northumberland

As Northumberland is predominantly rural, the effect of internal flooding of a property can have a significant economic and social impact on the local community, which is why we have decided to set the threshold at this low level. Internal flooding is when flooding enters the threshold of a property; this does not include gardens and detached garages.

Essential infrastructure includes the essential services and networks on which we depend to function, such as key transport, power and water treatment assets. The full definition of essential infrastructure is taken from the National Planning and Practice Guidance; Flood Risk and Coastal Change.

While every reported flood incident may not trigger a formal section 19 investigation, we are always keen to receive details and information of flooding incidents, regardless of scale. Such information assists us in understanding how the drainage network operates and where weaknesses might exist.

As such further instances of flooding may have occurred during this event but are not identified as part of this section 19 report.

2. Flood Incidents

2.1 9-11th August 2019

Heavy persistent rain caused flash flooding to areas around Northumberland throughout the weekend 9-11th August 2019.

The Environment Agency shut flood gates in Morpeth and Rothbury. Footbridges over the Wansbeck were closed from the public. The fire service were operating a pump at Bennet's Walk to remove surface water.

There were numerous road closures caused by fluvial and surface water runoff issues. These closures were mainly in the west of the county including: B6342 Rothley, B6344 Rothbury, B6320 Otterburn Bridge, Holystone, Callerly, Netherwitton, C200 Greenhaugh and Bellingham.

In the Amble area the high intensity rainfall overwhelmed the surface water sewer systems causing flooding to A1068 between Amble and Warkworth. This was also the case in Alnwick, where the rain overwhelmed the gullies and surface water system causing the water to pond around the war memorial at Bongate Without, making it difficult for vehicles to pass. The T-Junction at Christon Bank also became inundated with surface water runoff, where it ponded in a low spot in the road.

A watercourse through High Hauxley broke its banks and flooded around property fortunately the Northumberland Fire and Rescue Service (NFRS) were called out and supplied sandbags to the adjacent properties to deflect flood water.

Heddon-on-the-Wall suffered pluvial flooding; high intensity rainfall overwhelmed the NWL surface water system. Water ponded within the streets of Remus Avenue and Aquila Drive, as the area is within a steep sided valley the water poured through the housing estate surrounding properties.

2.2 Areas affected

2.2.1 Otterburn

The River Rede at Otterburn reached its highest recorded level on the 10th August, a total of 6 properties were internally flooded. A combination of River Rede and its tributary the Otter Burn caused 3 properties to internally flood. To the west of the village a couple of properties were internally flooded due to surface water runoff and overwhelmed NWL systems. Flooding was avoided to other properties due to interventions.

2.2.2 Ovingham

The Whittle Burn through Ovingham over topped onto the C254 road due to debris caught in the culvert. 3 properties were affected in this area in the early hours of 12th August, 2 of which had property level protection (PLP).

The increased flow levels to the Whittle Burn later in the weekend was caused by an overflow of water from the Northumbrian Water Whittle Dene Reservoir.

Water was reported flowing from Ovingham Cemetery to the playing field car park and into the road gullies of Windsor Crescent. After an investigation may have been groundwater or a spring. Additionally, the watercourse adjacent to Horsley Road overflowed around property to the footpath. Residents began clearing debris from the culvert inlet to prevent back up of water. No properties were internally flooded at these locations.

2.2.3 West Woodburn

The River Rede broke its banks through West Woodburn, 6 properties around West Woodburn Bridge suffered from internal flooding. Surface water also affected the properties with runoff from the road.

2.3 Responses

Incident rooms were opened. Northumberland County Council Civil Contingencies Team working alongside emergency services and the Environment Agency to direct resources as Category 1 responders.

Northumberland County Council Highways Team worked throughout the weekend by checking hotspot risk locations, clearing drainage channels and closing roads under their remit where it was deemed unsafe.

The Environment Agency deployed their field teams to clear screens, close floodgates and operate pumps while other staff carried out data collection.

Northumberland County Council FCERM team carried out data collection at communities the day after the event.

2.4 Data sharing with other risk management authorities

After the flood event we regularly kept in touch through phone calls, emails and meetings with the Environment Agency and Northumbrian Water. We have passed on details of known flood incidents and they have passed on similar information. This ensures that we are all aware of problem areas, the source of the problem and the Risk Management Authority responsible.

3.Roles and responsibilities

3.1 Northumberland County Council (NCC)

Northumberland County Council is both the Lead Local Flood Authority (LLFA) and the Highway Authority (HA) within Northumberland.

As LLFA, NCC has a responsibility to investigate flood incidents under Section 19 of the Flood and Water Management Act (2010). The nature of the investigation will depend upon the extent of the flooding and the outcome from any investigation will be used to help prioritise future bids for funding. Funding to manage flood risk is prioritised and allocated on a national basis. Therefore, we cannot guarantee to address all issues.

Land Drainage Consent is required from NCC for any works that are likely to impede the flow of water within an Ordinary Watercourse. This is to ensure that the risk of flooding does not increase and that any ecological issues are addressed.

NCC is a category 1 Responder under the Civil Contingencies Act 2004 and therefore has a responsibility for developing emergency plans, contingency plans and business continuity plans to mitigate the effects of an emergency in Northumberland.

As Highway Authority, NCC has a duty to maintain the highway under Section 41 of the Highway Act (1980). This includes the management of road drainage such as gullies and highway drains.

Culverts under Highway are most likely to be the responsibility of NCC and blockages or any damage to these culverts should be reported to NCC.

NCC does not have an obligation to provide sandbags and they will not be available from Council depots. Members of the public are advised to self-help by purchasing sandbags in advance from hardware stores and builder's merchants where alternative flood protection devices can also be acquired

3.2 Highways England

Highways England is responsible for managing road drainage including gullies and highway drains, from the trunk road network in England, including the slip roads to and from trunk roads. Within Northumberland this includes the A1, A19 and A69.

Culverts under a trunk road are most likely to be the responsibility of Highways England. Any blockages or any damage to these culverts should be reported.

3.3 Environment Agency (EA)

The Environment Agency (EA) is a category 1 responder under the 2004 Civil Contingencies Act and has the strategic overview of all flood risk from main rivers, estuaries and the sea.

The EA has discretionary powers to maintain main rivers under Section 165 of the Water Resources Act (1991) and uses these powers to ensure flood risk to properties is managed appropriately.

Any work in, over, under or near a main river or flood or sea defence may require a flood risk activity permit from the Environment Agency.

The EA provides a flood warning service throughout all feasible areas of England and Wales at risk of flooding from rivers or the sea. They do this by monitoring rainfall, river levels and sea conditions 24 hours a day to forecast the possibility of flooding.

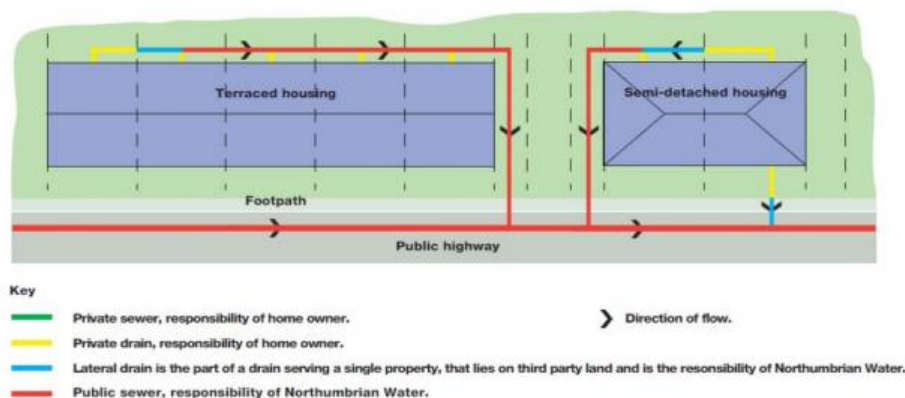
3.4 Northumbrian Water (NW)

Under the Water Industry Act 1991, Northumbrian Water is responsible for the main sewerage system within Northumberland and their wider area which extends down to Teesside.

The majority of properties are connected to a drain; this is the responsibility of the property owner. Property owners are responsible for maintaining and resolving any problems within the drain up to the boundary of their property, as described in Figure 1 below. If a property owner has a blocked drain, they will need to contact a plumber or drain unblocking service to unblock it for them.

The drain is connected to a sewer usually in the street or road near the property. In most cases this will be a public sewer; it belongs to NWL and is their responsibility. If you are concerned that there may be a blockage in the public sewer, please call 0845 717 1100 (24 hours).

Figure 1 - responsibilities for drains and sewers



3.5 Riparian landowners

Riparian landowners own land adjoining a watercourse. As detailed within the gov.uk website 'owning a watercourse', they are presumed to own the land up to the centre of the watercourse – unless it is known to be owned by someone else.

Riparian landowners have certain rights and responsibilities, including the following:

- They must maintain the bed and banks of the watercourse, and also the trees and shrubs growing on the banks;
- They must clear away any debris, even if it did not originate from their land. This debris may be natural or man-made;
- They must keep any structures that they own clear of debris. These structures include culverts, trash screens, weirs and mill gates;
- If they do not carry out their responsibilities, they could face legal action.

Riparian landowners must understand and act upon these responsibilities.

Riparian owners have the right to protect their property from flooding and their land from erosion. These activities may require a land drainage consent from Northumberland County Council if the works are by an ordinary watercourse or a flood risk activity permit from the Environment Agency if the works are by a main river.

For more information on the responsibilities of riparian ownership please see the gov.uk website- <https://www.gov.uk/guidance/owning-a-watercourse#find-out-if-you-own-a-watercourse>

Further information on protecting your property from flooding can be found on the gov.uk website - <https://www.gov.uk/prepare-for-flooding/future-flooding>

4. Maps of affected areas

This section of the Flood Investigation Report looks in detail at specific locations that were affected by the floods in August 2019 referred to in section 2.2. The individual reports can be found in Appendix A. It should be noted that some areas, mainly those where just roads or where the gardens of properties were flooded, have been omitted from this report. However, all known flooding incidents have been recorded on a Geographical Information System (GIS) database.

The maps produced are based on information that we received and observed on site visits to the affected area. Therefore, there may be occasions where we have missed certain buildings and roads being flooded.

If you are aware of any irregularities within the individual reports for affected areas, then please contact us and we can amend them accordingly.

Appendix A contains further information on the following areas:

1. Otterburn
2. West Woodburn
3. Ovingham

5. Conclusions

The rainfall events that occurred in August 2019 resulted in the flooding of 13 numerous highways across Northumberland. Northumberland County Council are working with other Risk Management Authorities, including the Environment Agency and Northumbrian Water, to alleviate future flooding.

With regards to our duties stipulated in the Floods and Water Management Act (2010), we have investigated each individual flooding incident where it was deemed necessary, as determined by the Northumberland Flood Risk Management Strategy; have informed each respective Risk Management Authority; and we have published the results of this investigation via our website.

6.Disclaimer

The findings of this report are based on a subjective assessment of the information available by those undertaking the investigation and therefore may not include all relevant information. As such it should not be considered as an absolute assessment of all factors that may have caused or contributed to the flood events.

The opinions, conclusions and any recommendations in this report are based on assumptions made by Northumberland County Council when preparing this report, including, but not limited to those key assumptions noted in the report, including reliance on information provided by others.

Northumberland County Council expressly disclaims responsibility for any error in, or omission from, this report arising from or in connection with any of the assumptions being incorrect.

The opinions, conclusions and any recommendations in this report are based on circumstances encountered and information evaluated at the time of preparation and Northumberland County Council expressly disclaims responsibility for any error in, or omission from, this report arising from or in connection with those opinions, conclusions and any recommendations.

Northumberland County Council does not accept any liability for the use of this report or its contents by any third party.

Glossary

EA – Environment Agency

FCERM – Flood and Coastal Erosion Risk Management

GiA – Grant in Aid

LLFA – Lead Local Flood Authority

NCC – Northumberland County Council

NW – Northumbrian Water

Culvert

A covered pipe or channel designed to prevent the obstruction of a watercourse or drainage path by an artificial construction.

Groundwater

Groundwater is water that is below the surface of the ground and in direct contact with the subsoil or ground.

Lead local flood authority (LLFA)

In England this means—

- (a) the unitary authority for the area, or
- (b) if there is no unitary authority, the county council for the area.

Main rivers

Main rivers are usually larger streams and rivers, but some of them are smaller watercourses of local significance. In England Defra decides which watercourses are the main rivers, and the Welsh Government does this in Wales. Main rivers are marked on an official document called the main river map. Environment Agency local offices have copies of these maps. Main rivers can include any structure that controls or regulates the flow of water in, into or out of the channel.

Ordinary watercourse

An ordinary watercourse is every river, stream, ditch, drain, cut, dyke, sluice, sewer (other than a public sewer) and passage through which water flows, but which does not form part of a main river.

Return Period

A return period is an estimate of the likelihood of a rainfall event which is expressed in years, i.e. 1 in 20 year return period.

Risk management authority

The following risk management authorities have powers over and responsibilities for watercourse management:

- the Environment Agency;
- Lead Local Flood Authorities (LLFAs).

Surface water runoff

Surface water runoff is rainwater, including snow. It is water on the surface of the ground, whether or not it is moving, which has not entered a watercourse, drainage system.

Useful links and contacts

Northumberland County Council

County Hall
Morpeth
Northumberland
NE61 2EF
Tel: 0845 600 6400
Email: fcerm@northumberland.gov.uk
Website: www.northumberland.gov.uk

Environment Agency

North East Area Office
Tyneside House
Skinnerburn Road
Newcastle Business Park
Newcastle-upon-Tyne
NE4 7AR
Tel: 03708 506 506
Email: northeast-newcastle@environment-agency.gov.uk
Website: www.environment-agency.gov.uk

Northumbrian Water

Northumbria House
Abbey Road
Pity Me
Durham
DH1 5FJ
Tel: 0845 717 1100 Floodline 0800 328 7648
Website: www.nwl.co.uk/sewer-flooding.aspx

Highways England

Highways England
National Traffic Operations Centre
3 Ridgeway
Quinton Business Park
Birmingham
B32 1AF
Tel: 0300 123 5000
Email: info@highwaysengland.co.uk
Website: <https://www.gov.uk/government/organisations/highways-england>