
CASTLE MORPETH BOROUGH COUNCIL

**Flooding In Castle Morpeth
6 & 7 September 2008**

Independent Review

December 2008

DRAFT REPORT



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REVISION HISTORY

Revision Ref./ Date Issued	Amendments	Issued to
Draft Report v1.0 16 December 2008		Alan Purdue, CMBC (by email)
Draft Report v2.0 19 December 2008	Textual changes following comments from CMBC	Alan Purdue, CMBC (by email)
Draft Report v2.1 5 January 2009	Chapter 5, comments on dissemination of flood warnings amended.	Alan Purdue, CMBC (by email)

CONTRACT

This report describes work commissioned by Castle Morpeth Borough Council under purchase order number 15482 dated 7 November 2008. Castle Morpeth Borough Council's representative for the contract was Alan Purdue. Ray Pickering led the review for JBA Consulting.

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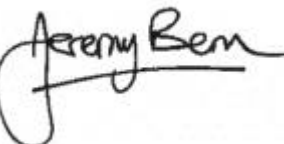
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PURPOSE

This document has been prepared solely as an Independent Review of the flood event which occurred on 6th and 7th September 2008 in Castle Morpeth. JBA Consulting accepts no responsibility or liability for any use that is made of this document other than by the Client for the purposes for which it was originally commissioned and prepared.

ACKNOWLEDGMENTS

JBA would like to thank all the individuals and organisations who have contributed to this review for giving their time and co-operation at what has been an extremely busy and, in some cases, distressing time.

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EXECUTIVE SUMMARY

Summary of the Flooding

On 6th and 7th September 2008, the borough of Castle Morpeth in Northumberland experienced severe flooding which resulted in approximately 1,000 properties being flooded or affected. This has devastated the area and caused significant financial hardship but thankfully no lives were lost.

The flooding was the result of unusually high amounts of rainfall falling on an already saturated catchment. Water levels in the River Wansbeck rose very quickly and to such an extent that the flood defences were overtopped. The huge volume of rainwater exceeded the capacity of the drainage systems resulting in properties being flooded by surface water as the drains backed up and the water could not escape.

Flooding in Morpeth is not unprecedented, but the September 2008 flood had the biggest flow recorded on the River Wansbeck and was the most damaging in living memory. Initial estimates suggest that the flood event on the River Wansbeck is of a magnitude similar to the 1% annual exceedence probability flood event. In other words, a flood of that magnitude has a 1% chance of occurring in any year, also referred to as a 1 in 100 year flood event. The estimates are currently being verified by the EA and will be published later in the year.

Preparedness

A significant amount of planning had been undertaken by the organisations involved in the multi agency flood response in preparation for an event such as that suffered within the borough of Castle Morpeth in September 2008. Several emergency plans were available and utilised including:

- The Local Flood Warning Plan for Northumberland County Council
- Castle Morpeth Borough Council Emergency Plan
- Castle Morpeth Borough Council Flood Action Plan
- Northumberland County Council Emergency Community Assistance Plan
- Castle Morpeth Borough Council Recovery and Restoration guidance document

Generally, these plans are satisfactory and worked well during the event however, as part of this post flood review they have been reassessed and several improvement points have been proposed.

The multi agency response organisations also held several events which aimed to increase public awareness of the flood risk and appropriate actions to take. Other events provided training and response experience to members of the responding organisations. Events have included:

- A public launch of the Flood Action Plan
- A Business Continuity promotion week
- A letter to residents in Flood Warning Areas asking for details of vulnerable residents
- Publication of the Emergency Plan and the Flood Action Plan on the CMBC website
- Multi agency flood exercise – Exercise Percy
- Multi agency flood exercise – Exercise Noah

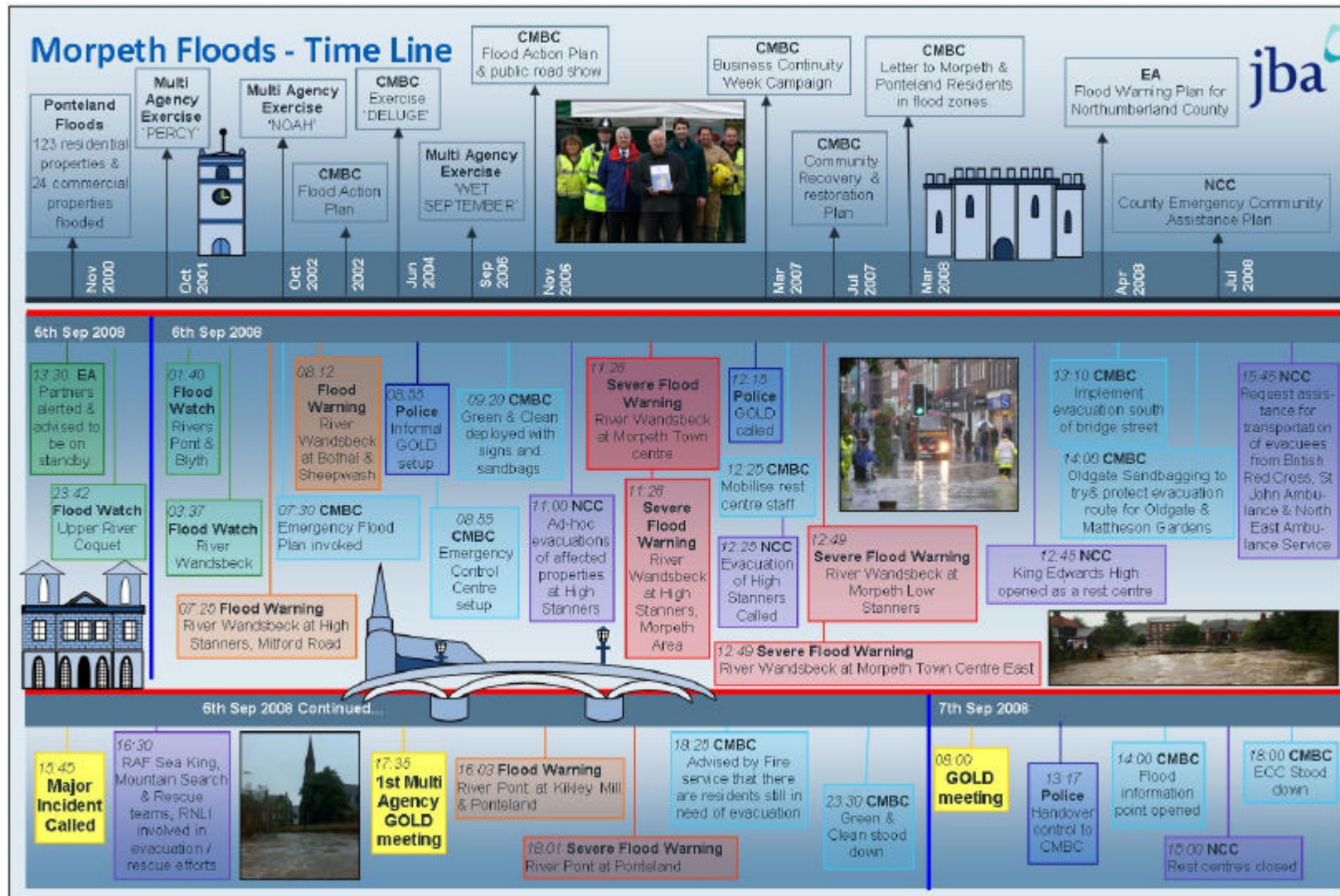
The public perception of preparedness focussed heavily on the actions of organisations and authorities rather than residents' own individual actions.

Many residents discussed the Environment Agency's flood warning service: those in Middle Greens were unhappy as they did not receive a warning; those who did receive a warning suggested alternative dissemination methods.

The majority of residents were unaware of the Flood Action Plan despite its public launch and availability on the CMBC website and were unclear as to the roles and responsibilities of the responding organisations.

In general, the individual contingency measures undertaken by a small minority of residents were overwhelmed by the severity of the event.

Summarised timeline of events leading up to and including the flood event



Response

Between 5th and 7th September 2008, the Environment Agency's flood forecasting and warning service successfully issued 16 Flood Watches, 22 Flood Warnings and 7 Severe Flood Warnings, reaching over 2,000 residential and business properties. A significant proportion of properties at risk are not registered for Floodline Warnings Direct and so do not receive warnings.

Four Severe Flood Warnings were successfully received by areas in Morpeth (over 500 pre-registered properties) however, in the Middle Greens flood risk area approximately 198 properties did not receive a warning owing to it being mistakenly issued as a downgrade rather than a Severe Flood Warning. This error has been acknowledged by the Environment Agency.

Some responding agencies raised issues relating to the dissemination of flood warnings where warnings were issued by the Environment Agency but reportedly not received by the appropriate responding organisation.

Early communication between the Environment Agency and its partners took place demonstrating excellent partnerships between some of the responding agencies and allowing for pre-flooding preparations to be made. Issuing Flood Watches during the twilight hours on a Saturday morning however, raises the question of how prepared the public were in advance of the flooding.

Operationally, sandbagging of defences and pumping successfully prevented approximately 450 properties flooding in Ponteland. However, some 49 properties were affected in Ponteland mainly from surface water flooding and exceedence of local drainage network, of which 14 were on the Eland Haugh Estate which may have been prevented if Northumbrian Water had been able to deploy additional pumps.

The severity of the event meant that evacuation was necessary but delays in starting the evacuation process caused additional difficulties as evacuation routes flooded. In addition, Northumbria Police report they were not in possession of the Flood Action Plan and so were unaware of evacuation destinations.

Two rest centres were set up in Morpeth and two were on standby in Ponteland. These performed well although resources were stretched. Additional resources from neighbouring boroughs were able to help under mutual aid agreements. An additional rest centre, identified in the Flood Action Plan, could not be contacted.

Some problems with communications were experienced, such as radios and mobile phones being susceptible to water and the high volume of calls overloading the networks, but in general communications held up. However, if the telephone networks had failed there would have been limited communications between the responding agencies.

The flood triggered a huge volume of data requests and information, and, in general, information management could be improved.

Although the CMBC Emergency Plan outlines the structure to be employed during an emergency the evidence gathered suggests there was a lack of clarity surrounding the command and control structure set up to support and promote a co-ordinated multi-agency response to the flood event.

Recovery

By combining the direction of the Castle Morpeth Borough Council Recovery and Restoration guidance with the enthusiasm and dedication of the working group and committee members, the transition to, and response during, the recovery phase worked extremely well. The guidance document has promoted a multi-organisational response which has been well structured and organised. Regular group and committee meeting actions have, and still are, being rolled out.

Many organisations took proactive measures to ensure that normality can be restored as quickly as possible for residents and businesses throughout Castle Morpeth. As the flood waters receded, the actions undertaken included waterways being cleared, drain covers restored, free skips issued, road cleaning and many other activities.

The Environment Agency held a public meeting to provide a professional explanation for the floods and an opportunity for the public to ask questions. During this meeting the Environment Agency apologised to residents of Middle Greens for failing to issue a flood warning. This meeting was symbolic of the organisation's determination to identify areas for improvement and to be open and honest with members of the public.

The resourcefulness and passion of the voluntary and public sector continues throughout the recovery phase. This is aiding a speedy transition from recovery to normality. Community groups such as the Morpeth Flood Action Group are ensuring that the community's voices are heard, residents are kept up to

date with developments and most importantly, the recovery phase is meeting their needs. In general, the community's resilience and spirit during this difficult time has been admirable.

The recovery phase has identified issues relating to insurance claims and loss adjusters. Over 1,000 insurance claims have been dealt with, but each as an individual property claim rather than a coordinated community restoration. Initially, conflicting messages from insurers and the Council meant that residents were unsure which contractors they should/could use. However, this was quickly resolved after CMBC identified this confusion and provided advice to residents.

Recommendations

Following analysis of the evidence gathered and information provided, a total of 30 recommendations have been made covering many aspects of the preparation for, response to and recovery from the flood event. The key recommendations include:

- Revisions to the emergency plans including the Castle Morpeth Flood Action Plan;
- Northumbria Police to play a role in the review of the Castle Morpeth Flood Action Plan to ensure a cohesive multi-agency response to flooding in the borough. And to appropriately distribute the Plan within the force to ensure that those who require the information contained within the Plan, have it when needed.
- Improved reliability of the Environment Agency's flood warning service;
- Improved reliability of communication systems used by responding agencies during a flood event;
- Training and exercising of responding agencies in the command and control structure within the Northumbria Police area, including the operation of Gold, Silver and Bronze Command;
- Further awareness raising activities to inform the public of the roles and responsibilities of the responding agencies during a flood, encourage self help and manage expectations of what can and cant be done in such an emergency;
- Consideration to be given to pro-active discussions with insurers via the Association of British Insurers to achieve a co-ordinated community based response by the insurance companies;

A full list of recommendations is provided in chapter 7 of the main report.

CONTENTS

	Page
REVISION HISTORY	<i>i</i>
CONTRACT	<i>i</i>
PURPOSE	<i>i</i>
ACKNOWLEDGEMENTS	<i>i</i>
EXECUTIVE SUMMARY	<i>iii</i>
CONTENTS	<i>vii</i>
1 INTRODUCTION	1
1.1 Terms of Reference	1
1.2 Report Structure	1
1.3 Data Collection	1
2 THE SEPTEMBER FLOOD EVENT IN CONTEXT	5
2.1 Summary of the Flooding	5
2.2 Rainfall	5
2.3 Communities Affected	7
2.4 General Description of the River Catchments in Castle Morpeth	9
2.5 Rapid Response Catchments	10
2.6 Historic Flooding in Castle Morpeth	12
3 ROLES AND RESPONSIBILITIES	13
3.1 Category 1 and 2 Responders	13
4 PREPAREDNESS	15
4.1 Raising Awareness of Flood Risk	15
4.2 Planning for Floods	15
4.3 Training and Exercising	17
4.4 Public Awareness and Preparedness	19
5 RESPONSE	23
5.1 Flood Forecasting and Warning	23
5.2 Initial response to potential threat of flooding	26
5.3 Emergency Response	27
5.4 Command and Control of the Major Incident	31
5.5 Public Response and Perception	33
6 RECOVERY	38
6.1 Co-ordination	38
6.2 Health and Welfare	41
6.3 Economic Recovery	42
6.4 Post Flood Clean Up	43
6.5 Public Recovery and Perception	46
7 RECOMMENDATIONS	50
7.1 Summary of Recommendations	50

APPENDICES:

- APPENDIX A DETAILED RECOMMENDATIONS**
- APPENDIX B SUMMARY OF PUBLIC CORRESPONDENCE**
- APPENDIX C DETAILED RESPONSIBILITIES**
- APPENDIX D DETAILED TIMELINE OF MULTI AGENCY ACTIONS**

REFERENCES

LIST OF FIGURES

Figure 2-1: Photo of Morpeth in flood	5
Figure 2-2: Radar rainfall patterns for midday on 5th and 6th September	6
Figure 2-3: Oldgate Bridge in March 1963 (Photo A Stait).....	8
Figure 2-4: Oldgate Bridge in September 2008	9
Figure 2-5: Standardised annual average rainfall and river monitoring network for the Wansbeck, Blyth and coastal streams	10
Figure 3-1: Photo of Category 1 Responders	13
Figure 4-1: Responses to the question “What key points/issues you would like us to consider in relation to preparations before the flooding”?	19
Figure 5-1: Photo of evacuation in progress.....	28
Figure 5-2: Photo of resources in flooded area.....	31
Figure 5-3: Responses to the question “What key points/issues you would like us to consider in relation to experiences of the flood event and flood response”?	33
Figure 5-4: Most common responses in relation to agencies/organisations response to the flood”?	35
Figure 6-1: Recovery and Restoration Group Structure	38
Figure 6-2: Responses to the question “What key points/issues you would like us to consider in relation to recovery after the flood”?	46

LIST OF TABLES

Table 1-1: Interviews Undertaken.....	1
Table 1-2: Evidence Gathered	2
Table 2-1: Rainfall statistics 4-6 September 2008.....	6
Table 2-2: Communities Affected by Flooding in the Borough of Castle Morpeth	7
Table 5-1: Summary of Met Office Alerts and Warnings w/c 01/09/2008 for NE Region	23
Table 5-2: Flood Warnings issued in Castle Morpeth.....	25
Table 5-3: Timeline of Gold Command meetings	31
Table 6-1: The most important issues in relation to organisations’ response to recovery	47
Table 7-1: Summary of Recommendations	50

ABBREVIATIONS

AFWD	Assistant Flood Warning Duty Officer
AIR	Area Incident Room
AVM	Automated Voice Messaging system
CCA	Civil Contingencies Act 2004
CCDC	Consultants in Communicable Disease Control
CCTV	Closed Circuit Television
CECS	Computerised Exercise Control System
CMBC	Castle Morpeth Borough Council
CRRC	Community Recovery and Restoration Committee
DEO	Director of Emergency Operations
DWF	Daily Weather Forecast
EA	Environment Agency
ECSC	Emergency Customer Service Centre
EPU	Emergency Planning Unit
ERA	Extreme Rainfall Alerts
ESWW	Early Severe Weather Warnings
FAP	Flood Action Plan
FRS	Fire and Rescue Service
FSWW	Flash Severe Weather Warnings
FWA	Flood Warning Area
FWD	Floodline Warnings Direct
FWDO	Flood Warning Duty Officer
GSM	Global System for Mobile Communications
HPA	Health Protection Agency
HRW	Heavy Rainfall Warning
IT	Information Technology
JBA	JBA Consulting
mAOD	Meters Above Ordinance Datum
NEDL	Northern Electric Distribution
NHS	National Health Service
PCT	Primary Care Trust
RNLI	Royal National Lifeboats Institution
RRCG	Recovery and Restoration Coordinating Group
RSPCA	The Royal Society for the Prevention of Cruelty to Animals
SCG	Strategic Coordinating Group
SFW	Severe Flood Warning
STAC	Strategic Technical Advisory Cell
WRVS	Women's Royal Voluntary Service

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1 INTRODUCTION

1.1 Terms of Reference

JBA Consulting was commissioned by Castle Morpeth Borough Council (CMBC) to undertake an independent review of the flooding that occurred in the borough on 6th and 7th of September 2008. The aim of the review is

“to reassure the public about the robustness of multi-agency flood planning, incident management and ongoing community recovery and restoration actions in the borough of Castle Morpeth.”

CMBC will be disbanded and replaced by a unitary authority in March 2009. This report has been written for the current council structure and recommendations within it are targeted at CBMC rather than the future unitary authority. However this report is about protecting people and therefore is relevant to Castle Morpeth’s successors and Northumbria Local Resilience Forum and all involved in Emergency Planning in the Northumbria Police area.

1.2 Report Structure

This report includes an analysis of data and information gathered during the project to enable an independent review of the preparation for, response to and recovery from the September flood event in Castle Morpeth.

A graphical timeline showing the sequence of the significant actions that took place during the flood event is included in the Executive Summary. Chapter 3 summarises the roles and responsibilities of the responding organisations and chapters 4, 5 and 6 detail the analysis of the preparation, response and recovery respectively. Chapter 7 provides a summary of recommendations that aims to improve the response to future flood events. The recommendations are first reported within the appropriate preparation, response or recovery chapter.

Detailed analysis is provided in the appendices. This includes a detailed list of recommendations, a summary of correspondence received from the public and a detailed timeline of actions undertaken by multi-agency responders.

1.3 Data Collection

1.3.1 Responding Organisations

Interviews and data gathering have been undertaken with personnel from organisations involved in the emergency response as detailed in Table 1-1 below.

Table 1-1: Interviews Undertaken

Organisation	Interviewed
Castle Morpeth Borough Council	Chief Executive Officer
	Deputy Chief Executive Officer
	Director of Emergency Operations
	Green and Clean Service Manager
	Neighbourhood Services Manager
	Acting Senior Environmental Protection Officer
Local Resilience Forum	Chair of Local Resilience Forum and Chair of Flooding Sub-Group
Environment Agency	Area Flood & Coastal Risk Manager
Northumberland County Council	Emergency Planning Officer

Organisation	Interviewed
Northumbria Police	Chief Inspector
Northumberland Fire and Rescue	Chief Fire Officer
Northumbrian Water	Sewerage Operations Manager
Health Protection Agency	Public Health Specialist Advisor
Red Cross	Red Cross Operations Director North East & Cumbria

1.3.2 Members of the Public

A public meeting was held on 25th October 2008 for members of the public who had suffered flooding. This enabled the collation and understanding of their views and experiences in relation to the preparedness for, response to and recovery from the flooding.

In addition, many written responses were received from the public. These have been reviewed and issues raised have been incorporated into the main report. A summary of the responses received is included in Appendix B.

1.3.3 Evidence Gathered

The evidence gathered is listed in Table 1-2.

Table 1-2: Evidence Gathered

Organisation	Evidence gathered
Castle Morpeth Borough Council	Multi-agency Flood Action Plan (Nov 2006)
	Multi-agency Flood Action Plan (Sep 2008)
	Community Recovery and Restoration Plan (Jul 2007)
	Emergency Plan (Oct 2005)
	List of properties flooded
	List of business premises flooded
	Various photographic evidence
	Copies of public correspondence
	Duty Officer records
	Timeline of Emergency Control Centre activities
	Call logs
	Public awareness material
	Flood Bulletins
	Recovery & Restoration meeting minutes
	Post Exercise Reports
	Members Briefing Document
Strategic Flood Risk Assessment Castle Morpeth (Aug 2008)	
Northumberland Local Authorities Local Flood Action Plan (Apr 2003)	
Consultation on 2006 Flood Action Plan	
Environment Agency	Flood Event in Northumberland Report (09/10/2008)
	Northumbria RFDC Flood report (03/10/2008)
	Summary of rainfall return periods
	List of Flood Warnings Issued in Morpeth
	Met Office alerts and warnings received

Organisation	Evidence gathered
	Local Flood Warning Plan for Northumberland County Council (Apr 2008)
Northumberland County Council	Emergency Community Assistance Plan (Jul 2008)
Northumberland Police	Major Incident Plan (Apr 2008)
Public (100 residents responses)	Public Meeting – Chantry Middle School (25/10/2008) Public views recorded – Preparedness, Response, Recovery
Public (Flood Action Group and EA)	Flood Action Group Meeting with Environment Agency – St James Hall (29/10/2008)
Third Party	Historical Ponteland flood Photos - David Archer
	Various newspaper articles
	Morpeth in Flood photos – Paul Wass

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2 THE SEPTEMBER FLOOD EVENT IN CONTEXT

2.1 Summary of the Flooding

On 6th and 7th September 2008, the borough of Castle Morpeth in Northumberland experienced severe flooding which resulted in approximately 1,000 properties being flooded or affected.

The prolonged, heavy rainfall, combined with an already very wet catchment, caused problems across the borough, in particular the vulnerable town of Morpeth. With no soil capacity to absorb additional moisture, the rain was rapidly conveyed into the river causing flows and water levels in the River Wansbeck to rise very quickly. The existing defences, which had protected the town for almost 50 years, were severely overtopped and, in places, were damaged. Economic damages are likely to be the greatest ever experienced in Morpeth.

Initial estimates suggest that the flood event on the River Wansbeck is of a magnitude similar to the 1% annual exceedence probability flood event. In other words, a flood of that magnitude has a 1% chance of occurring in any year, also referred to as a 1 in 100 year flood event. The estimates are currently being verified by the EA and will be published later in the year.

Figure 2-1: Photo of Morpeth in flood



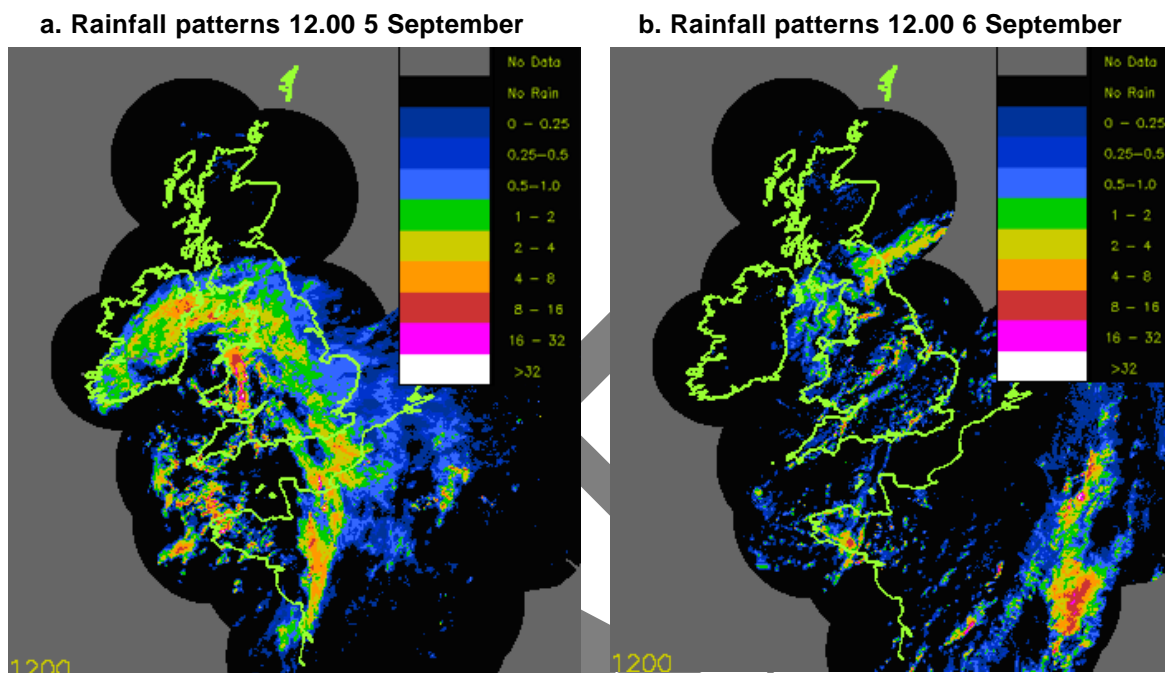
2.2 Rainfall

Rainfall in July and August 2008 was considerably greater than the long-term monthly average recorded in the northeast, and hence soils were unusually wet at the start of the storm which caused flooding in September.

A frontal weather system moved across Wales and central England from the early hours of September 5th bringing heavy rainfall and floods in parts of South Wales and elsewhere as shown in Figure 2-2a. This wide rain band reached the northeast and the Wansbeck catchment early in the afternoon of 5th and rainfall continued steadily through the night. The low pressure system moved into the southern North Sea with northeast winds circulating round the northern margin of the

system. By 12.00 on 6th most other parts of England were experiencing only sporadic heavy rainfall but heavy rainfall continued in the northeast as shown in Figure 2-2b. The band of rainfall came in lengthwise towards the Northumbrian coast so that some coastal areas including the lower Wansbeck catchment received rainfall from the full length of the front. Heavy lowland rainfall coincided with the arrival of the flood peak from the upper part of the catchment caused by the overnight rainfall thus further exacerbating the flooding.

Figure 2-2: Radar rainfall patterns for midday on 5th and 6th September



Rainfall totals in the area were very high with between 200% and 300% of the September average falling between 4th and 6th in parts of Northumberland. Table 2-1 shows rainfall statistics for a selection of weather stations in Northumberland and Durham.

Table 2-1: Rainfall statistics 4-6 September 2008

Weather station	Rainfall on 4th (mm)	Rainfall on 5th (mm)	Rainfall on 6th (mm)	Rainfall total 4th-6th (mm)	Return period (years)#	Percent of Sep average (%)
Chillingham Barns, Northumberland	0	76.2	82.1	158.3	>200	290
Morpeth, Northumberland	0.8	80.7	70.8	152.3	>200	235
Westgate, Durham	0.6	72.6	47.6	120.8	65	139
Albemarle, Northumberland	10	53.6	48.4	112	90	180
Boulmer, Northumberland	0	30.6	31.4	62	<10	117

Source: Environment Agency

2.3 Communities Affected

The September flood affected a large number of communities in the borough of Castle Morpeth as well as other parts of Northumberland and County Durham. The affected communities presented in Table 2-2 are those which experienced flooding in the borough of Castle Morpeth.

Table 2-2: Communities Affected by Flooding in the Borough of Castle Morpeth

Community	Estimated nos. of property flooded	Source of flooding*
Morpeth	964	Fluvial (River Wansbeck)
Ponteland	49	Pluvial & Fluvial
Hepscott	11	Fluvial
Mitford	6	Fluvial
Wallington Demesne	3	Fluvial
Widdrington Station & Stobswood	2	Pluvial
East Chevington	1	Pluvial
Ellington & Linton	1	Pluvial
Meldon	1	Pluvial
Netherwitton	1	Pluvial
Tritlington & West Chevington	1	Fluvial
Whalton	1	Fluvial
Stamfordham	gardens flooded	Fluvial
Pegswood	flooding but no properties	Pluvial
Thiston	flooding but no properties	Pluvial

Source: Castle Morpeth Borough Council

* Based on data provided by CMBC and represents the dominant source of flooding for each community where the information exists. Fluvial = flooding from rivers and/or streams; Pluvial = surface water and/or local drainage flooding. In some cases, flooding may have been caused by pluvial sources (surface water) in the first instance followed by more dominant fluvial (river) flooding.

2.3.1 Morpeth

The town of Morpeth was the worst affected area where it is estimated that 964 properties lie within the flooded area of the town. Of these, 403 privately owned residential properties and 212 socially rented properties were severely affected. Castle Morpeth Borough Council (CMBC) defines severely affected properties as *'those properties where floodwater has entered the habitable area of property'*.

Some early reports of flooding were received before the River Wansbeck came out of bank and overtopped the defences. This is likely to be due to surface water flooding with local drains and streams unable to discharge to the Wansbeck while it was at a high level. The greatest flooding impact was witnessed once levels in the Wansbeck exceeded the capacity of its channel and defences.

Upstream of Morpeth, Highford Weir suffered a structural failure and it is likely that this increased the volume of water flowing downstream at the time of the collapse. Several reports from members of the public and some agencies suggested that the failure of the weir caused a rapid increase in flood levels in the High Stanners and Mitford Road area.

From an examination of photographs of the failed structure, engineering judgement suggests that at the time of collapse the weir is likely to have been 'drowned out'. This means there would only be a small difference between upstream and downstream water levels. It is unlikely that the weir would have suffered an instantaneous collapse and more likely that a slower erosion of part of the weir structure occurred. The suggestion that the failure of the weir caused a rapid increase in flood levels in the High Stanners and Mitford Road area is, therefore, unsubstantiated.

The severity of the flood may have been exacerbated in the High Stanners and Mitford Road area by the surcharging of Oldgate Bridge. This bridge was built since the 1963 flood. The previous bridge which had existed in 1963 was a metal bridge which offered less obstruction to the flow. Comparison is made between conditions in the 1963 and 2008 floods in Figure 2-3 and Figure 2-4.

Figure 2-3: Oldgate Bridge in March 1963 (Photo A Stait)



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Figure 2-4: Oldgate Bridge in September 2008



2.3.2 Ponteland

The River Pont in Ponteland was very high and almost at the top of the flood defences. Although, for the most part, river flooding was prevented CMBC records suggest that approximately 49 properties in Ponteland were flooded from surface water when the drainage network was unable to discharge to the River Pont or was simply overloaded due to the volume of water.

2.3.3 Other Rural Communities

In many of the smaller rural communities, the number of properties affected and the source of flooding has been established through correspondence with CMBC. Typically, the reports from residents suggest that they were affected by pluvial flooding (overland flow before the runoff enters any watercourse) rather than fluvial flooding (from a watercourse). Examples include: surface water running off fields and drains backing up exceeding their capacity.

In Pegswood, a resident reported that they kept the floodwater from rising and entering their property by pumping.

2.4 General Description of the River Catchments in Castle Morpeth

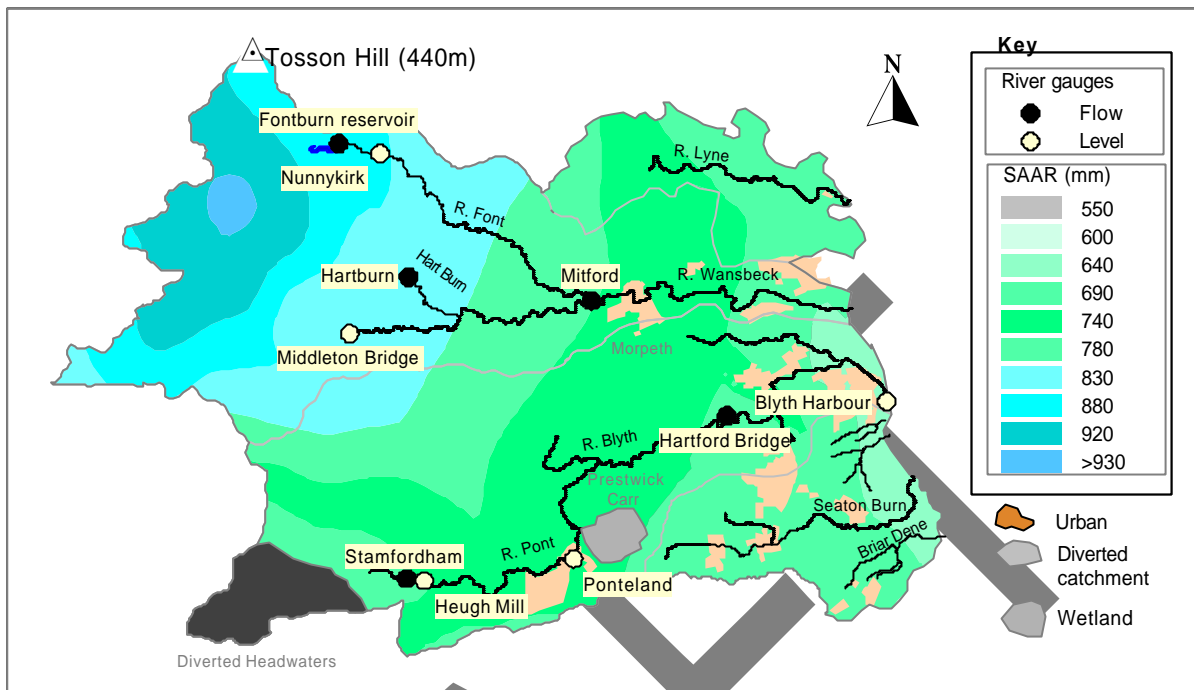
The Wansbeck maximum has three main tributaries:-

- The River Font, which drains from the Simonside Hills, with the highest point in the catchment (440 mAOD) and a water supply reservoir (Fontburn);
- The Hart Burn, a catchment of similar dimensions but shallower gradient;
- The River Wansbeck, lowest lying, draining the southern headwaters.

The three rivers combine before flowing together as the Wansbeck through Morpeth and on to the tidal limit downstream of Bothal.

The River Blyth borders the Wansbeck and has lower altitude (highest point 270 mAOD) and gentler topography. Only the Blyth's main tributary, the Pont, has historically caused significant flood damage in Ponteland. The Pont is a lowland watercourse and 23 km² of its headwaters are diverted to Whittledean water treatment works for public supply.

Figure 2-5: Standardised annual average rainfall and river monitoring network for the Wansbeck, Blyth and coastal streams



2.5 Rapid Response Catchments

2.5.1 Introduction

Rapid response catchments contain rivers or streams that are expected to react rapidly to an extreme rainfall event, resulting in flooding that poses a significant risk to life. The flooding that occurred in Boscastle in August 2004 was from a rapid response catchment.

There are three tributaries of the River Wansbeck in Morpeth which have been identified as rapid response catchments by the Environment Agency, these are:

- Church Burn;
- Cotting Burn; and
- Postern Burn.

Reports have been received from areas of Morpeth that may have been affected by flooding from the three rapid response tributaries in advance of the more severe flooding from the River Wansbeck.

2.5.2 Catchment Description

A description of each catchment is provided below.

- **Church Burn** – This is a right bank tributary of the River Wansbeck and has its source on Morpeth Common. It has a catchment area of approximately 3.1km² which is split between the agricultural moorland and golf course of Morpeth Common and the lower urbanised area through Morpeth.

There are a number of structures along the course of the Church Burn including eight culverts and three weirs/sluices.

- **Cotting Burn** – This is a left bank tributary of the River Wansbeck and has its source on Hebron Hill. It has a catchment area of approximately 5.7km² which is split between agricultural moorland interspersed with areas of deciduous woodland and the lower urbanised area of Morpeth.

Structures along the course of Cotting Burn include four bridges and three culverts.

- **Postern Burn** – This is a right bank tributary of the River Wansbeck and flows almost parallel to Church Burn. It has a catchment area of 0.59km², most of which is made up of a steep sided wooded valley, with the lower portion of the watercourse culverted from the eastern end of Carlisle Park to the River Wansbeck.

The Postern Burn is interrupted by one bridge and three culverts.

Church Burn and Postern Burn also have trash screens on some of the culverts. These screens are prone to blockages.

2.5.3 Flooding History

The three watercourses have all suffered from flooding in the past. The historical flooding in these catchments is summarised below.

Church Burn

- **Pre-1963** – Flooding only occurred in the lower reaches when high water levels in the River Wansbeck caused Church Burn to back up and flood houses on and around Bennett's Walk.
- **March 1963** – Following a major flood a concrete flood wall was constructed along Bennett's Walk with Church Burn culverted through the wall to join the Wansbeck.
- **October 1967** – High flows in the River Wansbeck coincided with high flows in Church Burn. Consequently Church Burn was unable to discharge and eventually backed up and flooded behind the flood wall. As a result a culvert was designed and constructed to take the flooding problem away from the housing behind the wall.
- **1992** – The culvert screen at Allery Banks became blocked causing flooding behind the police station near West Greens. To prevent further blockages the culvert was extended to allow for the construction of a new trash screen away from the houses. A primary trash screen was also placed upstream to reduce the chance of blockages.

Cotting Burn

- **1878** – High water levels in the River Wansbeck caused backing up and flooding from the Cotting Burn.
- **October 1900** – Four hours of snow and sleet followed by 12 hours of rainfall resulted in flooding of the Low Stanners area and, further upstream, the area surrounding St. James Church.
- **June 1924** – Flooding again occurred in the Low Stanners area, along with Corporation Yard and Phoenic Yard, as a result of a prolonged rainfall event lasting 36 hours that produced 105mm of rainfall.
- **1968** – An intense localised summer storm produced 72mm of rainfall in four hours. The culvert running beneath Copper Chare became surcharged and the roof collapsed leading to inundation of St. James Church and Copper Chare. Flooding also affected Newgate Street, Howard Road, Dacre Street, Wellwood Gardens and Staithes Lane.

Postern Burn

- **October 1967** – High water levels in Postern Burn coincided with high water levels in the River Wansbeck and Church Burn and flooding resulted in the Goosehill area and part of Castle Bank.

2.5.4 Rapid Response Catchments – potential for flood warnings

In September 2003 a Flood Risk Mapping Study on the Church, Cotting and Postern Burns was undertaken by JBA Consulting¹. The study concluded that checking, by the Council, of the culverts and trash screens along the three watercourses on receipt of a Flood Watch was probably sufficient as an operational action.

As the rapid response catchments are too small for any targeted flood warning and the main risk is from blockage of screens and structures, the Flood Risk Mapping Study recommended that rainfall forecasting would be of little benefit.

The 2003 study also recommended that flood warning actions should be included in those for the River Wansbeck due to the flood risk of the three rapid response catchments being largely controlled by the levels in the River Wansbeck.

It was also recommended that CMBC take account of the flood risk areas identified in the report in their Emergency Planning.

¹ Church, Cotting and Postern Burns Flood Risk Mapping Study Phase 2. JBA 2003

2.6 Historic Flooding in Castle Morpeth

Flooding in Morpeth is not unprecedented, but the recent flood had the biggest recorded flow on the River Wansbeck, and was the most damaging in living memory.

The gauged record for the flow measurement station at Mitford commences in 1968. The flood of 2008 was by far the largest flood in the gauged record.

A severe flood occurred in 1963 in which over 500 properties were flooded. The flood defences in Morpeth were designed to contain a repeat of the flood magnitude in 1963 as this was considered to be an event of unusual severity. Reference was made to historic flood marks in 1878 and 1898 at East Mill and Bothal Mill and it was considered that the 1963 flood event was greater than both of these historic floods and therefore with a return period probably in excess of 100 years. The flood level in the September 2008 flood was in excess of that which occurred in 1963 and therefore overtopped the defences.

It is concluded that the September 2008 flood is therefore likely to have been the greatest in the historic period over at least the last 250 years, just possibly being exceeded by the flood of 1761. This would place the return period of the event well in excess of 100 years. This corresponds with the assessment based on the return period of the rainfall combined with the unusually wet initial catchment conditions.

Oldgate Bridge has been rebuilt and lowered since the 1963 event, but during this latest event its arches were completely filled with water, worsening flooding just upstream in High Stanners and Mitford Road compared to 1963. Such a situation (the bridge arches filling, and raising upstream levels) was narrowly avoided in 1982. This time, in 2008, the town was less fortunate.

The High Stanners area has no formal defences. It only has one access route and this is liable to flooding, cutting off the area. Flooding at High Stanners has occurred several times since 1963, most notably in 1982, 1992 and 2000.

Records of flooding in Ponteland date back to the 1900s. Some of the earliest records include events in 1900 and 1903 when the old Ponteland Bridge (replaced by the present structure in 1925) and Diamond Road junction were submerged causing damage to corn crops in the Pont Valley. Further flooding was recorded in 1941, when there was localised flooding, exacerbated by afflux from the new Ponteland Road bridge. Darras Hall estate flooded on the 29 March 1979 where three houses were under construction. These properties flooded again in January 1982.

On 15th and 16th January 1978, Eland Haugh, Fairney Edge, Riverside, and the area south of Ponteland Bridge between Main Street and the Fairney Burn were flooded. Fairney Edge was flooded again on 26 August 1986 and 24 November 1987. These events were apparently due to high levels in the Fairney Burn rather than the River Pont. On 1st April 1992, high levels in the River Pont resulted in the flooding of 13 properties in Riverside, Wilson's Nursery, Orchards, Mayfair House, Athol House and Fairney Close.

More recently, on 6th and 7th November 2000, severe flooding occurred throughout Ponteland. Approximately 147 domestic and commercial properties were flooded. The Ponteland Flood Alleviation Scheme was constructed between 1994 and 1997 and further improvements were made following the 2000 floods.

Historic records show that surface water flooding has been a feature in parts of Ponteland, in particular the Eland Haugh estate.

3 ROLES AND RESPONSIBILITIES

3.1 Category 1 and 2 Responders

The Civil Contingencies Act 2004 places a series of duties on local bodies in England and Wales, Scotland and Northern Ireland and terms these bodies "Category 1 responders". These duties include the duty to assess the risk of an emergency occurring and to maintain plans for the purposes of responding to an emergency. A Category 1 responder plays a critical role in the civil protection of their local community and provides a wide range of services that may need to be utilised in an emergency.

Figure 3-1: Photo of Category 1 Responders



The Act also allows the imposition of duties on other local bodies, known as "Category 2 responders", to co-operate with, and to provide information to, Category 1 responders in connection with their civil protection duties.

Category 1 responders include:

- **Local Authorities** – statutory responsibilities regarding environmental health, housing, social services and highways;
- **Police** – the main coordinators of a multi-agency response to emergencies that occur on land. The activities carried out by the police in an emergency response concentrate on saving life, reducing loss or damage to property, providing clear and concise guidance and reducing the impact of public enquiries on critical service providers;
- **Fire and Rescue Services** - activities in an emergency response concentrate on saving life, rendering humanitarian aid, protecting the environment and reducing loss or damage to property;
- **National Health Service (NHS) including Primary Care Trusts (PCT)** – ensure appropriate arrangements are in place to initiate and support the public health response to an incident. This is done using the resources made available within the public health network, including the expertise of Consultants in Communicable Disease Control (CCDC) and others;
- **Health Protection Agency (HPA)** – dedicated to protecting people's health by providing an integrated approach to health protection and reducing the impact of infectious diseases, poisons, chemical, biological and radiation hazards;

- **Environment Agency** – responsible for environmental protection and flood warning, playing a key supporting role in the planning and response phases of an emergency. They are the lead agency for warning those at risk or flooding and in helping to maintain and improve flood defences. They mainly respond to incidents involving actual or potential environmental damage.

Category 2 responders include:

- **Voluntary organisations** – such as the British Red Cross provide a support role to the emergency services during the incident response stage;
- **Utility companies** – such as Northumbrian Water, become involved in the response to incidents that affect their services. Their aim is to fulfil their legal duties whilst retaining normal operations as far as is possible. They work closely with Category 1 responders with regards to their emergency planning arrangements.

The specific roles and responsibilities of the Category 1 and 2 responders who were involved during the Morpeth floods can be found in Appendix C.

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4 PREPAREDNESS

4.1 Raising Awareness of Flood Risk

4.1.1 Castle Morpeth Borough Council

There has been a number of pro-active awareness raising activities carried out by Castle Morpeth Borough Council (CMBC), including:

- November 2006 - A public launch of the Flood Action Plan jointly with the Environment Agency, Northumberland County Council, Northumberland Fire & Rescue Service and Northumbria Police.
- March 2007 - CMBC in association with Northumberland County Council, the EA and supported by the Morpeth and District Chamber of Trade and Castle Morpeth Business Forum spent a week promoting Business Continuity to businesses in Morpeth and Ponteland.
- March 2008 - A letter to residents in Morpeth and Ponteland Flood Warning Areas asking for details of vulnerable residents who may need assistance during evacuation.
- CMBC website – Posted on the Council's website are public versions of the multi-agency Emergency Plan and the Flood Action Plan.

4.1.2 Environment Agency

The Environment Agency carry out annual flood awareness campaigns. This is often done hand in hand with a recruitment campaign to encourage at-risk residents to sign up to the free flood warning service – Floodline Warnings Direct (FWD).

4.2 Planning for Floods

4.2.1 Local Flood Warning Plan for Northumberland County Council

The Local Flood Warning Plan is written and published by the Environment Agency and describes the flood warning service in place for the County of Northumberland area. The Flood Warning Plan includes maps of Flood Warning Areas and explains the use of the flood warning codes:

- Flood Watch
- Flood Warning
- Severe Flood Warning
- All Clear.

The plan goes on to discuss the coverage of these flood warnings, the process of issuing them, information regarding monitoring and forecasting and coverage of the plan. It lists the following organisations which will receive warnings under this plan:

- AA Road Watch;
- Environment Agency;
- HM Coast Guard;
- North East Ambulance Service;
- Northern Electric Distribution Limited;
- Northumberland Emergency Planning Unit;
- Northumberland Fire and Rescue;
- Northumbria Police;
- Northumbrian Water;
- Rail Track, North East Region;
- Transco.

The above list does not include local authorities, such as Castle Morpeth Borough Council, where it perhaps should. Where the plan talks about each flood warning area it gives good detail regarding the area affected, properties affected, how warnings will be communicated to the public, history of flooding in the area, location of any present flood defences, contingency warning arrangements and any other information concerning specific arrangements of operational responses. For many areas, it appears that there are no contingency methods in place for directly contacting the public should the primary warning system fail. The Plan only makes reference to contingency arrangements for contacting organisations by a fax bureau service. In some locations, a loudhailer system is quoted along with Floodline Warnings Direct as the primary method of warning. This in itself should offer a level of contingency, but not for all areas.

RECOMMENDATION 1 - The Environment Agency Local Flood Warning Plan should outline the contingency arrangements in place for issuing flood warnings to the public in the event of a failure of Floodline Warnings Direct.

4.2.2 Castle Morpeth Borough Council Emergency Plan

The aim of the plan is to enable Castle Morpeth Borough Council to discharge its responsibilities in an efficient and effective manner in the event of an emergency which disrupts the normal provision of services or threatens the safety of the community. The plan allows the council to assist in providing a co-ordinated local authority response to a request for support from the statutory emergency services following a major incident.

The plan, which was issued in October 2005, is well structured and comprehensive. Some improvement points are included in Appendix A section A.1.

RECOMMENDATION 2 - The Castle Morpeth Borough Council Emergency Plan should be revised to incorporate the proposed amendments.

4.2.3 Castle Morpeth Borough Council Flood Action Plan (FAP)

Following the Ponteland floods in 2000, CMBC wrote their first Flood Action Plan which was published in 2002. In 2004, the requirements placed upon CMBC by the Civil Contingencies Act (CCA) were that of a Category 1 Responder. As a Category 1 Responder, CMBC were required to carry out risk assessments to ensure an accurate understanding of the risks posed by a flooding event. This included the likelihood of an event and its potential impact. This was carried out in conjunction with the Environment Agency and assessments for each relevant area. The likelihood assessments for flooding in Morpeth concluded a rating of 4 possible (on a scale of 1 to 5) and an impact rating of 4 significant (on a scale of 1 to 5). In 2006 a multi-agency FAP was written, to ensure that all responding agencies were aware of the pre-arranged emergency measures in place.

The multi-agency FAP has been reviewed during this review. There were two versions of the FAP in circulation at the time of the floods, November 2006 (replacing the earlier 2002 version) and September 2008. The date of issue of the latest version was 5th September 2008, the first day of the flood event. The 2006 version was used by most during the event. The 2008 FAP is very similar to that of 2006 but contains more up to date information such as the latest version of the Environment Agency's Flood Map and a 2007 storm scenario. There are no significant changes and the layout is essentially the same.

Several improvement points have been raised in relation to the September 2008 FAP. These are included in Appendix A section A.2.

RECOMMENDATION 3 - The Castle Morpeth Borough Council Flood Action Plan should be revised to incorporate the proposed amendments.

4.2.4 Northumberland County Council Emergency Community Assistance Plan

The Northumberland County Council Emergency Community Assistance Plan (July 2008) provides an effective framework to facilitate an integrated emergency response by Northumberland County Council and its partner organisations. This helps to mitigate and alleviate the effects of an emergency within Northumberland which may disrupt the normal provision of services or threaten the safety of the community.

Overall this plan is well structured and easy to use however some improvement points are included in Appendix A section A.3.

RECOMMENDATION 4 - The Northumberland County Council Emergency Community Assistance Plan should be revised to incorporate the proposed amendments.

4.2.5 Castle Morpeth Borough Council Recovery and Restoration guidance document

The aim of the Castle Morpeth Borough Council Recovery and Restoration guidance document (July 2007) is to offer direction and guidance for the working groups and personnel involved in the community recovery and restoration process. It is not intended to replace expertise or cover legal advice. It is very firmly about community recovery and restoration and thus community engagement is central to it.

This document contains good advice about the issues that would affect the community following a disaster but would benefit from additional advice relating to resolving problems. It would also be improved by having a simplified structure with a reduced number of appendices and sub appendices. Further improvement points are included in Appendix A section A.4.

RECOMMENDATION 5 - The Castle Morpeth Borough Council Recovery and Restoration guidance document should be revised to incorporate the proposed amendments.

4.3 Training and Exercising

4.3.1 Training

During the Review, other than CMBC, no detailed information was gathered with respect to individual organisations training programmes and as such have not been evaluated.

4.3.2 Flood Exercises

Two multi-agency flood exercises have been carried out in Castle Morpeth since 2001:

Exercise 'Percy' 9th October 2001²

This was a table-top exercise involving the Environment Agency, Castle Morpeth Borough Council, Northumberland County Council, Northumbria Police, Northumberland Fire & Rescue Service, North East Ambulance Service, Northern Electric Distribution Ltd. and Northumbrian Water (taking part as a Control Post participant). The objectives of the exercise were to test the emergency response of the various parties to a major flood and to examine the inter-relationship, co-ordination and joint response of the organisations involved. The exercise was based on an extreme flood, slightly less severe than a 1-in-100 year event, on the River Wansbeck.

Recommendations

The post-exercise report drew conclusions from the analysis of the exercise and made a number of recommendations relating to improvements in procedures.

Flood Warning

- During the exercise the Environment Agency gave informal notification to professional partners of the intention to issue flood warnings, thereby giving other agencies the opportunity to make preparations. The usefulness of this advance preparation led to the suggestion that it be practiced in the future.

Emergency Response

- In the post-exercise de-briefing it was noted that the availability of boats was not covered in the Emergency Plans and so a recommendation was made for future revisions be updated to include these details along with those of other mutually-available resources.

Inter-Agency Response

- Exercise Percy highlighted the need for the role and title of the multi-agency Strategic Co-ordinating Group (SCG) to be clarified and defined in the Emergency Plans to avoid duplication of effort with the police command room.
- Additionally it was recommended that the SCG be given the opportunity to take the leading role in key decisions as the involvement of a variety of organisations would permit a broader

² Major Flooding Incident Exercise for Castle Morpeth Borough Council Area Post Exercise Report. JBA 2002

outlook to be taken, as well as taking advantage of the technical expertise of specialists such as the Environment Agency Liaison Officer.

- The clarification of the handover of primacy from the local authority to the police as an event escalates was also recommended to ensure only one organisation has primacy at any one time.

Public Relations

- Whilst examination of the participating organisations' response to media enquiries was not a major feature of the exercise a discussion between all parties regarding procedures for co-ordinating press response was recommended. It was also suggested that responsibility for taking the lead role should be determined.

Exercise 'Noah' 23rd October 2003³

This was a control post exercise involving the CMBC Control Room and the EA's Area Incident Room. The objectives of the exercise were to familiarise CMBC emergency staff with procedures in the Emergency Centre, familiarise CMBC emergency support staff with the Castle Morpeth Flood Action Plan, provide scenario-based training for EA Duty Officers, validate the CMBC Flood Action Plan and promote team building and inter-agency response.

Recommendations

A debrief was conducted immediately after the exercise followed by an internal wash-up meeting a week later and a further debrief with CMBC within a month. The key learning points and recommendations are listed below.

Castle Morpeth Borough Council

- Clear identification of who makes the decision to evacuate and what information is required to make this decision was needed.
- Basic Flood Incident training was recommended for telephone operators and other staff who would be required to deal with simple enquiries.
- Flood risk familiarisation training for staff on the Emergency Duty Rota was suggested.
- Greater knowledge of the Castle Morpeth FAP and the Environment Agency's Local Flood Warning Plan was required for decision making staff in the Control Room.
- Key information for evacuation, such as which streets to prioritise, needed to be included or referenced in the Flood Action Plan

Environment Agency

- Wider basic training was required for Assistant Flood Warning Duty Officers (AFWDO) including writing Floodline Scripts, responding to public telephone enquiries and the roles and responsibilities of various agencies in a flood event.
- Wider skills basic training was suggested for Flood Warning Duty Officers (FWDO) including prioritising workloads in the Incident Room and external communication to ensure professional partners were provided with clear and unambiguous information.
- Flood Warning based flood risk area familiarisation training was suggested for AFWDOs and FWDOs.
- The start up of essential packages when AIR is opened is recommended to save time.
- A second AFWDO should be called at an early stage in an incident especially for training purposes and if new systems are to be used.

RECOMMENDATION 6 - The emergency community in Castle Morpeth should continue to promote and participate in multi-agency flood exercises at regular intervals, including identifying lessons and implementing recommendations.

Evidence provided by CMBC describes briefly two other flood exercises that were carried out internally:

³ Castle Morpeth Borough Council Flood Exercise NOAH 23 October 2003 Post-Exercise Report. Environment Agency 2003

Exercise Deluge 11th – 15th June 2004

Training and Exercise Deluge for ECC and ECSC staff. This exercise focused on a flooding event affecting the town on Morpeth and was developed by a Consultant Emergency Planner employed by the Council.

Exercise 'Wet September' 21st September 2006

Exercise Wet September for ECC and ECSC staff. This exercise focused on a flooding event affecting the town on Morpeth and was developed by CMBC and NCC Emergency Planning staff.

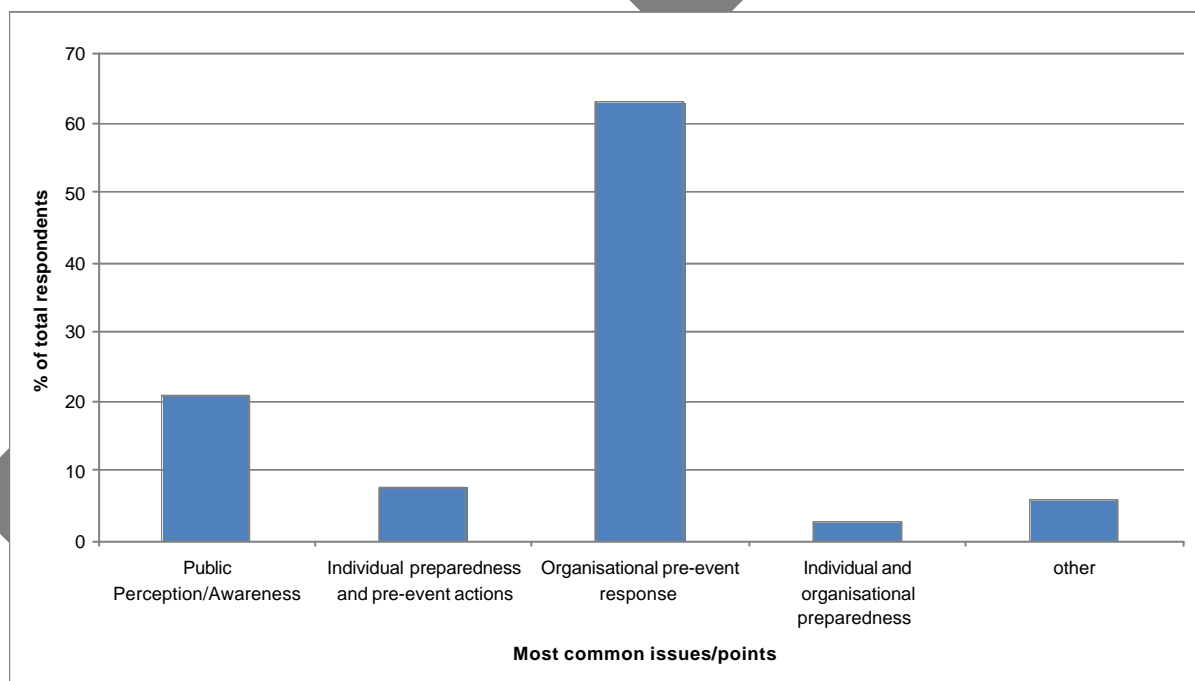
4.4 Public Awareness and Preparedness

4.4.1 Overview

People affected by the flood of September 2008 in the borough of Castle Morpeth answered the question: *“What key points/issues would you like us to consider in relation to preparations before the flooding”*. The five most common responses to this question are shown in Figure 4-1.

Interestingly, for the majority of people at the public meeting (64 per cent) stated that organisations' and authorities' responses before the event were the most common issue raised. Only a minority of people mentioned their own/individual pre-event measures (8 per cent). Just over 20 per cent of participants mentioned issues that relate to public understanding and awareness such as information provisions.

Figure 4-1: Responses to the question “What key points/issues you would like us to consider in relation to preparations before the flooding”?



4.4.2 Public awareness and perceptions

All participants were asked about their knowledge of flood risk before the flood event. The majority of the public are aware that there was a risk of flooding in their area, particularly in Morpeth and Ponteland. However, there was a lack of appreciation as to how severe the flooding could actually be for example, *“No idea of how severe it was going to be”*.

When asked to talk about the Castle Morpeth Flood Action Plan it became apparent that the majority of residents were unaware of the plan, for example,

“The CMBC Flood Plan was not made widely known” (Resident, Middle Greens)

“The Flood Action Plan should be readily available” (Resident and Business, Mitford)

4.4.3 Individual preparedness and pre-event actions

A small minority of residents had taken contingency measures to minimise damage to their properties in advance of flooding, examples include: installation of flood boards, stocking sandbags and floodsax, seeking information about what items to move upstairs, and preparation of a flood pack. However, participants also reported that the measures they had in place were overwhelmed by the severity of the event.

Participants expressed the need for more accessible information to prepare for flooding. This included information about the Castle Morpeth Flood Action Plan, flood packs, and flood warnings:

“More information required on products available to protect property” (Resident, High Stanners)

“Awareness of flood alert emergency systems and adequate sandbags” (Resident, High Stanners)

“Provide clear and accessible information on the Flood Action Plan and on flood response exercises” (Resident, Mitford)

“More information required about what to do once a flood warning is received” (Resident, Morpeth Town Centre)

4.4.4 Perceptions of organisational pre-event response and responsibilities

The majority of people reported issues that related to organisations' pre-event measures. In many cases these issues related to flood warning, sandbags, drainage, and river maintenance.

Flood warning

Flood warning related issues were the dominant issue discussed. Participants clearly perceived flood warning as a preparedness issue rather than a response to the flood event, for example when asked, *“What key points/issues you would like us to consider in relation to preparations before the flooding”* nearly 50 per cent of participants mentioned flood warning related issues.

The majority of residents had signed up to receive flood warnings from the Environment Agency, particularly in Morpeth. Those residents from outlying villages were less likely to have signed up to the flood warning service.

The majority of residents and business owners in Middle Greens discussed flood warning in a negative manner, with blame focused on the Environment Agency for not issuing a timely warning:

“Despite being on Floodline Warning Register Middle Greens was not given a warning” (Resident, Middle Greens)

“There should be a flood warning system that works and ensures all residents are warned” (Resident, Middle Greens)

By contrast, in other areas comments about flood warning centred around improvements to the existing system, with a focus on the provision of warning via foot patrol and loudspeakers:

“Simple messages by as many different media as possible is required including a loud hailer going from door to door” (Resident, Low Stanners)

“Immediate pre-warning - loudspeaker vans enabling more time prepare and evacuate” (Resident and business owner, Low Stanners)

“Early warning via telephone or a foot patrol is required” (Resident, Mitford)

Flood prevention products

The most common flood preparedness measure discussed by participants was sandbags. Across all locations people felt that the supply or distribution of sandbags was inadequate:

“A large supply of sandbags distributed at the first warning is essential” (Resident, Middle Greens)

"Despite being requested, no sand bags were received" (Resident, Hepscott)

Drainage and river maintenance

11 per cent of participants mentioned river maintenance and drainage related issues. Frequently, the comments made represented complaints regarding the lack of drain cleaning and maintenance of the River Wansbeck channel, including the removal of in-channel trees and gravel accumulations, for example:

"Local authorities failed to maintain drains prior to the flood. The Environment Agency also failed to clear debris from the river" (Resident, Mitford)

"Better maintenance of the river required" (Resident, Low Stanners)

Responsibilities & multi-agency response

There is a lack of understanding of the roles and responsibilities of the responding agencies before the flood event:

"There should be a clear hierarchy of responsibility".

Residents complained that,

"different agencies involved gives different levels of warning and this becomes confusing"

and that there should be,

"one main person to relate to"

"one organisation with overall responsibility for oversight and action before the flood event".

RECOMMENDATION 7 - The Environment Agency and Castle Morpeth Borough Council should consider further awareness raising activities to inform the public of the roles and responsibilities of the responding agencies during a flood, encourage self help and manage expectations of what can and cant be done in such an emergency.

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5 RESPONSE

5.1 Flood Forecasting and Warning

5.1.1 Met Office Warnings

The Met Office provides a range of products to support the EA's flood forecasting and warning service and to other responding agencies. EA flood duty staff at the Flood Forecasting Centre in Leeds and at the local Incident Room in Newcastle are recipients of the Met Office products. The following describes the products available:

Daily Weather Forecasts (DWF) & Heavy Rainfall Warnings (HRW)

The Met Office provides daily weather forecasts and heavy rainfall warnings that give advanced warning of situations that could require the Environment Agency to issue flood warnings.

Early Severe Weather Warnings (ESWW)

An early warning of severe weather will normally be issued up to several days in advance whenever the overall risk of widespread disruption in any UK region is 60% or greater.

Flash Severe Weather Warnings (FSWW)

Flash warnings of severe weather are issued when confidence of an event reaching specified criteria is above 80%, and should give a minimum of two hours notice. Warnings are issued for every affected county or unitary authority.

Extreme Rainfall Alerts (ERA)

The EA are working with the Met Office on a trial service providing Extreme Rainfall Alerts to local authorities and other organisations responsible for responding to emergencies. The pilot project takes place from July to December 2008.

Table 5-1 lists the Met Office alerts and warnings received by the EA during the week leading up to and including the floods.

Table 5-1: Summary of Met Office Alerts and Warnings w/c 01/09/2008 for NE Region

Date issued	Time issued (GMT)	Met Office alert	Brief description
02/09/2008	06:48	DWF	Showery airflow affecting the region until Friday. Forecasting a deep Atlantic depression across Southern England over the weekend. Estimated average rainfall on Saturday 10mm, maximum 27mm.
	19:15	HRW	20:00 (02/09/2008) – 03:00 (03/09/2008) 15mm (or more) of rain in 12 hours over South, West, Central and North Pennines, Moors, Vales and Wolds.
03/09/2008	06:08	DWF	Showery airstream covers the area. Forecasting another deep Atlantic depression close to Southern Ireland on Friday, moving to be over central England by midday Saturday. Estimated average rainfall on Saturday 22mm, maximum 48mm.
04/09/2008	05:55	DWF	Area of low pressure over UK moving slowly eastwards. Forecasting Atlantic low bringing heavy rain and strong winds to all areas on Friday. The low becomes slow moving near the east coast over the weekend with further bands of rain or showers. Estimated average rainfall on Saturday 24mm, maximum 65mm.
	09:54	ESWW	09:54 (04/09/2008) – 22:59 (06/09/2008) Heavy rain during Friday and continuing through Saturday before easing on Sunday. Rain is most persistent in the eastern side of northern England. Totals in excess of 50mm are possible in places, particularly over high ground.
	14:01	ERA	00:00 (05/09/2008) – 23:59 (05/09/2008) Area of heavy rain reaching the area by midday. Slow-moving and lasting into early Saturday. Low probability (15%) of 50mm in 6hrs locally.

Date issued	Time issued (GMT)	Met Office alert	Brief description
05/09/2008	06:39	DWF	An area of low pressure spreading northeastwards from the Atlantic bringing heavy rain. Forecasting a new Atlantic area of low pressure moving into the UK later on Monday and during Tuesday. Estimated average rainfall on Saturday 47mm, maximum 60mm.
	09:32	ERA	00:00 (05/09/2008) – 23:59 (05/09/2008) Still a low probability of 50mm in 6hrs locally Friday evening and early Saturday. An 'Early' ERA may be issued later.
	10:49	ESWW	09:49 (05/09/2008) – 22:59 (06/09/2008) Heavy rain spreading in from the southwest during Friday and continuing through Saturday. Rain most persistent in the eastern side of Northern England. Totals in excess of 50mm are possible in places, particularly over high ground.
	11:31	HRW	13:00 Friday – 12:00 Saturday 25mm (or more) in 12 hours over West, Central, North and South Penines, Moors, Vale and Wolds.
	13:50	ERA	00:00 (06/09/2008) – 23:59 (06/09/2008) Persistent heavy rain overnight and through Saturday. Small probability (near 15%) of 50mm in 6hrs on Saturday, most likely east and over hills.
	14:05	FSWW	15:30 (05/09/2008) – 08:00 (06/09/2008) Occasionally very heavy rain will continue during the remainder of Friday and through the early hours of Saturday. Rain rates of more than 15mm in 3 hours are expected. Totals in excess of 50mm are possible in places in the eastern side of northern England. Public advised to take extra care.
	18:36	ERA	01:00 (06/09/2008) – 16:06 (06/09/2008) Early Alert. Rainfall amounts of over 50 mm in 6 hours possible. Event total accumulations of 70mm are possible. Extreme rainfall may lead to surface water flooding. Consider activating your emergency procedures.
06/09/2008	05:19	FSWW	08:00 – 15:00 Persistent rain turning heavy at times, giving an excess of 15mm of rain within 3 hours. Rainfall totals exceeding 40mm in many areas, with more than 60mm locally. Public advised to take extra care.
	06:49	DWF	Area of slow moving low pressure over the Midlands during Saturday. Associated occluded front becoming aligned north to south across northern England and west Wales by Saturday evening. Forecasted a new area of low pressure moving northwards during Tuesday. Drier interlude on Wednesday. Estimated average rainfall on Saturday 31mm, maximum 71mm.
	10:46	HRW	12:00 (06/09/2008) – 08:00 (07/09/2008) 25mm (or more) in 12 hours over West, Central and North Penines, Cheviot and North East Coast.
	12:51	ERA	Early Alert 13:00 (06/09/2008) – 23:00 (07/09/2008) Rainfall amounts of over 40mm in 3 hours possible. Event total accumulations of 50mm possible. Extreme rainfall may lead to surface water flooding. Consider activating your emergency procedures.
	12:57	ERA	Update Early Alert 13:00 (06/09/2008) – 23:00 (06/09/2008) Rainfall amounts of over 40mm in 3 hours possible. Event total accumulations of 50mm possible. Extreme rainfall may lead to surface water flooding. Consider activating your emergency procedures.
	16:21	FSWW	Heavy rain continuing Saturday afternoon and into the evening over high ground of Northumberland. Rainfall accumulations of 15mm in 3 hours expected. Public advised to take extra care.
07/09/2008	05:33	DWF	Low centred just off East Anglia will drift slowly northeast into the North Sea. Occluded front will remain slow-moving but will gradually weaken. Generally dry day for most on Monday. Forecasting a complex frontal system to move northeast across the UK on Monday and Tuesday and a deepening low moving northeast near northwest Scotland. Estimated average rainfall 6mm Tues and 0mm Wed.

Source: Met Office data provided by Environment Agency

5.1.2 Environment Agency Warnings

The EA's Incident Room in Newcastle and Regional Flood Forecasting Centre in Leeds were in operation during the flood event.

Over the period of 5th to 7th September 2008, the EA's Newcastle Incident Room successfully issued 16 Flood Watches, 22 Flood Warnings and 7 Severe Flood Warnings, reaching over 2000 properties, of which 1777 were residential and 225 were business addresses. The breakdown of flood warnings issued by the EA for the borough of Castle Morpeth is shown in Table 5-2.

Table 5-2: Flood Warnings issued in Castle Morpeth

Date issued	Time issued (BST)	Warning type	Target Area code	Target Area name
05/09/2008	23:42	Flood Watch	121WAFNF903	Upper River Coquet
06/09/2008	01:40	Flood Watch	121WAFNF906	Rivers Pont and Blyth
	03:36	Flood Watch	121WAFNF905	River Wansbeck
	07:25	Flood Warning	121FWFNW115	River Wansbeck at High Stanners, Mitford Road
	08:12	Flood Warning	121FWFNW113	River Wansbeck at Bothal and Sheepwash
	11:26	Severe Flood Warning	121FWFNS101	River Wansbeck at High Stanners, Morpeth
	11:26	Severe Flood Warning	121FWFNS102	River Wansbeck at Morpeth Town Centre West
	12:49	Severe Flood Warning	121FWFNS103	River Wansbeck at Morpeth Low Stanners
	12:49	Severe Flood Warning	121FWFNS117	River Wansbeck at Morpeth Town Centre East
	16:03	Flood Warning	121FWFNW114	River Pont at Kirkley Mill and Ponteland
	18:01	Severe Flood Warning	121FWFNS105	River Pont at Ponteland
	18:12	Severe Flood Warning	121FWFNS116	River Pont at Fairney Edge at Ponteland
Source: Environment Agency				

In Morpeth, during September, there were 1189 properties eligible to receive the Environment Agency's free flood warning service assessed against their Flood Map. At that time, 721 property tenants had signed up to the service (61% of those eligible). This means that a further 468 properties who are eligible for the service are yet to register (39% of those eligible).

Morpeth currently receives:

- Flood Watches (emergency partners and media only);
- Flood Warnings (for part of High Stanners and other low lying areas in the town); and
- Five different Severe Flood Warnings based upon critical river levels and levels of risk of defences being overtopped. The current defences provide protection on average against the 1 in 60 year return period flood.

Of the five areas in Morpeth that can receive Severe Flood Warnings, four successfully received the warnings (over 500 pre-registered properties), however, in the Middle Greens flood risk area approximately 198 properties did not receive a warning owing to it being mistakenly issued as a downgrade rather than a Severe Flood Warning. This error has been acknowledged by the Environment Agency.

There are 319 properties eligible to receive a free flood warning in the Middle Greens area, 121 properties are yet to register and would not have received the warning under any circumstances.

RECOMMENDATION 8 - The Environment Agency should seek to improve the reliability of the flood warning service to ensure robustness in service delivery and restore public confidence in the service.

For the town of Morpeth, the EA issue flood warnings to other responding agencies via the Northumberland Emergency Planning Unit (EPU). The EPU receive these warnings via a fax machine based at Morpeth Fire Station and via two email addresses of Northumberland County Council. The EA's flood warning system, Floodline Warnings Direct (FWD), reports that all flood warnings and severe flood warnings that were issued to the EPU (See Table 5-2, Target Area codes 121FWFNW115, 121FWFNS101, 121FWFNS102, 121FWFNS103, 121FWFNS117) were done so successfully. The FWD system also reports that two mobile phone numbers of CMBC are included on the list of recipients and that at least one of them answered each of the flood warning messages that were issued.

CMBC report that they received all telephone warnings and two Severe Flood Warning faxes were received during the event.

Northumberland Fire and Rescue service report that they did not receive any formal flood warnings other than a telephone call from the EA made on Friday night to alert the possibility that flooding of Morpeth is possible.

Northumberland County Council report that they did not receive any Severe Flood Warnings for Morpeth, however, did receive one Flood Warning and one Severe Flood Warning for Ponteland.

The above raises the question as to whether the dissemination of flood warning messages is effective within the emergency response community following the issuing of warnings by the EA. Whilst warnings are being issued, it is apparent from the reports that, in some cases, those that need to receive them are not. The reasons behind this have not been examined during the review, but should be in order to ensure successful dissemination of flood warnings throughout the emergency response community in Morpeth and Northumberland.

RECOMMENDATION 9 - The emergency response community should investigate the reasons why some of the flood watches and warnings issued by the Environment Agency were not adequately disseminated to each organisation and put in measures to rectify this.

5.2 Initial response to potential threat of flooding

5.2.1 Pre-flooding communications

The role of the EA during a flood event is to warn and inform and to operate flood defences that they own. Prior to the onset of flooding, the EA ran their flood forecasting models early in the afternoon of Friday 5th September. As a result, they predicted that Flood Watches and Flood Warnings could be issued for Morpeth and Ponteland in the early hours of Saturday morning. Whilst forecasting flooding 12 – 18 hours in advance has its uncertainties for relatively fast responding catchments such as that in Castle Morpeth, there was pro-active communications from the Environment Agency to inform of the potential for flood warnings.

Other responding agencies, including Castle Morpeth Borough Council were contacted by the EA on Friday afternoon, to prepare vulnerable areas for the threat of flooding, including an old peoples home in Ponteland. In response, the Council made a series of internal calls to alert staff and prepare the Emergency Control Centre should a flood incident occur. Calls to other partners including Northumberland County Council and Northumberland Fire and Rescue were made to inform them of the developing situation.

The EA also contacted MPs across the region warning of the potential for flooding and asked local media to issue advice on preparing for a flood. It is uncertain as to what advice was disseminated by the media at this stage.

As predicted, the first Flood Watches were issued to responding agencies and the media for the River Pont and River Wansbeck in the early hours of Saturday morning.

This early communication demonstrates excellent partnership between some of the responding agencies and allows for pre-flooding preparations to be made. The issuing Flood Watches during the twilight hours on a Saturday morning however, raises the question of how prepared the public were in advance of the flooding. Whilst the public in Castle Morpeth are generally aware of the risk of flooding in the Borough from past events and signing up to the flood warning service, they would

not have been aware of the preparations being made by the responding agencies on Friday and would not have been aware of the Flood Watches in force due to the time that they were issued. Flood Watches are not issued directly to the public.

RECOMMENDATION 10 - The Environment Agency should give consideration to issuing Flood Watches during daylight or office hours if there is reasonable confidence that the Flood Watch trigger will be met at a later stage.

5.3 Emergency Response

5.3.1 Minimising the risk in Ponteland

During the flood event the EA instructed emergency sandbagging to support their defences in Ponteland which stopped any overtopping other than limited amounts at low spots. They used their pumps, which were accompanied by emergency service activities, including high capacity pumps, to discharge water from a minor watercourse and surface roads which prevented river flooding to Fairneside, Ponteland town centre and Eland Haugh. The actions prevented around 450 properties from flooding.

The Eland Haugh Estate in Ponteland has a history of surface water flooding problems. The Flood Action Plan makes reference to an agreement made in February 2004 by Northumbrian Water to arrange for temporary pumps to be deployed in the event of the emergency penstock being closed in order to prevent the ingress of water from the River Pont. Northumbrian Water report that they were busy dealing with several sewage flooding incidents and that their resources were stretched. They did not manage to deploy the pumps in this instance. Approximately 50 properties flooded in Ponteland, many on the Eland Haugh Estate which may have benefited from the early deployment of pumps.

RECOMMENDATION 11 - Northumbrian Water should review the arrangements in place for deployment of pumps to Eland Haugh Estate. A partnership with the Environment Agency should be considered to link early deployment with early warnings of the flooding situation.

5.3.2 Evacuation of Morpeth

As the situation developed on the Saturday morning, CMBC invoked the Flood Action Plan including evacuation procedures, setting up of rest centres and calling for transport. By 09:00 on Saturday morning the CMBC Emergency Control Centre was up and running.

Once CMBC received a call from the EA to inform that two Severe Flood Warnings were to be issued for Morpeth (High Stanners and the Town Centre West), it was agreed to follow the multi-agency Flood Action Plan for evacuation. An hour passed between the Severe Flood Warnings being issued (11:26) and formal evacuation being called. A further 50 minutes passed by the time Northumberland County Council minibuses arrived to take evacuated residents to the rest centres. During that time the EA issued two further Severe Flood Warnings for Morpeth (Low Stanners and the Town Centre West), Fire and Rescue service were responding to public calls and carried out ad-hoc evacuations of affected properties, a few residents self evacuated and Northumberland County Council decided that King Edwards School and Abbeyfields 1st School (changed to County Hall as contact could not be made with Abbeyfields) would provide accommodation for evacuees and started to source transport. The Town Hall acted as a muster point and temporary rest centre until formal transport arrived.

The delay in initiating the evacuation was exacerbated by the speed of onset of flooding. Evidence suggests that whilst there was communication from CMBC to the County Council to request transport and rest centres, the speed of provision of these resources, in particular the minibuses, and the communication back to CMBC as to progress could be improved.

Northumberland Fire and Rescue Service requested and received boats to perform evacuations from Tyne and Weir Fire and Rescue Service, RNLI, Northumbria Police and RSPCA.

Assistance for transportation of evacuees was requested from British Red Cross, St John Ambulance and North East Ambulance Service, the organisations were asked to provide transport which was to be held at Heighley Gate Garden Centre to ensure transportation could get to evacuees in North Morpeth and the County Council car park for evacuation efforts in South Morpeth.

From 1630hrs onwards, RAF Boulmer Sea King, Mountain Search and Rescue Teams and RNLI are involved in evacuation/rescue efforts.

Many areas had already flooded by the time they were evacuated and many evacuation routes were impassable. The risk of injury or death is increased when attempting to evacuate areas that are already flooded. CMBC should give consideration to these risks and review the evacuation procedure. Containment should be considered as an alternative to evacuation, i.e. is it safer to leave residents in flooded properties, where they can evacuate to the first floor? Vulnerable residents in bungalows or the elderly or infirm may still require evacuation.

Figure 5-1: Photo of evacuation in progress



Discussions with Northumbria Police have highlighted that they are not in possession of the Castle Morpeth Flood Action Plan and were unaware of where residents should be evacuated to. They also state that they did not have an appreciation of the severity of the flood event, certainly in the early stages. This would substantiate claims from CMBC and the public that more police presence on the ground was required during the early evacuation stages. The Council stating that door knocking during evacuation was under resourced.

The police report suggests a number of issues that need addressing with regards health and safety during evacuation, including:

- untrained officers working in swift water;
- life jackets not fit for purpose;
- evacuation routes need revising.

These issues highlight problems associated with working in flood water, either officers should be adequately trained and equipped to enter flood water or they put themselves and others at risk of injury or death. Again, would containment be more appropriate in these circumstances? Recent cases have made the news headlines that highlight the dangers of entering flood water, these include:

- June 2007 – man in Hull died after being trapped by his foot in a flooded drain.
- September 2008 – 3 year old girl sucked into storm drain and thrown out into the River Wear.

Northumberland Fire and Rescue Service personnel are trained to enter flood water. They conducted dynamic risk assessments whilst undertaking this task and no accidents or injuries were reported.

RECOMMENDATION 12 - Castle Morpeth Borough Council and Northumberland County Council should seek to improve the frequency of communications between the two organisations during the early stages of a major incident.

RECOMMENDATION 13 - Northumberland County Council should review their plans and procedures to ensure the timely provision of resources in response to requests for evacuations.

RECOMMENDATION 14 - Castle Morpeth Borough Council in conjunction with the Police and Fire Service should evaluate the appropriateness of evacuation during flood events in Morpeth and give consideration to containment, where appropriate, in order to reduce the risk of injury or death to the public and officers from responding agencies.

RECOMMENDATION 15 - Should officers from any responding organisation be required to carry out evacuation through flood water, they should be appropriately trained and using personal protective equipment that is fit for purpose.

5.3.3 Rest Centres

Two rest centres were in operation in Morpeth, King Edwards School and County Hall. In Ponteland, Richard Coates Middle School and Ponteland First School were both put on standby in case they were needed as rest centres.

Despite continuous attempts by the County Council, they could not make contact with anyone from Abbeyfields 1st School to make use of the facility as a rest centre. As a result the restaurant at County Hall was used as a rest centre. The school is identified in the Castle Morpeth Flood Action Plan as a rest centre. It would improve the robustness of the Flood Action Plan and rest centre procedures to ensure that key holder 24 hour contact details and contingency arrangements were regularly maintained.

CMBC report that whilst resources were stretched to adequately staff the rest centres in Morpeth, the booking arrangements worked and they were "*well organised and helpers were great*". Approximately 80-90% of evacuees made their own arrangements for rest centres.

RECOMMENDATION 16 - Northumberland County Council should ensure that emergency contact arrangements for the provision of services are regularly maintained and contingency arrangements planned.

5.3.4 Provision of sandbags

As mentioned above, the sandbagging exercise to bolster the defences in Ponteland worked well. In Morpeth however, the speed of onset and the extreme depth of flooding, is likely to have made a similar task impossible.

There was a high demand for sandbags from the public which could not be met, however, at the public meeting on 25th October in Morpeth, the public acknowledged that sandbagging individual properties would have been futile against the depth of flooding experienced. Many commented that they would have at least felt like they were doing something to protect their properties.

CMBC report that sandbags worked well in shallow water.

RECOMMENDATION 17 - CMBC require a clearer policy on the provision of sandbags linked to the provision of public information which outlines the level of service the public can expect in this regard.

5.3.5 Communications

As a whole, the responding agencies reported good communications within their own organisations. However, from evidence gathered the communications between agencies could be improved.

During the response there were reports of communication failures due to the adverse weather conditions. Radios became saturated and ceased working when they were needed the most. Some

agencies relied on mobile phones which were particularly susceptible to water. Additionally some agencies reported that they had no means of recharging their phones while out on site.

Some residents and agencies who used telephone networks during the peak of the flood event, found that at times they were unable to make phone calls. It is likely that this occurred due to the sheer volume of calls that were being made, overloading the networks. Had the telephone networks failed then there would have been very limited communications between the responding agencies.

RECOMMENDATION 18 - All responding agencies, who rely on mobile telephony, including mobile radios, should consider improving their systems to ensure robustness and reliability when managing a flood event..

Members of the public and responding agencies found it difficult to navigate around Morpeth and surrounding areas due to flooded roads, closures and gridlock in some areas. There is insufficient evidence to show that a co-ordinated media response was initiated during the floods and this may have alleviated transport communication within the borough, in particular Morpeth.

RECOMMENDATION 19 - As part of the multi-agency command and control (also see RECOMMENDATION 23 -), a co-ordinated media strategy is required to ensure the public are up to date and to send out key messages to try and avoid gridlock and keep the roads as free as possible.

During the flood event, all responding agencies received large amounts of information from their professional partners, members of the public and internal staff on the ground or in control rooms. There were issues effectively logging the information and then communicating it out to either their own employees or their professional partners. There are reports that information was lost during this process, information that could have aided the various agencies responses.

RECOMMENDATION 20 - Consideration should be given to improving information management systems in order to better co-ordinate, manage and disseminate data and information during a major incident.

5.3.6 Plans and Procedures

The Flood Action Plan states "This is a joint plan in association with the Environment Agency, Northumberland County Council and Northumberland Fire and Rescue". There is evidence to support discussions and consultations with Northumbria Police, therefore they should be mentioned as a contributor. Following the flood event, the Police report that the Flood Action Plan is not widely available within their organisation and that it needs to be located at police stations with key contacts, actions to be carried out and streets to be evacuated. This information is contained within the Plan and would benefit from input from the Police.

RECOMMENDATION 21 - It is recommended that Northumbria Police play a role in the review of the Castle Morpeth Flood Action Plan to ensure a cohesive multi-agency response to flooding in the Borough. And to appropriately distribute the Plan within the force to ensure that those who require the information contained within the Plan, have it when needed.

5.3.7 Mutual aid

Due to the scale of the flood event and the response required, many of the responding agencies reported that staff resources were under pressure and that some elements of the emergency response could not be resourced from within the Borough or County alone.

Providing an appropriate level of personnel to staff the rest centres was overcome by instigating mutual aid arrangements. Personnel from Tyne and Wear Emergency Planning Unit helped with staffing at King Edwards High School and personnel from Blyth Valley Borough Council helped with staffing the County Hall rest centre.

Northumberland Fire and Rescue Service requested and received a swift water rescue team from Tyne and Wear Fire and Rescue Service and appliances were provided at various stages of the day from Cumbria FRS, Tyne and Wear FRS, Durham and Darlington FRS and Lothian and Borders FRS. Not all requests were met whilst neighbouring FRS dealt with flooding issues within their own areas.

Police Officers were stationed at Newcastle Airport in case they were needed to assist in Ponteland. St John Ambulance and British Red Cross stationed at St John Ambulance headquarters in case they were to assist in Ponteland.

Figure 5-2: Photo of resources in flooded area



5.4 Command and Control of the Major Incident

5.4.1 Command and Control Structure

The CMBC Emergency Plan outlines the control and co-ordination that has been established within the Northumbria Police area to deal with major incidents. A three tier structure has been established as follows:

- **GOLD Command** – will comprise Chief or senior officers of the emergency services, local authorities and other organisations involved; its main priority is to co-ordinate policy and action across all the services and provide a link to central Government;
- **SILVER Command** – will normally operate from the Incident Control Post, established under police control near the scene and attended by liaison officers from the emergency and support services, to direct operations and implement Gold decisions as appropriate;
- **BRONZE Command** – or Forward Control is the on-site emergency services operation response control.

The evidence gathered suggests there was a lack of clarity surrounding the command and control structure set up to support and promote a co-ordinated multi-agency response to the flood event. It has been difficult to piece together the varied responses received from each of the organisations to provide a comprehensive understanding of just how the command and control structure operated during the floods.

From the logs provided for the review, the following timeline for Gold Command meetings has been established. Some assumptions have been made based on comments provided by the interviewees from each of the contributing organisations and it is likely that the table does not tell the whole story.

Table 5-3: Timeline of Gold Command meetings

Date	Time	Action	Comments
06/09/2008	08:55	Informal Gold	Taken from police log. It is assumed that this was a police only Gold meeting.
	12:55	Gold meeting called	By police.
	13:00		Call received by County Council from police regarding Gold.
	15:45	Major incident called	Taken from County Council log.
		Multi-agency Gold called	Taken from County Council log.
	17:35	1 st multi-agency Gold meeting took place	Gold members begin to try and make way to Ponteland Police HQ. Taken from CMBC and County Council logs.
7/09/2008	08:00	Gold meeting took place	Taken from CMBC logs. CMBC in attendance.

From the evidence gathered to populate the above table, it has been determined that a major incident was called at 15:45 on 6th September and a decision taken to convene a multi-agency Gold meeting. By this time four Severe Flood Warnings were in force for Morpeth, hundreds of people were being evacuated, rest centres were in operation and at-risk areas in Morpeth were flooding.

The first multi-agency Gold meeting took place at 17:35. Other responding agencies report attendance at this meeting. The logs suggest that Gold meetings were called earlier in the day at 08:55 and 12:55, however, there is no evidence to suggest that these meetings were attended by other agencies. There is evidence of telephone correspondence between Police Gold and other agencies during these times.

Northumbria Police report that Gold, Silver and Bronze Commands were set up and in place within their own police force. Police Bronze was set up in Morpeth police station. They also report that the Fire and Rescue service had their own Silver Command at their headquarters. Concern was raised with regards suitability of the IT infrastructure at Bronze Command to enable communications with the Fire and Rescue service. An officer from RNLI attended Bronze Command at Morpeth Police Station to help co-ordinate efforts.

Northumberland County Council report that Silver Command was set up at Northumberland Fire and Rescue service and Bronze Command was set up at Morpeth police station covering 4 areas. They state that Gold Command could have been called earlier, that the facilities were poor and that the meetings were too focused on strategic objectives and went on too long. By the time the decisions were made regarding the actions to prevent flooding in Ponteland, little time was left to carry out the actions required, however, report that the mitigating actions were effective. A second Gold meeting was held the next morning at 08:00 and moved to recovery phase. There is a need for training and exercise (once a year) for Gold and Silver Command personnel.

The EA report that Gold worked well, although state that there was uncertainty if it was a Police Gold or multi-agency Gold. The EA were not aware of a Silver Command being in Operation and consider that this could have made a difference in a more wide spread flood event.

CMBC report that there are different views of how Gold, Silver and Bronze Command and Control structures should operate within the Borough. Whilst the Police operated their own Gold Control with partnership meetings, the meetings did not fully represent a Borough wide multi-agency Gold group. CMBC were not called to attend Silver and consider that this could have made a difference to the overall response.

Northumberland Fire and Rescue service report that there were Gold, Silver and Bronze Command meetings, but that they did not appear to have been widely circulated. They suggest that while Gold Command meetings are normally held by Police, other agencies could take the lead depending on the type of incident. Officers from RAF Boulmer and Search and Rescue attend the Fire and Rescue headquarters to assist in the co-ordination of the evacuation.

It is feasible that a major incident could have been called earlier given the weight of evidence to support that a major incident was under way, effectively allowing the command and control structure to be established at an earlier stage. Consideration should be given to establishing triggers for declaring a major incident for flood events in the Borough and the wider Northumbria Police area. The issuing of a Severe Flood Warning means that there is 'imminent danger to life and property'. The emergency response community could work with the Environment Agency to determine if a Severe Flood Warning is an appropriate trigger for the declaration of a major incident.

RECOMMENDATION 22 - Consideration should be given to establishing triggers for the timely declaration of a major incident in the event of major flooding. The responding agencies within the Northumbria Police area should work with the Environment Agency to achieve this.

RECOMMENDATION 23 - To achieve common understanding of the command and control structure established within the Northumbria Police area, the responding agencies should work together to put in effect a programme of multi-agency training and exercising of Gold, Silver and Bronze within the command and control structure.

5.4.2 Command Centres

A number of organisations consider that the availability of IT infrastructure at Gold, Silver and Bronze Commands requires improvements to allow better communications between organisations.

RECOMMENDATION 24 - The availability of IT infrastructure at Gold, Silver and Bronze Commands should be reviewed to improve the communications between command centres and organisations in attendance.

Northumbria Police consider that Morpeth Police Station is small and not a suitable location for a Bronze Command. They also report that Ponteland Police headquarters was cut off due to flooded roads and was difficult to get to.

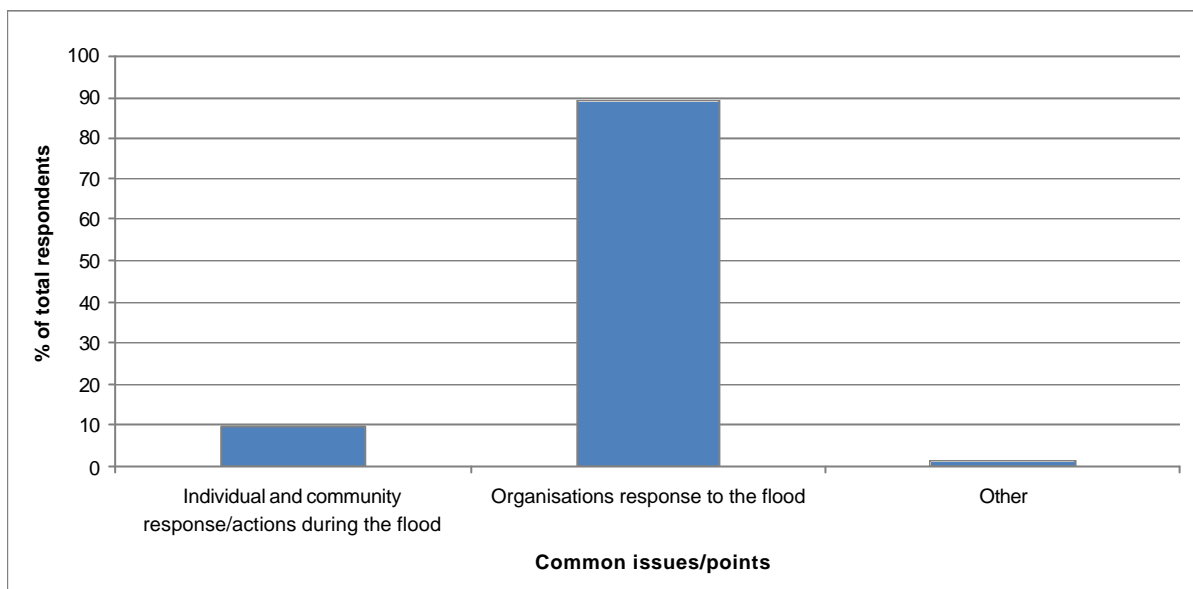
RECOMMENDATION 25 - The appropriateness of the location of Gold, Silver and Bronze Commands should be reviewed and alternatives sought should they be found to be inappropriate for the management of flood events.

5.5 Public Response and Perception

5.5.1 Overview

Participants at the public meeting were asked, "What points or issues would you like to be considered in relation to experience of the flood event and flood response". Figure 5-3 shows that most people responded in relation to agencies' and organisational responses to the flood, rather than their own or their community's response to the flood event (89 per cent and 10 per cent respectively).

Figure 5-3: Responses to the question "What key points/issues you would like us to consider in relation to experiences of the flood event and flood response"?



5.5.2 Individual and community response/damage avoidance measures

Participants were asked to discuss their own actions taken during the flood. The first action of most people when realising they were in danger of imminent flooding was to move possessions: *“carrying many contents upstairs before water reached the house”*. Residents in the High Stanners and Mitford Road areas of Morpeth reported a rapid rise in flood levels which gave them little time to take action to protect their properties or move valuables to a safe place. On average they reported between one and three hours between receipt of a flood warning and the onset of flooding in their properties:

“As the property had not been flooded before they didn't respond quickly enough - they should have had more warning” (Resident)

“Flooding firstly from drains and then the rising river - not anything they could do” (Resident and Business, High Stanners)

In contrast to this view a small number of participants were proactive in their response, not waiting for response and the assistance of authorities but instead using their local knowledge to decide on the most appropriate actions:

“Help was offered but was not required” (Business owner, Morpeth Town Centre)

“Decided to evacuate after receiving no help or information - used local knowledge to determine best evacuation route” (Resident, Middle Greens)

People drew on others in their social network as a mechanism to cope with the flood event. Positive comments made about friends, relatives, and family members:

“Were away at the time but neighbours moved furniture upstairs for them” (Resident, Kirkhill)

“Were assisted by neighbours during the flooding and the following clean-up” (Resident, Middleton)

A small number of participants described the need for an individual/personal flood plan which would assist in speeding up the response and would allow for a deeper appreciation of who to go to and where to go for information and assistance:

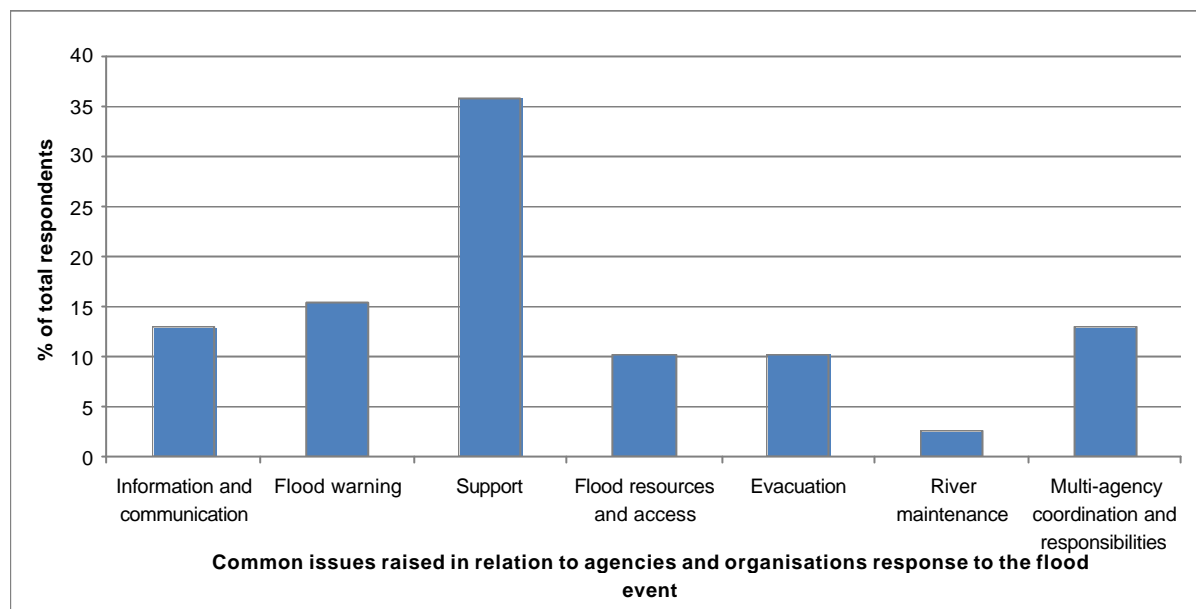
“I need my own action plan as we have not had help or advice” (Resident, Middle Greens)

“Need to have a personal flooding plan to allow quick reactions and need to know where to go for information and assistance” (Resident, Business Owner, Mitford)

5.5.3 Response to the flood event by organisations

Of those participants that noted issues related to ‘agencies/organisational response to the flood’, the most common issues raised by participants at the public meeting related to support (36 per cent), followed by flood warning (15 per cent). Information/communication and multi-agency coordination/responsibilities both generated 13 per cent of responses (see Figure 5-4).

Figure 5-4: Most common responses in relation to agencies/organisations response to the flood”?



Overall, a significant majority reported little or no response from the authorities in their area. Most commonly, participants’ responses were negative about the support given by official organisations involved in managing the flood event although several elderly residents reported an excellent response from the authorities:

“No emergency services on the ground” (Resident, Middle Greens)

“Lack of response from any 999 service” (Resident, Hepscott)

“Called Floodline and were told to call the council who did not answer the phone” (Resident, Middle Greens)

“Environment Agency staff were not co-operative and were concentrating on other locations” (Resident, Low Stanners)

“Despite repeated calls Northumbrian Water did not respond quickly enough” (Resident, Ponteland)

Ponteland residents (Eland Haugh Estate) reported that Northumbrian Water failed to deploy pumps to Church Flatt to mitigate flooding from surface water as a result of a penstock being closed on the River Pont. This action is outlined in the Flood Action Plan and was agreed in writing on 26th February 2004.

The groups did recognise that the authorities could not be everywhere during a severe flood event:

“The fire brigade had more urgent priorities so had to wait their turn for help”.

Only 7 per cent of participants said that those authorities in attendance were doing an excellent job, in particular the emergency services and voluntary organisations were praised for their efforts:

“After a couple of hours the response from the RAF and RSPCA was excellent and they did the best with what resources they had available to them” (Resident, Mitford)

"Praise for after flood responses of all authorities" (Resident, High Stanners)

"After the event rescue services performed admirably" (Resident and Business)

Flood warning

A minority of residents reported that their properties had flooded prior to receiving a flood warning.

Residents that received a flood warning complained that they had received flood warnings in the past and that no flooding occurred as a result. Therefore, many treated the warning with scepticism in case this warning was another 'cry wolf' scenario. Many residents reported that they were waiting for confirmation that the warning was real:

"No help given other than one call at 7:30am. The flood warning calls are often inaccurate so hard to know when to take them seriously" (Resident, Mitford)

Residents from Middle Greens in Morpeth who signed up for the flood warning service, complained that the warning was not issued and that they would rather receive many warnings than none at all, for example,

"There was no warning and no-one giving out help and advice" (Resident, Middle Greens)

"Failure of the EA flood warning system to impart accurate and specific information on the flooding" (Resident, Middle Greens)

"No or late warning in the majority of cases" (Resident, Middle Greens)

"No warning was given from the Environment Agency and no communication from council and emergency services" (Resident, Middle Greens)

Many reported that when calling Floodline, the operators had out of date information and advice was poor, for example, the operators would inform the residents that their properties should be safe when in fact they were already flooding. Others were told by Floodline to put towels down to stop water coming under the front door, which proved futile against four feet of flood water.

Flood resources and access

A significant minority of participants mentioned issues that related to access and resources during the flood event. Some residents reported a lack of sandbags:

"Council should have delivered sandbags prior to the event" (Resident, Mitford)

"No sandbags available and no plan on how to use them if they were" (Resident, Middle Greens)

When participants were asked if they thought the sandbags would have helped, they all agreed that physically they would not, but that the sandbags would have at least made them feel that they were doing something (comfort blanket). In particular, at High and Low Stanners, participants expressed issues related to access and escape routes:

"Need to know when access road is blocked (should be the first warning)" (Resident, High Stanners)

"Escape routes in the Flood Action Plan were inaccessible - information is required what to do in this situation" (Resident, Low Stanners)

"Town was divided in two causing resources to be cut off and there was confusion as to where to go" (Resident, Low Stanners)

Residents who made use of the Floodsax product reported that they were of no use as they were washed away by the speed of the floodwater.

Residents reported seeing a RSPCA boat which was being used by volunteers to rescue people.

Middle Greens residents reported surface water flooding/drainage problems from blocked drains and/or minor watercourses and backing up of drains that go through the flood defence walls.

Information provisions and communications

A significant minority of participants mentioned problems relating to information and communication during the flood event. The following responses are typical:

"Felt isolated due to the lack of information regarding what was happening" (Resident, Low Stanners)

"Lack of information leading up to the flood and during the first couple of hours" (Resident, Mitford)

These problems in communication can be seen as barriers to effective response, and represent significant areas for improvements in the future. Some felt there was a lack of communication to responding police and fire service personnel on the ground and that they did not have up to date information.

Some residents believe that there is a tidal influence in Morpeth.

Evacuation and Castle Morpeth Flood Action Plan

The majority of residents either evacuated themselves, or in the case of the elderly were evacuated by the authorities. A small number of residents said they decided to stay in their property. Across the areas in Morpeth that were flooded, participants discussed their perceptions of the evacuation that took place. Possible improvements to the service were suggested which included:

"Improved response from emergency services as no help was provided with the evacuation" (Resident, Mitford Road)

Rescue services need to be in the area and evacuate before the water level gets too high" (Resident, Middle Greens)

"Telling people exactly where to evacuate to" (Resident, Morpeth Town Centre)

Almost all residents commented that the evacuation routes were flooded. Those that had read the Flood Action Plan suggested that more thought needs to go into this.

Multi-agency coordination and responsibilities

A significant minority of participants made comments in relation to the coordination of the multi-agency response and related issues around responsibilities. It was evident that people were unaware of who was responsible for managing the flood event and who they should seek support from, for example,

"Lack of clarity as to who is in overall control during the emergency response" (Resident, Mitford)

"Need to identify the responsibilities of individual agencies and make those well known" (Resident, High Stanners)

Words such as *"lack co-ordination"*, *"disorganisation"*, *"chaotic"*, and *"panic"* were commonly expressed by participants.

6 RECOVERY

6.1 Co-ordination

6.1.1 Handover

On the afternoon of the 7th September 2008, Northumbrian Police followed the correct handover procedures when they signed a handover certificate and officially passed control of the event to Castle Morpeth Borough Council. Shortly after, the first of many well organised recovery meetings was held. The first was held in Castle Morpeth Borough Council's Longhirst offices.

6.1.2 Castle Morpeth Borough Council Community Recovery and Restoration

In November 2005, after the severe flooding that affected the residents and businesses of Carlisle, Castle Morpeth Borough Council identified the need for a community recovery and restoration guidance document. The Castle Morpeth Borough Council Community Recovery and Restoration guidance document was designed to provide a coordinated and appropriate aid to the community.

6.1.3 Recovery and Restoration Co-ordination Group (RRCG)

In order to provide a coordinated and appropriate aid to the community, a 'Recovery and Restoration Coordination Group' (RRCG) was formed. This group was made up of senior managers from various organisations. The roles of the RRCG are as follows:

- To be the decision-making body for the recovery and restoration phase once handover had taken place from the Police;
- To take advice from the working groups, decide the strategy and ensure implementation of that strategy and the rebuilding of public confidence.

At the first meeting, the RRCG decided to set up the following working groups:

1. Health and Welfare;
2. Economic Recovery;
3. Clean Up and Infrastructure;
4. Communication.

An early action from the RRCG was to ensure that the flooded communities were kept up to date with information. Flood Bulletins were designed, written and disseminated on a frequent basis. These provided:

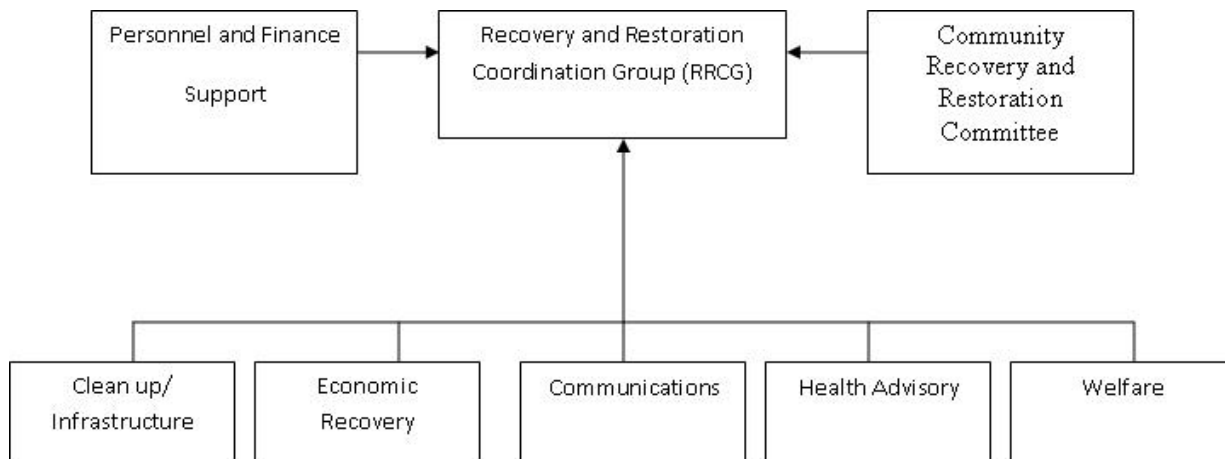
- Weather forecasts;
- Information regarding the Flood Information Point;
- Information regarding post collections, refuse collections, skips, electricity supplies;
- Contact details for further information.

Not all residents received these bulletins. As numerous residents had been evacuated and were living in temporary accommodation, they only received the bulletins when they returned to their homes. However over 1,400 per issue were sent out to affected communities. These bulletins were also posted on the council's web site, within churches and advertised within the local press.

In addition to this, the 'Community Recovery and Restoration Committee' was set up. As shown in Figure 6-1, this is one of the four working groups, along with Personnel and Finance Support, which feeds into the RRCG. This is not a Council committee, but is made up of community representatives, whose role is to feed in the views of the community. This allows the RRCG to hear the flood victims' views.

The guidance document identified the chair of each group and included the voluntary sector. This helped each of the group's members to get on board very quickly and effectively, and start dealing with the community restoration.

Figure 6-1: Recovery and Restoration Group Structure



6.1.4 Community Recovery and Restoration Committee (CRRC)

The aim of the Community Recovery and Restoration Committee (CRRC) is:

- To reflect community concerns, feelings and initiatives and assist in informing the wider community and in undertaking a Needs Assessment of the affected community.

This group is made up of representatives from the following:

- Residents of Morpeth;
- Morpeth Flood Action Group;
- Greater Morpeth Development Trust;
- Morpeth Town Council,
- CMBC;
- Morpeth First School;
- Morpeth District Chamber of Trade;
- New Life Christian Centre;
- National Flood Forum;
- Red Cross;
- Over the course of the recovery phase, other representatives were invited to attend the CRRC.

From the first meeting held on the 10th September, this committee discussed a wide range of topics, from the need for mobile phone chargers in Morpeth Town Hall to community issues regarding insurance companies. At each meeting actions were recorded and delegated accordingly. On the 13th September the group formed an Action Log which detailed specific issues, their description and the originator. This ensured that all actions were appropriately logged and progress was monitored at each meeting.

To help promote a positive, regeneration message, the Flood Bulletins were renamed as 'Spring Board' on 17th November. This name was symbolic to the Morpeth recovery phase and was publicised as the new name for recovery in Morpeth.

Through the Flood Bulletins/ Spring Board and the Flood Information Point, affected communities were offered numerous initiatives to help them during the recovery phase. Below are a selected few of these initiatives:

- Tesco offered free black sacks and crates;
- Morpeth Round Table and other voluntary organisations offered resources to help clean flooded homes;
- Red Cross and Lions offered free furniture;
- Free laundry service at Morpeth Methodist Church;
- Free electrical testing within flooded properties;
- Advice on how to avoid 'cowboy' builders;

- A Council Tax freeze for residents not living in their homes;
- Community Support Officers;
- Free skips.

CMBC contractors were employed to deliver skips throughout Morpeth on the 7th September. Some of the outlying communities did not receive these skips.

Shortly after the floods, many of the local guesthouses, bed and breakfasts and hotels raised their accommodation prices, due to an increase in demand. This had a knock on effect on visitors/tourism, as anybody visiting the area, such as businessmen or contractors, had to pay increased accommodation prices.

RECOMMENDATION 26 - Castle Morpeth Borough Council should investigate the increase in accommodation prices and pro-actively work with landlords to avoid this situation happening in the future.

The voluntary sector had very good media coverage. In particular the Lions, who helped raise cash for flooded homes. Although the amount per household was small, it was an active demonstration of how the unaffected communities helped the affected communities. The Lions also organised 500 tickets for flood affected residents to watch Disney on Ice. This was arranged only shortly after the floods receded, showing the voluntary sector's forward thinking. The Lions were provided with legal and other advice by the Red Cross.

Amidst all the positive work from the voluntary and public sector there were reports of looting from temporarily vacated houses in Middle Greens. In particular, scrap was being taken from houses.

Overall there was an overwhelmingly positive response from the public during the recovery phase. Residents and businesses focused on helping to restore normality, whilst not spending their time looking to place blame. There was an excellent community spirit, often in partnership with CMBC whilst carrying out some of the more socially difficult activities, for example binning valued positions.

6.1.5 The Communications Working Group

The aim of the Communications Working Group is:

- To continue and expand upon the work of public and media teams set up during the emergency phase.

The Group consists of the following organisations:

- Castle Morpeth;
- Northumbria Police;
- Northumberland County Council.

In the early stages, the Communications Working Group provided a necessary link to the RRCG, ensuring that information was correctly channelled and disseminated. The group did not meet formally after week four as it was more efficient to liaise via telephone and email, including liaison with Lions, Rotary Club, Red Cross and Health Care Trusts. One of the tasks of the group was to help write and disseminate the Flood Bulletins/ Spring Board publications. A PR consultancy was employed by CMBC to assist with business public relations and to act as a link between the business community and the media in order to reduce the pressure on local business from the media.

6.1.6 The Morpeth Flood Action Group

This group consists of residents of Morpeth who were directly affected by the floods. The group's aims are to aid the community during the recovery phase and engage with the relevant authorities to plan future flood defences. The group have members on the CRRC ensuring that the community's messages are heard by the Council and other professional partners. The group is very proactive in attending events and as such have recently been invited to the Environment Agency's Area Incident Room. The group is also fundraising, carrying out raffles and have even created Morpeth Christmas cards.

The Morpeth Flood Action Group has designed a web site which details their recent actions, community restoration developments and latest news. This web site provides community information, written by community members, and reflects the forward thinking and community spirit of residents of Morpeth Town and its surrounding areas.

6.2 Health and Welfare

6.2.1 The Health and Welfare Working Group

The role of the Health and Welfare Working Group is:

- To coordinate the provision of the full range of practical assistance, comfort and, where necessary, counselling to those directly or indirectly affected by the emergency.

The role of the Health group is:

- To bring together all relevant health expertise, normally after the initial health impacts have been addressed by the Scientific Technical Advisory Cell (STAC).

The Health Advisory and Welfare groups were brought together, as one, to reflect their joint response and cross-working during the floods. The group consists of multiple organisations that represent the health and welfare needs of the community:

- British Red Cross;
- Castle Morpeth Borough Council - Environmental Health;
- Castle Morpeth Borough Council - Strategic Housing;
- Castle Morpeth Borough Council - Housing;
- Castle Morpeth Borough Council Citizens Advice Bureau;
- Health Protection Agency;
- Morpeth Parish (C of E);
- Northumberland Care Trust - Adult Services;
- Northumberland Care Trust - FACT;
- Northumberland Care Trust - Public Health;
- Northumberland, Tyne and Wear NHS Trust;
- New Life Christian Centre Representing Morpeth Churches;
- Women's Royal Voluntary Service (WRVS).

The group met on the 9th September to discuss recovery issues identified by individual organisations. A senior representative from each organisation provided an update of work to date and problems encountered. The meeting was jointly chaired by the Northumberland Care Trust and Northumberland County Council, and the meeting gave the group a chance to reflect on the current recovery progress.

During the flood event, the Health and Welfare Working Group quickly focussed on the recovery cycle whilst the National Flood Forum provided flood trauma training to the group. The group addressed such health and welfare needs as housing, relocation, adult and child health, health protection and psychological trauma.

The voluntary sector contributed greatly to the actions of the CRRC group. The Red Cross, Salvation Army, Lions, local undertaker, residents and the WRVS all helped during the recovery and restoration phase. The Red Cross dealt with approximately 500 affected people over this period. The voluntary organisations assisted with a variety of services, such as helping to clean flood affected households, listening to people's accounts of the floods, providing blankets and advice during the recovery phase. At a meeting held on the 9th September the Red Cross took on responsibility for co-ordinating all voluntary organisation activity.

An addition to the Flood Information Point was 'Out Reach', whereby Red Cross volunteers and officers visited affected homes, and in doing so publicised the Flood Information Point.

The Red Cross were on hand to provide short term psychological and social support to members of the community who suffered psychological trauma as a result of the floods. Volunteers were able to listen and provide reassurance and were on standby, ready for quick deployment should they be required. The Northumberland Care Trust directed mental health services as required however there are concerns about the long-term psychological services in place.

RECOMMENDATION 27 - Northumberland Care Trust to give consideration to ensuring that long term support systems are in place for those facing long term psychological problems.

The group was very keen to address housing needs. Staff numbers were quickly increased to cope with the demand for housing services. During the initial recovery phase, Castle Morpeth Strategic Housing Services and Castle Morpeth Housing staff were working from 8am till 6pm in order to meet demand. The main issues reported were those of insurance and repairs, which were jointly handled by the Citizens Advice Bureau and Strategic Housing Services.

There were strong support structures in place with the WRVS complementing what was happening in the longer term, specifically in relation to the elderly community. They were able to undertake flexible community based work in support of the larger services in place.

6.3 Economic Recovery

6.3.1 The Economic Recovery Working Group

The role of the Economic Recovery Working Group is:

- To assess the economic implications for the affected area and provide assistance.

The Economic Recovery Working Group is made up of the following organisations:

- Castle Morpeth Borough Council;
- Government Office of the North East;
- Greater Morpeth Development Trust;
- Northumberland Business Services Limited;
- Northumberland County Council;
- One North East;
- Castle Morpeth Business Forum;
- Morpeth Chamber of Trade;
- Business Enterprise North East.

The Economic Recovery Working Group's basic objectives are to raise the profile of Morpeth in order to encourage consumer spending. The economic recovery is being completed in phases as constraints such as infrastructure limitations (lack of visitor accommodation) do not allow a one phase recovery. The group conducted an assessment to help identify what specific help is required by local businesses and to develop initiatives for the move forward. One such example was that of collaborative businesses. It was found that the local economy could be boosted if local trades people were drafted in to carry out restoration and repair works. One way of ensuring local businesses are used, was to link them with insurance companies. This would ensure that money spent on restoration would benefit the local economy.

RECOMMENDATION 28 - Castle Morpeth Borough Council to ensure that residents and business owners are aware that they can use local companies to carry out flood repair work.

The overall aim is to regenerate economic activity within the local community. A local events list has become part of the broader programme to increase interest in the area again and stimulate activity in the town centre. There is a great need to get the message out that Morpeth is "back in business". The press is being used to advertise success stories, promote local stores and retailers and identify spotlight businesses.

The Economic Recovery Group set up the "open for business" initiative which involved high profile events to generate publicity: continental markets, arts and culture show case events, and a mistletoe fair. These events are being run with the engagement of all retailers to achieve maximum potential and stimulate the local economy. Media coverage of these events will highlight specific successes and achievements.

The group developed business support packages in order to aid business with financial issues. It became apparent that most support was required regarding staff salaries, particularly businesses that were closed for the longer term. The application process was simplified in order to provide businesses with the necessary support in the shortest timescale possible. These business support projects will be coordinated by Business Link.

One of the issues faced by the group was that of insurance claims for businesses that were affected by the flood event. Debt recovery and broader issues of financial inclusion were forwarded on to the information group.

The group became aware early on in the recovery phase, that loss adjusters were dealing with the 1,000 plus claims on an individual property restoration basis, rather than one of community recovery. There was no regard for:

- The potential for coordinated work and the financial saving that this could bring;
- The congestion caused in residential areas by not co-ordinating work;
- The loss of opportunity to the local economy through contactors being brought in from outside the region;
- The wider needs of the community.

Additionally there was confusion between residents as to which contractors they could/should use. The majority of the contractors were brought into the region. This reduced opportunities for the local economy at a period of greatest need. There was also no coordination of building works, resulting in residential street congestion.

RECOMMENDATION 29 - Castle Morpeth Borough Council should give consideration to proactive discussions with insurers via the Association of British Insurers to achieve a co-ordinated community based response by the insurance companies and that consistent information as to what residents can and cant dispose of should be included.

6.4 Post Flood Clean Up

6.4.1 The Clean Up and Infrastructure Group

The role of the Clean Up and Infrastructure Working Group is:

- To use expertise to give viable options for clean up, repair and replacement.
- To liaise closely with stakeholders.

The group consists of the following organisations:

- Castle Morpeth Borough Council;
- Castle Morpeth Borough Council – Green and Clean Services;
- Northumberland County Council Highways Division;
- Northern Electric Distribution (NEDL);
- Health Protection Agency;
- Environment Agency.

The clean up combined direct services such as debris removal, with community support services during the ongoing restoration of Morpeth. Provision was made to supply residents with disinfectant and cleaning materials whilst skips were provided to community areas and emptied daily. The more direct repairs to public property included addressing electricity supply, street cleansing and environmental assessments.

The Environment Agency assessed all bridges and defences in Morpeth as a priority before addressing other flood areas in the borough. The assessments allowed the Clean Up and Infrastructure group to identify priorities and allocate resources accordingly. Measures were taken to ensure continuity of council services with special arrangements made if necessary - for example, refuse collections were reorganised with arrangements made to pick up bulky items resulting from the flood event.

The debris and cleansing operation was a lengthy one. Northumberland County Council found that cleansing of Middle Greens was postponed on several occasions due to access problems - for example, parked cars creating an obstruction.

The group's practices are supported by the Health Protection Agency (HPA) to ensure that all work conducted is in the best interest of the community's health. The HPA addressed concerns of environmental health to ensure that clean up and infrastructure repair could take place safely and efficiently.

An action plan was drawn up to address outstanding actions including details of remedial action. The plan details which organisation will take the lead, based on their specialty, and addresses such diverse actions as temporary library facilities and road resurfacing. The group met on a regular basis to discuss progress on the action plan and was used as an opportunity to liaise and coordinate further actions. During the clean up, CMBC Green and Clean Services Manager ensured that the

council was informed throughout the recovery stage through these meetings by ensuring an agenda was in place to review the current progress.

6.4.2 Castle Morpeth Borough Council

With the guidance of the Castle Morpeth Borough Council Community Recovery and Restoration guidance document, the transition to, and response during, the recovery phase worked extremely well. There were clear strategic goals set at the RRCG, working groups and committee meetings. A structured response was, and still is, being implemented for the communities and businesses of Morpeth.

From an early stage Castle Morpeth Borough Council provided plentiful information to those affected by the floods. An Emergency Flood Information Point in the Town Hall was opened, providing information to the public on the situation, on recovery issues and most of all providing reassurance. Castle Morpeth Borough Council officers were out on the streets of Morpeth checking on residents on the Sunday following the floods.

On the 12th September, the chief executive, Ken Dunbar, wrote a letter to all affected residents expressing the Borough Council's admiration of the community's resilience. The letter also provided assurance that Castle Morpeth Borough Council and their professional partners had put arrangements into place to help - for example, the Emergency Flood Information Point.

The chief executive of the Council was also proactive in speaking to affected residents during the flooding. After speaking to flooded residents, Ken Dunbar attended media interviews in flooded streets. This was seen as an excellent example of the Council's commitments to raising community morale.

6.4.3 Northumbrian Water

During the Morpeth flood, Northumbrian water reacted to 134 phone calls regarding the internal flooding of properties, 403 phone calls regarding external flooding of properties and 135 highway flooding reports. All Northumbrian Water responses were for non-fluvial flooding.

When Northumbrian Water staff were able to reach Morpeth on the Monday morning they assisted the Environment Agency in clearing debris and obstructions from drains. Northumbrian Water worked very closely with the EA operational staff who were out on site clearing debris from watercourses. During the recovery phase, there were reports of a good working relationship between the EA and Northumbrian Water.

There is over 5km of sewer network CCTV coverage. This was checked for blockages. Numerous manhole lids also had to be replaced. Northumbrian Water held meetings with their customers to find out if there were local issues with drains - for example, if manholes needed replacing.

Northumbrian Water was not represented in any of the RRCG sub groups. As such there was little communication and acknowledgement of the work that they were carrying out.

RECOMMENDATION 30 - Castle Morpeth Borough Council should give consideration to inviting Northumbrian Water to attend the Clean Up and Infrastructure Group and the Community Recovery and Restoration Committee meetings.

6.4.4 Environment Agency

The Environment Agency continued to deal with post-flooding issues including clearing waterways, checking flood defences, providing advice and answering post-flood questions from the public. The most common concern from the public was how long it would take for the Environment Agency to rebuild flood defences, as there were growing concerns that a similar flood could occur again at any time. To help answer these questions and other flood related issues, the Environment Agency held a post flood meeting with the Morpeth Flood Action Group and members of the public on 29th October at St James Hall. During this meeting the Environment Agency officers were very open and honest with attendees. They apologised to the residents of Middle Greens where they admitted a flood warning was missed although 48 warnings were issued correctly.

6.4.5 Insurance Companies

The majority of households and businesses were adequately insured and in general, insurance companies responded quickly and efficiently to the floods. Claims from households ranged from carpets to the entire downstairs living quarters and cars. Almost all businesses affected by the floods reported a loss of stock and equipment and as a result, a loss of trade. Insurance companies received over 1,000 claims throughout Morpeth.

There was a mixed message from insurance companies regarding what could and could not be claimed for. One resident, by way of example, was told that he had to dispose of a bicycle as it had been in contact with flood waters, where as another resident was told his claim for a new child's bicycle would not be paid as a wash with soapy water would deem the bike safe.

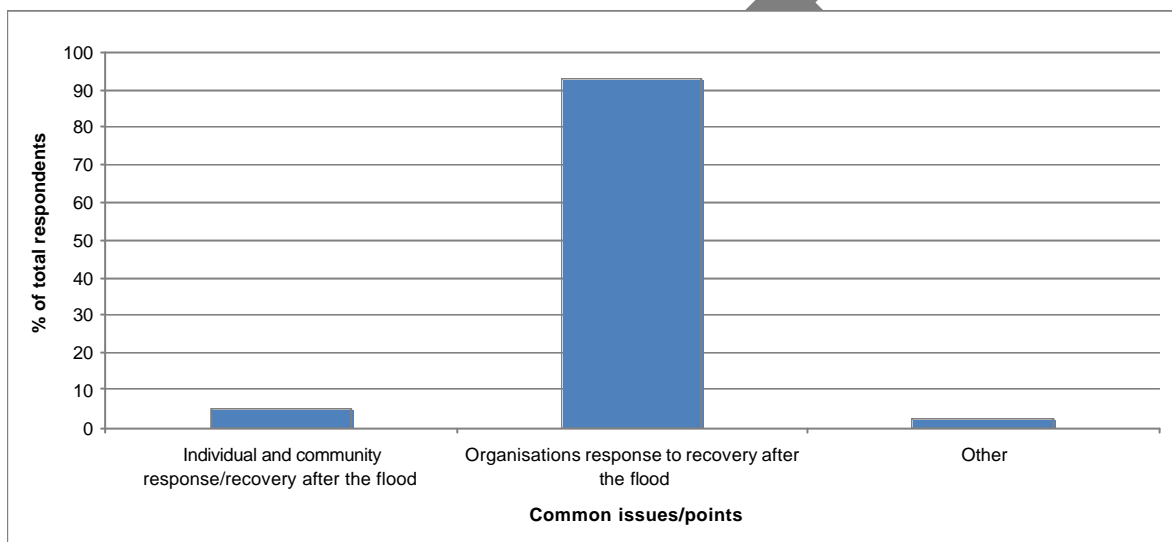
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6.5 Public Recovery and Perception

6.5.1 Overview

At the public meeting people affected by the flood of September 2008 in the Borough of Castle Morpeth answered the question: "What key points/issues you would like us to consider in relation to recovery after the flood". The most common responses to this question are shown in Figure 6-2. At the public meeting organisations and authorities response after the event was the most common point made by participants (92 per cent). Similar to the results for pre-event and during the event, only a minority of participants noted their own/individual post-event measures (6 per cent).

Figure 6-2: Responses to the question "What key points/issues you would like us to consider in relation to recovery after the flood"?



6.5.2 Individual and community recovery after the flood

It was reported at the public meeting that a significant proportion of residents were unable to return to their homes. The majority are in rented accommodation, some are waiting for their homes to dry out. Property owners taking advantage of the situation by increasing rents posed problems too. There was considerable additional stress associated with being away from home, particularly where children, disabled or older people were concerned. When homes were left unoccupied there was considerable anxiety concerning the possibility of vandalism and crime and reporting of burglary with criticisms focused towards improving the response by police, however the police presence seems to have been stepped up and these concerns have abated:

"Police were slow to react to problems with scrap dealers picking through residents belongings" (Resident, Wellwood Gardens)

"Security of premises after evacuation" (Resident, Morpeth Town Centre)

"Problems with looters and protection of homes - police patrols only went on until midnight" (Resident, Middle Greens)

There were several reports of unsolicited enquires from tradesmen looking to take advantage of the situation.

The overriding feeling expressed by evacuated participants was the desire to return as soon as possible to some normality in their own homes. These anxieties lead to individual householders in the flooded areas expressing concerns for the future, for example in relation to property values, future sale, and insurance premiums.

Perceptions of the local community were positive, for example,

"Help and comfort from family has helped them overcome the distress from the flood".

The discussions at the public meetings highlight the fundamental importance of community networks in providing support following a disaster.

6.5.3 Organisational response during recovery

Participants were asked to note the most important issue in relation to recovery from flooding. As noted above the majority of points were comments in relation to organisational response to the recovery process, Table 6-1 shows the issues raised by participants in relation to organisational response to the recovery process. When asked that their top two issues were the highest number of participants mentioned positive issues and praise for the organisations involved (31 per cent), the next most common issue related to general support and assistance from organisations (20 per cent), followed by more negative issues that focused around distrust and blame in the organisation involved (15 per cent). A minority of participants highlighted information provisions and communication, and improvements to the recovery and restoration plans (12 per cent respectively). Interestingly, the least most important issue mentioned was flood defences and prevention of future flooding (10 per cent).

Table 6-1: The most important issues in relation to organisations' response to recovery

Issues related to organisations' response to recovery	% of the total	Count
Support and assistance from organisations	20	23
Blame and distrust in the organisations involved	15	18
Praise for the organisations involved	31	36
Information provision and communication	12	14
Recovery and restoration plan improvements	12	14
Flood defences and prevention of future flooding	10	12
TOTAL	100	117

Support and Recovery

There was evidence of social support from official sources. Many of the council workers were praised for their involvement in the clean-up operation including cleaning of streets and the provision and emptying of skips; as were the emergency services, the following examples are typical:

"Excellent help from local authority, skips etc." (Resident, High Stanners)

"Clean up was very good and the council is keeping everyone up-to-date with information" (Resident, Mitford)

"The emergency services have been excellent" (Resident, High Stanners)

However, this view is not reflected by residents in Middle Greens and the outlying villages, where responses by the council were viewed in a more negative light:

"No early communication with the council" and "No contact from council for vulnerable people".

Discussion of the Environment Agency produced strong feelings, with overlying criticisms and blame centred on their lack of involvement in the recovery phase. It is evident that the public is unaware of who is responsible for which elements of the flood event and recovery process:

"Lack of presence from the Environment Agency" (Resident, Middle Greens)

"The Environment Agency should have acted to make safe river banks and deal with debris and fallen trees" (Resident, Mitford)

Overall, participants were positive in their discussions about the response of the voluntary sectors, during the recovery, with volunteer groups often described as "excellent".

For those that mentioned the insurance industry, the majority of the residents reported that their insurers were taking care of the recovery of their properties. Many reporting positive experience of the insurance industry in the recovery phase, for example,

"Due to good insurance company everything is going ok".

Insurance cover undoubtedly served as a reassurance for a great many people. Dealing with insurance companies was often a protracted experience with differing reports of customer satisfaction. Flood victims were treated differently by insurers only adding to people's distress creating unnecessary division in some of the areas flooded,

"Rate of recovery varies between properties as a result of delays due to loss adjustors".

In relation to the Community Recovery and Restoration Plan a number of improvements were suggested by members of the public. Whilst the following list relates to issues arising in the early and post-event periods some of these issues cross cut specific time frame:

- More co-ordination in the action plan;
- Quicker implementation of the response/action plan;
- Careful planning of location of skips;
- More street cleaning to remove remaining silt;
- Blockages at bridges cleared after the flood;
- Farmers need to deal with blocked agricultural drains;
- Network Rail needs to address the overloaded culverts;
- Setting up of information stations as soon as possible;
- Clear locations for people to evacuate to; and
- More comprehensive lists of people to ensure that people are not missing.

Information provision and communication

The majority commented on the lack of information on how to deal with the aftermath of the flood, including a lack of understanding and information as to what should be thrown away and what could be recovered, and dangers associated with contaminants:

"Would like a comprehensive checklist regarding what to do after a flood" (Resident, Low Stanners)

"Lack of information on process of refurbishment of property" (Resident, Mitford)

"More information regarding dangers in flooded areas such as contamination and damaged surfaces" (Resident, Morpeth Town Centre)

"Difficult to get any information regarding what belongings/property to keep and what to throw out" (Resident, High Stanners)

Opinions of official methods of communication differed. The information provision at the Town Hall at Morpeth was praised whilst there were also frequent criticisms in relation to, not communicating about the flood early enough and lack of advertisement of the public meeting.

Flood defences and preparation for the future

Whilst only a minority of participants mentioned future flooding and future flood protection, for those that did there were evidently high levels of concern with discussion of the future evoking strong feelings,

"It would be of psychological benefit if there was some visible evidence of attempts being made to prevent a reoccurrence" (Resident, Low Stanners)

"Flood defences should be strengthened to ensure this does not happen again" (Resident, High Stanners)

Would like a response from the council and other relevant agencies on how they can help to prevent a similar occurrence" (Resident, Kirkhill)

"There was no advice, information, or interest in reducing the risk in the event of it happening again" Resident, Middleton)

There is wide spread concern that the proposed flood defence scheme for Morpeth will not materialise/be implemented quickly enough, as there has been talk of schemes before and nothing has happened. Residents want a guarantee of protection from flooding and they want the scheme now, not in 2013,

"Future plans should be put in place and then 'upped'".

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7 RECOMMENDATIONS

7.1 Summary of Recommendations

Recommendations have been made throughout this report aimed at improving the preparedness, response and recovery for any future flood event. The recommendations are summarised in Table 7-1.

Table 7-1: Summary of Recommendations

Recommendation Reference	Recommendation Detail
RECOMMENDATION 1 -	The Environment Agency Local Flood Warning Plan should outline the contingency arrangements in place for issuing flood warnings to the public in the event of a failure of Floodline Warnings Direct.
RECOMMENDATION 2 -	The Castle Morpeth Borough Council Emergency Plan should be revised to incorporate the proposed amendments.
RECOMMENDATION 3 -	The Castle Morpeth Borough Council Flood Action Plan should be revised to incorporate the proposed amendments.
RECOMMENDATION 4 -	The Northumberland County Council Emergency Community Assistance Plan should be revised to incorporate the proposed amendments.
RECOMMENDATION 5 -	The Castle Morpeth Borough Council Recovery and Restoration guidance document should be revised to incorporate the proposed amendments.
RECOMMENDATION 6 -	The emergency community in Castle Morpeth should continue to promote and participate in multi-agency flood exercises at regular intervals, including identifying lessons and implementing recommendations.
RECOMMENDATION 7 -	The Environment Agency and Castle Morpeth Borough Council should consider further awareness raising activities to inform the public of the roles and responsibilities of the responding agencies during a flood, encourage self help and manage expectations of what can and cant be done in such an emergency.
Error! Reference source not found.	Error! Reference source not found.
RECOMMENDATION 9 -	The emergency response community should investigate the reasons why some of the flood watches and warnings issued by the Environment Agency were not adequately disseminated to each organisation and put in measures to rectify this.
RECOMMENDATION 10 -	The Environment Agency should give consideration to issuing Flood Watches during daylight or office hours if there is reasonable confidence that the Flood Watch trigger will be met at a later stage.
RECOMMENDATION 11 -	Northumbrian Water should review the arrangements in place for deployment of pumps to Eland Haugh Estate. A partnership with the Environment Agency should be considered to link early deployment with early warnings of the flooding situation
RECOMMENDATION 12 -	Castle Morpeth Borough Council and Northumberland County Council should seek to improve the frequency of communications between the two organisations during the early stages of a major incident

Recommendation Reference	Recommendation Detail
RECOMMENDATION 13 -	Northumberland County Council should review their plans and procedures to ensure the timely provision of resources in response to requests for evacuations.
RECOMMENDATION 14 -	Castle Morpeth Borough Council in conjunction with the Police and Fire Service should evaluate the appropriateness of evacuation during flood events in Morpeth and give consideration to containment, where appropriate, in order to reduce the risk of injury or death to the public and officers from responding agencies.
RECOMMENDATION 15 -	Should officers from any responding organisation be required to carry out evacuation through flood water, they should be appropriately trained and using personal protective equipment that is fit for purpose.
RECOMMENDATION 16 -	Northumberland County Council should ensure that emergency contact arrangements for the provision of services are regularly maintained and contingency arrangements planned.
RECOMMENDATION 17 -	CMBC require a clearer policy on the provision of sandbags linked to the provision of public information which outlines the level of service the public can expect in this regard.
RECOMMENDATION 18 -	All responding agencies, who rely on mobile telephony, including mobile radios, should consider improving their systems to ensure robustness and reliability when managing a flood event..
RECOMMENDATION 19 -	As part of the multi-agency command and control (also see RECOMMENDATION 23 -), a co-ordinated media strategy is required to ensure the public are up to date and to send out key messages to try and avoid gridlock and keep the roads as free as possible.
RECOMMENDATION 20 -	Consideration should be given to improving information management systems in order to better co-ordinate, manage and disseminate data and information during a major incident.
RECOMMENDATION 21 -	It is recommended that Northumbria Police play a role in the review of the Castle Morpeth Flood Action Plan to ensure a cohesive multi-agency response to flooding in the Borough. And to appropriately distribute the Plan within the force to ensure that those who require the information contained within the Plan, have it when needed.
RECOMMENDATION 22 -	Consideration should be given to establishing triggers for the timely declaration of a major incident in the event of major flooding. The responding agencies within the Northumbria Police area should work with the Environment Agency to achieve this.
RECOMMENDATION 23 -	To achieve common understanding of the command and control structure established within the Northumbria Police area, the responding agencies should work together to put in effect a programme of multi-agency training and exercising of Gold, Silver and Bronze within the command and control structure.
RECOMMENDATION 24 -	The availability of IT infrastructure at Gold, Silver and Bronze Commands should be reviewed to improve the communications between command centres and organisations in attendance.
RECOMMENDATION 25 -	The appropriateness of the location of Gold, Silver and Bronze Commands should be reviewed and alternatives sought should they be found to be inappropriate for the management of flood events.
RECOMMENDATION 26 -	Castle Morpeth Borough Council should investigate the increase in accommodation prices and pro-actively work with landlords to

Recommendation Reference	Recommendation Detail
	avoid this situation happening in the future.
RECOMMENDATION 27 -	Northumberland Care Trust to give consideration to ensuring that long term support systems are in place for those facing long term psychological problems.
RECOMMENDATION 28 -	Castle Morpeth Borough Council to ensure that residents and business owners are aware that they can use local companies to carry out flood repair work.
RECOMMENDATION 29 -	Castle Morpeth Borough Council should give consideration to proactive discussions with insurers via the Association of British Insurers to achieve a co-ordinated community based response by the insurance companies
RECOMMENDATION 30 -	Castle Morpeth Borough Council should give consideration to inviting Northumbrian Water to attend the Clean Up and Infrastructure Group and the Community Recovery and Restoration Committee meetings.

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A.1 PROPOSED IMPROVEMENTS - CASTLE MORPETH BOROUGH COUNCIL EMERGENCY PLAN

A.1.1 Proposed Improvements

The Castle Morpeth Borough Council Emergency Plan is well structured and comprehensive however a number of improvement points are proposed. These are detailed below:

<i>Section One - 1.9.2</i>	References to the Bellwin Scheme should refer to its new name – the <i>Emergency Financial Assistance Scheme</i>
<i>Section Three - 3.2.1</i>	In the case of a major incident with the potential to affect other authorities, it would be advantageous to specify in the plan that Northumberland County Council should be contacted. This would aid the decision as to the most appropriate Control Centre to open. Even if not directly involved, the County Council should be made aware of the incident and that the borough Control Centre is in use.
<i>Section Three - 3.4.2</i>	The term Emergency Director needs clarification. Does this mean Director of Emergency Operations?
<i>Section Three - 3.5</i>	Bullet point 4 makes reference to Section 5 – Appendix 1 this does not appear in this plan.
<i>Appendix 3</i>	This appears to show the call handling part of the Control Centre only. It would be helpful if a floor plan showing the whole Control Centre and how it would be used on the day were included in this document.
<i>General Comments</i>	<p>The document would benefit from an additional section considering how the Council would respond should there be an Emergency Incident affecting the community at the same time as a Business Continuity incident affecting the Council's own offices and staff. Scenarios to consider should include</p> <ul style="list-style-type: none"> • a major power outage affecting the locality - would the incident control room still be able to operate? Are there any generators in place to ensure a constant source of electrical supply? • The control room relies on having a telephone service which requires a power supply. Is there a back-up power supply for incidents resulting in a major power outage? <p>Having a clearly defined owner for the plan and introducing a version control system is recommended. All amendments should be made electronically and circulated to a predefined list of recipients.</p> <p>Restructuring the plan to place the table of contents at the front would make it easier to use and the plan would benefit from having a distribution list added. A predefined timetable for reviewing the plan and testing it would also be valuable additions.</p>

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A.2 PROPOSED IMPROVEMENTS – CASTLE MORPETH FLOOD ACTION PLAN

A.2.1 Proposed Improvements

A number of improvement points are proposed in relation to the September 2008 Flood Action Plan. These are detailed below.

- The FAP is laid out in a logical manner with tables of actions to be carried out following the issue of a Flood Watch through to Flood Warning and Severe Flood Warning for the different communities at risk of flooding. This approach would appear to work for floods that follow a smooth transition from one state to another, i.e. flooding of high risk to low risk areas with enough time for actions to be carried out between flood warnings being issued. In Morpeth, there is one Flood Watch, one Flood Warning and five Severe Flood Warnings. During the September floods the warnings were issued in quick succession (SFW for High Stanners issued at 11:14 on 6th September, the SFW for Town Centre issued at 11:15, one minute later). This raises the question as to whether there was enough time to carry out the actions listed in the FAP.
- The FAP would benefit from the inclusion of actions to be carried out on receipt of a Met Office Heavy Rainfall Warning or advance notice from the Environment Agency. The responding agencies and public may benefit from a heightened state of alertness prior to the onset of rainfall.
- It has been reported that many of the evacuation routes described in the FAP were themselves cut off due to floodwater. It is recommended that the routes are reviewed in light of this evidence.
- There is a strong emphasis placed on evacuation as an action throughout the FAP. Has consideration been given to containment? Would it be safer to leave residents in their properties, where this is feasible, rather than evacuate through floodwater potentially putting the lives of the public and emergency services at increased risk?
- The FAP would benefit from outlining the roles and responsibilities of duty officers mentioned (DEO, FWDO etc).
- The FAP would benefit from outlining the roles and responsibilities of the responding organisations during a flood event.
- Page 16 outlines a potential flooding scenario for Morpeth. It is recommended that this is reviewed in light of the September floods.
- The FAP makes several references to the Automated Voice Messaging (AVM) system. This was replaced in 2006 by Floodline Warnings Direct (FWD) and should be updated.
- The mapping of 100-year and 200-year flood outlines could be improved, there is poor definition of the outlines (pages 23, 24, 53, 54 are examples of this). Rather than showing the 200-year outline, the available 1000-year outline will provide the extreme flood outline for those involved.
- The Flood Warning Area references in the action tables are complex, for example 121FWFNW115. It would benefit the FAP if there were hyperlinks from the action tables to the maps detailing the Flood Warning Areas.
- There appears to be discrepancies between the Flood Warning Areas and the Extreme Flood Outline. Is the entire Extreme Flood Outline covered by Flood Warning Areas within each at-risk community? An example of this is the Sewage Works in Morpeth.
- The Eland Haugh Estate in Ponteland whilst shown at risk of flooding in the Extreme Flood Outline, does not appear to be covered by a Flood Warning Area.
- The same map appears on page 62 and 63.

- There isn't an action table for the issue of Flood Warning NW114 – River Pont at Kirkley Mill and Ponteland.
- Page 65 reports that 36 properties were flooded in 1992 in Brinkburn, Weldon and Felton, yet the Flood Warning Area NW110 is listed as having one property at risk. Was 1992 a surface water flooding event or non-main river? If so this should be stated. If not then the Flood Warning Area may not cover all the properties at risk.
- Page 76 refers to Critical Ordinary Watercourses that are to become the responsibility of the Environment Agency on 1st April 2006. It has been assumed that this has happened, however, from the evidence gathered to date, it is concluded that these watercourses are not included within the flood warning service.

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A.3 PROPOSED IMPROVEMENTS - NORTHUMBERLAND COUNTY COUNCIL EMERGENCY COMMUNITY ASSISTANCE PLAN

A.3.1 Proposed Improvements

The Northumberland County Council Emergency Community Assistance Plan is well structured and easy to use however a number of improvement points are proposed. These are detailed below:

<p><i>Section One - 1.4</i> <i>Emergency Expenditure.</i></p>	<p>References to the Bellwin Scheme should refer to its new name – the <i>Emergency Financial Assistance Scheme</i></p> <p>Setting up a specific expenditure code prior to an emergency occurring would be advantageous. This would allow all documentation to have the correct details on from the start. It may also be difficult to generate a code should the disaster have an effect on the County's IT infrastructure.</p>
<p><i>Section One - 1.6</i> <i>Mutual Aid Arrangements</i></p>	<p>More clarity would be beneficial to define how the use of mutual aid will be controlled and authorised by the County Council. How will these services be charged to, and paid for by the County Council?</p>
<p><i>Section One - 1.7</i> <i>Recovery and Restoration</i></p>	<p>The document gives the impression that Recovery and Restoration will start when the emergency services have left the scene and the incident has been 'handed over' to Local Authorities. In practice, this group would need to be set up before this as they would have an input into the way the disaster would be handled. It is not clear from the document who would have overall charge in this situation and how the County Council would inter relate with the Districts and Boroughs in their area. Castle Morpeth Borough Council has a detailed Community Recovery and Restoration Plan which states (section 5.1.1) that Castle Morpeth Borough Council will lead the recovery and restoration process however it is not clear whether this is for the borough of Castle Morpeth or the County.</p>
<p><i>Section Two - 2.8</i> <i>Northumbria Police</i></p>	<p>Bullet point one should read Major Incident declaration not declonation</p>
<p><i>Section Two - 2.9</i> <i>British Transport Northumbria Police</i></p>	<p>The address given is for Wales and Western area not the North Eastern Area Headquarters</p>
<p><i>Section Two - 2.10</i> <i>North East Ambulance Service NHS Trust</i></p>	<p>Postcode given on the web site is NE15 8NY</p>
<p><i>Section Two - 2.11</i> <i>Health Protection Agency North East</i></p>	<p>Address given on the web site is different to that in the document</p>
<p><i>Section Two - 2.13</i> <i>Maritime and Coastguard Agency</i></p>	<p>Address given on the web site is different to that in the document</p>
<p><i>Section Three - 2</i></p>	<p>Address given on the web site is different to that in the document</p>

<i>CE Electric</i>	<p>United Utilities address not given on web site</p> <p>Power System (Scottish Power) address not given on web site</p>
<p><i>Section Three - 7</i></p> <p><i>British Telecom PLC</i></p>	Address not given on web site
<p><i>Section Three - 10</i></p> <p><i>Northumbria Water Limited</i></p>	Address not given on web site
<p><i>Section Three - 11</i></p> <p><i>Highways Agency</i></p>	Address given on the web site is different to that in the document
<p><i>Section Five</i></p> <p><i>Northumberland County Council Emergency Centre</i></p>	<p>It is recommended that further detail be added to the plan to describe the layout and content of the Emergency Centre. The addition of a floor plan would help clarify if there is sufficient space to hold all the different meetings that would need to take place. There could be meetings of a Silver Control Group, Recovery Working Group, representatives from the six Northumberland County Council Directorates and the six Borough or District Councils all at the same time.</p> <p>The plan would benefit from additional information relating to the resilience of the county Emergency Centre. Would it be able to cope in the event of power loss to the area? Does it have a generator on standby? If it is seriously compromised is there an alternative Emergency Centre that could be used?</p>
<i>General Comments</i>	<p>The bottom of each page refers to Section 6 – Confidential Telephone Directory which is held within the Emergency Planning Dept. There is no Section 6 in this document so it is not clear which document this is referring to. It appears there is only one copy of this telephone directory which could prove problematic should a disaster prevent access to the Emergency Planning Department. The same could also be said if copies of the other plans are not kept off site.</p> <p>The Council's plan refers to the job titles of people who need to be contacted in an emergency. In the Confidential Telephone Directory is it easy to identify the person who needs to be contacted and are all the contact details up to date? Are they regularly reviewed and checked and what evidence can be provided to show this has been done?</p> <p>The plan would benefit from being version controlled and having a distribution list added. A predefined timetable for reviewing the plan and testing it would also be valuable additions.</p>

A.4 PROPOSED IMPROVEMENTS - CASTLE MORPETH BOROUGH COUNCIL COMMUNITY RECOVERY AND RESTORATION GUIDANCE DOCUMENT

A.4.1 Proposed Improvements

The Castle Morpeth Borough Council Community Recovery and Restoration Guidance Document (July 2007) contains good advice about the issues that would affect the community following a disaster but would benefit from additional advice relating to resolving problems. It would also be improved by having a simplified structure with a reduced number of appendices and sub appendices.

A number of improvement points are proposed. These are detailed below:

<i>Section One - 1.1.1 History</i>	This guidance document is designed to cover Castle Morpeth only. A similar inter-related document is required for Northumberland County Council.
<i>Section Two - 2.1.3 Restoration</i>	The definition of restoration is very narrow. A wider definition would allow the inclusion of flooding and other possible events.
<i>Section Three/Four Handover from Emergency Phase to Recovery and Restoration Phase.</i>	This may work for a local disaster but it needs to ensure it can interrelate with the Northumberland County Council plan for events that affect multiple District/Borough councils.
<i>Section Five – Structure – 5.1.1</i>	The document needs to clarify if this applies only to local disasters. If the disaster affected other areas then it would fall into the County Council's jurisdiction.
<i>Section Five – Structure – 5.1.2</i>	The document should refer to who the nominated personnel for the groups are, and how, and by whom, they are going to be contacted. The membership of the group is large. This may cause difficulties with regard to full attendance at meetings.
<i>A1 Appendix A</i>	The Recovery and Restoration Coordination Group is likely to be in existence at the time of the disaster and working with Silver Control.
<i>A6 Appendix E</i>	The document would benefit from the addition of an extra bullet ' <i>ensure all decisions are documented and paperwork properly completed</i> '.
<i>A8 Appendix G bullet 2</i>	References to the Bellwin Scheme should refer to its new name – the <i>Emergency Financial Assistance Scheme</i>
<i>A 9.2.2</i>	To avoid confusion with IT recovery terminology this section would be improved by rewording ' <i>The Principles of Disaster Recovery and Restoration</i> ' to ' <i>The Principles of Recovery and Restoration following a disaster</i> '.
<i>General Comments</i>	The document would benefit from being version controlled and having a distribution list added. A predefined timetable for reviewing the guidance and testing it would also be valuable additions. Other useful additions would be contact numbers for players, details of where the Emergency Control desk is and maps of the

	<p>area.</p> <p>It may be beneficial if the guidance is reviewed again against the National Recovery guidance, Recovery Plan Guidance Template produced by the Government, particularly the definitions.</p> <p>It may be more appropriate to use the term 'Regeneration' instead of 'Restoration'.</p>
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Appendix B Summary of Public Correspondence

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B.1 PUBLIC CORRESPONDENCE

B.1.1 Public Correspondence

A significant amount of correspondence has been received from the public. This is summarised in the table below.

Name	First Line of Address	Community	Summary of Correspondence
G & S Richell	Previous residence: 5 Abbey Terrace	Morpeth	Praise for the automated flood warning system and the clean/up recovery operation. Concerned regarding possible future flooding. Disappointed regarding the delay in receiving sandbags and the ineffectiveness of 'floodsax'.
T Smith			Concerned the action plans of the emergency services and council are inadequate and that priorities are aimed more at protecting wildlife than at reducing flood risk.
S G & A P Eardley	16 Fairney Edge	Ponteland	Suggestions for remedial action on the Fairney Burn, Ponteland.
Anon		Middle Greens	Suggests future plans should include informing the public when and how best to evacuate their homes.
W S & G E Boone	11 Church Flatt	Ponteland	Feel the flooding may have been avoided if pumps had been used on the holding basin alongside the road to Eland Haugh to keep drains flowing.
I C Brown	2 Church Flatt	Ponteland	Concerned about the lack of flood warning for the Church Flatt estate. Feels pumps were brought in too late to prevent flooding caused by surface water drains backing up.
R Pearson	4 Church Flatt	Ponteland	Felt there was a lack of awareness among authorities of the flood problem in the initial stages of the flood. Questions whether procedures in place to prevent flooding of the surface water drainage system are being followed.
Mrs C V Miles	15 Church Flatt	Ponteland	Suggests the flooding appeared to be the result of a pump not being available to pump water to a holding area.
D Capps			Concerned regarding the distribution of sandbags.
K Wilson	Church Flatt	Ponteland	Failure of Northumbrian Water to activate their emergency plan. Questions the co-ordination of the various agencies, in relation to the flood plan.
J & S Dodd	41 Bennett's Way	Morpeth	Previous complaints regarding an inadequate drainage system appear to have been ignored. Questioning why Middle Greens received no

Name	First Line of Address	Community	Summary of Correspondence
			<p>flood warning.</p> <p>Was the collapse of the weir responsible for the river surge and if so why had it been allowed to fall into a state of disrepair?</p> <p>Questioning why adequate flood defences have not been considered before and why there is a delay until 2011 before adequate defences are secured.</p>
Mr A H Brook		Morpeth	<p>Commenting on the condition of the rivers in the local area.</p> <p>Suggestions for the prevention of flooding in Morpeth.</p>
C G Foster	Gas House Lane		<p>Suggests the flood warning received should have been more specific.</p> <p>Asks if a loud-hailer would be more appropriate to give a prompt warning.</p> <p>Praise for the assistance from the council and volunteer agencies after the flood.</p> <p>Help was not universal. Some areas were receiving help to the detriment of others.</p>
R Pollard	33 Northbourne Avenue	Morpeth	<p>Praise for Borough Council, emergency services and members of the community.</p> <p>Questioning whether the flood emergency plan was subject to periodic reviews and testing.</p> <p>Hopes the repair work to come and the expansion of the flood protection will cover some of the major issues regarding the risk of flooding.</p>
Mr T Smith	Ford House	Morpeth	<p>Concerned that use of police officers lacking in local knowledge restricts the response to flooding.</p> <p>Raised several issues relating to safe escape routes such as the lack of easily identifiable routes and markings to give an indication of depth of water.</p> <p>Asks what effect raised water levels have on surface water drains in the town.</p>
Mr T Smith	Ford House	Morpeth	<p>Comments on the failure of the council to implement its flood action plan.</p> <p>Suggests a fire action plan as a good starting point to base a flood response plan.</p> <p>Asks what monitoring of dams is currently taking place and how warnings are passed in the event of a dam collapse</p>
C Scott	19 Bennett's Walk	Middle Greens	<p>Gives a detailed account of her experience of the flooding.</p> <p>Comments on the lack of flood warning for Middle Greens.</p> <p>Disappointed about the lack of assistance for people living in Middle Greens compared to other areas of Morpeth.</p>

Name	First Line of Address	Community	Summary of Correspondence
			Concerned about the lack of a roll-call to determine if anyone was missing.
K W Dodd		Ponteland	Comments on the flooding caused by the blockage of one of the arches of the bridge on Grange Road. Asks for the river bed and this blockage to be cleared.
Mrs A Kirkwood	The Old Schoolhouse	Cresswell	Describes how during the peak of the flooding all three major roads into Cresswell were impassable. Suggests this was partly due to blocked 'gullies' and asks whether it is possible for the gullies to be cleaned out more frequently.
Flooded Single Parent		Morpeth	Uninsured property owner who was registered with EA but received no flood warning. Concerned about more flooding this spring when they feel the river is 'traditionally' at its highest. Disappointed about the lack of information from the council over evacuation and poisonous mould. Suggests a national programme for monitoring and predicting rainfall levels.

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C.1 DETAILED RESPONSIBILITIES – CASTLE MORPETH BOROUGH COUNCIL

C.1.1 Detailed Responsibilities

Castle Morpeth Borough Council is a Category 1 responder. It plays a critical role in the civil protection of local communities and provides a wide range of services that can be called on during an emergency response situation. The specific roles and responsibilities of Castle Morpeth Borough Council are given below.

Responsibility	Who should carry this out	What is their day to day role
Liaison with the emergency services, including provision of a liaison officer at incident control (Silver) if requested	Director of Emergency Operations	Chief Executive
Mobilisation of Northumberland County Council emergency response via the Emergency Planning department	Director of Emergency Operations	Chief Executive
Provision of rest centres/ reception centre facilities, emergency feeding, transport and re-housing services, including long term temporary accommodation	Accommodation Officer	Head of Tenancy Services
Provision of a housing repairs service and ensuring structures are safe	Building Control	Housing Repairs / Building Control
Provision of labour, plant, operational transport and materials at the incident site	Green and Clean Unit	Green and Clean Unit
Setting up and marking up route diversions, along with Police guidance, and carrying out required road repairs	Green and Clean Unit	Green and Clean Unit
Clearance, removal and disposal of debris	Green and Clean Unit	Green and Clean Unit
Provision of the management of administrative support to the Director of Emergency operations	Emergency Control Centre Manager	
Provision of emergency catering for support staff and volunteers	Emergency Control Centre Manager	
Provision of records of local ownership and occupants via electoral roll and council tax information	Emergency Control Centre Manager	
Provide a local information service	Media Relations Officer	Media and Communications Officer
Set up and provide administrative support, alone or in conjunction with other authorities, regarding access and provisions from the disaster appeal fund		Mayor
Public Health and Environmental Protection (in consultation with the Environment Agency and the Health Protection Agency) including provision of hygiene advice and environmental monitoring action under the Food and Environmental Protection Act 1985 and action under the Temporary Mortuary Plan, the Radiation Emergency Response Plan and the Draft Chemical Incident Plan	Environmental Protection Section Principal EHO	
Liaison with neighbouring councils and public health bodies		Any Duty Officer

Responsibility	Who should carry this out	What is their day to day role
Activate rest centre plans		
Ensure transport is in place for identified residents to aid evacuation		

In addition, CMBC has responsibilities which cannot be specifically allocated to one individual. Many of these require working with other organisations as part of the multi agency response. These include:

- Provision of information and advice and collaboration with others to decide whether to evacuate at risk residents;
- Member of the Strategic Coordination Group;
- Take the lead role during the recovery phase;
- Member of the Recovery and Restoration Coordination Group – as part of a team who concentrate on devising and implementing strategies for recovery and building the public's confidence in order to restore normality at the earliest opportunity;
- Member of the Community and Restoration Committee – to reflect community concerns, feelings and initiatives and assist in informing the wider community. Also, they will assist in the Needs Assessment of the affected community;
- Member of the Welfare Group – concerning adult social care and health during recovery. They play a part in coordinating the provision of a full range of practical assistance, comfort and, where necessary, counselling to those directly or indirectly affected by the emergency;
- Member of the Economic Recovery Group – this group assesses the economic implications on the affected area and provides assistance and support to affected businesses;
- Member of the Health Advisory Group – who bring together all relevant health expertise during recovery, normally after the initial health impacts have been addressed by the Scientific Technical Advisory Cell, to prepare a health monitoring and protection strategy;
- Member of the Communications group - a representative will work with others to continue and expand upon the work of public and media teams set-up during the emergency phase;
- Member of the Clean up / Infrastructure Group – their expertise is used to give viable options for clean up, repair and replacement, especially after a flooding event.

C.2 DETAILED RESPONSIBILITIES – NORTHUMBERLAND COUNTY COUNCIL

C.2.1 Detailed Responsibilities

As a Category 1 responder Northumberland County Council has the following responsibilities during an emergency response:

- Mobilisation of local authority response by alerting district and borough councils where appropriate;
- Coordination and monitoring of local authority operations where appropriate;
- Provision of rest / reception centre accommodation, including emergency feeding;
- Repairs to highways, bridges and other structures;
- Responsible for the provision of fire and rescue services;
- Provision of an Emergency Planning Department which will activate the Emergency Community Assistance Plan;
- Member of the Recovery and Restoration Coordination Group – as part of a team who concentrate on devising and implementing strategies for recovery and building the public's confidence in order to restore normality at the earliest opportunity;
- Member of the Economic Recovery Group – this group assesses the economic implications on the affected area and provides assistance and support to affected businesses;
- Member of the Communications group – a representative will work with others to continue and expand upon the work of public and media teams set-up during the emergency phase;
- Member of the Clean up / Infrastructure Group – their expertise is used to give viable options for clean up, repair and replacement, especially after a flooding event;

In addition, Northumberland County Council is responsible for providing several Directorates. These are listed below and their responsibilities are detailed in section C.2.2.

- Chief Executives Directorate
- Personnel and Administration Directorate
- Children's Services Directorate
- Finance Directorate
- Community and Environmental Services Directorate
- Social Services (Adult) Directorate

C.2.2 Directorates' Responsibilities

Northumberland County Council's responsibilities include the provision of several Directorates. These are listed below with their individual responsibilities.

Directorate / Division	Responsibilities
Chief Executives Directorate	Represent the County Council in Gold Command
	Provide senior officers to join the Emergency Coordination Team
	Liaise with the Chief Executives of District Councils
	Allow Chief Officers / Service Managers to authorise expenditure
	Produce post-incident report on the County Council's operational response and expenditure

Directorate / Division		Responsibilities
		Provide a communications unit to set up and resource a media centre' liaise with media representatives, prepare press statements and reports, including advice via NEIL and the County Council website, in conjunction with senior officers and elected members, liaise with press officers, emergency services and other responding organisations and arrangements for VIP visits.
Personnel and Administration Directorate		Assist coordination with voluntary aid organisations and individuals
		Provide emergency counselling support via the welfare officer
		Provide general health and safety support, advice and expertise
		Provide an administrative and legal department which can provide senior officers to attend the Emergency Coordination Team, provide legal advice to chief officers and members, provide records of property ownership, provide services to the council's Emergency Committee, arrange any memorial services required and set up and administer the disaster appeal fund along with the financial directorate, if required.
Children's Services Directorate		Provide senior officers to join the Emergency Coordination Team
		Identify / liaise with schools for use as emergency rest centres following evacuation or temporary homelessness
		Use their regular contractors to assist with transportation of school children and evacuees
		Provide interim care for students unable to return home
		Provide the Northumberland Families and Children's Trust to enable different organisations to work together to improve the well being of all children, young people and their parents in Northumberland. The Trusts board meets quarterly and the Trusts leadership team meets monthly.
Finance Directorate		Provide senior officers to join the Emergency Coordination Team
		Provide advice to chief officers and members regarding supplementary funding to meet operational requirements in excess of budget provisions
		Authorise emergency expenditure
		Liaise with DSS, DoE and other central government departments
		Provide financial advice to social services, relating to their services to the public
		Set up and chair the Disaster Appeal Fund (with the Personnel and Administration Directorate)
		Collate financial information from other directorates, district councils and supporting voluntary organisations in respect of abnormal expenditure due to the emergency
		Provide IT support outside normal hours
		Provide a printing service, including map printing and reprographics
Community and Environmental Services Directorate		Provide senior officers to join the Emergency Coordination Team
		Provide a facilities division
	Facilities Division	Provide the following service for schools - cleaning, catering, grounds work and caretaking
		Provide the following services for County Hall and Hepscoth Park - cleaning, catering, grounds work, caretaking, out of hours receptions, a supply of attendants and provision of a post room

Directorate / Division		Responsibilities
		Provide property services such as the provision of information on the structural condition of damaged buildings, repairs, liaison with contractors, providing emergency services with plans of local authority owned buildings, liaison with public utilities, opening County Hall, coordination of personnel to manage premises out of hours; adapting premises for temporary use in ongoing operations and restore as closure of the emergency and maintenance of operational and financial records
		Provide highway services and transport regarding the provision and coordination of plant, labour, transport and other resources necessary to mitigate the effects of the emergency, and in response to requests from the emergency services; provision of winter servicing equipment, provision of radio communications and liaison with civil engineering contractors, provision of transport services, assistance with clear-up of coastal and river oil pollution, facilitating resource acquisition, road signing and assistance with traffic management as request by the police, provision of emergency lighting, clearance and disposal of debris, including contaminated material, emergency measures against flooding, rectification of faulty street lights and provision of transport for evacuees, local authority staff and rescue workers
		Provide consumer protection, planning and waste management to undertake activities on behalf of the County Council regarding public protection and regulation, spatial planning, environmental planning, minerals and waste planning, waste management, trading standards, historic and nature conservation, arrangements instituted under the Food and Environmental Protection Act as a result of the incident (in consultation with Food Standards Agency and Environmental Health Officers) concerning animal health arrangements in an emergency, execution of local authority statutory obligation in the event of a rabies outbreak and assisting in monitoring importation of radioactive non-food consumer goods
		Provide an amenities service to assisting the provision of information to the public
Social Services (Adult) Directorate		Provide senior officers to attend the Emergency Coordination Team
		Provide immediate post disaster trauma counselling services to victims, relatives and aid workers
		Provide immediate welfare advice
		Liaise with police casualty bureau
		Liaise with voluntary and welfare organisations to provide short term comfort and support
		Assist with distribution of monies from the disaster fund
		Provide assistance with any available properties and vehicles

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C.3 DETAILED RESPONSIBILITIES – POLICE

C.3.1 Detailed Responsibilities

The Police force is a Category 1 responder and the local response in the Morpeth area is in accordance with the Northumbrian Police Major Incident Plan. During an emergency they hold the following responsibilities:

- Initial assessment of the emergency;
- To consider activating the Northumbrian Police Major Incident Plan;
- To declare a major incident to trigger the establishment of Gold Control;
- Control and coordination of activities occurring at the incident site and the site's security. This is done by setting up inner and outer cordons, setting up diversions and establishing access routes, rendezvous points and incident command points;
- Mobilisation of appropriate police response and the alerting of other emergency services, local authorities and support organisations;
- Provision of emergency communications to each responding agency's incident officer if required and authorised;
- Arrangements for control and coordination of the media; including media statements, conferences, provision of media liaison officers to liaise with other organisations and the media;
- Identification of the deceased in the absence of a coroner;
- Establish a casualty bureau, including rest centres and temporary casualty reception areas, and take responsibility for all related documentation and the collation and dissemination of casualty information;
- Incident investigation in conjunction with other investigatory bodies when applicable;
- Establish and manage a telephone facility for the use of the Northumbria Local Resilience Forum to allow them to provide advice and information to the public;
- Put all recorded messages for all key response organisations according to the text they provide, onto the NEIL voice bank system to help deal with public calls;
- Protection and preservation of the scene;
- Assist local authority in coordinating and controlling an evacuation. This duty includes being involved in the decision to evacuate and the notification of residents affected by this decision. Police also deal with issues concerning evacuation routes, evacuation priorities and traffic control measures;
- Carry out relevant handover procedures when scaling down the operation and beginning recovery;
- Members of the Recovery and Restoration Coordination Group – they are part of a team who concentrate on devising and implementing strategies for recovery and building the public's confidence in order to restore normality at the earliest opportunity.
- Members of the Communications group - where a representative will work with others to continue and expand upon work of public and media teams set-up during the emergency phase.

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C.4 DETAILED RESPONSIBILITIES – FIRE AND RESCUE SERVICES

C.4.1 Detailed Responsibilities

The Fire and Rescue Service is a Category 1 responder and during an emergency response they have the following responsibilities:

- Take charge of fire fighting, decontamination and search and rescue operations;
- Carrying out detailed risk assessments of the incident scene;
- Establish forward control point (s);
- In conjunction with the Police they should, where necessary, control access to the established inner cordon until the area is deemed safe;
- Be responsible for the health and safety of all personnel, including agency workers, in the inner cordon ensuring relevant briefing is given and workers are properly equipped. Liaison with the police is required to decide who will be allowed into the inner cordon to work;
- Take the required action to toxic/ noxious substance release or the likelihood of explosion;
- Advise Police of the effects and actions to be taken to safeguard responders and the general public;
- Provide access to CHEMET and CHEMDATA;
- Provide specialist equipment and teams to deal with situations at the scene;
- Arrange support for local authorities and other organisations, as required;
- Implement detection and monitoring procedures where radioactive substances are suspected / known to be involved;
- Liaise with other emergency services;
- Assist, where appropriate, the Ambulance Service and Police with casualty handling, casualty transportation and recovery of bodies;
- The Fire Service Incident Commander has authority over the mobilisation of the HPV unit at the scene. On mobilisation the Fire Service Incident Commander should use the standard assistance message of "Request Attendance of High Volume Pumping Unit";
- Members of the Recovery and Restoration Coordination Group – they are part of a team who concentrate on devising and implementing strategies for recovery and building the public's confidence in order to restore normality at the earliest opportunity.

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C.5 DETAILED RESPONSIBILITIES – PRIMARY CARE TRUST

C.5.1 Detailed Responsibilities

The North East PCT is a Category 1 responder and during an emergency response has the following responsibilities:

- The provision of immediate post-disaster care for adults (18+);
- The provision of immediate welfare advice to adults;
- Liaison with the regional Director of Public Health throughout the response;
- The provision of services to deal with an increased influx of patients, including those with minor injuries;
- The administration of preventative measures such as drugs or vaccines to protect the health of the population;
- The staffing of an emergency telephone helpline;
- Liaison with the Police regarding the casualty bureau;
- Liaison with voluntary and welfare organisations to provide the affected community with short term comfort and support;
- Assisting with the distribution of monies from the disaster fund;
- The mobilisation of primary care and community resources, such as building and / or transport resources at any time during a response if circumstances allow.
- Members of the Recovery and Restoration Coordination Group – they are part of a team who concentrate on devising and implementing strategies for recovery and building the public's confidence in order to restore normality at the earliest opportunity;
- Members of the Welfare Group – concerning adult social care and health during recovery. They play a part in coordinating the provision of a full range of practical assistance, comfort and, where necessary, counselling to those directly or indirectly affected by the emergency.
- Members of the Health Advisory Group – who bring together all relevant health expertise during recovery, normally after the initial health impacts have been addressed by the Scientific Technical Advisory Cell (STAC), to prepare a health monitoring and protection strategy.

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C.6 DETAILED RESPONSIBILITIES – HEALTH PROTECTION AGENCY

C.6.1 Detailed Responsibilities

The Health Protection Agency is a Category 1 responder and during an emergency response has the following responsibilities:

- Providing services within the Public Health Laboratory Service, including the Communicable Disease Surveillance Centre and Central Public Health Laboratory;
- Providing services within the Centre for Microbiology and research;
- Providing services within the National Focus for Chemical Incidents;
- Providing services within Regional Service Providers Units to help support management of chemical incidents;
- Providing services within the National Poisons Information Service;
- Providing services within the NHS Public Health staff body responsible for infectious disease control, emergency planning and other protection support;
- Members of the Recovery and Restoration Coordination Group – they are part of a team who concentrate on devising and implementing strategies for recovery and building the public's confidence in order to restore normality at the earliest opportunity;
- Members of the Health Advisory Group – who bring together all relevant health expertise during recovery, normally after the initial health impacts have been addressed by the Scientific Technical Advisory Cell (STAC), to prepare a health monitoring and protection strategy.

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C.7 DETAILED RESPONSIBILITIES – ENVIRONMENT AGENCY

C.7.1 Detailed Responsibilities

The Environment Agency is a Category 1 responder and during an emergency response has the following responsibilities:

- Coordinate and manage the incident's environmental response;
- Assess the risk of the incident to people, the environment and property;
- Prevent or minimise the impact of the incident on human health, the environment and property, particularly where the risk is serious or immediate;
- Investigate and gather information and evidence for possible enforcement and legal action in accordance with its role as a regulator;
- Ensure the owner / operator / polluter takes responsibility for the appropriate remedial actions;
- Where the source is not identified or the action required is not instigated by the owner / operator / polluter, consider the actions to take with regards to remedial actions;
- Ensure remedial action is carried out in an approved, professional and competent manner;
- Notify, warn or advise relevant stakeholders;
- Work effectively with external partners e.g. the emergency services;
- Recover the costs of the incident response and investigation at every opportunity;
- Maintain and clear culvert gates during a flooding situation, unless otherwise stated;
- Ensure adequate resources are available to carry out their tasks;
- Ensure observations of river levels and updates on the situation are carried out and reported to the relevant organisations;
- Ensure relevant signage is in place to warn people of the situation;
- Issue and downgrade warnings, informing the relevant people of these actions;
- Ensuring defences are in use and sandbags in stock are distributed accordingly and as agreed;
- Provision of information for and involvement in the decision to evacuate;
- Notification of residents of flood status and requirement for evacuation via flood warnings direct and loud hailer announcements;
- Members of the Recovery and Restoration Coordination Group – they are part of a team who concentrate on devising and implementing strategies for recovery and building the public's confidence in order to restore normality at the earliest opportunity;
- Members of the Clean up / Infrastructure Group – to use their expertise to give viable options for clean up, repair and replacement, especially after a flooding event.

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C.8 DETAILED RESPONSIBILITIES – BRITISH RED CROSS

C.8.1 Detailed Responsibilities

The British Red Cross is a Category 2 responder and during an emergency response has the following responsibilities:

- Provision of first aiders;
- Provision of emotional and practical support;
- Support to ambulance service;
- Support to HAC, rest centres and evacuation centres;
- Provision of a supply of suitable bedding and clothing to those affected;
- Provision of services within the Disaster Appeal Scheme;
- Members of the Welfare Group – concerning adult social care during recovery. They play a part in coordinating the provision of a full range of practical assistance, comfort and, where necessary, counselling to those directly or indirectly affected by the emergency.

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C.9 DETAILED RESPONSIBILITIES – NORTHUMBRIAN WATER

C.9.1 Detailed Responsibilities

Northumbrian Water Limited is a Category 2 responder and during an emergency response has the following responsibilities:

- To make safe any damaged or threatened water supply pipes;
- To attend Local Resilience Forum Groups on the basis of “right to attend, right to invite”;
- To advise the responding Emergency Services of any potential hazards;
- To cut off water supplies if the situation demands it and reinstate it where and when necessary;
- To ensure that there is an adequate supply of water for fire fighting;
- To provide scientific advice.

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Appendix D Detailed Timeline of Multi Agency Actions

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