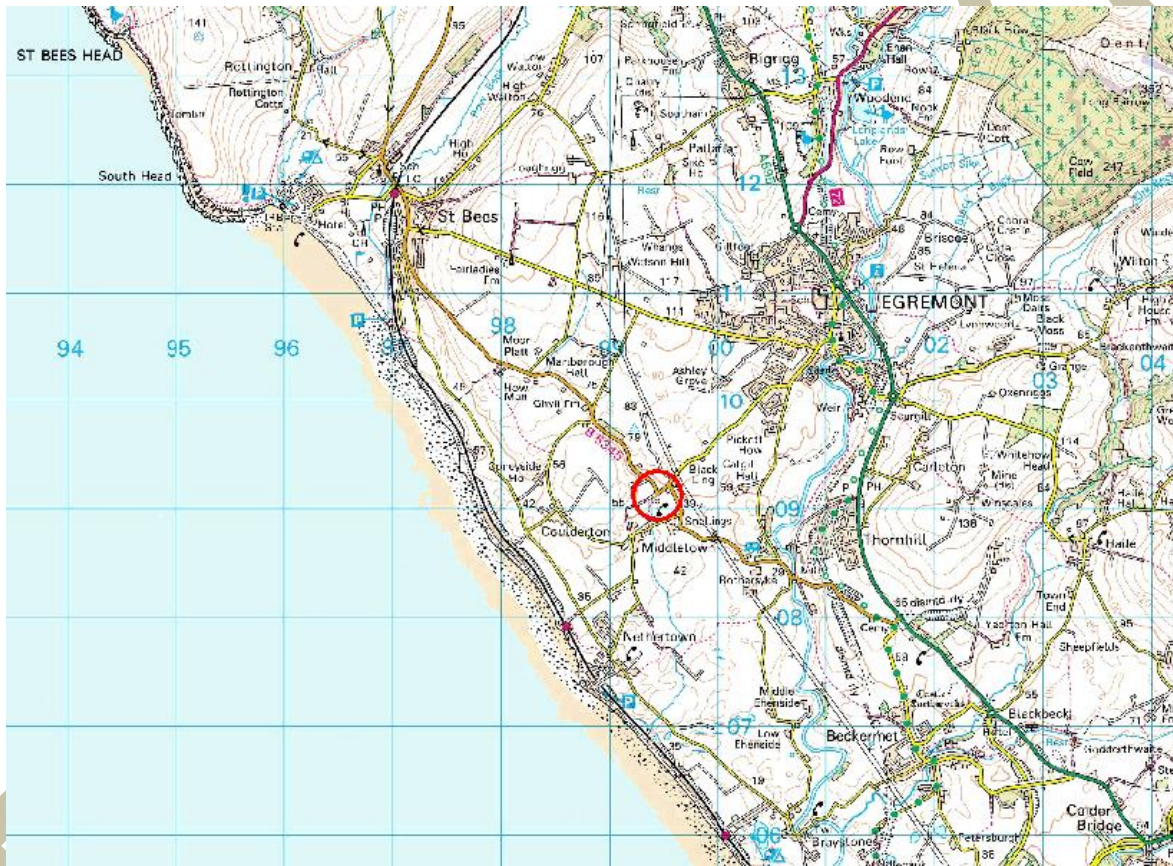


# Gill Cottage

## Flood Investigation Report 49



Flood Event 30<sup>th</sup> August 2012

This flood investigation report has been produced by Cumbria County Council as a Lead Local Flood Authority under Section 19 of the Flood and Water Management Act 2010.

Version	Undertaken by	Reviewed by	Approved by	Date
Preliminary	Colin Parkes	Anthony Lane		10th Oct 2013
Draft	Andrew Harrison	Anthony Lane		15 <sup>th</sup> March 2014
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# Executive Summary

Cumbria County Council as Lead Local Flood Authority has prepared this report with the assistance of other Flood Risk Management Authorities as it considers necessary to do so under Section 19 of the Flood and Water Management Act 2010.

The report identifies that Gill Cottage suffered from flooding on 30<sup>th</sup> August 2012. The main cause of the flood event was the severe intensity of rainfall, falling on an already saturated catchment area that resulted in a natural exceedance of the capacity of Ellergill Beck.

Five actions have been identified in the report which would minimise the risk of future flooding. The recommendations range from the installation of property level protection by the property owner, to longer term solutions following prioritisation within risk management authority capital programmes.

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# Event Background

This section describes the location of the flood incident and identifies the properties affected.

## Flooding Incident

Gill Cottage is situated next to Ellergill Beck, which drains the high ground between St Bees and Egremont. A catchment of about 380 hectares above Gill Cottage is shown shaded blue in Figure 1 below. The land use in this catchment is entirely agricultural with a scattering of farm buildings and a few minor roads, including the B5345 St Bees to Beckermat Road. Gill Cottage is situated on a sharp bend along this road. At this location Ellergill Beck and Gill Cottage are in a flood plain contained within steeply sloping fields on both sides.

Gill Cottage, Egremont, Cumbria, CA22 2UA  
299420, 509111



Figure 1. Location of Gill Cottage with the catchment of Ellergill Beck shaded in blue.

The flooding occurred in the early hours of 30<sup>th</sup> August 2012. The Beck burst its banks and floodwater ran down the B5345, surrounding the property. There was extensive damage to a car in the grounds of Gill Cottage

# Investigation

The flooding at Ellergill Beck was not originally reported to the authorities. It came to the attention of an officer of Copeland Borough Council much later who has assisted Cumbria County Council (CCC) in carrying out an investigation.

## Rainfall Event

There is no rain gauge data available in this catchment but rainfall radar data has been plotted for two locations as shown in Figure 2. These show that the rainfall pattern was very similar. Heavy rain started at 9:30pm on 29<sup>th</sup> August and finished at 3am on 30<sup>th</sup> August. The peak of 25mm/hr at 12:20am at St Bees was 5 minutes earlier at Coulderton. Intensities above 20mm/hr. are considered to be heavy rainfall. In total 28mm fell at St Bees and 32mm fell at Coulderton. The average total rainfall for the whole of August is 92mm (1981-2010) at St Bees Head which is the closest climate monitoring station.

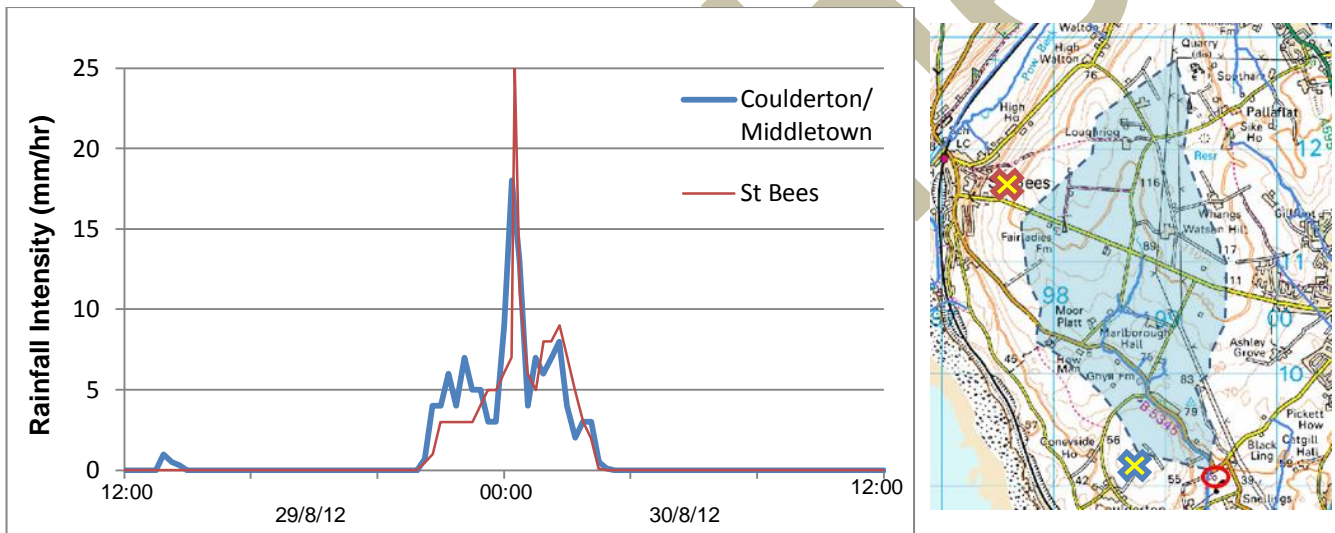
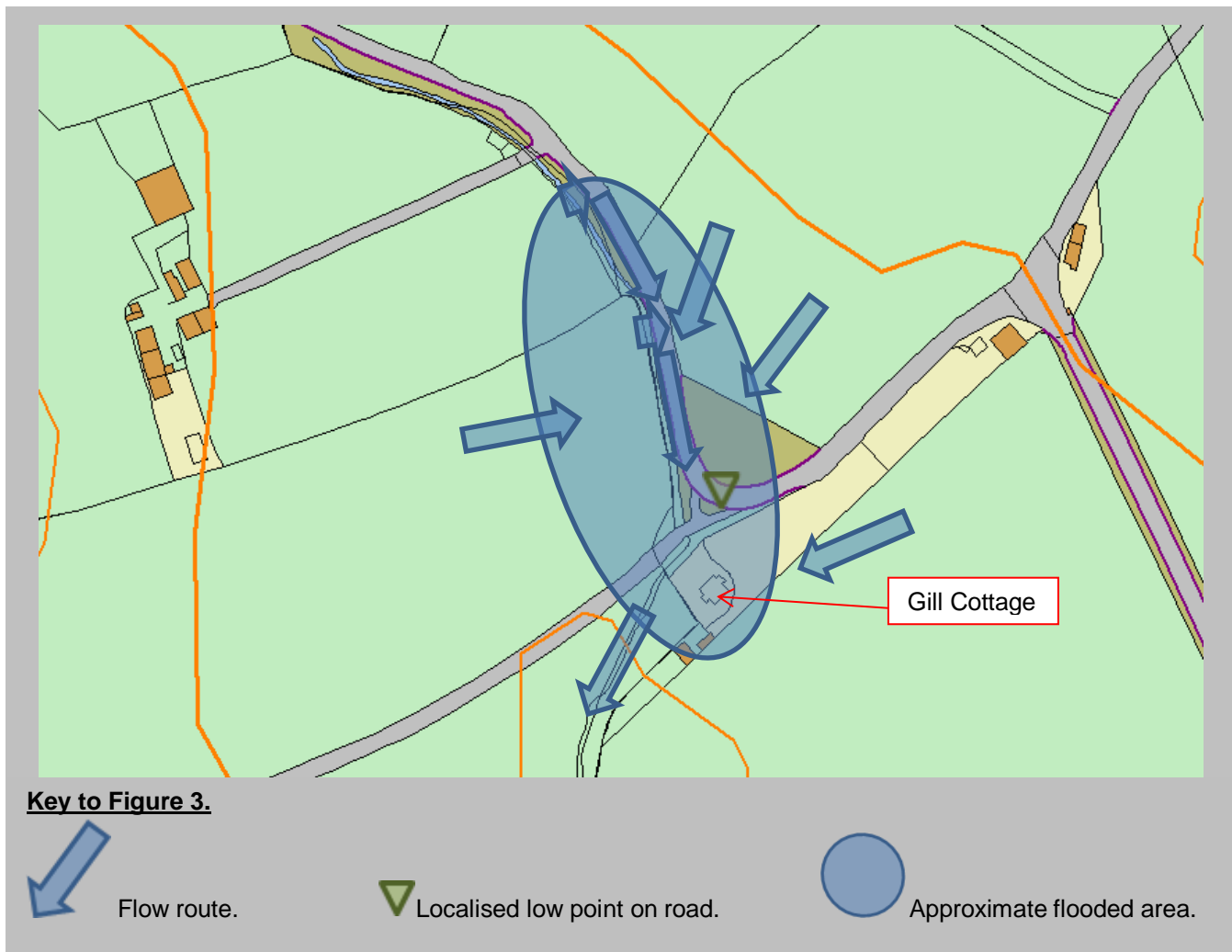


Figure 2. Rainfall data from 29-30/8/12. The map shows the locations of the data compared to the Gill Cottage catchment.

## Map of Flow Routes

Most of the floodwater to the area would have been brought by Ellergill Beck from the high ground to the north with contributions from the slopes local to Gill Cottage. The Beck spilled over into the road to the north of Gill Cottage carrying it to a low point on the corner just outside the Cottage. See Figure 3.



**Figure 3. Flood flow routes around Gill Cottage.**

## Likely Causes of Flooding

The fluvial flood zone plan shown in Appendix 3 identifies Gill Cottage in an area vulnerable to river flooding. It is also vulnerable to surface water flooding during prolonged wet periods.

When the water level rose in the Beck, accounts state that it first spilled onto the road about 100m upstream of Gill Cottage and flowed to the cottage by the road.

Close to Gill Cottage there is an outfall for land drainage into the Beck and the bank was collapsing around here. This may have had an impact on the flooding.

The beck immediately downstream of Gill Cottage is overgrown and it is thought this would further hinder the free flow of water away from the property.

The field across the road from Gill Cottage falls steeply towards the road. As the fields were already saturated from the prolonged wet spell, a large proportion of the rain that fell would have been unable to infiltrate into the ground and so would have flowed over the surface down the slopes towards Gill Cottage.

The highway drainage also discharges into Ellergill Beck near Gill Cottage, although the water would not be able to discharge effectively when the floodwater level is above the top of the outfall pipe in the Beck.

## Flooding History

Anecdotal evidence suggests there has been no previous internal flooding at Gill Cottage

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# Recommended Actions

Action by	Recommended Action	How
Resident	Ensure property is resilient against future flood events.	Consider <a href="#">flood resilience measures</a>
LLFA / Landowners / Natural England	Reduce flows in the Ellergill Beck.	Look for options to attenuate flows.
LLFA / Landowners / Natural England.	Reduce flows in the Ellergill Beck.	Look for options to change land management practices.
LLFA / Riparian owners	Maintain flows within Beck channel.	Investigate measures for preventing flooding from the Beck onto the road. Repair low points in bank on road side of beck/construct flood wall adjacent to Beck.
Riparian owner/County Highways	Repair river bank. Remove overgrowth from the Beck.	Repair and improve outfall of land drainage system. Clean watercourse to allow more capacity downstream of property.

## Next Steps

CCC as the LLFA will continue to ensure that any actions identified within the actions table of this report are appropriately taken forward by each Risk Management Authority identified. Actions will continue to be prioritised through the Making Space for Water process and monitored through regular meetings of the group. Details of the MSfWG members and summary of related processes are detailed in Appendix 2.

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# Appendices

## Appendix 1: Glossary

### Acronyms

EA	Environment Agency
CCC	Cumbria County Council
LLFA	Lead Local Flood Authority
LFRM	Local Flood Risk Management
MSfWG	Making Space for Water Group
FAG	Flood Action Group

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## Appendix 2: Summary of Relevant Legislation and Flood Risk Management Authorities

The Flood Risk Regulations 1999 and the Flood and Water Management Act 2010 (the Act) have established Cumbria County Council (CCC) as the Lead Local Flood Authority (LLFA) for Cumbria. This has placed various responsibilities on CCC including Section 19 of the Act which states:

### Section 19

- (1) On becoming aware of a flood in its area, a lead local flood authority must, to the extent that it considers it necessary or appropriate, investigate—
- (a) which risk management authorities have relevant flood risk management functions, and
  - (b) 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 subsection (1) it must—
- (a) publish the results of its investigation, and
  - (b) notify any relevant risk management authorities.

A 'Risk Management Authority' (RMA) means:

- (a) the Environment Agency,
- (b) a lead local flood authority,
- (c) a district council for an area for which there is no unitary authority,
- (d) an internal drainage board,
- (e) a water company, and
- (f) a highway authority.

The table below summarises the relevant Risk Management Authority and details the various local source of flooding that they will take a lead on.

Flood Source	Environment Agency	Lead Local Flood Authority	District Council	Water Company	Highway Authority
<b>RIVERS</b>					
Main river					
Ordinary watercourse					
<b>SURFACE RUNOFF</b>					
Surface water					
Surface water on the highway					
<b>OTHER</b>					
Sewer flooding					
The sea					
Groundwater					
Reservoirs					

The following information provides a summary of each Risk Management Authority's roles and responsibilities in relation to flood reporting and investigation.

Government – Defra develop national policies to form the basis of the Environment Agency's and Cumbria County Council's work relating to flood risk.

Environment Agency has a strategic overview of all sources of flooding and coastal erosion as defined in the Act. As part of its role concerning flood investigations this requires providing evidence and advice to support other risk management authorities. The EA also collates and reviews assessments, maps and plans for local flood risk management (normally undertaken by LLFA).

Lead Local Flood Authorities (LLFAs) – Cumbria County Council is the LLFA for Cumbria. Part of their role requires them to investigate significant local flooding incidents and publish the results of such investigations. LLFAs have a duty to determine which risk management authority has relevant powers to investigate flood incidents to help understand how they happened, and whether those authorities have or intend to exercise their powers. LLFAs work in partnership with communities and flood risk management authorities to maximise knowledge of flood risk to all involved. This function is carried out at CCC by the Local Flood Risk Management Team.

District and Borough Councils – These organisations perform a significant amount of work relating to flood risk management including providing advice to communities and gathering information on flooding.

Water and Sewerage Companies manage the risk of flooding to water supply and sewerage facilities and the risk to others from the failure of their infrastructure. They make sure their systems have the appropriate level of resilience to flooding and where frequent and severe flooding occurs they are required to address this through their capital investment plans. It should also be noted that following the Transfer of Private Sewers Regulations 2011 water and sewerage companies are responsible for a larger number of sewers than prior to the regulation.

Highway Authorities have the lead responsibility for providing and managing highway drainage and certain roadside ditches that they have created under the Highways Act 1980. The owners of land adjoining a highway also have a common-law duty to maintain ditches to prevent them causing a nuisance to road users.

Flood risk in Cumbria is managed through the Making Space for Water process which involves the cooperation and regular meeting of the Environment Agency, United Utilities, District/Borough Councils and CCC's Highway and LFRM Teams to develop processes and schemes to minimise flood risk. The MSfWGs meet approximately 4 times per year to cooperate and work together to improve the flood risk in the vulnerable areas identified in this report by completing the recommended actions. CCC as LLFA has a responsibility to oversee the delivery of these actions.

Where minor works or quick win schemes can be identified, these will be prioritised and subject to available funding and resources will be carried out as soon as possible. Any major works requiring capital investment will be considered through the Environment Agency's Medium Term Plan or a partners own capital investment process.

Flood Action Groups are usually formed by local residents who wish to work together to resolve flooding in their area. The FAGs are often supported by either CCC or the EA and provide a useful mechanism for residents to forward information to the MSfWG.

## Appendix 3: Flood plan analysis

### Fluvial - Ordinary Watercourse (Ellergill Beck)

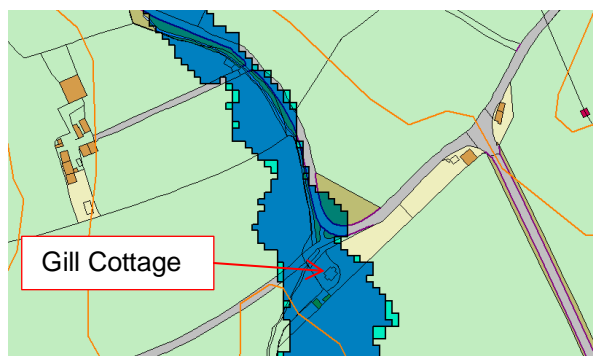


Figure 4. EA Flood Zone 3 (dark blue) and EA Flood Zone 2 (light blue).

Gill Cottage stands next to Ellergill Beck, which is designated an Ordinary Watercourse. Figure 4 shows the EA fluvial flood zones where flooding is to be expected from watercourses. It shows that Gill Cottage is in the middle of Flood Zone 3 where there is a risk (a 1% probability) of fluvial flooding.

## Appendix 4: Useful contacts and links

**To report flooding: Incident hotline** tel: 0800 80 70 60 (24hrs)

**Floodline:** tel. 0845 988 1188

**Cumbria County Council (Local Flood Risk Management):**

[lfm@cumbria.gov.uk](mailto:lfm@cumbria.gov.uk), [www.cumbria.gov.uk](http://www.cumbria.gov.uk), tel: 01228 221330

**Cumbria County Council (Highways):**

[highways@cumbria.gov.uk](mailto:highways@cumbria.gov.uk), [www.cumbria.gov.uk](http://www.cumbria.gov.uk), tel: 0845 609 6609

**United Utilities:** tel: 0845 746 2200

**Copeland Borough Council**

[info@copeland.gov.uk](mailto:info@copeland.gov.uk), [www.copeland.gov.uk](http://www.copeland.gov.uk), tel: 0845 054 8600

**Flood and Water Management Act 2010:**

<http://www.legislation.gov.uk/ukpga/2010/29/contents>

**Water Resources Act 1991:**

<http://www.legislation.gov.uk/all?title=water%20resources%20act>

**Land Drainage Act:**

<http://www.legislation.gov.uk/all?title=land%20drainage%20act>

**Highways Act 1980:**

<http://www.legislation.gov.uk/all?title=highways%20act>

**EA – ‘Living on the Edge’** a guide to the rights and responsibilities of riverside occupation:

<http://www.environment-agency.gov.uk/homeandleisure/floods/31626.aspx>

**EA – ‘Prepare your property for flooding’** how to reduce flood damage including flood protection products and services:

<http://www.environment-agency.gov.uk/homeandleisure/floods/31644.aspx>

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