

Extracts from the Environment Agency's 2007 Summer Flood Review

Including:- Executive Summary
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Executive summary

Over 55,000 homes and businesses were flooded this summer. Many people are still facing several months away from their homes. The human impact is difficult to measure but insured losses are approaching £3 billion. Since rainfall records started to be collected in 1766 there has not been a wetter May to July period. Many locations were deluged with a month's rainfall falling in a few hours. The wet May and early June meant that the ground was saturated and could no longer help absorb rainfall. Extreme rainfall in late June and late July caused flash flooding where it fell and then accumulated in rivers to extend the impact to the floodplain. These floods were different in scale and type from recent severe floods. In particular, a much higher proportion of the flooding than normal came from surface water rather than rivers. Surface water flooding was at its worst in cities such as Hull but many villages and individual properties also suffered across the country from Bristol to Newcastle. Two-thirds of the properties flooded this summer were affected because drains and sewers were overwhelmed. River flooding was extensive in the rivers Don, Severn and Thames and their tributaries. It would have been worse but for the protection given by our flood schemes. Effective warnings went directly to over 34,000 homes to help them cope with the floods. Some locations – notably on the river Severn between Tewkesbury and Gloucester, the Thames upstream of Oxford, and South Yorkshire suffered record breaking flood levels. Many flood defences were just overwhelmed. Over 140,000 homes in Gloucestershire lost water supplies for over a week. There was serious damage to many schools in Hull and the M1, M4, M5, M18, M40, and M50 were closed as were many railway stations and lines. The floods highlighted few new issues. What they did was bring known issues into sharper focus. We welcome the Government Review led by Sir Michael Pitt into the floods. Our review has looked at the things that went well and those where more needs to be done. It highlights three areas of policy where action is needed by Government:

Strategic overview of inland flooding

In line with the Government's *Making space for water* strategy and its consultation on inland and urban flood risk management, the Environment Agency should be given a clear overview role for urban flooding from all sources which would provide the framework for local authorities and other partners to plan locally and work together to manage urban flood risk.

Critical infrastructure

Measures should be put in place to ensure that key utilities and public services take responsibility for climate change proofing critical infrastructure, facilities and services. All public authorities and private sector utilities that provide essential public services should have a duty under the forthcoming Climate Change Bill to take account of climate change impacts when providing their services.

Flood risk management investment

Future flood risk management investment needs to increase so that we can adapt to our changing climate. It also recommends three key areas for us and our partners to act on:

Flood warning

This summer over 35,000 homes and businesses flooded from surface water for which there is no specific warning service. Our warning service on rivers was effective for the majority. But we were not able to provide 4,100 properties – mainly on rivers which reacted quickly to the rain - with warnings due to the technical limitations of flood forecasting systems. Specific

warning to individual homes and properties about floods from surface water flooding is likely to be technically challenging and costly. We should examine with the Met Office what broader scale warnings about severe weather and potential floods can be provided to professional partners.

Flood event information and advice

The public, businesses including farmers, and our professional partners depend on the quality of our advice and information to make informed decisions and take action. We need to ensure that our advice, forecasts and warnings effectively trigger action by all of these groups. The extremely heavy demand on our services shows how people depend on our website (four million visits) and telephone (260,000 calls) systems. We need to ensure they offer clear, accurate and timely information which is readily accessible. We must work more closely with the media in the early stages of events

Incident response

Multi-agency incident response plans need to consider the possible impact on critical infrastructure more effectively. Our support to 'Gold' and 'Silver' control needs to be adequately skilled and resourced. We need to agree policy on temporary flood defences with our partners and consider responsibility for deploying them.

Conclusions

The strategic lessons identified from the summer floods are not new. The confusion over who is responsible for surface water flooding and the lack of a strategic lead on the issue was identified in previous flood reviews. Our work on developing ideas for Government to tackle this issue is included in Annexe A. Similarly, the vulnerability of critical infrastructure has been highlighted before. Work is in progress on both matters and needs to be concluded and decisions put into action as swiftly as possible. We believe that our overall performance was satisfactory. However, we have identified lessons from the floods and made recommendations for those things we need to improve. We are committed to taking action on these recommendations. We will develop an action plan to take forward the recommendations in our control by February 2008.

Our full list of recommendations is presented below. We have grouped them to provide clarity on who has lead responsibility for action. The most significant recommendations are presented in larger text. Generally the recommendations for Government are to ensure we have a solid framework to manage flood risk from all inland sources for the benefit of society in a changing climate.

Recommendations for the Environment Agency focus on improving further our forecasting and warning service and learning how better to communicate and use the results with our professional partners, businesses including farmers and the public.

The recommendations about working with others are about improving the services and advice provided by us and our partners so that others are well placed to deliver their incident response roles.

Recommendations for Government

Policy development priorities

Recommendation 1. We will review our flood forecasting development programme to make sure it reflects lessons identified from the summer floods and to see what scope there is to improve accuracy, reliability and timeliness.

Recommendation 2. We will review ways of using rainfall forecasts in our flood forecasting system to provide more timely warnings in fast-responding catchments.

Recommendation 3. Together with the Met Office, we should look at the best way of presenting and explaining weather forecasts and flood warnings so that our professional partners and the public better understands them.

We have limited numbers of flood forecasting staff. They were under intense pressure to provide advice during the flooding.

Recommendation 4. We will review the resilience of our flood forecasting teams.

Recommendation 5. With our professional partners, we will review how sirens and loudhailers are used for flood warning. We will review our flood forecasting models and threshold levels where flooding was not forecast sufficiently in advance.

Recommendation 6. The Government should help us to pre-register more people who could receive a flood warning by allowing us to use ex-directory numbers and the full electoral roll.

Recommendation 7. We will address the problems experienced in the floods by some of the public in obtaining an accurate picture of the flood situation on all our systems.

Recommendation 8. We will work with the farming and boating communities and their representatives to find ways of improving advice and warning about flood flows.

Recommendation 9. We will review our professional partners' specific needs, so that we and the Met Office provide forecasts and warnings which mean they can easily take action.

Recommendation 10. We and our professional partners should review the ways we coordinate the provision of advice and information on all aspects of flooding to the public.

Recommendation 11. The Government should consider our proposals to develop surface water risk mapping and flood warning tools for our professional partners with a view to later wide scale application.

Recommendation 12. The Government should act in line with its Making space for water programme, responses to its consultation on inland and urban flood risk management and the lessons learned from the summer floods to give the Environment Agency a strategic overview role for inland flood risks.

Recommendation 13. The Government should review if flood risk protection standards for inland, coastal and surface water flooding are still appropriate in view of climate change.

Recommendation 14. The Government should consider whether investment in flood risk management for all sources of flooding is adequate.

Recommendation 15. We will use information collected about the performance of flood defences to refine our asset management system.

Recommendation 16. We will review the timing and frequency of certain river maintenance activities and explain clearly the reasons for our approaches to river maintenance to affected communities.

Recommendation 17. We will revisit our business continuity plans to make sure procedures are appropriate for the direct and indirect impacts of extreme floods.

Recommendation 18. We will raise the profile of critical infrastructure with resilience forums so they review how vulnerable critical infrastructure is to flood risk, and revise risk registers and plans. The pollution and health risks should be integrated into plans.

Recommendation 19. The Government should put measures in place to make sure that key utilities and public services take responsibility for protecting their assets and facilities appropriately. We propose that all public authorities and all private sector utilities that provide essential public services should have a duty under the forthcoming Climate Change Bill, in line with those for Category 1 and 2 responders under the Civil Contingencies Act, to take account of future climate change impacts when providing their services.

Recommendation 20. We will review whether we can use our permitting systems more effectively to encourage industry to make sure that sites are capable of coping with flood events.

Recommendation 21. The Government should review the reservoirs legislation to improve the way it protects the public.

Recommendation 22. It is essential that policy on development in the floodplain, PPS25 in England and TAN15 in Wales, is firmly applied. Where development does go ahead in areas of flood risk the developers must be responsible for achieving adequate flood risk management.

Recommendation 23. Multi-agency emergency response plans should be reviewed to make sure that they are consistent with the Civil Contingencies Act, and that all professional partners have access to adequate resources for managing flood events.

Recommendation 24. We need to be clear about the information and data COBRA and Defra expect from us, and build these requirements into our systems and procedures. Government should consider the benefit of a web based system to share incident information.

Recommendation 25. We will review our capability to provide effective data management and computer simulations. We will also review our incident room facilities.

Recommendation 26. We will widen our training and development programme to make sure we can provide appropriate support through effective roster arrangements to all levels of emergency incident management throughout events that last a long time.

Recommendation 27. We will review how we handle data and reporting during major incidents to reduce the risk of duplicated effort, help timely reporting and minimise the pressure to gather data after the event. We also need to consider introducing an event management computer system.

Recommendation 28. We will review our policy on temporary flood defences.

Recommendation 29. We and our professional partners should explore new ways to get the safety message across to the public and media.

Recommendation 30. We will be more visible early in incidents to reassure the public and make sure we provide authoritative and consistent messages to the media. People need to know when we are on-site and in incident rooms.

Recommendation 31. We should maintain and regularly update policy and operational guidance for the environmental management aspects of floods with the Health Protection Agency and Local Government Association.

Recommendation 32. We need to revise our good practice guidance and share this with our partners, so that we effectively plan to include the work of flood ambassadors and flood surgeries in the response and recovery phase.

Recommendation 33. People need to be more aware of the risks of flooding and better prepared to protect themselves and their properties. We should promote more people signing up to our flood warning service, protecting their properties more by using door guards and air brick covers and other measures to protect them from the effects of flooding, and increasing the number of homes being built or restored to withstand flooding.