



Exercise Watermark: Better preparing us for flooding

A summary of our participation in Exercise Watermark and the lessons learned.

We are the Environment Agency. We protect and improve the environment and make it **a better place** for people and wildlife.

We operate at the place where environmental change has its greatest impact on people's lives. We reduce the risks to people and properties from flooding; make sure there is enough water for people and wildlife; protect and improve air, land and water quality and apply the environmental standards within which industry can operate.

Acting to reduce climate change and helping people and wildlife adapt to its consequences are at the heart of all that we do.

We cannot do this alone. We work closely with a wide range of partners including government, business, local authorities, other agencies, civil society groups and the communities we serve.

This summary describes what we did before and during Exercise Watermark, highlighting our response to widespread flooding incidents and how we work with other incident responders and communities to ensure that everybody is ready when flooding occurs.

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Environment Agency
Horizon House, Deanery Road,
Bristol BS1 5AH
Tel: 0117 9334 4000
Email: enquiries@environment-agency.gov.uk
www.environment-agency.gov.uk

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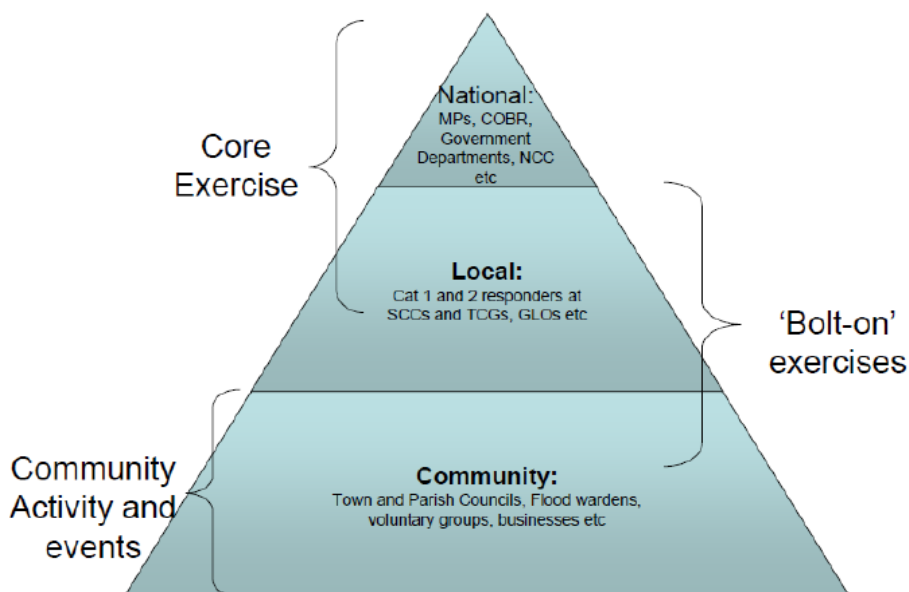
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1 Planning and preparation

Exercise Watermark was the biggest and most successful national flood exercise ever held in the UK. It was led by Defra and the Welsh Government, and we planned, managed and delivered it to test the nation's response to severe and widespread flooding.

The exercise had three distinct parts: a central or 'core' exercise involving government, agencies and emergency responders, locally developed 'bolt on' exercises to test a wider range of activities such as water rescues and evacuations and a diverse range of community and business events (Figure 1).

Figure 1 - Structure of Exercise Watermark



The national core exercise ran from Monday, 7 March to Thursday, 10 March 2011. Ministers activated the Cabinet Office Briefing Rooms (COBR) and local emergency responders across England and Wales worked together to manage the widespread flooding scenarios.

Approximately 2,000 of our staff took part in Exercise Watermark: in the core or bolt-on exercises, community engagement work or demonstrating our incident response capability.

2 Our incident response

During any incident we have an operational and advisory role:

Operationally, we issue flood warnings, predict the impact of flooding, and manage flood defences to protect communities and critical infrastructure.



Emergency pumping by operations delivery teams at St Blazey in Cornwall

In our role as an advisor, we work with partners from local to government level to provide advice and information to help make decisions.

During this exercise 13 area incident rooms opened across the country, supported by all eight of our regional incident rooms. Our National Incident Room pulled together the overall picture and as described in our Major Incident Response Plan, the Strategic Management Team gave direction and the National Press Team managed information. Our liaison officers worked with local emergency response partners at 14 strategic coordinating groups across England and Wales.



Technical teams supporting the National Incident Room

3 Working with our partners

During an emergency, we work with our partners to provide an integrated local response. For the most serious emergencies, the government convenes its crisis response committee, 'COBR'.

During the exercise, we advised COBR ministers on the national impact of the flood, how it might escalate, and how the weather forecast could affect it. Our Flood Forecasting Centre (FFC), worked alongside the Met Office, to provide information on probable risks several days ahead. We also worked closely with Welsh Government during the exercise and at the Emergency Coordination Centre (Wales).

Locally, we were part of strategic coordinating groups (also known as 'gold commands') led by the police and including the emergency services, health and local authorities, the Highways Agency and others. Our input was critical to informing local decisions about where to evacuate, prioritise rescue efforts and request mutual aid. We tested our operational response in all our regions across England and Wales (see case study 1).

We also supported tactical coordinating groups (also known as 'silver commands'), which implement the strategy set by the strategic groups. Our advice was vital in helping to find solutions, take action and in a real flood crisis, it would ultimately save lives.

We also used our expertise to look at the public health impact from flooding, identify the environmental impacts on sensitive areas, and work with partners to protect public drinking water supplies and regulated sites.

Case Study 1: Working with partners in Worcester

In West Area, in Midlands, the Kidderminster field team tested procedures to use demountable barriers at Hylton Rd, Worcester. This involved closing local roads and liaising with partners such as the police, the Highways Agency and the local community.

Coverage by the BBC increased the public's awareness of flooding issues in the local community.

The team learned:

- how to use demountable barriers successfully
- how to position Land rovers so they act as additional safety barriers during a road closure



4 Engaging with communities

We advise businesses and communities on how to prepare for flooding.

Our staff tested many ways to promote the exercise and encourage people and businesses to take action to help themselves before and during flooding. Many ideas, like library displays, were very successful and we will continue to use these after the exercise.

As a result of Watermark, more at-risk households are aware of their flood risk and have flood plans in place. 750 people registered for an information pack via the Exercise Watermark website and over 125 community events took place across England and Wales; from flood exhibitions and knocking on doors to live evacuations.



Communities felt the benefits of getting involved, in particular:

- sharing information with others, offering advice and sharing examples of best practice
- gaining more of an understanding of the roles of each organisation during a flood and how they all work together
- feeling better prepared as a community or an individual
- amending community flood plans to make them fit for purpose
- feeling reassured that we were testing and improving flood response

Case Study 2: Working with communities in Thames Valley

Emergency response organisations in the Thames Valley held a community day in Oxford. 150 people from 65 different communities came to test their flood and community emergency plans through a series of challenging flood scenarios.

Participants watched outdoor demonstrations given by our staff and Oxfordshire's Fire & Rescue Service. Environment Minister, Richard Benyon MP, attended, and said;

'I was particularly impressed with the community day organised by Thames Valley LRF. It brought together so many groups of people and was a genuine learning process for communities large and small. I congratulate all involved in this event: the Environment Agency, the emergency services, local authorities, town and parish councils and voluntary groups. They can be sure they have made thousands of local people safer from the risk of flooding and better able to deal with flooding when it happens.'



Community awareness day in Oxford

5 Lessons learned

Exercise Watermark has helped England and Wales be better prepared to respond to flooding. It demonstrated that current emergency response arrangements work and players committed to improvements.

There is still more to do. We can summarise our lessons learned into seven key areas:

1. Preparing in advance

Our incident rooms were inundated with information requests throughout the exercise. We need to improve how we manage these requests and refine our internal reporting processes to make our incident rooms run more efficiently.

We can prepare information in advance (such as best, worst and most likely scenarios) and make this readily available to our response staff to reduce demands on their time during an incident. In particular, we are already working on how our maps could be more consistent.

2. Warning and informing



FLOOD ALERT

Exercise Watermark was the first real test of our new flood warning codes. These worked well but the exercise showed that there is more work to do internally and externally to properly embed these new processes into our ways of working and those of our partners.

When early decisions need to be made about evacuation, by police and local authorities, in particular for a large event such as east coast tidal flooding, we must demonstrate the important link between our forecasting and warning work.



FLOOD WARNING



**SEVERE FLOOD
WARNING**
SEVERE FLOODING. DANGER TO LIFE.

Our new role in supporting local authorities to manage and respond to surface water flooding was not clear during the exercise. We need to explain this clearly to the media and our partners.

3. Improving our internal response

Sharing information effectively will always be a challenge. We need to streamline our internal reporting processes and ensure that we only provide the necessary information.

Exercise Watermark challenged us to respond across administrative boundaries that did not match our own, which are based on river catchments. We need to think more about how we will overcome this challenge during widespread incidents of this scale.

4. Resourcing our response

Exercise Watermark allowed us to test whether we have enough trained staff to effectively respond during an incident. For an event of the scale of Exercise Watermark, we would use staff from all parts of our organisation to maintain round-the-clock rotas for the duration of the event. We have identified areas where further training would increase the confidence of staff who do not have regular opportunities to participate in major incident response.

We also had an opportunity to test how robust our IT systems are during an incident, for example, to give fast and easy access to systems, maps and data. We have identified many improvements to the equipment and layout of incident rooms and work is underway to implement them.

5. Working with our partners

There were enormous demands on our resources to support and contribute to the multi-agency groups. As a result, we need to consider and agree how we support them during large incidents, and how we will resource this.

6. Managing media and public relations

The advantages of a pro-active approach to the media were clearly demonstrated during Exercise Watermark. In a fast-moving incident it is not always easy to ensure that messages are integrated and timely, and so we will review our arrangements, and those where we work with partners, to make sure we have the right approval process for our incident communications.

Social media, for example Twitter, worked well during the exercise and received very positive feedback, but it was very time-consuming. We will consider how we wish to use social media during incidents.

7. Training for future incidents

Exercise Watermark improved our confidence for real events, by simulating the pressure for our staff as well as other responders and participants.

The exercise also gave us a valuable opportunity to work more with our partners. We learned more by involving our partners in designing and exercising than just using our own staff, and we intend to identify further opportunities to do more joint exercising with partners.

We usually review and identify lessons to learn after all incidents and exercises. We have reviewed Exercise Watermark, and produced an action plan which describes the actions we will take. These actions are part of the relevant teams' work programmes to achieve by March 2013.

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