

Section 6

Better advice and helping people to protect their families and homes

Summary

This section looks at the importance of public engagement before, during and after floods. It contains chapters on:

- raising awareness before the emergency;
- weather and flood warnings;
- providing advice during an emergency;
- the role of the media; and
- personal and community resilience.

Raising awareness before the emergency

This chapter examines how members of the public can make themselves aware of flood risk and how this process can be facilitated. It contains sections on:

- risk education;
- awareness and action;
- Floodline Warnings Direct; and
- awareness of properties at risk of flooding.

Introduction

20.1 The public needs to be aware of a flooding risk before they can take action to minimise it. But even being aware of risk may not be enough – of those we talked to who actually knew prior to the floods that they were at risk, relatively few had done anything to prepare. This finding is backed up by the Environment Agency's 2008 flood awareness campaign tracking survey¹, which confirmed a widespread apathy and tendency for people to deny the risk and assume it will never happen to them. Of respondents living in flood risk areas, only half (52 per cent) were aware that their property was at risk of flooding and of those, only 57 per cent had taken any measures to prepare in advance, for flooding.

Risk education

20.2 We need to educate the public about flood risk. Evidence to the Review as well as

research shows that some communities at risk of flooding are in a state of denial and choose to ignore the warnings.² The Environment Agency estimates around 75 per cent of people who receive a flood warning currently take some form of action. While this is encouraging, it also indicates that one in every four people aware of a flood warning does not take effective action to limit the impact on themselves and their families. With climate change likely to lead to more varied weather patterns and a greater risk of flooding, householders and businesses need to take greater ownership of the risks and take precautionary action in the same way as they do against other hazards, for example fire.

"Flooding is seen as a complex issue that is difficult to deal with and to control. That is why people choose to ignore it. We receive numerous warnings in everyday life, yet we only have the capacity to deal with some of those. Psychologically we hope that by

¹ Ipsos MORI. Face-to-face survey of 1,129 'at risk' respondents; 21 February -1 April 2008.

² Improving community and citizen engagement in flood risk management decision making, delivery and flood response, R&D Technical Report SC040033/SR3: <http://publications.environment-agency.gov.uk/pdf/SCHO1005BJTC-e-e.pdf>.

ignoring the issue it will go away – but that simply doesn't happen." Philip Hodson, Psychotherapist

20.3 There is a balance to be struck so that people are reminded, and remind themselves, of the risks they face and how best they can contribute. However, this needs to be done without people living in fear. We need an open debate about how our society should handle risk. The Review thinks there could be merit in an education programme on the risks that communities face and that the Government should take this forward, working with the Risk and Regulation Advisory Council.³

RECOMMENDATION 59: The Risk and Regulation Advisory Council should explore how the public can improve their understanding of community risks, including those associated with flooding, and that the Government should then implement the findings as appropriate.

20.4 In terms of facilitating people to be more aware of risk, the Review notes that the Government's National Security Strategy, published in March 2008, announced that a national-level risk register will be published in summer 2008. This will set out the Government's assessment of the likelihood and potential impact of a range of different risks, including from climate change, that may affect the safety and well being of its citizens. The proposed National Risk Register will be updated annually to help local authorities, communities, businesses, and others in preparing for emergencies. Risk is discussed in more detail in Chapter 15.

20.5 Community Risk Registers are available publicly on the websites of most local, borough and county councils. It is open to the public and local businesses to consult these websites and in doing so to raise their awareness of the risks they face and to make resilience plans accordingly. Seeing the risks assessed and set out by the authorities in this way would also serve to assure the public that good systems were in place by the authorities to prepare for risks. **However, not many people outside the emergency planning community are aware of these Registers and we would therefore welcome the Government considering how to raise awareness of their existence.**

Children

20.6 Raising risk awareness more widely across society is likely to take many years, and should ideally begin in childhood. Research submitted to the Review indicates that children are not only aware of the dangers within their environment but are full of ideas for preparing for them.^{4 5} Children have the capacity to perceive high-risk, low-probability disasters, such as flooding, and that they are able to communicate those risks in a way that can influence the actions of those around them.⁶ The United Nations' International Strategy for Disaster Reduction states:

"we know from past experience that children who are taught about natural hazard risks play an important role in saving lives and protecting the community in times of crisis."

20.7 During the evidence gathering process, the Review has been made aware of a range of interesting initiatives to inform children of natural hazards and how to respond in an emergency. We feel it is worthwhile signposting some of these, such as those of 'edu4hazards'⁷

³ The Risk and Regulation Advisory Council is a new advisory group, charged by the Prime Minister to develop a better understanding of public risk, and how best to respond to it, and to foster a more considered approach to public risk and policy making. <http://www.berr.gov.uk/about/economics-statistics/rrac/index.html>

⁴ J. Twigg, 'Disaster risk reduction: Mitigation and preparedness in development and emergency programming', 2004, Overseas Development Institute, Humanitarian Practice Network.

⁵ http://www.coe.int/t/dg4/majorhazards/Source/Paphos/UK_Sharpes_presentation.pdf

⁶ K.R. Ronan, D.M. Johnston, 'Hazards Education for Youth: A Quasi-Experimental Investigation', Risk Analysis, Volume 23, Number 5, October 2003, pp.1009-1020(12)

⁷ www.edu4hazards.org

and the United States' Federal Emergency Management Agency.⁸ The United Nations' publication, 'Disaster Risk Reduction Begins at School'⁹ showcases good practice in this area. Flood specific websites include those of the BBC,¹⁰ the Met Office¹¹ and the Qualifications and Curriculum Authority,¹² which has units for web-based study on floods, including pages on:

- the problem of flooding;
- understanding flood symbols;
- rivers that flood;
- investigating flooding in your area;
- flood defences; and
- flooding in the future.

20.8 One particularly commendable piece of work is a schools pilot project, which was designed to teach children the importance of being prepared for emergencies, and was developed by Essex County Council's emergency planning unit. One pilot of this project involved working with a primary school and teaching the children about the dangers of flooding through a week of fun activities spread

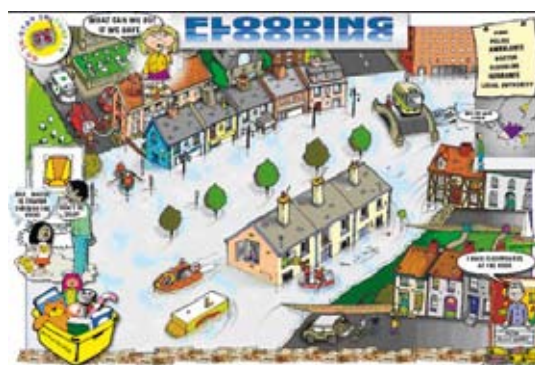
across the whole curriculum. The second pilot was conducted in a secondary school and involved a day of learning about the role of different agencies in emergencies and ways of preparing. These pilots were well received and crucially, when tested a year after the events, the children had retained much of the information.

20.9 Essex County Council has also been leading a European project to produce a calendar to create discussion with children about how to cope with, and be a good citizen in, a range of emergency situations, including flooding. The 'What If? Calendar'¹³ is available in a number of different languages and can therefore be used in different communities. Images from the calendar are shown below.

The Review welcomes this work and encourages similar initiatives.

20.10 Increased risk awareness is important but it must co-exist with advice on effective actions to limit the impact of flooding, otherwise all that may be achieved is a heightened sense of anxiety and helplessness. The Review has received a body of evidence that during the

Figure 15: Illustrations from Essex County Council's 'What If?..' calendar



⁸ www.fema.gov/kids

⁹ http://www.unisdr.org/eng/about_isdr/isdr-publications/11-education-good-practices/education-good-practices.pdf

¹⁰ http://news.bbc.co.uk/1/hi/newsid_1610000/newsid_1613800/1613858.stm

¹¹ <http://www.metoffice.gov.uk/education/>

¹² www.gca.org.uk/geography/innovating/geography_matters/cpd_activities/key2_rivers.htm

¹³ Contact Rosanna Briggs, Essex County Council Deputy County Emergency Planning Officer at Rosanna.Briggs@essex.gov.uk for details of availability.

summer 2007 floods, the public was confused by the numerous sources of information relating to flood mitigation measures, health advice, and actions to take before and during flooding. Not only did the multiple sources mean that people did not know where to look for advice, but the information given was often inconsistent. Chapter 22 discusses the provision of advice during an emergency, including via the telephone and the internet across all sectors. Chapter 23 examines the role of the media in disseminating public information.

20.11 Advice considered important by one organisation will not address matters pertinent to another's interests – utilities companies are unlikely to be interested in promulgating wellbeing advice and business groups will be likely to focus on continuity planning rather than issuing guidance on drinking water. However, some interests will overlap and this is where inconsistencies may arise. This leads to a multitude of sources of mixed information, from which somehow the public, authorities and the media are expected to hit upon the right advice.

20.12 Thus, the number of organisations responsible for providing advice to the public makes the compilation of a set of definitive advice a complex operation which no one organisation outside of government will contemplate. Therefore, the Review believes that the Government should decide which flood prevention and mitigation advice is essential and it should brand this as the definitive advice via a public information campaign.

RECOMMENDATION 60. The Government should implement a public information campaign which draws on a single definitive set of flood prevention and mitigation advice for householders and businesses, and which can be used by media and the authorities locally and nationally.

Awareness and action

20.13 Flood forecasting and warning services are not just about event-specific warnings, but also about year-round awareness raising and information provision. To improve awareness, the Environment Agency has a public awareness campaign; each year events are organised to reinforce the key message of preparing for floods, using a combination of national media and local events. Full page adverts are placed in national and local newspapers and publications. Local radio stations are sent pre-recorded adverts and Environment Agency staff provide interviews for radio and TV bulletins. Targeted awareness campaigns aim to get householders and businesses to sign up to the Agency's Floodline Warnings Direct service and, in high risk areas, to develop flood plans and business continuity plans.

20.14 Other initiatives have included video packs with celebrity presenters talking about preparing for flooding, advertising on buses and bus shelters, as well as prominent poster sites in the floodplain. New guides 'Preparing for a flood', 'During a flood' and 'After a flood' have recently been published.¹⁴ Following the 2007 floods, an event was held in the House of Commons for Members of Parliament to find out more about preparing for floods and it is hoped that this will filter into wider community awareness.

20.15 But 'awareness' does not necessarily lead to action. Evidence suggests that:

*"attitudes rarely translate neatly into action...providing information does not necessarily change attitudes, and changing attitudes does not necessarily cause a change in behaviour."*¹⁵

¹⁴ www.environmentagency.gov.uk/subjects/flood/826674/882909/483622/?version=1&lang=_e

¹⁵ Demos/Green Alliance. *Carrots, sticks and sermons: influencing public behaviour for environmental goals* Defra, 2003: <http://www.green-alliance.org.uk/uploadedFiles/Publications/CarrotsSticksSermons.pdf>

20.16 In its submission to the Review, BTCV, an environmental volunteering charity, describes how volunteering leads to increased understanding and awareness (*“learning by doing”*) and that, in their opinion, flood awareness marketing should be aiming to achieve different patterns of action rather than just awareness. The Environment Agency is now looking at alternative marketing approaches, including psychological profiling as a basis for segmenting customers so that communication can be tailored. This technique is being assessed at flood awareness events to measure its effectiveness in getting people to act on flood messages.

20.17 Research^{16 17} has shown that more people become involved in community activities and their satisfaction with the process is greatest when:

- they attribute the consequences of their actions to their personal efforts;
- they assume responsibility for their situation;
- they feel their physical and social surroundings to be important; and
- they identify with their neighbourhood and with other residents.

20.18 A genuine public participation exercise can facilitate these conditions. In this vein, the Environment Agency has, over the past few years, examined how best to achieve these conditions through a number of research projects, reports and initiatives engaging local communities in flood risk management. In some areas, their work has been successful but it is often difficult to involve the public, particularly in areas that have not been flooded but are at risk of doing so. One participatory method of engaging the community has been to promote community memory of flooding by encouraging a community group to compile a diary of flood events over the past 150 years; this ‘picture of the past’ is helping to raise local flood awareness.

RECOMMENDATION 61: The Environment Agency should work with local responders to raise awareness in flood risk areas and identify a range of mechanisms to warn the public, particularly the vulnerable, in response to flooding.

20.19 This section has dealt with the need to raise awareness about flooding, and has not considered the need to raise awareness about bad weather. That is not to say that everyone understands the weather, follows weather forecasts and takes precautionary actions when severe weather is predicted, but people tend to be more aware of weather than floods via bulletins in the media and direct observation. Indeed, it is often said that as a nation we are obsessed by the weather. **There may be a case for increased public understanding of the links between severe weather and floods and the Review would welcome the Met Office and the Environment Agency working together to examine this issue,** which is covered below.

Floodline Warnings Direct

20.20 Public uptake of Floodline Warnings Direct, the Environment Agency’s flood warning system, is limited. Along with awareness campaigns, the Environment Agency has a pilot scheme to register automatically eligible households and premises for the service unless they opt out. In the regions affected by the summer 2007 floods, only around 20 per cent of people invited had joined the service. The level of take-up varies significantly: for the Midlands and Thames regions, only 35 per cent and 28 per cent respectively of the people invited to sign up to the service did so, while for the North East (including Yorkshire) and Anglian regions, the figures are 17 per cent and nine per cent. In addition, the Agency’s analysis shows that around 27 per cent of telephone calls made under the Floodline Warnings Direct system were not picked up by recipients. In England and Wales overall, only around 41

¹⁶ L. Horelli, ‘A methodology of participatory planning’, In: Handbook of Environmental Psychology (ed. R.B. Bechtel and A. Churchman), 2002, pp. 629–646. New York: John Wiley & Sons.

¹⁷ E. Wiesenfeld and E. Sánchez, ‘Sustained participation: a community based approach to addressing environmental problems’. In Handbook of Environmental Psychology (ed. R.B. Bechtel and A. Churchman), 2002, pp. 629–646. New York: John Wiley & Sons.

per cent of people for whom the Floodline Warnings Direct service is available, take it up – approximately 276,000 properties. Take-up matters; research¹⁸ has shown that, of those surveyed, 84 per cent of people who received a warning in summer 2007 went on to take some form of action, however of these respondents only 39 per cent had prior knowledge that their property was at risk and only 17 per cent had made any preparations prior to the floods.

20.21 From January to the end of March 2008, 37,500 homes were newly registered on the Environment Agency's Floodline Warnings Direct system. This is a result of both a recruitment campaign and of the Agency automatically registering over 15,000 customers using publicly available names and telephone numbers. Of these, 175 customers de-registered from the service, which equates to an approximate overall retention rate of 99 per cent. This reflects a step change in the level of take-up and interest, and is to be commended.

20.22 In the interim report, the Review recommended that the Environment Agency should work urgently with telecommunications companies, consulting the Information Commissioner as necessary, to facilitate the roll-out of 'opt-out' telephone flood warning schemes to all homes and businesses liable to flooding, including homes with ex-directory numbers. The Review has been informed that legislative and regulatory changes may be required to facilitate the registration of ex-directory numbers and the Environment Agency is actively pursuing this issue with the Information Commissioner, British Telecom (BT), and Ofcom, the independent regulator and competition authority for the UK communications industries. Ofcom has also agreed to raise the issue with the other emergency call handling companies informing them of the issues since it is likely that the solution will require access to databases held by Cable & Wireless, Global Crossing and Kingston Communications, as well as those of BT. **The Review welcomes this work and reiterates the importance of implementing an opt-out scheme. We**

urge all parties to work urgently towards overcoming the current legal and regulatory obstacles, and restate this once again as a recommendation.

RECOMMENDATION 62: The Environment Agency should work urgently with telecommunications companies to facilitate the roll-out of opt-out telephone flood warning schemes to all homes and businesses liable to flooding, including those with ex-directory numbers.

20.23 Until an opt-out scheme is implemented, the good progress made on automatically registering publicly available names and telephone numbers should continue alongside work encouraging people to sign up themselves. This could include educational activities to help people understand the warnings, and to dispel some of the myths that prevent people signing up, such as the fear that opting in will affect insurance.

Awareness of properties at risk of flooding

20.24 A large proportion of property owners and tenants do not know if their property is on a floodplain and there is currently no requirement for people purchasing a property to be informed about flood risk by estate agents, lawyers or the previous owner.

"When we bought the house in '99, the solicitor didn't tell me it was on a floodplain, but then you speak to people that lived here years, and know Catcliffe, and the worst thing they say to you is "oh, I could have told you that". (Householder, Rotherham) GfK NOP survey

"The problem is that they are building on flood plains. There is nothing in law to say that you have to be told about this. That is disgusting." (Householder, West Oxfordshire) GfK NOP survey

¹⁸ Environment Agency survey of 576 respondents, 2007.

Buying property

20.25 Currently, unless informed by an open and honest vendor, by a knowledgeable estate agent or by a thorough lawyer, a potential purchaser is not actively made aware of flood risk or a history of flooding at all in the transaction. The first time they become aware might be when they come to exchange contracts and, on organising insurance, they find their application is refused or is subject to loading or abnormal excesses. Flood risk or flood history discovered at an advanced stage of the purchase process can be costly if transactions are aborted after money has been spent by the potential purchasers.

20.26 Estate agents play a key role in the sales process and are responsible for the overwhelming majority of property sales in the UK, with only six per cent of those selling not using an agent. Estate agents are regulated by The Estate Agents Act 1979 and the Property Misdescriptions Act 1991. This legislation imposes a general duty not to mislead the public and, where information is given for it to be accurate, however the agent is under no obligation to disclose information that may be detrimental to the sale unless specifically asked. An estate agent therefore is under no legal obligation to inform a purchaser about flood history or flood risk unless asked specifically by the purchaser. Additionally, if the estate agent is asked about flood history or flood risk by the purchaser and is unaware of a problem, then they have not committed an offence in not providing the correct information.

Home Information Packs

20.27 Home Information Packs (HIPs) were introduced in August 2007 and provide house buyers with some of the information they need to make an informed choice about a property they wish to buy. One of the overriding aims of HIPs is to reform the house-buying process to give consumers a better deal by creating a more transparent and efficient market. Compulsory elements include an Energy Performance Certificate, evidence of title, drainage and water enquiries and standard searches of, for example, records held by the local authority on planning decisions. Optional documents can

include non-standard searches covering rights of way and environmental hazards such as flooding and contaminated land.

20.28 Flood risk from groundwater, rivers and the coast is not a mandatory search element of the HIP. The only question asked on flooding in the HIP relates to surface water (pluvial) flooding and arises in the mandatory drainage and water search, which covers the risk of flooding or an incident of flooding due to an overloaded public sewer. This information is obtained from the local water company. 'At Risk' properties in this respect are defined as properties that have suffered or are likely to suffer internal flooding from public foul, combined or surface water sewers due to overloading of the sewerage system more frequently than the relevant reference period (either once or twice in ten years), as determined by the water company's reporting procedure. Flooding which occurs as a result of storm events proven to be exceptional and beyond the reference period are not included on the 'At Risk' register. In addition, properties may be at risk of flooding but not included on the register where flooding incidents have not been reported to the company.

20.29 Last year, the Government decided not to include flood risk as a mandatory search in HIPs. This decision has been challenged by several submissions to the Review on the basis that including it as a mandatory search could help boost awareness. The Government has agreed to look again at this decision later in 2008 once the system has been in operation for 12 months.

20.30 As well as flood risk searches currently not being a mandatory requirement in HIPs, vendors, unless asked, do not have to disclose whether they are aware of the property ever having flooded. This is because a question on flood history does not feature as a standard question in the Law Society's 'Sellers Information Form' or in the optional HIPs 'Home Use/Contents' forms. **The Review has discussed this with the industry and we welcome the National Association of Estate Agents, the Association of Home Information Pack Providers, the Royal**

Institution of Chartered Surveyors and the Law Society agreeing to consider how to take this forward, with one option being that flood history is a mandatory question in the 'Sellers Information Form'.

Information in flood risk searches

20.31 The basic level of information in an optional flood risk search comprises Environment Agency data freely available to the public on its website, and gives a general overview by postcode of the likelihood of coastal and river flooding based on the presence of flood defences, predicted flood levels and ground levels. A greater degree of detail can be provided if requested and this is becoming more common; in response to an increasing level of demand, both market leaders for carrying out the searches, Groundsure and Landmark, produce a more detailed and specific flood risk search. These include information from the Environment Agency as well as British Geological Survey groundwater data and information from insurers' flood maps. Information on insurance claims in a particular postcode area based on data from loss adjusters can also be included.

20.32 In light of concerns raised in submissions to the Review, we have discussed with the industry how flood risk information is best presented so as not to alarm consumers – the same facts can be presented in potentially different ways and the perception of flood risk can differ accordingly. Reassurance on this has been provided by the Council of Property Search Organisations (CoPSO) whose Search Code sets out minimum standards, based on the Government's prescribed standards for searches in the HIP regulations 2007, which member organisations have to meet. In a sample of flood risk searches, the Review found the information presented clearly and accurately in line with the Search Code.

20.33 There is a question about the validity of information included in the HIP based on its age. Guidance from the Council of Mortgage Lenders and the Law Society recommends that mandatory searches, for example covering drainage and local authority planning decisions, should be no more than six months old at the

point of exchange. Many property purchases can take longer than this to complete, meaning that these searches may be out of date by the time contracts come to be exchanged and need to be renewed either by the vendor or purchaser. However, it is unlikely that flood risk information would go out of date within six months and therefore flood risk will probably be valid until any flood search is renewed.

20.34 As we have discussed, a flood risk search informs the potential purchaser of essential flood risk information. However, a search presently provides no advice on flood protection measures if it reveals a risk. **The Review would welcome a minimum prescribed standard of information on flood risk protection measures and advice on personal flood resilience to be included with flood risk searches. There might also be merit in providing a number of indicative insurance quotes on the search report.**

We have discussed with the industry whether flood risk protection measures and advice on personal flood resilience could be included in the industry code of practice (the 'Search Code') **and would welcome the CoPSO considering this further, in discussion with the Environment Agency and other organisations as appropriate.**

Mandatory flood risk searches

20.35 In the interim report, the Review suggested that flood risk should be made part of the mandatory search requirements when people buy property, and should form part of HIPs. Submissions to the Review in response to this interim conclusion were overwhelmingly in favour of this approach, with those in agreement including the Local Government Association and most responding local authorities. The Environment Agency strongly agreed. The National Association of Estate Agents agreed that this matter should be considered in any Government review to streamline the HIPs process. A few of these respondents, however, raised matters that would need to be considered before implementation and we discuss these in the following paragraphs. Insurance is discussed separately in Chapter 9.

20.36 One concern raised about the mandatory inclusion of flood risk information in HIPs is the possibility of blight, or a reduction in value, for those properties at risk of flooding. Blight may occur because some potential buyers are discouraged from purchasing, firstly through a fear of the risk itself (which may be grossly overemphasised in relation to the statistical probability), and secondly through the perception that the risk may discourage other future buyers, and therefore the property will be a poor investment and may prove difficult to sell. It has been suggested that even properties not at risk of flooding could be affected by blight due to people's perception of risk and the way in which this information is presented to them.

20.37 However, a study for the Royal Institution of Chartered Surveyors (RICS) in 2004¹⁹ showed that the value of properties at risk of flooding but which have not previously flooded is only 'marginally adversely affected', although such properties in local markets where flooding awareness is greater may experience a greater discount. Following a flood event within the last five years, the study found that a property may lose an average of 12 per cent of its value, although there were wide variations around this figure. This was mainly because there is little consistent information on flooding and flood risk available to valuers to inform their opinions, and consequently they rely predominantly on their own personal experiences and local knowledge when assessing market value. The study indicates that affected properties experience a progressive yet variable recovery in value over several years (a 'broadly indicative' median of three to four years is stated) helped by property resilience measures and neighbourhood flood defences, provided there is no reoccurrence of flooding.

20.38 A more recent study²⁰ shows that, for the vast majority of floodplain properties, flood impacts on property prices are small and temporary and imply that the natural concern experienced by property owners about long term equity in their home is largely unfounded. The recent study further stated that, even for the most at risk properties in the areas

with the most frequent flood history, property price impacts are small, at an average of nine per cent. The 2004 RICS study summary concluded:

"The study highlights the need for more accurate and finely-tuned information to be publicly available to aid in the realistic assessment of flood risk to a particular property. The consequent reduction in uncertainty would permit insurance cover to be negotiated, albeit subject to premiums and exclusions to the most at-risk properties, and would focus the property owner's attention on the necessity of flood contingency planning and flood defence measures, both at the neighbourhood level and to the property itself."

20.39 The concern has also been raised that the discovery of flood risk might result in the collapse of a property sale. However, it should be noted that residential property sales of any type may collapse for various reasons and the 2004 RICS study found no evidence that the incidence of collapsed sales due to flooding or flood risk is any greater or less than due to other reasons such as subsidence, security risk, or nearby developments. On this issue, the RICS study stated:

"...collapsed sales as a result of flooding and flood risk are very rare in view of the length of experience and the level of valuation activity of the respondents, many of whom have been carrying out over 200 surveys a year for over 10 years. Most have never experienced such a collapse. Of the ones who have, only a few have experienced more than one."

20.40 It is worth bearing in mind that flood risk is only one consideration when deciding to buy a property and other factors include location, transport network, number of bedrooms and school catchment area. A property at risk of flooding does not necessarily make it an undesirable place to live and in many cases a river running by a property or a sea view can add value.

¹⁹ http://www.rics.org/NR/rdonlyres/DFDBBBEB-7F01-42FA-B338-2860945C4DAE/0/Effect_of_flooding_report.pdf

²⁰ J. Lamond, D. Proverbs, F. Hamond (2008), 'A transactional analysis of the impact of flood events on the price of residential property', *RICS research report*, In review, Royal Institute of Chartered Surveyors.

20.41 The question has been asked whether mandatory flood risk searches would and should apply to every property transaction – why would a house on a hill need a flood search and would requiring this not create a substantial burden? Yet even houses on raised land can and do flood for a variety of reasons. Further, the industry pointed out that a process to decide which properties did and did not require a search would be complex and burdensome.

20.42 In fact, we believe that making flood risk searches mandatory in the HIP would not create a substantial net new burden since, as part of solicitors' due diligence procedures before the exchange of contracts, 80 per cent of property transactions have an environmental search carried out, primarily to check for contaminated land.²¹ Law Society best practice guidance recommends that this environmental search also comprises at least a basic level flood search and therefore it is likely that many property transactions already include such a flood search. However, it should be remembered that this search is not currently mandatory and many properties remain unchecked with the purchaser remaining uninformed.

20.43 Another concern is that the cost of HIPs would increase considerably with a mandatory flood search. As stated above, many property transactions are likely to already include a flood search. Of those properties remaining, a separate flood search costs on average £15 depending on the company and the extent of search information they provide; competition in the market for searches would probably bring this figure down further. Given the costs of flooding, the Review believes that this sum is minimal in the circumstances.

RECOMMENDATION 63: Flood risk should be made part of the mandatory search requirements when people buy property, and should form part of Home Information Packs.

20.44 Given the range of sources of flood risk information, the industry has urged that, in taking forward the recommendation for mandatory flood risk searches, the Government gives full consideration to the prescribed sets of data in the searches to ensure that there is competition in the market for its provision. This should ensure that the searches can be delivered quickly and at a reasonable price for the consumer. In this respect, one search company has stated to the Review:

"In order to provide consumers with the most comprehensive information to inform their risk assessment, it is necessary to combine numerous data sources, for example Environment Agency official data, insurance claims data and information from the British Geological Survey on groundwater flooding and geological indicators of flooding. The private sector does this, and it will be important that it continues to do so. It can only do so, however, through a competitive market driving innovation."

20.45 Since flood risk searches do not currently form a mandatory requirement of HIPs, the Review advises prospective buyers to establish whether the property is at risk of river or coastal flooding by obtaining a flood risk search and by asking the vendor if the property has flooded before. As comprehensive surface water flood risk data increasingly becomes available, the flood risk search is likely to also report on this risk. If a survey is being carried out on a property, the surveyor should ask whether it has ever been flooded, especially if the property is near a river or in a known flood risk area. With this information, purchasers can ask more informed questions – not only of the property owner, but also of the Environment Agency or local authority – such as what flood defences exist locally and whether flood warnings are available.

²¹ Figure provided to the Review by the Council of Property Search Organisations

Renting

20.46 There is currently no requirement in either social housing or private rental accommodation for information on flood risk to be provided, yet tenants occupy 30 per cent of properties and concerns have been raised that many of them are unaware of their exposure to flood risk.

“My house was newly built after the last floods and my letting agents said it wouldn’t flood and everyone said you know it flooded before so I’ve no idea how that was allowed to be built.” (*Householder, Wychavon*) *GfK NOP survey*

20.47 In some cases tenants, aware of the risk of flooding and the fact that they are uninsured, will make the decision to not have contents insurance, perhaps because other financial commitments take priority. However, in others they are unaware of their lack of cover or might not know of the risks, including that of flooding.

20.48 The Review has discussed with the industry ways in which private tenants could be informed of flood risk. However, there would appear to be no existing legal vehicle to impose such a duty on landlords and letting agents. **In light of this, as well as encouraging tenants to check their postcode on the Environment Agency’s website, the Review would welcome moves by the letting industry to introduce a voluntary code of practice to inform tenants of flood risk.** At one end of the scale this could involve obtaining a flood risk search. For properties recently purchased, any flood risk search carried out could be shared with prospective tenants. At the other end of the scale, information could be provided along with the rental contract giving details of the Environment Agency website, Floodline Warnings Direct telephone number and highlighting that contents insurance is not provided and encouraging tenants to obtain insurance.

20.49 With respect to social housing owned and rented out by local authorities and housing associations, Communities and Local Government has informed the Review that the majority of tenants are offered an induction which seeks to clarify the terms of their tenancy agreement. **The Review would welcome local authorities and housing associations informing tenants of flood risk at this induction by providing Environment Agency data based on the postcode of the property and flood history where appropriate.**

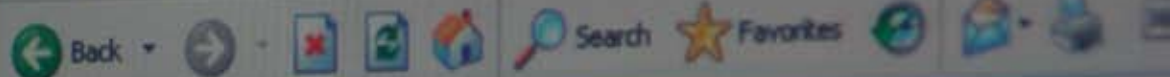
Information could also be provided with the rental contract giving details of the Environment Agency website, Floodline Warnings Direct telephone number and personal resilience advice. Further, it could be pointed out that contents insurance is not automatically provided. On this latter point, many councils offer tenants comprehensive insurance cover within their own Home Contents Insurance Scheme, as discussed further in Chapter 9.²²

²² http://www.direct.gov.uk/en/HomeAndCommunity/SocialHousingAndCareHomes/CouncilRentAndOtherCharges/DG_10029761



Met Office: UK: severe weather warnings - Microsoft Internet Explorer provided

File Edit View Favorites Tools Help



Address http://exxngestt:2153/weather/uk/uk_forecast_warnings.html

Home Weather UK Forecast

UK: severe weather warnings

Rainfall	Pressure	Cloud	Warnings
Weather	Wind	Temperature	UV
Latest/recent		Forecast	
Thu	Fri	Sat	Sun Mon

ALL WARNINGS: Fri 20 Jul



Weather warnings overview

Early warnings have been issued for



Map regions coloured show where severe

Flash warnings of severe weather

These are issued when the Met Office h weather is expected in the next few ho region affected to see more detail.

Region affected	Warning type
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No flash warnings have been issued for

Early warnings of severe weather

These are issued when the Met Office h weather is expected in the next few da

Risk of disruption	Warning
UK regions:	Heavy Rain
80% South West England	Localised down

Weather and flood warnings

This chapter examines weather and flood warnings and how their content and method of dissemination can be optimised to provide clear information to the maximum number of people, including the vulnerable. It contains sections on:

- weather warnings; and
- flood warnings.

Introduction

21.1 Warnings are issued when severe weather and flooding are judged by the experts to reach certain levels of likelihood. Ideally, warning content and methods of communication should be such that all members of the community receive the warning and understand the action they should take, informed by awareness before the emergency. The events of summer 2007 generated an almost continuous stream of warnings throughout June and July.

Weather warnings

21.2 The Review has received largely positive evidence from the public on the accuracy and timeliness of the Met Office's Severe Weather Warnings. As described in Chapter 1, weather forecasts preceding the events of June and July 2007 were generally detailed and accurate within the limitations of current technology. The public were kept informed, receiving warnings

via the media and the Met Office's website and Customer Centre. The Met Office also held regular briefings with its key customers, including the BBC, to share the most up to date information.

21.3 An interim conclusion of the Review was that the Met Office and the Environment Agency should produce an assessment of the options for issuing warnings against a lower threshold of probability, including costs, benefits and feasibility. In this respect, the Review is aware that the Met Office and the Environment Agency have recently established a joint working group to consider this work in more detail.

21.4 Initial work by the group suggests that emergency responders would benefit from earlier warnings issued against a lower threshold of probability and a recommendation is made with regard to this in Chapter 10. However, a concern has been expressed by

the Environment Agency that similar warnings issued to the public could lead to confusion and may actually decrease vigilance due to a higher incidence of 'false alarms'. **The Review would welcome further work by the Environment Agency to see if this is the case, particularly in light of new Met Office alerts based on lower thresholds of probability, as discussed below.**

21.5 The Review welcomes the establishment of a new permanent joint communications team between the Met Office and the Environment Agency, whose priority is alerting the public to severe weather to improve their personal state of readiness. The Review also welcomes improved Met Office alerts based on a traffic light system for severe and extreme weather. The colour-coded warnings are available direct to the public from the Met Office website and alerts of severe or extreme weather are carried in forecasts issued on TV and the radio. 'Yellow' and 'Amber' advisory alerts provide early warnings of disruption at lower levels of probability than is currently the case, flagging the need for vigilance rather than immediate action. Extreme and rare weather events such as those experienced in 2007 will be distinguished from the types of severe conditions commonly associated with UK weather. The new criteria are in the table below.

21.6 As well as providing more information to the public, the new alerts better inform

emergency services of any potential disruption associated with extreme weather including heavy rainfall, snow and gale force winds. There are two tiers of weather events based on potential impact:

- **SEVERE** – these events are not uncommon particularly during winter months; and
- **EXTREME** – these are rare events, of which there are usually fewer than six per year.

21.7 The Review welcomes these developments and encourages the Met Office to undertake activities to ensure that the public and responders understand the new system, including precautions they should take when warnings are issued. Additionally, the Environment Agency and the Met Office are urged to expedite the work of their joint working group.

Flood warnings

21.8 The Environment Agency's Flood Warnings generally worked well in summer 2007 for river flooding. Likewise, effective and timely coastal flood warnings were issued during the East Coast surge in November. However, many of the summer's emergencies were caused by groundwater and surface water flooding and therefore many people affected were unaware of the situation even as it unfolded. The types of floods that are forecast to increase with climate change are those which have rapid onset and are unexpected; these are the types of flood that are not at the heart of the current service.

Table 7: New Met Office weather alert system

Colour and risk levels for SEVERE weather events (can often occur, particularly in winter)					
	Green		Yellow	Amber	
Warning	None		Advisory	Early	Flash
Risk	Very low <20 %	Low ≥20 % <40 %	Moderate ≥40 % <60 %	High ≥60 % <80 %	Very high >80 %

Colour and risk levels for EXTREME weather events (these events are rare events)					
	Green	Yellow	Amber	Red	
Warning	None	Advisory	Advisory	Early	Flash
Risk	Very low < 20 per cent	Low ≥20 per cent <40 per cent	Moderate ≥40 per cent <60 per cent	High ≥60 per cent <80 per cent	Very high >80 per cent

21.9 Chapter 4 discusses work to monitor groundwater and surface water flooding and the requirement for the Met Office and Environment Agency to work more closely together so that we are better prepared for all types of flooding. The need to consider a single flood forecasting and warning centre is also raised.

21.10 Predicting floods more effectively should allow people to be warned and therefore better prepared. However, it is not just a matter of issuing warnings; they must be received, understood and – crucially – acted upon. The Review, and the range of experts we have consulted, believe that warnings should explicitly describe the type of flooding scenario, rather than the present codification, which can be confusing.

21.11 Research¹ has shown that the main benefits from flood warnings are in reducing risk to life and human health and that the benefits from reduction in damage of property contents, although not to be disregarded, are actually lower than assumed. Yet in the UK, investment in flood forecasting, warning and response systems must be justified through cost-benefit analysis which does not take into account loss of life and/or the effects of flooding on health. The research paper argues that risk communication designed to increase response should not be based solely on economic perspectives but that research findings in the social and behavioural sciences should be factored in. **The research suggests that the benefits from warnings are actually greater than currently assessed. They include the benefits from the ensuing operation of flood barriers, temporary defences and other measures. The Review would welcome these benefits also being included in future benefit assessments.**

21.12 In addition, the trust and credibility of the sources of warnings needs to be attended to or attempts to improve methods and messages will be undermined. Evidence to the Review shows that there is often a lack of understanding about warnings and, when false alarms are issued, the public feels that there is not always adequate explanation afterwards. There is some evidence that the public is more tolerant of uncertainty which has been honestly admitted than is often believed, and acknowledging uncertainty often carries fewer dangers.²

“It wasn’t even raining”

Reported comment from an elderly resident sick of receiving telephone alerts (for coastal flooding)

Methods of warning

21.13 Flooding in summer 2007 disrupted electricity supplies and led to power outages, disabling mains-powered radios, televisions and computers. Fixed line telephones also failed. As a result, a diverse range of warning methods was employed to ensure warnings reached their intended audience. Warning methods used included:

- door-to-door knocking, cross-referenced with records of vulnerable people;
- electronic message boards on major arterial roads and motorways;
- mobile loudhailer announcements;
- public address announcements in public buildings;
- sirens;
- automated telephone, fax, email and text message services (Floodline Warnings Direct); and
- broadcast media announcements on television and radio.

21.14 The reported lack of public awareness of the floods in many areas could be an indication that the full suite of warning methods was not used everywhere. Indeed, this might not

¹ D. Parker, S. Tapsell, S. McCarthy, ‘Enhancing the human benefits of flood warnings’, Nat Hazards, (2007), 43:397-414.

² L.J. Frewer, C. Howard, D. Hedderley and R. Shepherd, ‘What Determines Trust in Information about Food-related Risks?’, Risk Analysis, (1996), 16 (4) pp 473-486.

have been practicable. Although some people might have received a number of overlapping warnings by different methods, in other cases, individuals might have been missed altogether. Even where warnings were given in good time in an area, someone who was not tuned in to the media and who had not signed up to receive direct flood warnings might have been unprepared when the floods hit. Raising awareness in non-emergency situations and systematically assessing the appropriateness of all warning methods in each area could help prevent such situations arising.

21.15 Research³ has shown that people at risk may obtain much of their flood related information from unofficial sources, such as personal networks and direct observation. In this way the warning message is delivered as a dialogue, providing personal and specific advice. There could be advantages to integrating informal information with official warnings. This would improve the timeliness of issuing warnings and their receipt, the numbers of people warned within a given time-frame, the quality and quantity of information exchanged and the degree of belief in the warning by the recipient. Face-to-face warnings are preferred by a great many people as they allow a dialogue to take place and follow up questions to be answered.

Door-knocking

21.16 Door-to-door calls were viewed as particularly effective and were welcomed by residents, as also witnessed during the flooding on the East Coast in November 2007. This is a simple but effective method which can be put into effect quickly while additional warning methods are explored. Door-knocking is also effective once flooding has receded to provide information and as a means of assessing the welfare needs of the community. Reflecting best practice during the summer floods, the interim report recommended that Local Resilience Forums (LRFs) urgently develop plans to enhance flood warnings through door-knocking by local authorities based on an assessment of the post code areas likely

to flood. A progress report to the Review in March 2008 shows that LRFs have carefully considered their plans for warning the public, taking into account local needs, the practicality of door-knocking in their area, the resources of the local authorities and the other options available to them to enhance flood warnings.

21.17 However, during the regional multi-agency consultation events carried out by the Review, it became clear that a substantial number of local authorities felt that door-knocking was highly resource intensive and that they would have difficulty carrying it out. Some believed that responsibility for door-knocking fell to the police. The perceived ability to offer door-knocking also differed between urban and rural areas, where the numbers of households and the distances between them vary greatly.

21.18 However, the method is already used in a number of areas, where its effectiveness as a method of disseminating information before flooding and once flooding has receded is well understood. Some LRFs have plans which utilise the resources of the police, other local community groups and Environment Agency staff where appropriate. Subject to training and addressing health and safety requirements, some staff are able to be moved from office roles, as happened in Hull where 750 council staff took part. As outlined in Chapter 12, voluntary organisations consulted by the Review enthusiastically offered to be involved in door-knocking and we recommend that the use of this resource is explored. Where resources are stretched, prioritisation of door-knocking based upon lists of vulnerable people and areas at highest risk can be carried out. It should be remembered that for warning, door-knocking is only one method and as such it should be used simultaneously with a suite of other methods, as described in the literature.⁴

³ D. Parker and J. Handmer, 'The role of unofficial flood warning systems', *Journal of Contingencies and Crisis Management*, (1997), 6(1)45-60.

⁴ http://ies.jrccec.eu.int/fileadmin/Documentation/Reports/Land_Management/EUR_2006-2007/EUR_22760_EN.pdf

RECOMMENDATION 64: Local Resilience Forums should continue to develop plans for door-knocking, coordinated by local authorities, to enhance flood warnings before flooding and to provide information and assess welfare needs once flooding has receded.




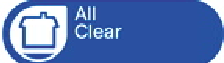
21.19 Other personal warnings include those given by the Environment Agency's flood wardens. These are volunteers from the community, who are contacted directly by the Agency, and pass information on to neighbours. Flood wardens are favoured in some areas as they supplement official warnings with local knowledge and provide

community support. The Review encourages communities to consider setting up volunteer flood wardens, for example by extending the role of Neighbourhood Watches, with advice from the Environment Agency. Environment Agency staff known as Flood Ambassadors are in place in some areas and, as well as issuing flood warnings, reassure people sometimes that floods will not happen in given rainfall scenarios.

Flood codes

21.20 The Environment Agency currently issues warnings based on Flood Codes: Flood Watch; Flood Warning; Severe Flood Warning; and All Clear and are described in the table below:

Table 8: Environment Agency Flood Codes

Code	Flood Watch	Flood Warning	Severe Flood Warning	All Clear
				
What it means	Flooding of low lying land and roads is expected	Flooding of homes and businesses is expected. Act now!	Act now! Severe flooding is expected with extreme danger to life and property.	No further flooding is expected. Water levels will start to go down.
What to do	<ul style="list-style-type: none"> • Monitor local news and weather forecasts • Be aware of water levels near you • Be prepared to act on your flood plan • Check on the safety of pets and livestock • Charge your mobile phone 	<ul style="list-style-type: none"> • Move cars, pets, food, valuables and important documents to safety • Get flood protection equipment in place • Turn off gas, electricity and water supplies if safe to do so • Be prepared to evacuate your home • Protect yourself, your family and help others • Act on your flood plan. 	<ul style="list-style-type: none"> • Collect things you need for evacuation • Turn off gas, electricity and water supplies if safe to do so • Stay in a high place with a means of escape • Avoid electricity sources • Avoid walking or driving through flood water • In danger call 999 immediately • Listen to emergency services • Act on your flood plan. 	<ul style="list-style-type: none"> • Keep listening to weather reports • Only return to evacuated buildings if you are told it is safe • Beware sharp objects and pollution in flood water • If your property or belongings are damaged, contact your insurance company • Ask their advice before starting to clean up.

21.21 Submissions to the Review and discussions with members of the public make it clear that a large proportion of the public does not understand the Environment Agency's Flood Codes. This is also true for a number of responders the Review has spoken to, including fire fighters, infrastructure owners and transport operators. Further, academic research also indicates that the meanings of the Codes are not always understood.⁵

21.22 This lack of understanding may be based on a number of factors inherent to the Flood Codes and their presentation. For example, the warning system is not sequential, but, the perception is that each warning indicates an incremental increase in risk, or the probability of flooding, from 'Flood Watch' up to 'Severe Flood Warning'. This misunderstanding may be due, in part, to the Flood Codes always being listed in the order of severity, thus possibly implying a sequence, as opposed to a stand-alone warning. Understanding may also be hindered by the terms used in the Flood Codes and our evidence suggests that sometimes 'Flood Watch' is completely misunderstood and is thought to mean that *"monitoring is probably increased in an Environment Agency office somewhere but it won't really affect the public on the ground at this stage."* As such, 'Flood Watch' is sometimes disregarded as it seems *"benign."* The National Farmers' Union commented:

"It is not clear at what levels the flood warnings are set. We understand that flood warnings and severe warnings apply to properties and 'flood watch' applies to land. We consider this is potentially misleading as a 'flood watch' sounds relatively benign and may not motivate people in less densely populated areas to act as it may be them and their livelihoods that are affected. We need clarity of language in any communications."

21.23 If the basic Flood Code is not understood, the associated guidance provided in the telephone warning or available on the Environment Agency's website provides only

limited clarification: for 'Flood Watch' this states *"Flooding of low lying land and roads is expected"*, without mentioning possible impacts such as railway lines and low lying houses also being flooded. Furthermore, the flooding of 'low lying land and roads' could include those used to access areas and properties which would not themselves flood and recipients of the warning would not necessarily appreciate this. For the 'All Clear' Flood Code, the associated guidance is *"No further flooding is expected. Water levels will start to go down"*, however a farmer with fields under water or a person whose home is flooded is unlikely to describe the situation as 'all clear' even if they are told the water will recede.

21.24 The Review believes the Flood Codes system is too complicated and should be looked at afresh, starting with a 'blank sheet of paper' if needed. The warnings should say what they mean, with a reduced reliance on separate guidance. They should, as far as practicable, comprise the elements of an ideal warning:⁶

- a brief description of the hazard – what is happening;
- the location – where the hazard is and where it is likely to go/impact;
- the severity of the impact – what is likely to happen and the consequences;
- what action should be taken and the time window in which to act; and
- when and how the next warning and other information will be available.

21.25 Furthermore, instead of a one-size-fits-all approach, the warnings should be tailored to different types of people and places, particularly addressing vulnerabilities, and possibly different types of flooding, as discussed below.

People references

21.26 Not all people can respond to warnings: not all those receiving a warning will be able to understand it and be physically able to take action in response. Post-event surveys

⁵ H.L. Molyneux, 'Flood Warning for Schools: Effective Risk Communication?', MSc Dissertation, University of Leicester, February 2005.

⁶ J. Salter, J. Bally, J. Elliott, D. Packham, 'Vulnerability and warnings', Natural Disasters, Thomas Telford, London, 1993.

show that English (the principal language in warnings) is not the first language of about one per cent of the population at risk of flooding, and that between 15 to 23 per cent of residents have some form of disability.⁷ Warnings therefore need to take account of the needs of people living in an area and some of this information might be held in official health or social records. But, much of the information on people's particular needs might be held intangibly within the community and the best way of harnessing this information will be by dialogue with the community.

21.27 Vulnerability in terms of flooding can be defined as the capacity of a person to anticipate, cope with, resist and recover from the impact. As such, it is not confined to those who may be considered as 'traditionally' vulnerable, such as the elderly and disabled. Other groups can include: people living alone; families with young children and babies; non-English speakers; different socio-economic groups; people with difficulties with sight, hearing or mobility; and temporary residents such as tenants, homeless people and tourists. A person's vulnerability can also change with time as flooding progresses, with warnings perhaps needing to change accordingly. For example, a telephone warning or media broadcast might be suitable when vulnerability is assessed to be low, while face-to-face methods such as door knocking are more appropriate as vulnerability rises. Of course, assumptions about vulnerability are just that – assumptions – which members of some groups might confound. For example some elderly people might be better connected with the community, more experienced in dealing with challenging situations and therefore more resilient as a result.

21.28 The Review has seen good progress in mapping vulnerability in the Environment Agency's Flood Vulnerability Map, as discussed in more detail in Chapter 10. The Flood Vulnerability Map allows the possible social impacts of floods to be assessed, facilitating targeted awareness-raising before floods and warning when flooding is likely.

Personalised health-related weather warnings

The impact of weather on health is increasingly well-understood and a service has been developed by the Met Office to provide early warning of conditions that can lead to increased risk for people with Chronic Obstructive Pulmonary Disease (COPD).⁸ The service includes:

- winter COPD forecast, delivered by email twice per week between October and the end of March;
- summer COPD forecast issued once per week by email;
- automated telephone calls to patients, from October to the end of March, when forecast risk is 'Elevated'; and
- information for patients and training courses for healthcare professionals.

A comparable personalised warning system, perhaps based on Floodline Warnings Direct, for people particularly vulnerable to floods, and their carers or healthcare professionals, may be an option worth considering by the Met Office and the Environment Agency.

Place references

21.29 The Review heard that, during the 2007 floods, warnings based on named stretches of watercourse – for example, "between 'x' brook and 'y' stream" – were considered unhelpful, both to emergency responders and the public. Most people do not use watercourses as a reference point and struggle to understand information issued on that basis.

20.30 Our research reveals that many people felt that a reliable alert was required that directly applied to their street or neighbourhood. The Review is aware that the Environment Agency has work underway to tailor information to individual communities and is pleased that in some areas more geographically-specific warnings have started being issued. An example of this is in Hertfordshire, where a

⁷ D. Parker, S. Tapsell, S. McCarthy, 'Enhancing the human benefits of flood warnings', *Nat Hazards*, (2007), 43:397-414.

⁸ http://www.metoffice.gov.uk/health/features/copd/COPD_service.pdf

warning under the old system; “Upper River Colne from North Mymms to Maple Cross” now states “Radlett Brook at Radlett.” Of course, this is not the same as giving standardised warnings directed at an individual property, street or postcode area, but such accuracy can probably only be aspirational in some cases due to the uncertainty and complexity of natural systems such as rainfall and water flow. However, local warning methods such as sirens, loudhailers and door-knocking can ensure that messages are more focussed on an area.

Types of flood

21.31 Floodline Warnings Direct works best for a ‘typical’ flood of a slow-rising river but may not be appropriate for the other types of floods witnessed in summer 2007. The Environment Agency aims to provide a minimum of two hours notice of river flooding; this period is thought to provide sufficient warning to take some mitigating actions to avoid damage without being so far in advance that the sense of urgency, and the need to take immediate action, is not conveyed. The advance warning period is also discussed in Chapter 10.

21.32 In many areas this two-hour lead time is achievable, as slower-responding rivers can take several hours to reach maximum levels during an event. However, this early notification is impractical for other areas as many rivers can rise from normal to maximum levels in just half an hour. In these instances, the provision of warnings based on Met Office forecasts rather than Environment Agency river level monitoring is often required.

21.33 In contrast to slow onset floods, shorter lead times for surface water floods might be desirable to give greater certainty when the forecasts are more focused geographically.⁹ However, regardless of the type of flooding, longer lead times allow people to put protective measures in place.

21.34 Chapter 10 discusses longer lead times with respect to responders and utilities providers. In a submission to the Review, the

National Farmers’ Union also stated the need for farmers to be issued warnings with as much lead time as possible:

“We need to ensure that flood risk modelling is able to provide the resolution and sufficient for farmers to be able to move their livestock. This does not mean more flood warnings as there is a danger that people will suffer from warning fatigue and become complacent but simply more targeted warnings.”

21.35 The cited literature provides some evidence that a longer warning lead time also has a beneficial effect on the mental health of flood victims both at the time of the flood and later. Indeed warning lead time, rather than receiving a warning or not, appears to be the crucial factor in reducing the adverse psychological impacts of flooding.¹⁰ The Review acknowledges that generally the Environment Agency tries to issue warnings with as much lead time as possible.

21.36 Clearly there is a balance to be struck between waiting for greater certainty that flooding will occur and giving the maximum time to prepare. The Review therefore encourages the Environment Agency to research this further in dialogue with the communities affected. The types of floods that are forecast to increase with climate change are those which have rapid onset and are unexpected; unfortunately, they are not at the heart of the current service. Future warning systems will need to reflect rapid onset flooding both in the warning methods used, actions to take and the timeframe in which to take them.

RECOMMENDATION 65: The Met Office and the Environment Agency should urgently complete the production of a sliding scale of options for greater personalisation of public warning information, including costs, benefits and feasibility.

⁹ S.D. Drobot and D. Parker, ‘Advances and challenges in flash flood warnings’, *Environmental Hazards*, 7 (2007) 173–178.

¹⁰ D. Parker, S. Tapsell, S. McCarthy, ‘Enhancing the human benefits of flood warnings’, *Nat Hazards*, (2007), 43:397–414.





Providing advice during an emergency

This chapter examines methods of providing advice to the public during and after flooding. It contains sections on:

- telephone information lines; and
- internet advice.

Introduction

22.1 Once flooding had occurred and essential services were lost, the public needed advice on what to do. In most instances, they turned to the authorities. People needed basic information on the extent of flooding, the implications for health and welfare and advice on issues such as transport options and whether to switch off their electricity.

Telephone information lines

22.2 Telephone contact with the authorities was a key source of information for a lot of people during the flooding emergencies of 2007, particularly those directly affected. But many people commented that they were passed from organisation to organisation when seeking advice. In some instances, the publicising of several different telephone lines left people confused about which one to ring.

22.3 In addition, there were instances of 999 calls being made when, for example, a garden or unoccupied vehicle had been affected by flooding. Although clearly distressing to the

individuals affected, these kinds of events are not considered emergency situations by the police and fire and rescue services, and this contributed to the pressure on emergency call centres during the events of June and July 2007. The Review is aware of work underway between the Home Office and Communities and Local Government to raise public awareness of the difference between emergency and non-emergency situations. Fire and Rescue Authorities are pursuing similar work through Local Resilience Forums (LRFs). **The Review would welcome these initiatives drawing on experiences from the 2007 summer floods and the final output including information on Floodline or details of local authority call centre numbers if appropriate.**

22.4 Nevertheless, there were also success stories. Members of the public were able to get information on flooding via the telephone from a variety of sources. In addition to Floodline – (0845 988 1188), the Environment Agency helpline which provides advice on flooding to

the general public – there were a number of other organisations such as Hull and Barnsley councils which set up flood information lines for the local community. These services made use of local authority contact centres, which are now a regular part of service delivery for most local authorities. In practice, information requests generally fell into two distinct areas:

- advice on the likelihood or scale of flooding; and
- details of local response and recovery services, including how to deal with the loss of essential services.

Non-emergency telephone advice

22.5 An interim conclusion of the Review was that non-emergency advice by telephone during a flood emergency should come from just two sources – the Environment Agency for flooding information and local authority contact centres for local advice.

22.6 In response to this, the Review received a volume of evidence suggesting that, when essential services were lost, people generally contacted the utility companies concerned or, if in doubt, the local council. We also heard that well established telephone services run by voluntary organisations and police casualty bureaux were extensively used, and in one instance played a useful role fielding many calls from the public volunteering their services. It was felt that defining only two telephone lines was restrictive and did not reflect other useful sources of information. Submissions to the Review argued for a telephone line providing general information that could also redirect people to other organisations. The Review has therefore adjusted its final recommendation to reflect this.

RECOMMENDATION 66: Local authority contact centres should take the lead in dealing with general enquiries from the public during and after major flooding, redirecting calls to other organisations when appropriate.

22.7 The Review understands that, in some areas, both county and district local authorities will have separate contact centres. Where this is the case, the Review expects the authorities to work together to ensure suitable, unambiguous provision of advice. In addition, the Review is aware that inevitably in stressful situations people ring the wrong organisation for the information they are seeking and will not necessarily telephone the local authority contact centre. **In such cases, we would welcome the local authority contact centre's details being passed on to the public by the recipient agency, including Environment Agency local offices and utilities companies. In cases where an organisation other than the local authority contact centre is required, the agency receiving the call should pass on the correct organisation's details to the public instead.**

22.8 In terms of transferring telephone calls, the Review welcomes a pilot study by the Environment Agency to provide this service as an extension of Floodline Warnings Direct. In this pilot, Floodline agents are able to provide a response to local authority related enquiries from the public by drawing on material provided by the local authority, and, if necessary, transferring callers to the relevant local authority. This system is currently being tested and, subject to a successful outcome, may be implemented later in 2008.

Internet advice

22.9 Many people were frustrated at having to access a number of websites to find information on different flood-related issues such as the disconnection or restoration of electricity and water supplies, health notices and flood warnings. Many websites were poorly constructed or crashed under the volume of information requests. Some were not updated quickly enough, including one rail website which said cancelled trains were still running – this might have exacerbated the situation on the ground as people may have acted on incorrect information. Furthermore, some people could not find the information they needed as they did not know where to start looking.

22.10 The Review has also received evidence about the public's concern over a perceived lack of information about the provision of emergency supplies. This came through both our discussions with the public and through social research carried out for the Consumer Council for Water, and is discussed in more detail in Chapter 11. Good engagement with the public helps to allay anxieties in an already stressful environment. The Review believes that essential service providers should maintain continuous provision of public information during an emergency, through a website preferably linked to other responders and local authority contact centres.

22.11 In submissions to the Review, LRFs have expressed concern that public information provision presently overemphasises the use of the internet. In conversations with the Review, social scientists have described how the proportion of people who have access and the knowledge to navigate the internet may be much lower than generally thought and even people who have the internet might not be proficient at finding the information they need, particularly if websites are difficult to navigate. Further, the internet is not available when mains power fails – a common scenario when properties flood. The Review appreciates these concerns and reminds organisations that a suite of other methods should be used to provide information.

The Environment Agency's website

22.12 Some criticism has been levelled at the Environment Agency's website in terms of its ability to cope with high demand, its navigability and the information provided. In light of this, the Environment Agency is working to improve the functionality of its website, following user testing and feedback on the way flood risk information is displayed. These improvements are designed to make it easier for people to navigate and understand their personal flood risk as well as the action they are required to take. New features will include automated online updates ('RSS feeds') for flood warnings live to computer desktops and templates to allow access via mobile phones via Wireless Application Protocol (WAP). The new website will also be more resilient to high

traffic. By bringing in a new technical platform, the Environment Agency informed the Review that the website will be capable of serving one million pages per hour (peak traffic during the summer 2007 floods was 250,000 pages per hour). The Environment Agency will also be able to syndicate flood warning content to other websites. This will enable other organisations' websites to display Environment Agency flood warnings live on their websites. Reciprocal links will raise awareness of the Environment Agency's Flood Warnings service and flood-related advice. The new site will be launched towards the end of 2008.

Local resilience forum websites

22.13 It would be of great value if a single website provided links to all the websites needed for a comprehensive set of advice on flood-related matters, including where to go for more specific information and what to do in the emergency. This could be the area's LRF website, with all Category 1 responders also linking back to this 'hub' website. Other useful information could also be linked, for example the guidance from the Electrical Safety Council on actions to take once floodwater has subsided.¹

22.14 Some LRFs already have websites like this. Others have commented that it would be difficult to keep the website updated, particularly in real time during an emergency, and that keeping data and messages consistent would be problematic. Given the range of responses on this matter, the Review believes that the Cabinet Office, working with the National Steering Committee for Warning and Informing the Public, needs to take the lead in providing advice so that LRFs are equipped to set up effective public information websites. **Awareness of LRF websites also needs to be raised via the Government's public information campaign** as discussed in Chapter 20.

RECOMMENDATION 67: The Cabinet Office should provide advice to ensure that all Local Resilience Forums have effective and linked websites providing public information before, during and after an emergency.

¹ http://www.esc.org.uk/pdf/flood_advice.pdf



The role of the media

This chapter examines how media organisations communicate news, including public information messages, before, during and after an emergency, how effective this is, and the media's interaction with multi-agency responders. It contains sections on:

- local media;
- national media;
- the multi-agency response and the media; and
- media coverage of the Armed Forces.

Introduction

23.1 Although media organisations have no statutory responsibility under the Civil Contingencies Act 2004 (CCA) to communicate with the public, they do have a widely recognised role in providing information before, during and after an emergency. Radio and television broadcasters have a longstanding agreement with the government to interrupt programming with public safety advice and information in the event of a major emergency. They also support the sharing of information. Journalists and news crews often arrive early at an emergency scene, and the rolling news which follows is a valuable resource for the public and responders alike. Every emergency control centre facility, from the Cabinet Office Briefing Rooms (COBR) outwards, watched live news feeds closely during the floods of summer 2007.

A guide to working with the BBC in an emergency

(www.bbc.co.uk/connectinginacrisis)

The BBC has a well established initiative to help ensure the public has the information it needs during an emergency. Although the title 'Connecting in a Crisis' might suggest that it relates only to events during an incident, it is underpinned by connections *before* a crisis and ensures that BBC local radio station producers have established appropriate contacts with emergency planners, the police and other key organisations in their local area. The online guide explains how to access the range of communication outlets offered by the BBC at local, regional and national level. Examples of information provided can include updates from the Environment Agency on river levels, from the police on roads and flooded areas and from local authorities on school closures.

Local media

23.2 The media, particularly local radio, has a pivotal role in passing important information to the large numbers of people affected by flooding or loss of essential services. After the 2007 floods, the information broadcast was often important local news, such as road and school closures. In Gloucestershire, for example, the local BBC radio station received a large number of calls from the public giving live accounts of flooding on their streets and transmitting messages to concerned friends and relatives whom they were otherwise unable to contact. In many cases, the media acted as a 'friendly voice', listening to public concerns and providing a sense of reassurance, especially to people isolated by the floods and those living alone.

23.3 The local media's interest continued well after the 2007 floods had receded. For example, BBC Radio Gloucestershire broadcast a memorial service, organised by local media, from Tewkesbury Abbey for those who died in the floods. In addition, when the A46 road reopened after being closed for a number of months due to flood damage, the BBC transmitted live broadcasts to publicise the reopening of the village of Painswick, thus helping the economic recovery of the area. The media also performed a scrutiny role, 'chasing up' and asking questions of those responsible for utilities and services to ensure suitable outcomes. A series of media reports and documentaries since the 2007 floods have helped keep flooding in people's consciousness and high on the national agenda.

Engaging the local media proactively

23.4 However, the events of summer 2007 highlighted inconsistencies and limitations in the way in which the media fulfil this public information role. Evidence to the Review from media organisations described them struggling at times to engage with emergency responders during the floods. In particular, they cited their desire for Environment Agency representatives to come to radio and television stations to give advice, but found that often, due to the scale of the events, they were not available. While the media acknowledged the enormous strain on

responders caused by the unprecedented scale of the events, they were often unable to get the information they felt they needed to meet the public's concerns.

23.5 The Review believes that in any realistic analysis of local media engagement during emergencies, the benefits far outweigh the costs if the engagement is properly organised and structured. Only involving the media after an event can result in broadcasts being focused on 'news' only rather than planned public information messages. Local media should be supported in developing their public information role at all stages of an emergency. While there was effective engagement with the media in many areas, it needs to be replicated throughout England as do the opportunities such engagement offers for stronger public leadership.

23.6 In recognition of the importance of consistent engagement with the media, in the interim report the Review recommended that Local Resilience Forums (LRFs) urgently make arrangements to involve local media representatives in local preparedness and response planning to support their public information role. The Review was pleased to note that this recommendation was received with enthusiasm by LRFs. Their feedback suggests that arrangements throughout the country are well underway with local media representatives being involved in various ways depending on the local need. Effective engagement with the media at early planning stages will help this relationship run smoothly during an emergency and throughout the recovery phase.

23.7 And lessons are being learnt; news editors and local newspapers have told the Review that, at the beginning of the 2007 floods, they were not informed that a major incident had been declared, leading to a hurried need to catch up with the situation. However, in the East Coast winter floods, the local Chief Constable had called the news organisations direct, which bears testament to the stronger relationships that are being developed.

23.8 Although, understandably, media presence decreases once the immediate emergency is over, coverage during the recovery phase is just as important. Communication strategies therefore need to be agreed at the outset by all recovery coordinating groups and should focus on reassurance, advice and progress. This idea formed the basis of one of the Review's interim conclusions. **The Review would welcome a common approach being considered further by both Local and Regional Resilience Forums. It is clear that the local authority lead role in the recovery phase should extend to an overview of communications, ensuring clear, consistent messages across all partnership organisations.**

Local engagement with the media

In Hertfordshire, the LRF media group already enjoys strong relationships with local media and engages with them on a regular basis. For example, they have an active relationship with BBC Three Counties who have provided airspace to promote feature items including preparedness for flooding and severe weather incidents. The group has devised a series of monthly features for local media and included flooding in the spring around a wider county campaign about preparedness. This included working with BBC Three Counties and local press to reinforce messages and targeted work with different groups, particularly the elderly. In December 2007, the group hosted a junior reporters' training session in which young journalists were briefed about the work of Hertfordshire LRF and asked to support the group's warning and informing work. This was well received.

23.9 Members of the Review team attended a conference, "*Beyond the Floods*" to discuss lessons learned after the 2007 floods. The conference was organised by BBC Nations and Regions for local and national journalists, presenters and editors as well as members of the emergency response community. We heard how media websites are often the most

resilient to sudden heavy demand and this was true during the floods when many millions of 'hits' were received from members of the public seeking information. The Review was also interested to hear of innovative thinking and new technologies being used to provide public information and education, including:

- the development of new websites allowing the user to access video footage and local information – the BBC website alone received nearly 11,000 photos and 200 video clips submitted by the public;
- different programmes being broadcast on FM and MW frequencies in a local area to maximise information output; and
- the use of the 'red button' on television remote controls to provide extra information including bespoke weather reports; and broadcasts of Gold press conferences.

Media profile of local leaders

23.10 Local media activity also worked well in other respects during the 2007 events. The Review notes the value of a high media profile for local leaders, as achieved by council leaders and Gold Commanders in a number of areas affected by the floods. For example, in Doncaster, the elected Mayor's high visibility provided reassurance to the public during the severe flooding which affected the city in June 2007. In Gloucestershire, the Gold Commander adopted a similarly successful high profile, using the media as a way of communicating advice to the public and providing visible leadership at the local level.

23.11 In light of this, an interim conclusion of the Review suggested that council leaders and chief executives should play a prominent role in public reassurance and advice through the local media during a flooding emergency as part of a coordinated effort overseen by Gold Commanders. All respondents to the Review agreed with this stance, although the need for flexibility was also stressed. The most suitable person should be used depending on the information to be given and sometimes important messages are more readily received and acted on if they come from a recognisable figure of authority – a "person in uniform".

Submissions also highlighted that in some cases media training would be necessary, although the majority of local authority chief executives already have experience in this area.

RECOMMENDATION 68: Council leaders and chief executives should play a prominent role in public reassurance and advice through the local media during a flooding emergency, as part of a coordinated effort overseen by Gold Commanders.

National media

23.12 National television coverage, especially the rolling news channels, was regarded more cautiously than local media by the responder community and the public. The public felt that reports tended to move away from the local level too quickly, focusing instead on the regional or national picture and sometimes coming across as sensationalist. A number of affected people were dismayed by footage of reporters in Wellington boots standing up to their knees in flood water and regarded such reports as unhelpful unless supported by local facts and practical advice. But where that advice was forthcoming, television was a powerful medium. **The Review is reassured to learn that editorial controls in place at some media organisations do not countenance reporters putting themselves and emergency responders at risk by standing in dangerous flowing flood water. The Review welcomes this approach and encourages other media organisations to adopt a similar policy where one is not already in place.**

23.13 Since the 2007 floods there have been further instances of less severe flooding, for example on Friday 11 January 2008, when the Environment Agency installed temporary flood barriers along the riverfront in Upton-upon-Severn. The next day the river rose and over the weekend, a road was closed briefly, reopening again on the Monday. However, on the following day, television breakfast news showed a reporter standing by the barriers saying that the Environment Agency had

erected the barriers and the River Severn was overflowing its banks, creating the impression that the town was newly in danger. During the day journalists from other television stations all reported what might be classed a 'non-event'. Submissions to the Review stated that the media appeared intent on making the story into a drama, consequently causing substantial unnecessary worry for local people. Although later the same day reporters said that Upton-upon-Severn was open for business, the Review is aware of businesses that reported cancellations and lost business because customers had seen the news reports. Businesses still struggling following the July floods found the nature of this reporting unhelpful and damaging.

23.14 Even in genuine flooding events, care needs to be taken in reports on flooding to accurately portray the impact on a location, while not inappropriately giving the impression that the wider area is closed for business from customers and tourists. News reports of winter flooding in Leeds city centre included the ubiquitous reporter standing in flood water and, using narrow camera angles, gave the impression that substantial urban areas were flooded, when in fact flooding was limited to a small number of streets adjacent to the River Aire. Aerial film footage of inundated floodplains heightened this perception without setting in context that this is what flood plains are 'designed' for.

23.15 The impacts of media reports on an area are difficult to quantify. However, the perception of adverse impacts is real: a survey of 81 local authorities affected by the summer 2007 floods, carried out for the Review by the Local Government Association, showed that, as of February 2008, 20 of these local authorities were still experiencing adverse impacts to their leisure and tourism industries and in some cases this was attributed to the media. One local authority stated:

"Hotel bookings were down 40 per cent because of the negative media in some areas, which has continued". Another said:

"[There was] a £150 million loss to tourism business by loss of bookings and people viewing the area as closed for business".

The multi-agency response and the media

23.16 Evidence to the Review shows that good relationships generally exist between the media and emergency responders, with examples of organisations working well together, ensuring sufficient access to unfolding events is provided and valuing each others' role. In some areas broadcasting direct from Silver Command as well as Gold allowed a dialogue to take place, with questions being asked and answered on air. This arrangement also meant that representatives from the emergency services had no need to be present at both the radio station and at Silver or Gold Command, thus freeing them for use elsewhere.

23.17 The GfK NOP study published alongside the Review's interim report showed that, whereas the public had clear, usually positive, views on the role of 'blue light' emergency responders during the floods, the public were less clear where local authority staff were involved and this often led to a critical assessment of their role. Local authorities, as a Category 1 responder under the CCA, play a central role in emergency planning and response and the prominent media profile of local authority chief executives would also help to raise awareness of the authority's role.

23.18 A small number of submissions to the Review from media organisations have argued for the media sitting on Gold Commands in place of the present arrangement of having a Media Liaison Officer who then reports back decisions made at Gold to assembled representatives of each organisation. This, the proponents suggest, would give quicker access to the full set of discussions at Gold, rather than 'filtered' snapshots. Given the important role of the media in providing public information, clearly there is an argument for media access to the decisions made at Gold. However, based on the evidence, the Review does not see the need for media organisations to actually sit on Gold Commands, as key decisions by emergency responders might be made differently if carried out under the eyes

of the potentially critical media. Furthermore, if each media organisation were to sit on Gold Commands, the numbers of people present would be too large and unwieldy for the facilities and for effective decision-making. Additionally, if the media were involved in decision making, it could compromise editorial independence. Information coming out of Gold Commands should be shared between news organisations and not held exclusively by one. The BBC has informed the Review that information-sharing arrangements are in place and are adhered to during incidents.

23.19 A few media representatives have suggested that a 'local media only' Gold liaison officer, running in parallel with the usual media liaison officer, would be useful to ensure adequate contact time for the local media. Contact time can otherwise get usurped by the national media which has more prominence and sometimes runs to tighter editorial deadlines. **The Review does not make a recommendation in this respect, however, it would welcome Gold Commanders considering individually the needs of local and national media when appointing media liaison officers to Gold Command, especially given their different roles in public information provision.**

23.20 Clear communications and consistent terminology between responders are crucial to public information messages. For example, some confusion arose in the South West when the BBC broadcast information given to them by Severn Trent Water that the 'Gloucester region' had flooded. In fact the city of Gloucester at that stage had not been affected whereas Stroud, a town some 10 miles from Gloucester, had been affected. The confusion stemmed from the terminology for respective BBC and Severn Trent Water operational regions not being strictly geographically defined, and therefore not tallying, which was not understood at the time. **The Review would welcome responders discussing and understanding at the planning stage each others' geographical area of operation and the terminology used for these areas.**

Media coverage of the Armed Forces

23.21 The Armed Forces played an indispensable role during the floods. As well as the practical tasks they completed, their involvement reassured the public that everything possible was being done to protect their communities and utilities supplies. This reassurance was heightened by positive media coverage of their role. However, while the positive coverage was welcomed by the Armed Forces in their submissions to the Review, they also expressed the need for care in balancing the messages so as not to over-expose their role, which could imply in the minds of the public that the civil response was failing. Overexposure in the media, and then the sudden absence of coverage when the Armed Forces' role was complete, could also leave members of the public uneasy as the visible reassurance of the Armed Forces was no longer there.

23.22 Moreover, the public's view of flood response might be largely formed by the news images they receive. In a submission to the Review, an emergency planner told us:

"The public's indifference to putting in place their own basic resilience measures may be due to a reliance on the "authorities" coming to their aid with soldiers and sandbags. This view of flood response is largely formed by the news images they receive every day demonstrating what a flood response should look like, which...suggest that the "authorities" are responsible for dealing with flood risk by drafting in and deploying additional resources and that individual householders do not bear any responsibility to make their own flood preparations. Promotion of flood resilience cannot be discussed as though it happens in a vacuum, these messages are constantly fighting against news reporting clichés and historical images of how flooding is to be dealt with."

23.23 The Review has sympathy with this viewpoint and recognises the important role of the media in promoting effective actions by the public during an emergency and in promoting public resilience by education *before* an emergency occurs.





Personal and community resilience

This chapter discusses the role of individuals and communities in withstanding the consequences of flooding by being aware of risks, acting to mitigate them and responding effectively when the risks materialise.

It contains sections on:

- the concept of resilience;
- personal resilience; and
- community resilience.

Introduction

24.1 Much of this report has been about the roles of public and private bodies in emergencies. However, evidence to the Review shows that the public play just as important a role – and in some aspects a greater one – in coping effectively with emergencies like those of summer 2007. On visits to the affected areas, the Review team collected many stories which illustrate how active local leadership and positive action, by both individuals and local organisations, helped to minimise the extent of the damage to communities. Temporary facilities, such as reception centres staffed predominantly by volunteers, were widely utilised. Those with the equipment to help others – for example farmers in Upton-upon-Severn – did work for those in greater need. Post-flood, individual and collective involvement has helped to engender a sense of enhanced community spirit and cooperation.

The concept of resilience

24.2 ‘Resilience’ is generally defined as ‘the ability to recover readily’. Applied to individuals and communities, the term relates to withstanding the consequences of an incident; being aware of risks; acting to mitigate them; and responding effectively when the risks materialise. The Review has received many illustrations of personal and community resilience – in every area affected, the extent to which communities came together to respond to the flooding events was both heart-warming and commendable.

24.3 There is no reason why, as a society, we should accept flooding as simply a fact of life. But responsibility does not lie with Government or other authorities and organisations alone – they cannot protect people from all the consequences of natural disasters. The response to a major emergency is stronger if

all parties work together, including communities and individuals. In major emergencies where responders are severely stretched, community resilience has an important part to play, both before, during and after the event and can complement the response of the emergency services.

24.4 Experts involved in emergency response should not ignore the skills, energy and ingenuity that are latent in most communities; in preparing for an emergency, communities have important shared local knowledge and can harness local resources and expertise – for example, the location of doctors, vulnerable people and temporary shelter and where useful equipment is stored. After an emergency, working in partnership with all who have a role to play, including members of the public, communities, businesses and voluntary organisations, can help return a community to normality as soon as possible.

Community action in a Berkshire village

Bucklebury is an old rural village on the River Pang in Berkshire, which flooded in July 2007, inundating 24 out of 26 houses as well as the Grade 1 listed Norman Church and the village hall. After the floods, Bucklebury villagers took a community-driven proactive and collaborative approach that has brought praise and delivered results. Not only did the villagers help each other on the day of the deluge, they also worked together over several days to clear out the River Pang of weed and silt – it was only when this job was complete that the river stopped overflowing. This teamwork created a determined community spirit which was harnessed in the formation of an action plan to develop projects to alleviate future flooding.

“In our village it has brought us closer together; but we have worked hard, kept focused and stayed calm and it has (hopefully) brought long term dry results.”
Bucklebury resident

Personal resilience

24.5 Individuals and families need to be more personally resilient. There are a number of practical measures which members of the public, including business owners, can and should consider taking to prepare for a possible flood. All of these require only minimal action yet can make a real difference to the impact of a flood event.

24.6 One practical measure that members of the public can take to increase their resilience is to create a personal stockpile of supplies that might be useful in an emergency. During the floods of 2007, equipment and supplies were brought in by the emergency services and humanitarian organisations, often using the supply network of the major supermarkets. Donations from individuals also played a significant role in supplying those in need. However, supplies do not always need to be transported in and it was helpful that communities, individuals, businesses and schools already held, as a matter of course, certain supplies and equipment, whether cached in personal stockpiles for use in an emergency or in every day use – examples are tools, blankets, water, food and clothing. There was no lack of willing communal cooperation in the floods and capable and well-motivated individuals relied largely on common sense and utilised household equipment. Thinking about the possible need, quantity and accessibility of these ‘reserves’ in advance of an emergency can enhance the resilience of individuals and communities. Chapter 11 looks at this matter in more detail.

24.7 The Review recommended in its interim report that members of the public make up a flood kit. However, disappointingly, informal surveys suggest that few people have assembled a flood kit since then, although it is recognised that only six months have elapsed since the recommendation was first published. The Review considers however that the point is worthy of restating as a recommendation in its final report. The Review is encouraged by the fact that flood kits are highlighted on many local authority websites, indicating that this key message is being delivered to the public by

organisations. The Review is also aware that as part of its Flood Awareness Campaign in 2008/09, the Environment Agency will produce and market a flood kit. **This is a welcome move which the Review supports.**

RECOMMENDATION 69: The public should make up a flood kit – including personal documents, insurance policy, emergency contact numbers (including local council, emergency services and Floodline), torch, battery or wind-up radio, mobile phone, rubber gloves, wet wipes or antibacterial hand gel, first aid kit and blankets.

24.8 In the interim report, the Review also recommended that members of the public in flood risk areas increase their personal state of readiness and resilience to floods by following the Environment Agency's practical advice, as summarised below.

24.9 Progress on this recommendation is encouraging; as of May 2008 over 20,000 people had visited the Environment Agency's website pages on 'Simple ways to protect your home from flooding',¹ in comparison to the same timeframe last year when there were only 7,500 visits. In addition, as of May 2008, over 11,000 people had viewed advice on producing an emergency flood plan² in comparison to fewer than 1,500 for the period from January to May 2007.

"Since the floods, we have worked hard on supporting a Flood Warden Network in Lewes. This has proved very difficult to sustain in the face of public apathy. Most people want to put the distressing experience of flooding behind them, rather than get involved in community support networks to improve emergency response."
Lewes District Council

Environment Agency website: Simple ways to protect your home from flooding

- Make sure you have adequate insurance. Flood damage is included in most buildings insurance policies, but do check your home and contents are covered.
- Access the Environment Agency's website to check flood risks to property (this can be followed up by advice from the Agency, for example whether the property in question is protected to some degree by physical defences).
- Contact the Environment Agency to be registered on their Floodline Warnings Direct scheme (however, this does not apply to surface water or sewerage flooding and people should also make sure they remain alert to weather forecasts).
- Keep vital possessions, such as financial and legal documents and items of sentimental value, upstairs or stored as high as possible in waterproof containers and have plans in place to move items at short notice.
- Make a list of other useful numbers you may need – your local council, the emergency services and your Floodline quick dial number.
- Make sure you know where to turn off your gas, electricity and water. If you are not sure, ask the person who checks your meter when they next visit. Mark the tap or switch with a sticker to help you remember.

Property resilience

24.10 Property owners need to take responsibility for protecting their homes and businesses. As set out in Chapter 5, improving the resilience of property at risk from flooding would help reduce the impact of future flooding events. Immediate examples of steps that

¹ www.environment-agency.gov.uk/subjects/flood/826674/830330/876970/?version=1&lang=_e

² http://www.environment-agency.gov.uk/subjects/flood/826674/830330/927042/927049/927084/927259/?version=1&lang=_e

members of the public could take to increase property resilience include purchasing products such as door guards, air brick covers and toilet non-return valves.

Flood Resilience – Well worth it!

“We live near Oxford and were flooded in 2000, 2003 and 2007. After the 2000 flood we put things back as before, thinking we would not flood again for 50 years. Three years and one flood later, we knew differently. We decided to restore our house in a way that would minimise the damage caused by any future flood – so-called flood resilience. Being flooded will never be fun, but being more or less flood resilient makes it less stressful and one’s much more quickly back to normal.

We decided to have stone floors which only need mopping to return to normal and our insurers assessed our claim on the basis of replacing like with like, they did not mind how we spent the money. At the same time, we had a sump dug in one corner of the kitchen, and in which sits a submersible electric pump. Water coming into the house runs across the floor and down through the grating into the sump below. It’s then pumped back out into the garden. We are on the edge of the flood plain so we get plenty of warning and (so far!) the flooding outside has not been more than about 30 cm deep. We also had flood boards fitted to our door frames, electrical points fitted well up off the floor and our fridge, freezer and washing machine are up on platforms with storage space below.

Cost is an issue for almost everybody. As far as I know, insurance companies will not pay extra to help with these measures (though you could always ask!). However, many things don’t cost much more (if at all) to do in a flood-resilient way. Stopping the water ever getting in is the best thing, but if that isn’t possible, flood resilience measures are very well worthwhile.” Peter Rawcliffe

Business resilience

24.11 Many businesses we met were very proactive in recovery after the 2007 floods and set about getting back on their feet as soon as possible; indeed this was to be expected given that people’s livelihoods depended on it. However, with regard to resilience before a flood, many businesses were less resilient to deal with flooding before it occurred. In submissions to the Review, local authorities have told us how they have difficulty engaging with businesses and one stated:

“Engaging with the business community is very difficult because they don’t want to know (in terms of resilience) and get involved in business continuity. This is particularly true of SMEs [small and medium enterprises].”

24.12 Businesses are more likely to be flooded than burned down, resulting in devastating financial loss, yet fire safety is often considered more important. Resilience measures should be a part of every business’ continuity planning in flood risk areas; by taking action to prepare in advance for flooding, most businesses can save 20 to 90 per cent on the cost of lost stock and moveable equipment, as well as a lot of trouble and stress.³

24.13 To ensure business continuity when flooding occurs it is vital that businesses have a flood plan which examines possible flooding scenarios, how the business would react, and steps possible to protect property and ensure the safety of staff. Consolidation of this information in a written document can make the information easy to access during a flood, easy to communicate to staff and easy to remember. The Environment Agency’s website provides a template for creating a personalised flood plan.⁴

Physical measures

24.14 Many of the measures used to make homes more resilient can also be used to protect business premises, although the Review has heard that the comparative take-up of these measures is lower, perhaps because buildings have features such as large roll-doors

³ <http://www.environment-agency.gov.uk/subjects/flood/826674/830330/927042/>

⁴ http://www.environment-agency.gov.uk/commondata/103599/flood_form_6.1_936714.doc

or shop frontages that people perceive cannot be protected. In addition, many business owners do not live on site, and the home may take precedence during a flood.

24.15 However, where appropriate, flood boards on the doors of businesses and air brick covers can be used. In addition, business owners can register their premises as well as their homes on Floodline Warnings Direct to have telephone warnings sent to their mobile phone or home address. As well as allowing people to evacuate if necessary, these warnings allow businesses with moveable stock, such as car dealers and small goods retailers, to move stock to a place of safety. Physical resilience measures for properties are discussed further in Chapter 5.

Resilience advice

24.16 Most Regional Development Agencies report that flood resilience workshops they and Chambers of Commerce have held for businesses have had disappointing attendances. This could be because small and medium-sized enterprises do not always have the time to attend events.

24.17 But some areas have reported successful engagement; in September 2007, London First, a business membership organisation, with the Environment Agency, carried out an online exercise that aimed to assess business continuity plans against the effects of severe weather.⁵ More than 300 businesses signed up. It offered a platform for debate between the private and public sectors as well as providing the opportunity for businesses to network with emergency planning officers. The exercise also allowed good practice to be shared and current guidance to be signposted. **In another interesting initiative, Business Link, the government service to provide business advice, runs free workshops to inform rural businesses of the impacts of climate change and possible changes to business practices in light of these.⁶ This approach is encouraging and the Review would welcome it being trialled more widely.**

Community resilience

24.18 There is no doubt that, when caught up in an emergency, the majority of people do help themselves and their community. Although resilience begins with the individual, greater dividends can be achieved if activities are organised at the community level. There are areas where community preparedness work is already under way, and evidence to the Review suggests that it works best when kept to a focused local level – the village; the town ward; the business; or the housing estate. In part, successful community resilience requires people to know who, and what, is where. It also requires the scope of the job to be kept within what can be managed by people in their spare time.

24.19 A local level focus to activities does not preclude the involvement of national organisations. Formalised structures in which local groups have links to a national organisation, such as voluntary organisations, can help to prevent remote communities from feeling forgotten or left out, provide a focus for the community in times of emergency and can be an obvious point of contact for the emergency services when they arrive. Building relationships within the community through local branches of national organisations could help in local recruitment and in the delivery of messages to vulnerable groups.

24.20 Leadership is an issue that needs to be explored further; in some areas, people look to formal leaders, such as Ward Members, to have a role. In other areas, leadership is provided by more informal networks, such as existing community groups, especially in rural areas. Submissions to the Review show that emergency preparedness activities are already well organised in many parishes and villages. They are often arranged individually in villages and may sometimes be taken forward by umbrella organisations, such as the Hampshire Flood Steering Group, which represents over 100 parishes at risk of flooding. A number of local areas were enthusiastic about the National Flood Forum's Flood Fairs, which

⁵ Businesses can take part in online continuity testing by contacting London First at www.londonfirst.co.uk.

⁶ http://www.iod.com/intershoproot/eCS/Store/en/pdfs/mk_climate_change.pdf

are aimed at communities and individuals who have been flooded or are at risk of flooding. Flood Fairs are designed to offer the support, knowledge and help communities and individuals who need to organise themselves, to manage the effects of flooding, to promote self-help and to campaign for flood alleviation.

24.21 Much good advice about community resilience is also available, both to members of the public and local authorities. Examples include West Berkshire's 'Guide to Developing a Community Emergency Self Help Plan' and Gloucester County Council's 'Your Essential Flood Guide',⁷ which provides helpful information, including essential telephone numbers, flood defence measures and health and safety advice as well as recovery guidance on cleaning and drying property. **The Review endorses the collaborative approach widely observed and would welcome the sharing of good practice in this area.**

Flood resilience advice in Filey

The town of Filey in North Yorkshire has flooded a number of times in the last few years. After the floods in 2002, in partnership with community organisations and responders, the local council issued a ring-binder to every household containing useful information, including contact numbers of all agencies, pamphlets on property resilience measures and recovery as well as a list of all the local radio wavelengths. The folder also contains a red 'H' for residents to place in their window to summon priority assistance from neighbours or emergency services if other methods for summoning help are unavailable. The folders were in such demand after the 2007 floods that extra supplies were produced, which were sponsored by Yorkshire Water and Scarborough Borough Council.

Engaging the public to promote resilience

"We have our strategy to incorporate promotion and support to building and sustaining resilience in communities. Using some of the government's flood relief grant, we are now engaged in rolling out tangible community assets, including storage facilities containing basic equipment and personal protective equipment to high flood risk communities. As our involvement and engagement has grown, we note that those communities are also more receptive to investing in individual property protection. We have also facilitated local flood fairs and will assist communities with training for volunteer teams. Where there are flood warden groups already in place we will support the development of their roles."
Newark & Sherwood District Council

24.22 Employers also have a role in leading community resilience. **An idea put to the Review, which we would welcome being developed further, suggests that businesses could allow staff time to gain skills in, for example, first aid, personal safety management and befriending – this could lead to a more resilient workforce year round and one that could contribute to the collaborative community effort during an emergency.**

24.23 Community resilience, and its leadership, has a role at all stages of an emergency from emergency preparedness to response and into the recovery phase. Chapter 26 looks more closely at the role of local authorities in coordinating the recovery phase.

24.24 In this section of the report, the Review has outlined a range of different ways in which individuals, businesses and communities can increase their resilience, including planning for emergencies, taking mitigating actions when flooding occurs and putting physical resilience measures in place in homes and businesses.

⁷ <http://www.gloucestershire.gov.uk/index.cfm?articleid=17465>

We have also explained how resilience can be promoted at local, regional and national levels by public and private bodies, including the voluntary sector.

24.25 However, in this chapter we have only been able to give a snapshot of existing arrangements and a few suggestions of resilience measures that people can adopt. The Review believes that individuals and communities would benefit from more comprehensive, targeted advice from the Government and we make a recommendation accordingly. This also reflects the Government's commitment to the principle of community resilience in the National Security Strategy.

RECOMMENDATION 70: The Government should establish a programme to support and encourage individuals and communities to be better prepared and more self-reliant during emergencies, allowing the authorities to focus on those areas and people in greatest need.