

Environment, Economy and Culture Overview and Scrutiny Committee



Flooding in Devon

May 2009

1. Recommendations

The recommendations are structured around the stages of flood management identified in the Pitt report and are expanded with supporting evidence in the main body of the report.

Recommendation:	Measure:	Lead:	Timescale:
1. That scrutiny regularly considers the Devon wide provision for flooding throughout planning, implementation and recovery stages. In line with Pitt recommendations 90 and 91.	Report to the relevant scrutiny committee to include progress on multi-agency recommendations from LRF	DCC in partnership with the Local Resilience Forum (LRF)	Annually
Risk Management			
2. That the County Council further support Town and Parish Councils in preparing their emergency plans and in particular that Parish Council emergency plans are tested wherever practical.	More Town and Parish Councils, particularly in flood risk areas have robust emergency plans (in line with the emergency planning teams target of 60%)	DCC/Town and Parish Councils	From now
Flood prevention			
3. That preventative measures are put in place in those places that are identified as high flood risk this includes: 3.a. Maintenance of existing assets 3.b. Flood defences 3.c. Incorporation of flooding considerations into new development 3.d. Enforcement of statutory duties.	The County Council agrees the high risk sites as identified by the Environment Agency and works with partner agencies to put in place flood mitigation measures where appropriate. Following from Pitt recommendation 15 – Devon CC should work with partners to identify the landowners responsible for each section of waterway.	DCC and all responsible parties.	May 2009
4. Representation made to central government to review the current system for allocating flood related funding. This should include consideration of coastal risk as well as places where there is a high migratory population.	Representation made to central government	DCC to lobby DEFRA	Immediately
Warning and informing			

Recommendation:	Measure:	Lead:	Timescale:
<p>5. The Local Development Framework properly reflects flood risks and seeks to mitigate where possible to have a net nil impact on flooding.</p> <p>5.a Provision for consideration before planning permission is granted on flood plains or flood risk areas as to whether the householders will be able to secure comprehensive insurance.</p>	Incorporate consideration into the planning process	Central government / District Councils	From now
<p>6. That the various activities currently undertaken around communicating before an emergency are coordinated in a dedicated communications plan, this could form part of the local flood risk management strategy. To include the following:</p> <p>6.a. Clarification over responsibilities with regard to water management</p> <p>6.b. Better communication with Town/Parish Councils</p> <p>6.c. Emergency planning road shows supporting the creation of emergency plans</p> <p>6.d. Communication booklet to individuals currently being produced by the LRF</p> <p>6.e. South West Water to include the floodline number on the 'Customer Promise' leaflet</p>	<p>All actions should be carried out in liaison with the LRF communications group</p> <p>Production and circulation of clear guidance</p> <p>Identified contact from Town/Parish Council</p> <p>Further support for producing emergency plan</p> <p>Work with the LRF to produce one line of communication</p>	<p>DCC/LRF</p> <p>South West Water</p>	Plan in place by Dec 2009
<p>7. That communication is improved between official agencies, before, during and after a flood event.</p>			
Rescue and emergency care			
<p>8. That the Council lobbies central government to maintain the original commitment to the creation of a flood framework to bring greater clarity during an emergency.</p> <p>As outlined in recommendation 9 of the Pitt review.</p>	Representation made to DEFRA	DCC to lobby DEFRA	Immediately

Recommendation:	Measure:	Lead:	Timescale:
Recovery			
9 That there is a named Executive Member with a portfolio that includes responsibility for risk management and in particular flooding.	The post holder should be involved in any major incident debrief. Communication with the Devon Association of Parish Councils around measuring recovery	DCC	June 2009

2. Executive Summary

- 2.1 Flooding is a severe natural event that threatens property, lives and businesses throughout England. The impact of climate change suggests that flooding will increasingly be a problem.
- 2.2 The Pitt review published in June 2008 provided a comprehensive response to the widespread flooding experienced in summer 2007. The 92 recommendations have far reaching consequences for all agencies involved in flood defence, emergency planning and rescue and recovery.
- 2.3 The Pitt review highlights the need for a framework for emergency planning. The Local Resilience Forum coordinates all emergency planning lead by the Police, with a sub group for flooding. There is also recognition of the importance of local responders having emergency plans with the County Council working with Town and Parish Councils on their production.
- 2.4 The Stern report indicates that resources are most effective when dedicated to preventing an emergency happening. It is crucial to dedicate resources to reducing the seriousness of an incident far before there is an emergency. This includes communicating responsibility to individuals and ensuring that if developments are on flood plains they are in line with PPS25 and Environment Agency guidance.
- 2.5 Communication is a key issue, both from national and local publications on flooding. It cuts across the stages identified in Pitt; risk management; flood prevention; warning and informing; rescue and emergency care and recovery:
- 2.6 Where a flood cannot be prevented the robustness and preparedness of official agencies to act can determine the success of the rescue and recovery.
- 2.7 The task group have conducted a short 'task and finish' investigation into flooding in Devon. It is anticipated that this will contribute to the work that is planned and being undertaken on ensuring that the County is as prepared as possible in case of a flood.

3. Background

- 3.1 The risk of flooding is an increasing threat to many people and businesses throughout England and Wales. The Environment Agency estimates that this figure is as high as five million people.¹
- 3.2 This was particularly brought home following the severe summer floods in 2007, where 55,000 properties were flooded, about 7,000 people had to be rescued and 13 people died².

¹ <http://www.environment-agency.gov.uk/homeandleisure/floods/default.aspx>

- 3.3 The Pitt review published June 2008 was compiled in response to these floods and constituted an independent report to the widespread devastation caused by flooding in 2007. Pitt made 92 recommendations with multi-agency implications. The government published its response to the review in December 2008 and the draft consultation for the Floods and Water Bill was published on the 21st April 2009.
- 3.4 Devon fared much better than many parts of the country in summer 2007, but still regularly experiences flooding. The time line below demonstrates the regularity and seriousness of flooding incidents in Devon and the surrounding area and also local and national actions that have been carried out in relation to flooding over the past ten years.

Flooding Incidents		Devon County Council & Government actions
Mid & East Devon – Over 200 flood warnings issued; floods left 125 properties underwater	1998	
Over 80mm rain in under two days. 150 homes flooded across Devon & Cornwall.	1999	
Wettest autumn for 270 years with 10,000 homes flooded at over 700 locations.	2000	Devon Flooding Roundtable Formed March - Scrutiny Task group on storms & flooding reported to EEC Committee.
	2002	£4.2 Million allocated for new flood defence scheme in Ottery
Jan - Devon Fire Fighters rescued five people from their flood trapped cars	2003	
Severe flooding in Boscastle, Cornwall	2004	
Flash floods in Devon after as much as 60mm of rain		
Nov - Torrential rain causes Local flooding across Devon	2005	
Worst summer flood in recorded history: 13 people killed, 350,000 people in Gloucestershire without clean water & £3 billion insurance claim.	2007	County Hall hosts a European conference on Emergency Response Devon invests additional £1.5 million in highway drainage
Aug - Flash flooding in parts of Devon		
Oct -Severe Flooding in East Devon	2008	June - Pitt Review published clean up operation costs Devon County Council £1.5 million Dec -Government publishes response to the Pitt Review

² Pitt report, Executive summary ES.2

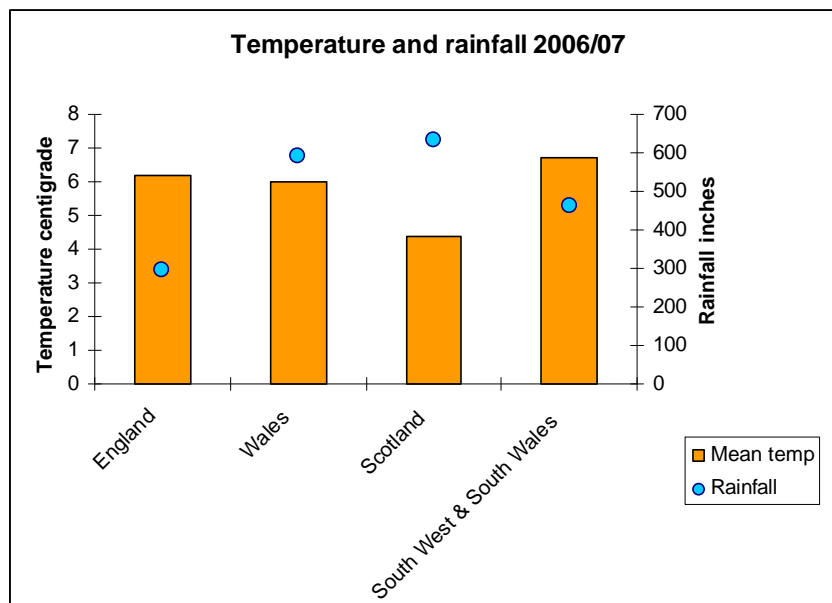
- 3.5 In response to the national developments as well as the local severe weather experienced in the Otter valley in 2008, the Environment, Economy and Culture Overview and Scrutiny Committee agreed to establish a task group on the 11th November 2008.
- 3.6 The scrutiny task group was established to see if the people of Devon could be better protected from future flooding incidents as well as to respond to the developments that have been outlined in the Pitt review.
- 3.7 The first meeting was held on the 9th March 2009 where the terms of reference were agreed. The task group carried out evidence gathering from the 30th March and concluded on the 27th April. During this time the task group spoke to 24 witnesses from 13 different organisations (including Devon County Council).

4. Risk Management

- 4.1 Flooding is a phenomenon that is here to stay. In the context of climate change extreme weather events are predicted to become more frequent. The Stern report clearly highlights the link between global warming and a subsequent increase in extreme weather including flooding and drought:
‘...Warming is very likely to intensify the water cycle, reinforcing existing patterns of water scarcity and abundance and increasing the risk of droughts and floods.’³
- 4.2 In a witness session with the Met Office representatives echoed this perspective:
‘Precipitation is an extremely variable quantity. Climate models indicate the likelihood of wetter winters and drier summers. However... there are physical reasons to expect that in both seasons any rain that falls is likely to be in heavier bursts.’
- 4.3 Natural England highlighted the need to reduce everyone's carbon footprint in order to reduce this impact. However even with positive actions the climate will change:
‘Our climate is changing inexorably. Even if all global emissions could be stopped today, our climate will continue to change for at least the rest of this century due to historic emissions already in our atmosphere.’⁴
- 4.4 As demonstrated on the chart below, when compared to the average temperature and rainfall across England, the South West has a slightly warmer and wetter climate, although it is warmer and drier than both Wales and Scotland.

³ Stern review http://www.hm-treasury.gov.uk/d/Part_I_Introduction_group.pdf

⁴ ABI Preparing the UK for climate change



Types of Flooding

- 4.5 In order to manage the risk of flooding, the risks have to be identified and measured as much as is possible. Accuracy of prediction and responsibility for action varies according to the specific type of flooding. The main types of flooding are summarised in the blue boxes below and link to the map of Devon on the following pages.

Coastal Flooding

Cause: A combination of high tides and waves; severity can be exacerbated by low atmospheric pressure and wind and lead to a tidal surge.

Responsibility: Environment Agency with Maritime District or Unitary Council. Funded by DEFRA.

Risk in Devon: Very High

- 4.6 As shown on the map areas of East Devon, Teignbridge, Torbay, the South Hams and North Devon are particularly at risk of this type of flooding. This definition does not specifically include coastal erosion.
- 4.7 The Met Office can accurately predict coastal flooding, giving indications up to five days in advance of a flood occurring. Any rise in sea level from climate change coupled with more tempestuous weather conditions will contribute to an increase in the occurrence of coastal flooding.
- 4.8 In some areas coastal defences can be effective at reducing or lessening the effect of coastal flooding.

Fluvial or River Flooding

Cause: Excessive rain collecting in streams and running into rivers.

Responsibility: Environment Agency to maintain and improve the flow of water on Main Rivers and flood alleviation, District Councils (possible change in the Floods and Water Bill) the same on ordinary watercourses. Riparian landowners for smooth passage of water on their land.

Risk in Devon: Very High

- 4.9 Any watercourse that can cause significant flooding is designated by the Environment Agency as a 'Main river'. Main Rivers may have been identified through historic information or with reference to more current flooding maps. All other watercourses are designated as 'ordinary watercourses' these have been the responsibility of the District Council, it is still unclear if the Floods and Water Bill will propose the responsibility moving to top-tier authorities.
- 4.10 Whilst Riparian landowners have a responsibility to maintain the flow of the watercourse, not all landowners are aware of their legal duties. The Environment Agency and the local District Council have powers to enforce clearance if the landowner is causing a greater flooding risk. The Environment Agency has had to prosecute on occasion but prefers to work with landowners. On occasion the Environment Agency will step in to help remove an obstruction if there is a risk of flooding that is larger than just affecting that of the landowner.
- 4.11 The Environment Agency website has specific maps showing the risk from river flooding. These are compiled using computer modelling based on information from the Met Office. Devon has somewhere in the region of 16,000 properties at risk from fluvial flooding.⁵
- 4.12 Testimony from the National Farmers Union (NFU) suggested that farmers would like to see an increase in the dredging of main rivers, thereby improving the flow of water. However the Environment Agency stated that the slowing of the volume of water may be desirable in some instances and the Pitt report makes the point that dredging does not offer value for money.

Surface Water flooding including Flash flooding/rapid response

Cause: Rainfall runoff collecting before it has the opportunity to enter any watercourse or sewer. Low levels of permeability from saturated, frozen, or baked hard ground contribute to the problem. Lack of drainage from sewers in urban areas will further exacerbate the problem. Flash flooding occurs when localised torrential rain falls in such high density that it overwhelms any drainage.

Responsibility: District Councils are currently the land drainage authority. **In terms of drainage,** dedicated highway drainage systems and gullies are the responsibility of the highway authority, highway ditches and other ditches will usually be the responsibility of the adjacent landowner, adopted surface water sewers will be the responsibility of the water company and unidentified watercourses or watercourse over public land will be the responsibility of the district councils.

Risk in Devon: Very High

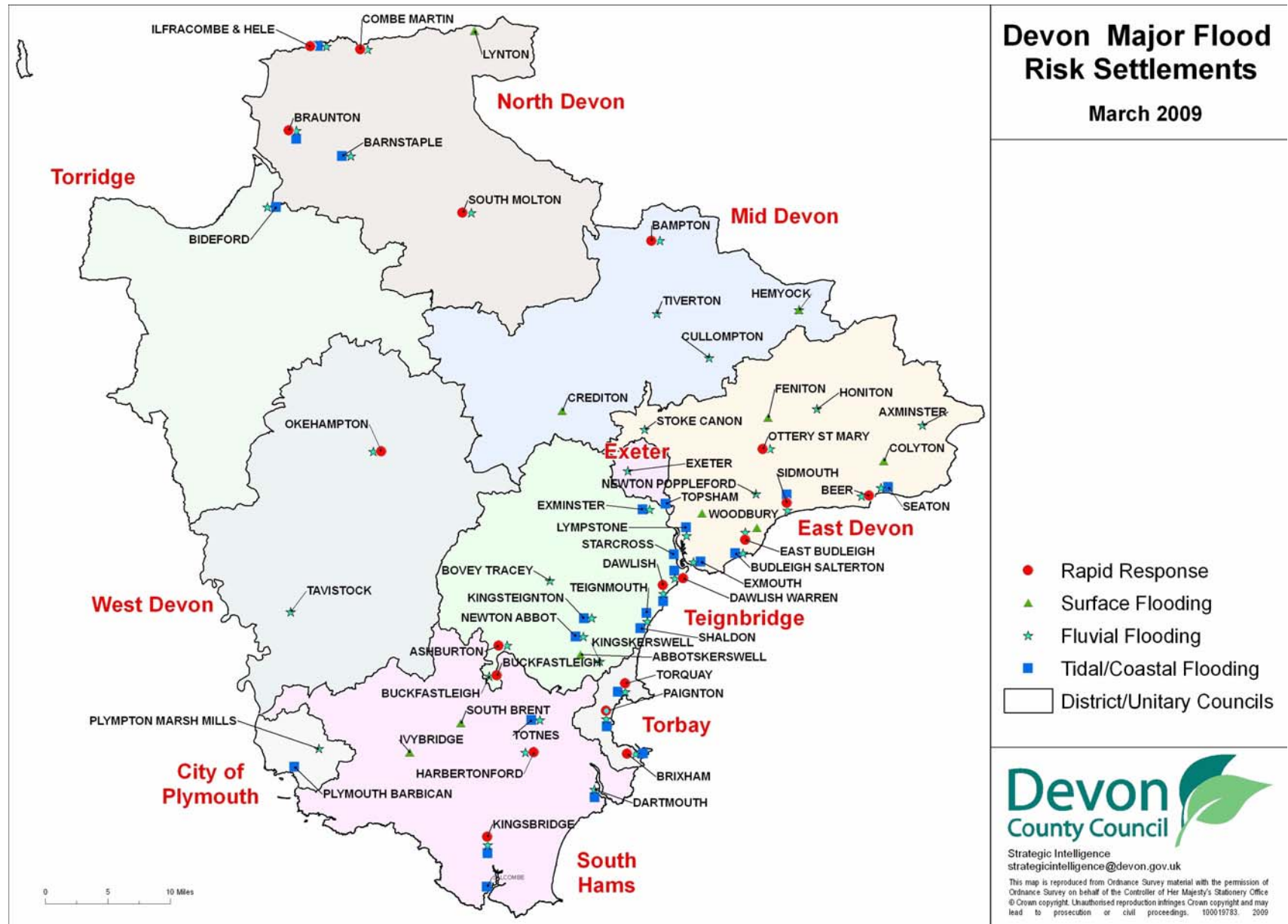
⁵ Taken from Environment Agency flood risk assessment

- 4.13 Predicting surface water flooding has been described as an art rather than a science. At this time the Environment Agency does not have a comprehensive mapping system for surface water flooding. Although this process has been initiated, there are significant challenges in identifying surface water risk areas. According to the government response to the Pitt review this is due to be completed in 2010. The County Council eagerly welcome this significant development in flood prediction.⁶
- 4.14 There is ambiguity and confusion over responsibilities for drains and gully maintenance. Gloucestershire County Council have published guidance on their website to help bring clarity to the issue:
<http://www.gloucestershire.gov.uk/index.cfm?articleid=2656>
- 4.15 Nationally more than 10,000 homes are currently at high risk (10% annual chance) of sewer flooding and the estimated value of assets at risk is £270 million.⁷
- 4.16 Flash flooding is perhaps the most difficult of types of flood to prepare for because by its very nature it is unpredictable. In Devon there are a number of locations that are at risk of flash flooding where rain falling on hills will run off into valleys and cause flooding.
‘The South West peninsula is prone to rare, but very heavy rainfall events lasting from about 5 to 15 hours. The famous storm which devastated Lynmouth in north Devon on 15 August 1952 was one of these, when one place on Exmoor had 228 mm in 12 hours. Other similar events are the 200 mm at Otterham near Boscastle in Cornwall on 16 August 2004, 203 mm at Camelford in Cornwall on 8 June 1957 and 243 mm in 13 hours at Bruton in Somerset in June 1917. The highest recorded daily rainfall total in UK was at Martinstown in Dorset when 279 mm was recorded on 18 July 1955.’⁸
- 4.17 The task group has considered the list of ‘At Risk Communities’ as identified by the Environment Agency. The task group supported the criteria used to identify this list subject however supports DCC officers in extending the definitions of communities to 100 dwellings instead of 250, and to the inclusion of surface water flooding and historical information. These communities are mapped below:

⁶ Government Response to the Pitt review
<http://www.defra.gov.uk/enviro/fcd/floods07/Govtresptopitt.pdf>

⁷ Flooding from sewers, national flood forum types of flooding

⁸ <http://www.metoffice.gov.uk/climate/uk/sw/>

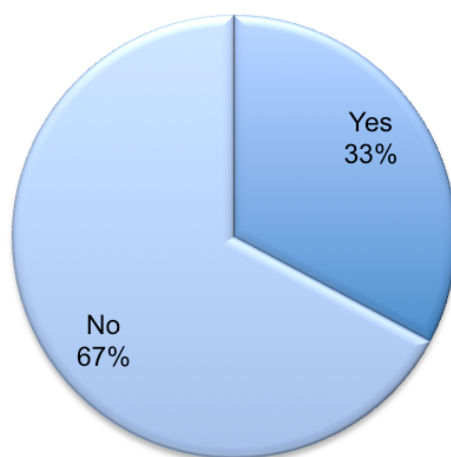


- 4.18 The Emergency planning team is in the process of compiling flood plans for those communities identified to be at a higher risk. It is anticipated that this process will be completed during 2010.
- 4.19 Having identified those communities that may be at high risk, work needs to be undertaken between agencies to ensure that all areas are prepared in the event of an emergency. As is detailed above, some types of flooding are difficult to predict, as are other emergencies. Therefore all Town and Parish Councils should have an Emergency Plan that takes this into account.

Recommendation 2: That the County Council further support Town and Parish Councils in preparing their emergency plans and in particular that Parish Council emergency plans are tested wherever practical.

- 4.20 The Emergency Planning team undertook a survey of Town and Parish Councils, asking questions about the creation of Emergency Plans, what DCC could do to support the Parishes and about what information was being received.
- 4.21 Of the Parishes that responded only a third had an Emergency Plan, and worryingly some Parishes felt that one was not needed as they were not at any risk of an emergency particularly a flood. In some cases the evidence for this was cited as not being near the sea or a river.

Parish Councils with Emergency Plans



Base 192

- 4.22 Only six percent of Town and Parish Councils who do not have a plan are in the process of completing one.⁹ The survey also showed that communication is not getting through in all cases, with only 20% of Town and Parish Councils that responded to the survey saying that they receive the six monthly newsletters that the County Council sends out.
- 4.23 One question that was asked was about whether the Parish would consider sharing their plan as an example of good practice. Interestingly although there was a high response rate from those Parishes in East

⁹ From Emergency Planning study

Devon not one identified their plan as being good practice. There is clearly a need for DCC to work with Town/Parish colleagues to build confidence in the plans and to make them as robust as possible. County Council officers have identified national examples of good practice and have incorporated them into a template. This will be shared with Town and Parish Councils as part of the programme of workshops.

Case study: Feniton Parish Council Emergency plan

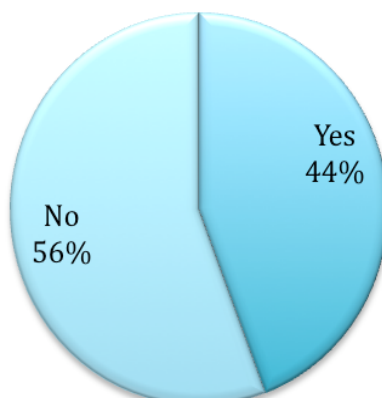
In 2008 as part of the Otter Valley floods, Feniton suffered with surface water flooding, and although there had been flooding before, it was the first time that flooding on this scale had been seen.

At this time there was not a Parish Emergency Plan, although this had been considered, there was no specific need identified.

Feniton have now taken the decision to complete an Emergency Plan. Although it is difficult to tell if having a plan would have made a difference on the day, there were improvements that could have been made.

- 4.24 The County Council emergency planning team have a target to raise the number of parishes with emergency plans to two thirds by 2012. The task group support this and go further by recommending that Parish Emergency Plans are taken into account when higher-level plans are put to the test in exercise scenarios.
- 4.25 Currently just under half of Town and Parish Councils feel equipped to deal with an emergency should one arise. There is clearly considerable scope for working with Town/Parish Councils to improve how prepared they are and completing an emergency plan can be a useful tool in doing this.

Parish Councils that feel equipped to deal with an emergency



Case study: Braunton Parish Council Emergency plan

Braunton's draft emergency plan has been identified as an example of good practice. Braunton have gone through several stages to make the plan as robust as possible. Currently the plan is on the fifth version. Flooding is the biggest threat in Braunton, although other emergencies are factored for on the plan.

There are two parts of planning for an emergency like a flood;

- Prevention – planned in liaison with Devon County Council
- Reaction – implementation of the plan.

Braunton are in the process of agreeing their Emergency Plan.

5. Flood prevention

- 5.1 Evidence from the Stern report indicates that resources are most effective when dedicated to preventing an emergency happening.
- 5.2 The draft Flood and Water Bill places an increasing role on local authorities in local flood risk management. Including linking flood risk to the spatial planning process and County and unitary local authorities lead in ensuring the production of Strategic Flood Risk Assessments (SFRAs) covering all forms of flood risk, which will:
- Provide the evidence to allow local planning authorities to factor flood risk into local development plans and individual decisions on new development proposals;
 - Help the county and unitary local authorities to determine where they need to develop a surface water management plan for local flood risk management;¹⁰

Recommendation 3: That preventative measures are put in place in those places that are identified as high flood risk this includes:

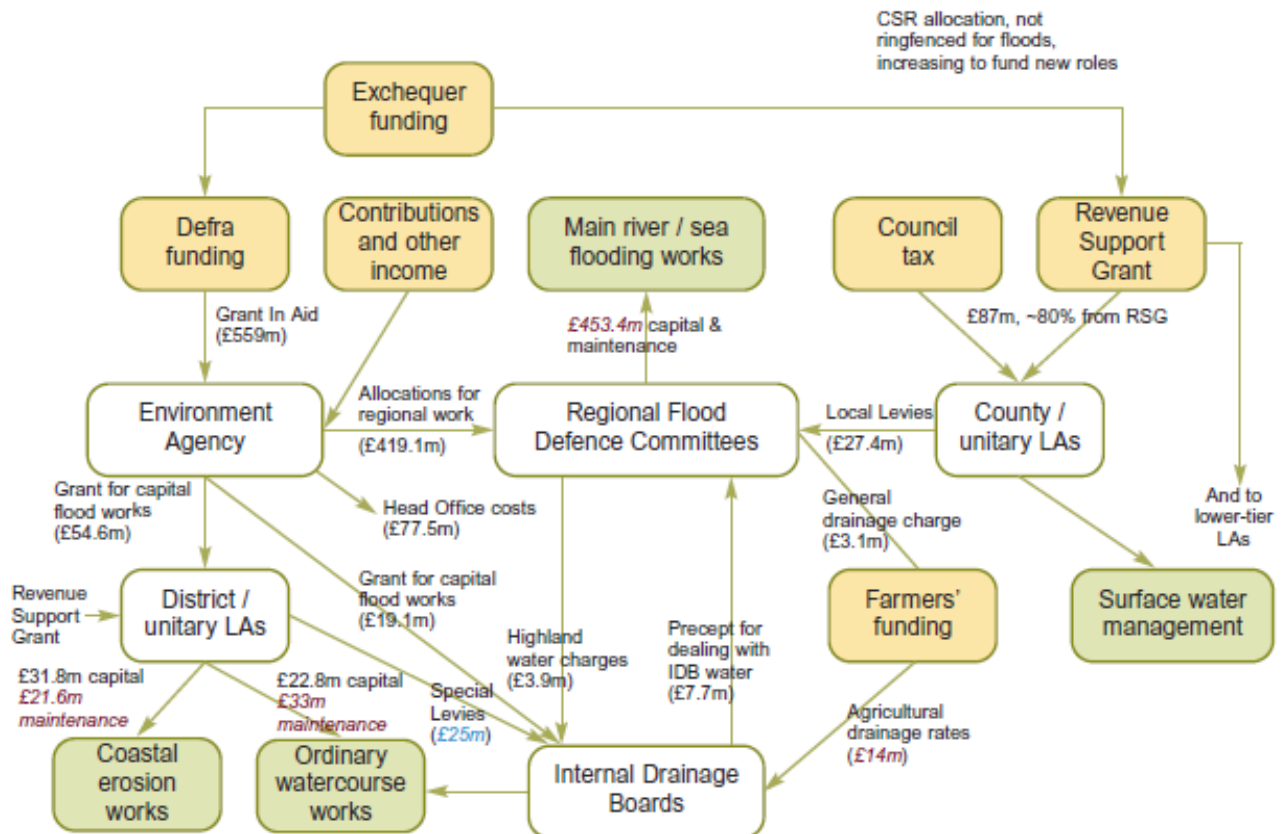
- 3.a. Maintenance of existing assets
- 3.b. Development of flood defences
- 3.c. Incorporation of flooding considerations into new development
- 3.d. Enforcement of statutory duties.

- 5.3 The recommendation above is designed to take a high level approach to flood prevention in line with the new duties on top tier local authorities. As well as to recognise that all partners have specific roles to play in flood prevention. These might include farmers planting specific crops to reduce surface water run off where possible or the implementation of sustainable drainage systems (SUDS). In order to carry out specific actions Devon

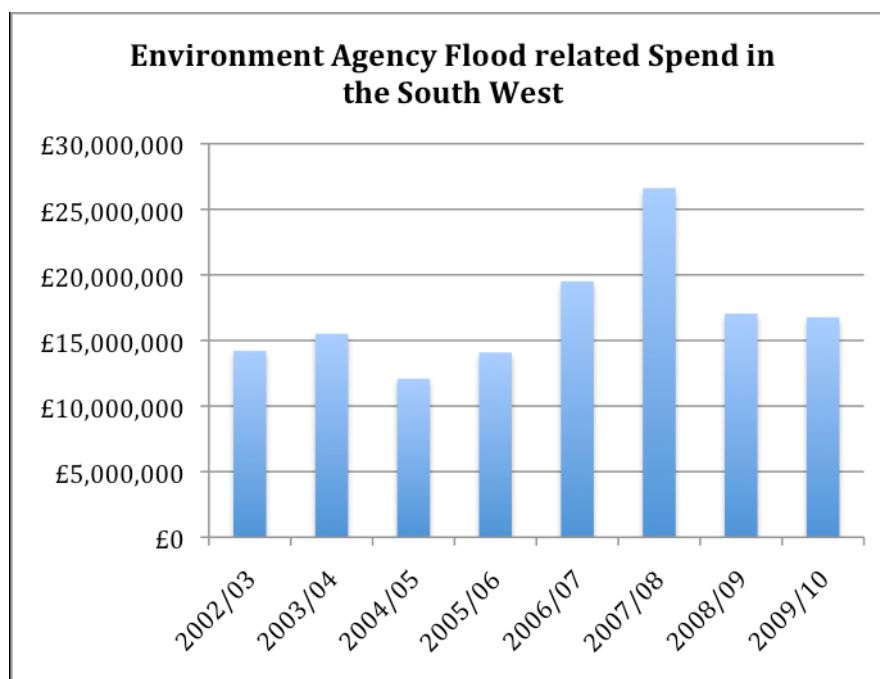
¹⁰ Defra, Draft Floods and Water Bill, <http://www.official-documents.gov.uk/document/cm75/7582/7582.pdf>

County Council should work with partners to identify who is responsible for each section of waterway and the various drainage assets in Devon (following Pitt recommendation 15).

- 5.4 The issue of funding is one that the task group has discussed a number of times, the diagram below shows the current interrelationships between agencies and funding. The figures shown represent national forecasts for 2008/09. The relationships and responsibilities are likely to change following the publication of the draft Floods and Water bill.



- 5.5 The chart below plots the year on year flood related spend from the Environment Agency from both revenue and capital. With pressure on Devon from different types of flooding, further funding is needed to protect residential properties, businesses and infrastructure before flooding occurs.



Recommendation 4: Representation made to central government to review the current system for allocating flood related funding. This should include consideration of coastal risk as well as places where there is a high migratory population.

Development and Planning

- 5.6 It is crucial that local authorities and other agencies consider the impact of actions against the backdrop of climate change and an increase in severe weather. The Pitt review dedicates a chapter to examining building and planning. Other agencies are in agreement over the need to mitigate flood risk at a planning stage:

‘The government plans three million new homes in the UK by 2020, a proportion of which will be built on floodplains or in coastal areas. Factor in the effects of climate change on rainfall and sea level rise and it is clear that the UK is at serious and increasing risk from flooding.’¹¹

- 5.7 Some methods of development have contributed to the problem of flooding.

‘The biggest change in flooding recently is due to increased development: more rapid runoff due to sealed surfaces and agricultural practices, and increased building of property and infrastructure in flood-prone locations – low lying coastal and floodplain locations.’¹²

¹¹ Institute of civil engineers, ‘Flooding: Engineering resilience’
http://www.ice.org.uk/downloads/2008_flooding.pdf

¹² Testimony from Met Office

- 5.8 In witness sessions with District Council Planners it is clear that there is a strong presumption against building in an identified flood plain. The task group has received evidence that Local Development Frameworks (LDF) do take account of flood prevention measures.

Recommendation 5: The Local Development Framework properly reflects flood risks and seeks to mitigate where possible to have a net nil impact on flooding.

5.a Provision for consideration before planning permission is granted on flood plains or flood risk areas as to whether the householders will be able to secure comprehensive insurance.

- 5.9 The Government's planning policy for England on 'Development and Flood Risk' (Planning Policy Statement 25 or PPS25) directs development to lowest flood risk areas first and seeks to reduce overall flood risk.¹³ Evidence from several sources has stressed the need for professionals to understand it and apply it correctly. Although flooding is only one consideration when planning a development.
- 5.10 Advice from the Association of British Insurers focuses on planning authorities taking the advice of the Environment Agency when looking at new developments:
- 'Our key advice is to ensure that the relevant authority on flood risk is consulted on, and approves, proposals for all new developments where there is a risk of flooding from any source. Insurers expect to be able to insure developments that are built in line with advice from these responsible authorities. Where developments are not approved, insurance is likely to be more difficult to obtain.'**¹⁴
- 5.11 Responsibility for mitigating flood risk does not solely lie with larger organisations, and the impact of small scale development should not be underplayed. Paving over front and rear gardens has a cumulative impact on reducing permeability and in the event of extreme weather can contribute to surface water flooding.
- 5.12 There are measures that individual property owners can take to reduce the risk of flooding to their property. Firstly making an informed choice about the acceptable risk of a flood before buying a property. This requires knowing about the flood risk to a property and the Environment agency publishes fluvial flooding maps on the internet.¹⁵ In witness sessions with planners, it was suggested that a solution might be to have a document attached to the property like a home information pack that includes information about flooding. Having bought a property that is at risk, measures can be taken to reduce the impact of a flood such as raising the level of plugs and using different materials internally.
- 5.13 Worriingly evidence from the ABI suggests that following the summer 2007 floods some homeowners did not feel the need to make improvements that might protect them in future, reasons given include:

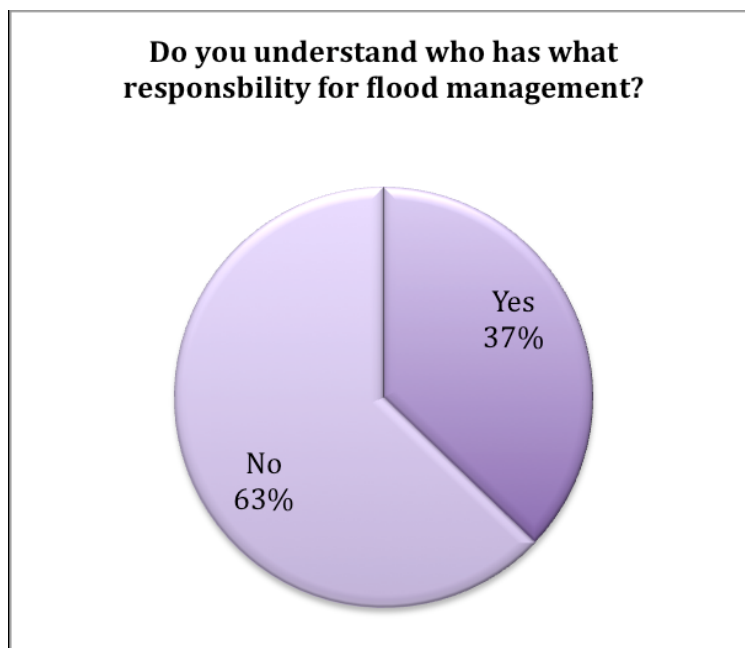
¹³ Environment Agency: http://www.environment-agency.gov.uk/static/documents/Research/HLT5_20078_.pdf

¹⁴ ABI,

¹⁵ Environment Agency flood maps <http://www.environment-agency.gov.uk/homeandleisure/floods/31656.aspx>

- ✦ They expected the Government to protect them.
- ✦ The future risk was too small.
- ✦ It would be harder to sell their home.

5.14 In preparation for attending the scrutiny task group a representative from the Country Land and Business Association (CLBA) conducted research with members to ascertain their views. In particular this research highlighted that there was confusion over roles and responsibilities, this is clearly highlighted on the chart below. (See recommendation 6a)



5.15 Two thirds of respondents were dissatisfied with Devon County Council's performance in executing flood management responsibilities. However since this is the same percentage of responders that is unclear about who has responsibility for what, this could show a general dissatisfaction with official action. This general perception is again reflected in comments from landowners about the lack of maintenance by the Environment Agency.

5.16 Natural England indicated that the best way to tackle the increased levels of rain and make provisions for flooding was by taking a catchment wide approach to water management. With a particular focus on slowing down the water flow and thereby giving people more time to react. Using washlands as overflow storage higher up the catchment can slow the flow enough to reduce the impact of the excess of water.

5.17 The Catchment Sensitive Farming Initiative is currently running in partnership with the Environment agency and Defra. There are currently forty priority catchment areas in Devon, who will/have received up to £8k to put measures in place, including those to help reduce flooding.

6. Warning and informing

- 6.1 Under the threat of a flood it is the Environment Agency who take primary responsibility for informing residents and businesses about the risk and the actions to be taken. The levels of flood warning are outlined in appendix 1, although the task group understands that these are likely to be modified.
- 6.2 The Environment Agency uses a number of ways of communicating with residents, but particularly promotes signing up to the Floodline alert service.

Recommendation 6: That the various activities currently undertaken around communicating before, during and after an emergency are coordinated in a dedicated communications plan, this could form part of the local flood risk management strategy. To include the following:

All actions should be carried out in liaison with the LRF communications group

- 6.a. Clarification over responsibilities with regard to water management
- 6.b. Better communication with Town/Parish Councils
- 6.c. Emergency planning road shows supporting the creation of emergency plans
- 6.d. Communication booklet to individuals currently being produced by the LRF
- 6.e. South West Water to include the floodline number on the 'Customer Promise' leaflet

- 6.3 Communication has been consistently identified as a key issue, both from national and local publications and in every witness session. It cuts across the stages identified in Pitt; risk management; flood prevention; warning and informing; rescue and emergency care and recovery: The need to improve communication has been mentioned at every witness session and in every meeting but there is no joined up communication strategy.

'More effective ways of communicating information to the public will be needed, especially if more of the protection is in a soft form. With an ageing population, earlier information will be needed to support bodies and carers so that they are able to organise appropriate responses.'¹⁶

- 6.4 However communicating with the public is only half the challenge. As demonstrated in the Otter Valley case study (details over the page) communication between agencies is vital.

Recommendation 7: That communication is improved between official agencies, before, during and after a flood event.

- 6.5 The task group specifically identified the following as opportunities for development around all aspects of communication:
- Information used for training
 - The use of different types of media
 - Interaction using training activities – on line flooding exercises
 - Spreading the information through schools curriculum

¹⁶ Evidence from Met office

- 6.6 In evidence sessions many witnesses have expressed a commitment to work with the County Council and other partners to improve communications before an emergency.

7. Rescue and Emergency

- 7.1. Unfortunately there will be occasions where a flood cannot be prevented. In these situations the robustness and preparedness of official agencies to act can determine how serious the consequences are. With an appropriate response the situation can be managed more effectively and reduce the level of emergency.
- 7.2. Flooding emergencies can be categorised into two types:
- Forecast flooding – When the Met Office and the Environment Agency can predict severe weather/high tides and a strategic response can be planned.
 - No warning – When events happen too quickly to be predicted e.g. flash flooding. The response will then be controlled from the ground upwards as the event happens/unfolds. It is far harder for emergency services to take a proactive approach to the management of an event where there is little or no warning.
- 7.3. An emergency can be called by any category 1 responding organisation (under the Civil Contingencies Act) once an emergency has been declared the Police Force will usually take the lead in responding to the incident.

Bronze – First responding officer at the event

Silver – The decision making (role not rank) critical incident manager who is trained and can call for back up if the demand increases

Gold – Gold Commander and Chief of Staff are on call 24/7

Appendix 2 details different agency responsibilities in an emergency.

Case study: Otter Valley Flooding

On the 29th/30th October 2008 localised flooding occurred in the Otter Valley in East Devon. Following exceptional rainfall which later turned to hail the majority of flooding was caused by tributary streams of the River Otter becoming overwhelmed by the volume of water running off fields and surface water flooding.

The debrief document deals in detail with what happened, and makes clear suggestions for improvements in the future. It is not the remit of the task group to further reiterate specific evaluation. However there are some relevant points for improvement:

- Communication between agencies
- Communication with those people affected by the flood
- Clarity regarding procedures from response to recovery
- Better planning prior to an event

The task group has received evidence that the debrief recommendations are in the process of being implemented. This is led by the LRF.

- 7.4. The Local Resilience Forum (LRF) take the lead in the debrief activities following a major incident. The secretariat function sits with the Police Force. Membership of the LRF is detailed in Appendix 3.

‘The purpose of the Local Resilience Forum (LRF) is to ensure effective delivery of duties under the Civil Contingencies Act that need to be developed in a multi-agency environment. It is intended to be a strategic forum, attended by emergency planners and where appropriate, Chief Officers representing Category 1 and Category 2 Responders.’¹⁷

- 7.5. Previously there have been challenges around tracking multi-agency recommendations made in LRF debriefs. The Police Service has a sophisticated record of tracking internal recommendations. It is hoped that future work can improve the tracking system across partners (see recommendation 1).
- 7.6. With many different agencies taking action in an emergency there can be scope for confusion and a lack of tactical communication. The Pitt review recognised this and made the following recommendation:

Pitt Review Recommendation 9

Defra needs to urgently develop and share a **national flood emergency framework**. This reflected the fragmented nature of local flood risk planning and the benefits of national level frameworks on other issues.

Pitt envisaged this as being:

‘...a model in which the lead government department brings together information, guidance and key policies in a single strand of planning, thus providing a resource for all tiers of government and key external partners. It is not an emergency plan, but does bring together coherence and identify key prior decisions...’

- 7.7. However the task group has received evidence that the implementation of the framework has been watered down in consultation proposals to deliver the creation of a website as an information portal. The task group are concerned that indications from Defra appear to completely replace the original conception of the framework with only this information repository. This is worrying as there is a need for a clear framework not just an ‘information dump’. An easy to navigate portal containing all the relevant flood related information and references is clearly valuable to support a framework as described by Pitt and should be included as a resource associated with the framework but should not replace it.

Recommendation 8: That the Council lobbies central government to maintain the original commitment to the creation of a flood framework to bring greater clarity during an emergency. As outlined in recommendation 9 of the Pitt review.

Vulnerable People:

- 7.8. In an emergency the Devon County Council directorate Adult and Community Services (ACS) takes a lead on identifying and notifying vulnerable people who are known to the directorate.

¹⁷ LRF Website: http://www.dcsprepared.org.uk/index/about_us.htm

- 7.9. In any incident there is a question over who the vulnerable people are. The task group has heard that according to the current definition of vulnerability in an emergency from national legislation only 250 of the 35,000 known vulnerable people would classify.
- 7.10. ACS works in coordination with the Emergency Planning team. The list of vulnerable people is extracted from the Care First System. Only three members of staff have access to the information and it is shared according to the Caldicott guidelines.
- 7.11. Depending on the nature of the incident the information can be filtered, for example by postcode/gender. ACS doesn't identify individuals but have the contact details of the residential organisation management so they can pass on the information at the time of the incident. The task group have concerns over how quickly this information can be shared when it is most needed.

8. Recovery

- 8.1. Regardless of the scale of incident the most important factor is reducing the time that it takes to get back to normal. This could mean continuity of business or residents being able to return home after a flood.
- 8.2. Following the summer 2007 floods there were
- 190,000 individual claims
 - Totalling £3 billion
 - 130,000 claims for flood damage to homes
 - 35,000 claims for flood damage to businesses
 - 25,000 claims for flood damage to motor vehicles
 - 70,000 people displaced from their homes
 - 95% of residents were able to return to their homes within a year of the flooding
- 8.3. The United Kingdom is one of the few countries in the world that offer flood insurance. The Association of British Insurers (ABI) categorise the general likelihood of flooding in the U.K as a one in every seventy five year event. The average cost of a serious flood claim is £30,000 and the current average cost of cover is £350, in order to cover the one in seventy five year risk a premium per year would have to be at least £400 just to cover flood damage. There is clear need for both the insurance industry and the public to manage the risk of flooding.
- 8.4. There are approximately 500,000 properties with a more than one in seventy five year chance of flooding; which means that they will struggle to secure adequate insurance. These properties will still be covered if the Environment Agency has a five year plan for flood defences and this covers a further 100,000 properties. The task group has concerns over what will happen to the residents of the remaining 400,000 properties in the event of a flood and on this basis have made **Recommendation 2** already mentioned earlier in the report.
- 8.5. When considering insurance the task group asked if there was scope for insurance companies to collaborate in damage assessments following flooding incidents. It was felt that in the recent floods some insurance companies reacted very quickly and dispatched damage assessors immediately whilst other residents had to wait weeks. It would appear to the

task group that a coordinated effort would have saved time, money and heartache. This question was put to the ABI who explained that this was not done as it was a feature of different insurance companies to provide the service. Those that responded quickly were presenting a selling point for the product.

- 8.6. In Devon there does appear to be a lack of information around the impact of flooding and the time taken to return to normality. There is a gap around specific numbers and information about who has been affected, in what way, and how well the recovery is going. Particularly around individuals who have been able to return to their homes after flooding. Parish and Town Councils are ideally placed to be able to gather this information, but many will not have adequate resources to do so. The task group suggest that supporting **recommendation 9** should also be an undertaking to work with the Devon Association of Parish Councils to measure recovery. In particular to identify and support those people who have not been able to return home.
- 8.7. The task group have heard that six months after the Otter Valley floods the majority of people displaced from their homes have not yet been able to return. The task group feels that a more strategic lead is required to represent these people.

Recommendation 9: That there is a named Executive Member with a portfolio that includes responsibility for risk management and in particular flooding.

9. Conclusions

- 9.1 Flooding is a phenomenon that is here to stay. The change in climate is expected to increase the occurrence of extreme weather events. Coupled with properties built in flood plains and an accumulated reduction in ground permeability increases the severity of any flooding that does occur.
- 9.2 The highest priority for all agencies is to reduce disruption in the event of an emergency like a flood. Whilst work can be undertaken to lessen some of the impact, homeowners and businesses are going to need to prepare themselves in the event of a flood. The risk may not always be as obvious as living in close proximity to a water source as the devastation caused by surface water and flash flooding has shown.
- 9.3 It is the responsibility of everyone to prepare for an emergency such as a flood. Individuals and landowners can mitigate flood risk on their property, ensuring any watercourses flow smoothly as well as knowing what to do in an emergency. Town and Parish Councils can play a vital community leadership role and with advance planning can help to identify what needs to be done. District, Unitary and County Councils have clear responsibilities relating to planning and taking action as well as risk prevention. The Police Service and other emergency services take a lead in coordinating response when an incident occurs. The Met Office working with the Environment Agency has the lead role in predicting flooding. While Defra and the Environment Agency are the agencies through which flood alleviation projects are funded.
- 9.4 Considering the interaction of different people and levels of organisation it is not surprising that communication consistently came up as an area where improvements could be made.

- 9.5 The Environment Agency needs to improve the information available on the maps that it currently produces for flooding. This particularly includes the need for surface water maps, which are identified by government as being ready in 2010.
- 9.6 Like many organisations, Devon County Council has been eagerly awaiting the publication of the Flood and Water Bill. Currently out in draft format for consultation the Bill aims to:
- deliver improved security, service and sustainability for people and their communities
 - it will be clear who is responsible for managing flood risk
 - protect essential water supplies
 - modernise the law for managing flood risk and reservoir safety
 - encourage more sustainable forms of drainage
 - enable water companies to control more non-essential uses of water during droughts
 - make it easier to resolve misconnections to sewers ¹⁸
- 9.7 The task group hopes that the final document will go further and provide clarity on a number of issues including:
- Future responsibilities for land drainage
 - Clarity over how climate change and flooding is taken into account during the planning and design of new developments.
 - How riparian landowners are engaged and encouraged to support flood prevention measures.
 - Communication
 - Local authority prioritisation of funding
- These comments should form the basis of the submission commenting on the draft Floods and Water Bill consultation. The deadline for this is the 24th July 2009
- 9.8 The task group anticipates that this investigation will contribute to the local discussion on flood prevention, rescue and recovery and that scrutiny will continue to have a significant role in ensuring that Devon County Council with its partners continues to work to alleviate flooding and flood risk throughout the County.

10. Sources of Evidence

10.1 Expert witnesses

The task group heard testimony from a number of sources and would like to thank the following for their involvement and the information that they have shared:

- Association of British Insurers, Justin Jacobs, Head of Property, Motor and Liability Team
- Braunton Parish Council, Councillor Roy Lucas

¹⁸ Defra, Draft Floods and Water Bill, <http://www.official-documents.gov.uk/document/cm75/7582/7582.pdf>

- Country Land and Business Association, Charlotte Sealy, regional surveyor
- Devon and Cornwall Constabulary Lucy Barczok, Emergency Planning Manager
- Devon and Cornwall Constabulary, Inspector Ian Fraser-Roe, Head of Contingency and Operation Planning Unit
- Devon and Cornwall Constabulary, Simon Wilkins, Emergency Planning Manager,
- East Devon District Council Kate Little, Head of Planning and Countryside Services
- East Devon District Council, Mark Reilly, Head of Street Scene Services
- Environment Agency, Adrian Rushworth, Improvements Manager
- Feniton Parish Council, Cllr Pete Privett,
- Feniton Parish Council, John Masters, Parish Clerk
- Halcrow, Paul Hargreaves, Sustainable Drainage
- Halcrow, Steve Webster, Design and Management
- Met Office Mr Richard Percival, Government Business Manager
- Met Office Professor Brian Golding, Head of Met Research & Development;
- National farmers Union, Paul Cottington, Environment Advisor
- Natural England, Denise Ramsay, team leader Devon Cornwall and Isles of Scicilly
- South West Water Buster Brown, Operations Emergency Planning and Security Manager
-

Members were also supported by the following Devon County Council Officers and would like to thank them for their contributions:

- Lester Wilmington, Head of Highways Management
- Adrian Hale, Deputy Head of Highways Management
- Richard Horne, Emergency Planning Manager
- Dominic Maxwell-Battern, Emergency Planning Officer
- Lucy Gough, Graduate Management Trainee, Emergency Planning
- Ian Bateman, Climate Change Officer
- Olga Gordon, Development & Quality Control Manager ACS

Many thanks must also go to East Devon District Council for permission to use the photo on the front cover. http://www.eastdevon.gov.uk/google/flood_relief_fund.htm

10.2 Useful documents

- Pitt review
http://archive.cabinetoffice.gov.uk/pittreview/_media/assets/www.cabinetoffice.gov.uk/flooding_review/pitt_review_full%20pdf.pdf
- Association of British Insurers; 'Climate adaptation, guidance on insurance issues for new developments'
<http://www.abi.org.uk/BookShop/ResearchReports/Climate%20Adaptation%20Guide%20Final.pdf>
- ABI, 'new adaptation strategy' January 2009
[http://www.abi.org.uk/BookShop/ResearchReports/Adaption%20Strategy%20final%20draft%20updated%2021st%20Jan%20-%20formatted2%20\(5\).pdf](http://www.abi.org.uk/BookShop/ResearchReports/Adaption%20Strategy%20final%20draft%20updated%2021st%20Jan%20-%20formatted2%20(5).pdf)

- Association of British Insurers; 'Preparing the UK for climate change' Jan 2009
- Association of British Insurers; Preparing the UK for climate change, ABI
- Cabinet Office, 'Identifying people who are vulnerable in a crisis, guidance for emergency planners and responders'
- Defra, Draft Floods and Water Bill, <http://www.official-documents.gov.uk/document/cm75/7582/7582.pdf>
- Devon Community Emergency Planning, 'Helping you to help yourselves, Emergency Planning Survey 2009'
- Devon, Cornwall & Isles of Scilly Local Resilience Forum Community Risk register: <http://www.devon-cornwall.police.uk/v3/PDFStore/infopnt/prepare/CommunityRiskRegister2008.pdf>
- Environment Agency, 'Areas susceptible to Surface Water Flooding' guidance for LRFs and RRFs for emergency planning purposes
- Environment Agency: Flooding minimising the risk 'Flood plan pack for communities and groups' April 2009
- Environment Agency; Water for life and Livelihoods, Annex H – adapting to climate change
- Government response to the Pitt review
- http://www.naturalengland.org.uk/regions/south_west/sones/default.aspx
- Institute of civil engineers, 'Flooding: Engineering resilience' http://www.ice.org.uk/downloads/2008_flooding.pdf
- Local Resilience Forum; Multi-agency Debrief Report on the East Devon floods 29/30 October 2008 Published march 2009
- River framework directive <http://www.defra.gov.uk/ENVIRONMENT/water/wfd/>
- Updating Foresight: Future flooding June 2008 http://archive.cabinetoffice.gov.uk/pittreview/_media/assets/www.cabinetoffice.gov.uk/flooding_review/evidence/foresight_report%20pdf.pdf

11. Task Group

Membership of the task group is as follows

Councillor John Berry
Councillor Jerry Brook
Councillor Roger Giles, Chairman
Councillor Olwen Foggin
Councillor Gordon Hook
Councillor Stuart Hughes

12. Contact

For comments of further information regarding this report please contact:

Camilla de Bernhardt,
Helen Nicholson
Scrutiny Officers
Camilla.de.bernhardt@devon.gov.uk
Helen.nicholson@devon.gov.uk
01392 383143 or 1732

Room G36 County Hall
Topsham road
Exeter
Devon County Council
EX2 4QD

Appendix 1 Flood Warning Codes



What it means: Flooding of low lying land and roads is expected. Be aware, be prepared, watch out.

What to do 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.



What it means: Flooding of homes and businesses is expected. Act now!

What to do 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.



What it means: Severe flooding is expected. There is extreme danger to life and property. Act now!

What to do 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.



What it means: Flood watches or warnings are no longer in force for this area.

What to do 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.

Appendix 2: Who does what during a flood?

Environment Agency

- Issue Flood Warnings
- Receive and record details of flooding incidents
- Monitor the situation and advise other organisations
- Deal with emergency repairs and blockages on main rivers and their own structures
- Respond to pollution incidents
- Advise on waste disposal issues

County Council and Unitary Authority

- Co-ordinate emergency arrangements
- Maintain safe conditions on the roads
- Put flood warning signs on the highway
- Organise road closures and traffic diversions
- Clear blockages on highway drainage systems
- May take action to protect property from flooding by water from the highway where there is a failure of the highway drainage system

District Council

- Co-ordinating role for own area
- Flood warning dissemination (by local agreement with Environment Agency)
- Emergency assistance (S138 LGA 1972) — Provide sandbags
- Clear blocked watercourses (Land Drainage Act powers)
- Environmental health issues — pollution
- Blocked road channels and gully gratings — street cleaning
- Emergency planning support groups

Town and Parish Council

- Flood warning dissemination (by local agreement with Environment Agency)
- Distribute sandbags from district council stockpiles

Police

- Take an overall co-ordination role during an incident.

Fire and Rescue Service

- Rescue
- Respond to all emergency incidents as required
- Assist the populace where a need is identified and the use of Fire Service personnel and equipment is relevant

Water Companies

- Clearing blockages in public sewers
- May take action to protect property from flooding by water from the public water mains or discharges from the public sewerage systems

Electricity, Gas and Telecommunication Companies

- Attend to emergencies relating to their service at properties putting life at risk as a result of flooding
- Attend to flooding emergencies at their own serviced installations

Large Industrial Companies

- Protect own premises and installations
- Source of resources which could be hired

Property Owners

- Move to a safe area if life at risk
- Prevent water from entering property if possible
- Switch off electricity and gas supplies at mains
- Move valuable possessions above areas liable to be flooded.

Appendix 3: Proposed future roles and responsibilities for flood and coastal erosion risk management in England

Environment Agency: Strategic overview role

- Setting National Strategy for Flood and Coastal Erosion Risk Management.
- Support and guidance to LAs, e.g. in producing flood risk assessments and plans.
- Develop modelling, mapping and warning systems.
- National investment in flood and coastal erosion risk management measures.
- Report to the Secretary of State on the state of the Nation's flood risk assets.
- Powers to instigate works on non-EA assets and channels when directed to do so by the Secretary of State.
- Statutory consultee on flood (and possibly in future coastal erosion) planning applications.

Delivery/executive role

- Flood risk management on main rivers and the sea.
- Coastal erosion risk management work (concurrently with local authorities).
- Flood warnings for all sources of flooding.
- Produce and contribute to strategic plans.
- Consenting and enforcement powers for sea and main river flooding.
- Category 1 responder under the Civil Contingencies Act 2004.

EA's Regional Flood and Coastal Committees (currently Regional Flood Defence Committees)

- Advisory/consultative role to EA and LAs on flood and coastal erosion approaches, priorities etc.
- Consent to levies for local priority flood and coastal erosion risk management work with executive responsibility for work in this area.

Internal Drainage Boards, district authorities (in two-tier areas), highways bodies, water companies Executive/Delivery Role

- Duty to undertake Flood and Coastal Erosion Risk Management functions in accordance with local and national strategies.
- Consult on IDB structures, powers and levy raising options.

Local Authorities (LAs) Local leadership role (county councils in two tier areas)

- Setting Local Strategy for local flood risk management.
- Leadership and accountability for ensuring effective management of local flood risk from ordinary watercourses, surface run-off and groundwater.
- Production of local flood risk assessments, maps and plans including an asset register.
- Improved drainage and flood risk management expertise.
- Co-ordinate Surface Water Management Plan production.
- Drainage from non-Highways Agency roads
- Prioritising local investment.
- Consenting and enforcement powers for certain works affecting ordinary watercourses.
- Promoting partnerships with local planning authorities to produce Strategic Flood Risk Assessments.

Delivery/executive role

- Powers to do works for surface run-off and groundwater flood risk.
- Duty to undertake Flood and Coastal Erosion Risk Management functions in accordance with local and national strategies.
- LFRM decision-making integrated into local asset management and investment programmes.
- Category 1 responder under the Civil Contingencies Act including local delivery

Appendix 4: Membership of the LRF

Category 1 Responders

Emergency Services

Devon and Cornwall Constabulary
British Transport Police
Cornwall County Fire Brigade
Devon & Somerset Fire and Rescue Service
South Western Ambulance Service NHS Trust

Local Authorities

Cornwall Council
Devon County Council
Council of the Isles of Scilly
Plymouth City Council
Torbay Council
East Devon District Council
Exeter City Council
Mid Devon District Council
North Devon District Council
South Hams District Council
Teignbridge District Council
Torridge District Council
West Devon Borough Council

Health Organisations

Plymouth Hospitals NHS Trust
Northern Devon Healthcare NHS Trust
Royal Devon & Exeter Foundation NHS Trust
South Devon Healthcare NHS Trust
Royal Cornwall Hospitals NHS Trust
Health Protection Agency (Cornwall/Devon Health Protection Units)
Cornwall Primary Care Trust
Devon Primary Care Trust
Plymouth Primary Care Trust
Torbay Care Trust

Miscellaneous

Maritime & Coastguard Agency (HM Coastguard)
Environment Agency

Category 2 Responders

Utilities Transmission, Distribution, Interconnection –

National Grid
Western Power Distribution
Wales & West Utilities
South West Water

Communications Network

BT
NTL Telewest
O2
Orange
T Mobile
Vodafone

Train Operating Companies

Arriva Trains
First Great Western
South West Trains
Virgin Trains
EWS
Network Rail

Airports - (Annual throughput of > 50,000 passengers or 10,000 tonnes of freight)

Exeter International Airport
Plymouth City Airport
Newquay Airport
St Mary's Airport, Isles of Scilly

Harbour Authorities - (Annual throughput of > 200,000 passengers or 1.5 million tonnes of freight)

Falmouth Port Health Authority
Fowey Port Health Authority
Plymouth Port Health Authority
Teignmouth Port Health Authority

Highways Agency
Health and Safety Executive
Health a Strategic Health Authority

Appendix 5: Devon, Cornwall & Isles of Scilly Local resilience forum Visual map of emergency Plans

Combined Agency Emergency Response Protocol (CAERP)

