

'DRY RUN' A COMMUNITY FLOOD PLANNING GUIDE

Who is this guide for?

This guide is for anyone involved in supporting communities in improving their ability to plan for a flood.

This could be:

- People active in their local community
- Leaders of community groups
- Those involved in helping communities plan and prepare
...as well as any other interested members of the community.

The guide will help you create a new plan or improve the one you have. It is focused at the local level, so by community we mean your town, village, ward or local area. It is all about supporting local action for local people.

The guide outlines things to consider and practical steps that you can take to inspire and involve residents and local community groups to work together to improve how you and they deal with a flood.

Why this guidance?

When you have read this toolkit we hope you will understand:

- The roles and responsibilities of different public organisations.
- Where to find existing flood plan information.
- Who to approach for help and how to find out people's views.
- How to design and carry out a flood simulation exercise.
- How to work together as a community to improve flood resilience in the community.

If you have any questions about the toolkit, please contact us at cccc@norwich-union.co.uk

Dry Run – The background to this guide

This guide was developed by community engagement experts The Environment Council, Resources for Change and The Neighbourhood Initiatives Foundation, following a series of community engagement events in Boroughbridge, a town in North Yorkshire.

The project, called Dry Run, was part of a wider programme – Flood Plan UK – developed by insurers Norwich Union with support from The Environment Agency and The National Flood Forum.

This guide aims to help people work with local authorities, emergency services and voluntary organisations to improve flood resilience by adding a community-wide dimension to existing flood plans. You'll find more information about the project, an online forum and helpful links at www.FloodPlanUK.org

Why engage communities in flood planning?

What do we mean by community? In this guide, by community we mean those people directly or indirectly affected by flooding. By working together, with local authorities and emergency services, they can make significant strides towards reducing the impact, disruption and trauma of a flood. However, communities often lack the support and expertise to improve their own flood resilience, which is why this guide has been created.

From our experience, community engagement on flood planning has multiple benefits on the ground. It can:

- improve communication before, during and after a flood incident, making sure the right people are involved at the right time
- prevent different people or groups doing the same thing, saving time and money
- help share local knowledge and that of people who have been flooded with professional organisations and ensure people's concerns are heard
- clarify the responsibilities of all those involved
- encourage the involvement of volunteers, and
- reduce the damage and trauma of flooding by helping people be better prepared.

Most importantly, by being involved in flood planning, communities have more control and can help themselves. Solely relying on people and organisations from outside is not always advisable – they may be over-stretched or unable to reach you. Involving local people helps a community become more flood resilient.

Section 1	Getting started	04
	1.1 What's in your existing local authority flood plan?	04
Section 2	Community flood planning	05
	2.1 Consult your community	05
	2.2 Design a flood simulation event	08
	2.2.1 Plan your event	09
	2.2.2 Devise local flood scenarios	12
	2.2.3 Run your flood simulation event	15
	2.3 Update your plan	17
	2.3.1 Use the results of the simulation	17
	2.3.2 Communicate your plan	17
Section 3	Resources	18
	3.1 People	18
	3.2 Sample flood plans	18
Appendices	1 Roles and responsibilities in a flood	19
	2 How to get hold of visual materials	21
	3 Public consultation questionnaire	23
	4 Who should be involved?	24
	5 Sample press release for workshop	26
	6 Sample agenda for workshop	27

1.1 What's in your existing flood plan?

Existing flood plans should be the starting point for any community involvement, as community plans need to work with the official flood plan. Each local authority has a duty to develop an emergency plan (which should cover flooding). You can contact your local Planning or Environment department to get a copy.

While the main focus of this guide is about developing a community flood plan (using a simulation exercise), there are some key elements that existing local authority flood plans are likely to contain (see opposite). This may help you to identify some gaps that the community may wish to address.

For more details on flood plans, we recommend you consult some of the existing community flood plans. Also have a look at the guidelines some local authorities have already developed (see Section 3.2 page 18).

Local authority flood plan – checklist

- Type of flood risk e.g. tidal (sea), fluvial (river), surface water (roads, ditches and fields), groundwater, sewage (sewers, rising mains and pumping stations) or drinking water supply
- Roles and responsibilities of different organisations and individuals before, during and after a flood (see Appendix 1)
- Locations at risk of flooding
- Actions to be taken during a flood – including location of risk, equipment required, timescales and action triggers
- List of volunteers
- List of vulnerable people who will require special assistance
- Key contacts list
- Resources available to community e.g. sandbags, evacuation centre, pumps
- Specific arrangements between the various authorities
- Reputable contractors who may be required after a flood.

Community flood planning

Having decided to embark on a community flood planning exercise, you'll need to run through a series of steps. There is no set way of doing this, but this guide has been designed to help you get the most out of a flood scenario simulation event, which is an engaging and effective way to work together. The steps we recommend are:

- Consulting the community for their views
- Planning when and where to run a simulation activity
- Deciding who to invite
- Deciding on a process to run through

2.1 Consult your community

Prior to running a simulation event, it's useful to get an understanding of the views of the community with a quick consultation exercise. This will give you a better understanding of current attitudes to flooding. The results of the consultation can also be used to help inform how you develop the simulation.

Below are a few recommended methods for consulting people on flooding.

Street stalls

Street stalls are simply displays (held outdoors in a busy public place) where people can comment or answer questions in a quick and simple way. They make it possible to secure the views of larger numbers of people than is normally possible indoors and to reach people that may not usually attend consultation events or workshops. Ideally, such exercises

should take place in areas that have flooded. This may mean more than one site is needed.

Equipment

A large map or aerial photograph (or if you have the time and support, a contoured 3D model of the town/village) can be a useful visual aid to help people identify the areas at risk of flooding. People can pinpoint their comments, identify key points of interest or concerns on the appropriate place on the map or model. This can be done using cocktail sticks with little flags on them made of paper or card. As an alternative you can use post-its.

To find out how to get hold of large maps or contoured models see Appendix 2.

Capturing feedback

To get the most out of people's comments, feedback can be recorded in various ways.

Attitude sheet – To capture comments about people's behaviours, you can stick up some flipchart sheets posing 4 or 5 questions. Ask people to use comment cards to post their answers under the relevant question.

Examples of the type of questions you could use are:

- What can local people do in the event of flooding?
- Have you done anything to protect your home or business from flooding?
- If not, do you know what you need to do?
- Do you know what you have to do in a flood?
- Have you done anything since the town was last flooded?
- Who would you help in a flood?

Questionnaire – In order to find out what people know about flooding in the area, ask several questions. This will allow you to capture quantitative feedback about people's knowledge. It may be useful to divide your town or village into several zones relating to flood risk e.g. zones 1-3 and filter people's responses depending on which area they live in.

There is an example that you can adapt in Appendix 3.

Example questions:

- Does the town/village have a flood plan?
- Do you know which organisations are responsible for local flood planning?
- Do you know which areas of the town/village are at risk of flooding?
- Do you know what to do if the floodwater enters your house?

- Do you know where to get sandbags?
- Are there people you know that would require assistance from others in the event of a flood?

Online questionnaires

Online questionnaires (also called web-based surveys) are designed to show a list of questions that users answer online. They can be used to research views, attitudes and experiences of local people and organisations. You may choose to just ask certain types of people (a sampled approach) or just make the invitation open to anyone.

Concentrate on trying to ask questions that help you understand what people think rather than spending lots of time on samples and statistics.

It may help to think about using the following types of questions:

- Closed questions, where people tick yes/no answers or multiple choice (e.g. Do you know who to call in the event of a flood?)
- Open questions which are broad and allow people to answer however they want (e.g. What do you think are the biggest problems caused by flooding in your area?)

Community flood planning



Closed questions are usually easier to answer and are 'quantifiable' and easy to summarise for reports. However, they are simple and so can be misleading or hard to analyse. There are various online survey services which allow you to create a questionnaire and collate results for free or a small cost. Try doing a web search for online questionnaires.

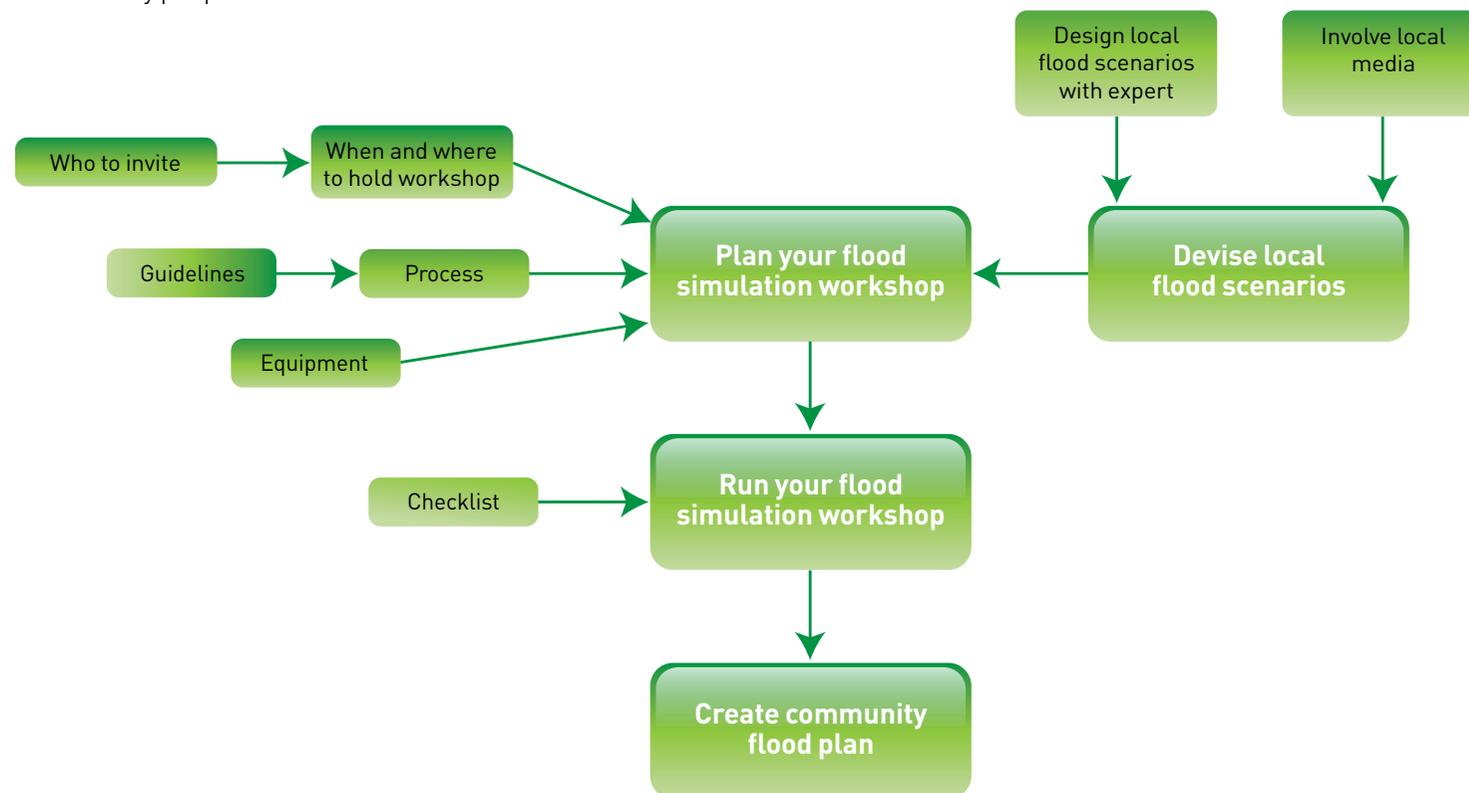
Canvassing

Canvassing residents is an effective way of sharing and gathering information about flooding. Face-to-face contact with householders can also have the added benefit of being a highly effective way of raising awareness. Face-to-face discussions allow you to make sure what you say and discuss is relevant to that person, rather than a more general message.

2.2 Design a flood simulation event

A flood simulation exercise is a really good way of developing and testing your existing flood plan. Simulations can be used to act out a real event or activity, helping participants to gain information and insights when testing a draft plan. It's a great way to draw out local knowledge and improve relationships between key people.

Below is the sequence of events we followed when designing the simulation in Boroughbridge.



2.2.1 Plan your event

When planning your event, you need to think about who you are going to invite, when and where you will hold the event, and how you are going to run it.

Who to invite

The key invitees are active and interested members of the community. You can often find a wealth of information on local authority websites, including local community group details, local businesses and emergency services. If not, then contact your council who should be able to help. We also recommend consulting the existing emergency flood plan, which should contain the contact details of utility companies, voluntary organisations, volunteers with special skills and other locally active people.

There are also several groups and individuals we would strongly recommend inviting to your event. Key groups are highlighted opposite (for a more comprehensive list see Appendix 4). As experts they will play a different role in the event (see page 11).

When to hold your simulation

The event is best held over half a day. In order to allow community members to attend, it should be planned out of working hours (e.g. after 6.30pm or during the weekend) to ensure that people can fit this around their everyday commitments. The date of the event is also an important consideration – it's best to avoid Bank Holidays, major sporting events and clashes with other local events, such as council meetings.

Key participants in the simulation

The attendance of some people is critical to the success of your simulation. We would recommend you focus your attention on getting representatives from the following groups:

- Fire Service and Police
- Environment Agency
- Flood Committee member (if there is a Flood Committee in your area)
- Residents who have been flooded in the past
- Local authority representative (e.g. Flood Manager, Emergency Planning Officer).

Start planning early. At least 6 weeks' notice is recommended to give people enough time to plan their diary. You can invite people by letter or email, but it is also good practice to promote the event via the local press. Contact your local newspaper's news desk rather than advertising department, as this event is likely to merit an article rather than an advert. A template press release can be found in Appendix 5.

Where to hold your event

Your venue should be easily accessible, ideally in a central location. The size of the venue to some extent depends on the size of the community but your village/town hall or school should have a room big enough. Think about whether you need to have refreshments and how these can be provided.

In Boroughbridge, the simulation event took place in the high school, which is also the emergency assembly point during a flood incident. Around 50 people attended as a result of publicity and issuing a large number of invitations.

How to design the simulation

You need to make the simulation process as real, engaging and creative as possible. Participants need to be clear about the conditions in which the simulation is going to take place and how the event will work. It's good practice to share the agenda (see Appendix 6 for an example) and guideline rules with people before the simulation starts. To do this you will need to appoint a facilitator to manage the proceedings. Ideally, you would also have group/table moderators to facilitate and record the discussions.

Process

Set your aims and objectives

The simulation should be designed to achieve clear aims and objectives. In Boroughbridge, the main aim was to develop further ideas for community actions. To do this it was necessary to:

- Understand what to do in the case of a flood and why
- Understand who does what
- Identify gaps in knowledge

Clarify who does what in the case of a flood

At the start of the process it's important for stakeholders to be clear on their own role in relation to flooding, but also that of other organisations. Often this can be a point of misunderstanding and confusion, which ought to be addressed before any action planning commences. A simple exercise is to start with each stakeholder group stating its own role, followed by collective feedback from the group on what they understand that stakeholder's role to be. Differences between the two responses are then discussed to build collective understanding as a firm basis for collective action.

Simulation

Simulation events are best based on a series of local flood scenarios. You will need to design these in advance of the event with input from local experts (the next section gives advice on framing the scenarios). As you run through the scenarios, and depending on numbers, you may need to split the participants into groups no larger than 10 people to enable everyone to be fully involved.

Community flood planning



When designing the process, ensure you have a group of experts who can be used as a 'knowledge resource' during the simulation. These experts should be invited to roam between the groups offering advice or providing information (e.g. Emergency Services: Police, Fire Service, Environment Agency, National Flood Forum, Insurer, British Red Cross).

Throughout the day, you should play out the scenarios in sequence, either as pre-recorded audio files or by reading them out live. Recording the scenarios in the format of a mock local radio news bulletin can be quite an engaging way to capture everyone's attention. At each stage, the simulation is halted and the groups are invited to join a facilitated discussion in small groups.

For advice on facilitating discussions see the box on page 16.

Guideline rules

Having some rules agreed by all participants at the beginning of the day can help the event run smoothly and meet your aims and objectives. Below are examples of rules that can guide your simulation:

- **The community and local representatives must lead all decisions.** The professional services (e.g. Police, Environment Agency) will be available for groups to call on. When working with one group, other groups will have to wait for them to be free.
- **The emergency services staff are involved to answer questions but NOT to intervene or lead.** However they must set the record straight if participants assume they carry out a role which they do not!

- **Community feedback from the public consultation will be fed in by moderators.** This can inform decision making and scenarios and ensure that wider community input is included.

Equipment

Visual tools

Each stage of the simulation needs to be visual and interactive. In Boroughbridge, we used three different methods: a 3D contoured model, an aerial photograph and a coloured-in base map (for more details on how to get hold of these tools see Appendix 2). This approach helps people to visualise who and what will be affected. You don't have to use different visual aids, but it helps to encourage different opinions.

Room set up

The final number of participants in the simulation will determine the number of tables you need. A good set up for this kind of event is 'cabaret style', where you split participants in to groups of between 8 and 10 around each table. Each table then works as a group throughout the event. You'll need one of the visual maps or models on each table.

You will also need to have an extra table at the back of the room for the 'experts', where representatives from the emergency services, alongside other experts (e.g. insurance companies, The National Flood Forum) give advice to the community members during the simulation.

2.2.2 Devise local flood scenarios

An effective simulation exercise relies upon your ability to involve participants in a series of credible and realistic scenarios. To do this well you will benefit greatly from input by experts such as the Environment Agency and/or local authority.

The scenarios you use will help participants to visualise the different stages and decision-making points during a flooding incident. This will trigger actions from various organisations or community groups. The timescale of the scenario could vary from one day to a week or more, depending on the time and nature of the flooding events in your area. Scenarios will vary enormously from area to area but are likely to include:

- An initial Met Office severe weather warning
- Flooding starts to build
- Announcements of rising water levels
- Emergency services stretched as they are called to several incidents
- Evacuation from homes
- Flood defences breached
- Traffic problems
- Aftermath and clear-up.

The Boroughbridge workshop was brought to life by a series of mock radio broadcasts that were recorded by BBC Radio York specifically for the event. You can listen to excerpts of these recordings at www.FloodPlanUK.org, they are also included on the following page.

Involving the media

Involving the local media in the simulation exercise can add great value. However, you need to ensure that the local media are fully briefed about their role. There are three key ways to involve the local media.

News alert recording

You could ask the local radio station to record new flashes, which can be used to add realism and punctuate the flood simulation exercise.

Participation in the simulation

A local journalist may attend the simulation as a participant (rather than a reporter) to learn from the process and explain the media's role. We advise that you keep the main content of the event 'off-the-record' to ensure that everyone feels comfortable exchanging frank and honest opinions.

Press coverage of the simulation

Use the local press to raise awareness of the workshop in order to ensure a good attendance at the event. If the publication wishes to cover the outcomes of the event, they should be encouraged to conduct a series of pre-arranged interviews after the event or at a suitable moment as they will be asked not to extract quotes from the 'off-the-record' event discussions.

Community flood planning



Scripts used for 'Dry Run' in Boroughbridge

1st news flash – Monday 12pm

Weather Warnings from the Met Office

The Met Office has issued a severe weather warning for Wednesday and Thursday in North Yorkshire. High winds and heavy rain are expected and there is a risk of flooding.

2nd news flash – Tuesday 4.15pm

Initial problems as the flooding builds

Flood Watches have been issued by the Environment Agency following heavy and continuing rain, for the major rivers in North Yorkshire.

The warnings apply to the rivers and streams flowing from the North York Moors and the rivers of Swaledale and Wensleydale. This includes the River Swale and its tributaries downstream to Richmond, and the River Ure and its tributaries downstream to Ripon.

The Flood Watches were issued at 4pm on Tuesday. For the latest flooding information visit the Environment Agency website.

3rd news flash – Wednesday 3pm

Flooding starts to build

BBC Radio York has received a call from a concerned home owner in Boroughbridge reporting that major damage has occurred to his property due to rising water levels. It appears that he did not receive the flood alert and has now lost all his personal belongings.

4th news flash – Wednesday 4pm

Elderly resident ignores road closure and stalls in the water

A 70 year old man is stuck in his car in rising flood waters in Boroughbridge. The driver, who appears to have ignored a road closure, stalled and the car was pushed by a current into deeper water. Passers-by have struggled to free the man and emergency services have been called on site to help him get out.

5th news flash – Wednesday 9pm

Emergency services are experiencing difficulties

The region is experiencing severe gales at the moment, and the weather continues to worsen. Trees have fallen down and damaged property. Emergency services report being severely stretched due to the major problems across the county. Heavy winds combined with heavy rain have lead to a number of roads becoming impassable.

Community flood planning



6th news flash – Thursday 1.30am

Community action is needed

There are reports of several tree falls blocking a number of key roads in Boroughbridge. With flooding occurring throughout the region, overstretched emergency services are unable to reach people in Boroughbridge. Our reporter in Boroughbridge has indicated that the local community is having to manage the event as much as possible themselves.

7th news flash – Thursday 5am

Boroughbridge is waking up to a wet world!

Boroughbridge's flood defences have overtopped. Major flooding has occurred in the homes of people located in what were thought to be protected areas. Eyewitnesses report that families and vulnerable individuals are now stuck in their houses. Problems are compounded by electricity failures caused by fallen trees.

The Council's Flood Management team have been evacuated from their base in the Council office causing disruption to flood response. The local emergency services are leading an evacuation of at risk properties.

8th news flash – Thursday 8am

Too many cars on the road

Yorkshire commuters are compounding problems on the roads this morning in the Boroughbridge area according to the local emergency services. The local fire chief is urging people to take alternative routes to work to avoid flooding and road closures in the town.

9th news flash – Thursday 3pm

First assessment of the damage

The Boroughbridge flood waters are said to be subsiding but bad weather is forecast for the rest of the week. A representative of the insurance industry has reported a peak in enquiries to their claims departments and are urging residents to consider identifying damaged or lost personal items and legal papers. Several cars have been damaged in Boroughbridge.

Community flood planning

2.2.3 Run your flood simulation event

On the day of your simulation, you will need to ensure that everything is in place. See the checklist below for some guidance on what needs to happen for your event to run smoothly. Take a look at www.FloodPlanUK.org to learn more about the event in Boroughbridge.

Equipment

- Toolkit (post-its, flipcharts, sticky dots, pens, blue-tack and anything else you will need)
- Name badges
- Camera and video
- 3D models, contoured map, aerial photograph or any other visual tools (see Appendix 2)
- Leaflets (e.g. Environment Agency's or local authority's leaflets on flooding)
- Projector, laptop, screen.

Other checks

Venue

- Set up the room with tables and chairs in cabaret style (with tables for the experts at the back)
- Check IT and audio equipment (e.g. microphones and projector)
- Check catering.

Participants

- Allow 30 minutes before the start of the simulation for people to arrive (have drinks available).
- Have printed copies of the participant list available in case people want to know who is attending the simulation.

Process

- Have a copy of your process plan/agenda for the simulation handy.
- Check timings and ensure you start and finish on time.

Facilitating group discussions

After each news flash, the table groups start conversations on what to do at each stage. A table facilitator should ask questions that prompt discussions when needed and record any questions and uncertainties on flipcharts.

The practical actions suggested by the groups can be recorded on small flags, which are stuck at relevant locations on the model, the photograph or the map.

The group discussions should explore how participants and their community might respond. It is important in this discussion to identify where key uncertainties are and what can be done to reduce these. Likewise the questions need to get beyond the purely practical to the more emotional responses that an event such as flooding creates. It's important to understand how people are feeling as well as what they are thinking. Try to record all the key things people say on a flip chart as bullet points.

Top tips on facilitating a group discussion

- **Listen** – your attention should be with people, not on your internal thoughts.
- **Reflect** – check your understanding by feeding back the key points that have been conveyed to you, using people's own words and phrases. This also enables them to 'hear' their perspectives from a neutral source.
- **Clarify** – break down the generalisations and find out more about the point discussed.
- **Explore** – once people are clear about the situation from different perspectives, you can work with them to explore options that might resolve the situation.
- **Check the outcome** – what outcomes do they want? How do potential outcomes address their needs?
- **Test** – Are the outcomes realistic and workable?
- **Record** – use key words to capture the discussion.

Community flood planning

2.3 Update your plan

2.3.1 Use the results of the simulation to improve the plan

The simulation will provide you with feedback from the community about your plan and potential actions to take forward.

Key themes will emerge which will highlight the strengths and weaknesses of your existing flood plan. At the simulation we ran in Boroughbridge, the key themes were:

- Communication – accessibility of the information to the community and the role of the media.
- Local knowledge – how the local knowledge is transferred to the professional agencies.
- Responsibilities – who is in charge of what and when.
- Volunteers – use of volunteers, training and coordination.

Through the simulation, questions were raised on these various themes, and the associated suggested actions were communicated to the local authority. One of the key challenges of this process is to ensure that these actions are taken forward not only by the official bodies (e.g. Environment Agency, local authority, Flood Committee) but also by the community groups and the individuals. The main objective of running a flood simulation is to empower the community and to build its capacity to become more flood resilient.

If the resources are available, we would recommend you run a second community event in order to review the questions raised at the simulation and take forward some or all of the actions.

Once the plan is agreed, you will need to ensure that the details in your plan will be checked and updated regularly so that all details remain up to date.

2.3.2 Communicate your plan

You should now let the whole community know that a flood plan exists. Consider raising awareness through:

- public meeting
- parish newsletter
- information leaflet drop
- local press
- flood exhibition.

Remind local residents that it's up to them to prepare themselves and protect their lives and property. They could check to see if they can receive a flood warning or develop their own flood plan and prepare for evacuation.

To register for flood warnings call the Environment Agency Floodline on 0845 988 1188.

3.1 People

We hope this toolkit has given you the key resources that will allow you to design, develop and test your flood plan. For further guidance, the following organisations can advise you:

- The Environment Council
www.envcouncil.org.uk
- Resources for Change
www.r4c.org.uk
- Neighbourhood Initiatives Foundation
www.nif.co.uk

3.2 Sample flood plans

A number of local authorities have developed community flood plans and flood plan guides:

- Hambledon Parish Council Village Flood Plan and Steart Flood plan
www.floodforum.org.uk
- Royal Borough of Windsor and Maidenhead
www.rbwm.gov.uk
- Mid-Bedfordshire District Council
(includes an interesting download on Parish Council flood planning)
<http://community.midbeds.gov.uk>

Roles and responsibilities in a flood

It's important to understand what the responsibilities of various organisations are in the case of a flooding incident.

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 own structures
- Respond to pollution incidents
- Advise on waste disposal issues.

Police

- Take an overall co-ordination role during an incident

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

- Coordinating 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)
- Act as county council for highways (Highways Agency areas only)
- 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.

Source: Environment Agency – Designing a community flood plan

Roles and responsibilities in a flood



Fire Service

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

Water companies

- Emergency over-pumping or tankering at pumping stations
- 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

- Deal with 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.

Source: Environment Agency – Designing a community flood plan

How to get hold of visual materials



In Boroughbridge, we used three types of visuals during the simulation: a contoured 3D model, an aerial photograph and a coloured-in base map.

All were mounted onto polystyrene bases so that comment/action flags on cocktail sticks could be placed directly onto the maps. The aerial photograph and the coloured-in base map were 2 x A1 size. The polystyrene used was 2.5 cm thick (1 inch) and each A1 piece was backed with thin cardboard and the edges were taped. See the explanation for the model under The contoured plan section below.

The coloured-in base map and aerial photograph had to be enlarged to the size required using the imagery supplied and this did incur an extra cost.

The contoured plan

A 3D contoured model is built to a scale which gives everyone participating a 'bird's eye' view of the community through which the extent and impact of the flooding can be demonstrated. This method is a fantastic way of involving people in discussions about their area in a real and meaningful way.

Your local authority will usually be able to help you with a map or at least tell you where to get one. There may be a cost to this. It may also be a requirement to acknowledge Ordnance Survey Crown copyright. Think about what local maps are already available that you could use – A-Z, 1:25000 walker's map, even Google Earth. Whilst less ideal, they at least give you a map to work with.

In some situations it may be possible to use a sketch map. The important thing is that the map looks like the area and has key features on it to aid discussion.

Once the maps have been printed they can be used to create the 3D contoured model. The process for this is as follows:

Materials you will need:

- Polystyrene sheets: 1 inch thick for the base of the model
- For the contours – a thinner polystyrene – about half the number of contours x the model's area
- PVA glue – to stick the map on to the model
- Copydex glue – to stick the contour layers
- A knife.

To make contoured model:

- 1 Get your area map with contours marked on it (5m or 10m contours)
- 2 For a large area, colour code the contours according to height
- 3 Enlarge map to 1:500, 1:300 or 1:200.

How to get hold of visual materials



- 4 Order sheets of polystyrene for relevant scale:
 - 1: 500 – 10 millimetres thick for 5 meter contour
 - 1: 300 – 16 millimetres thick for 5 meter contour
 - 1: 200 – 25 millimetres thick for 5 meter contour
- 5 Mark and cut your map. We usually work with 60cm x 60cm. With a contoured model, it's easier to work on larger sections.
- 6 Cut out the lowest contour on the map. Stick this on the base piece with PVA glue. Cut around the next contour line, use this to draw the contour on a thin piece of Polystyrene and cut it out with a knife. The pieces of map can be stuck to the Polystyrene with PVA glue. Repeat the process until all contours are done.
- 7 Stick the contoured layers in place by spreading Copydex thinly.
- 8 Put weights on the model to help it to stick and leave overnight.

Aerial photograph

We were able to obtain aerial photographs of Boroughbridge from the Environment Agency. A local reprographics company joined them together on the computer screen and printed at A0 size.

We were required to acknowledge the copyright of Getmapping plc for the aerial imagery and a statement to this effect appeared on the edge of the photograph.

As an alternative, it may be possible to download aerial photographs from other websites such as Google Maps by choosing the satellite option but this would require a considerable amount of 'joining up' of images printed off in order to create an image of a much wider area.

Coloured-in base plan

It's usually possible for your local authority to provide you with a coloured-in base plan from their GIS system. You need to decide the area which you need a map of and the scale you would like it printed to. Some local authorities do not have the capability to print very large maps and sometimes they will charge you for printing off of the map.

Public consultation questionnaire



This questionnaire aims to capture opinions and knowledge on flood risk and plans to reduce the potential damage caused by a flood incident in the area.

Please answer the questions corresponding to the area of the town that you live in:

Zone 1: _____

Zone 2: _____

Zone 3: _____

Question 1: Does your town/village have a flood plan?

Yes	No	Don't know
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Question 2: Do you know which organisations are responsible for local flood planning?

Yes	No	Don't know
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Details: _____

Question 3: Do you know which areas of your town/village are at risk of flooding?

Yes	No	Don't know
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Details: _____

Question 4: Do you know what to do if the floodwater enters your house?

Yes	No	Don't know
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Details: _____

Question 5: Do you know where to get sandbags?

Yes	No	Don't know
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Details: _____

Question 6: Have you adapted your house to flooding?

Yes	No	Don't know
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Details: _____

Question 7: Are there people you know that would require assistance from others in the event of a flood?

Yes	No	Don't know
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Details: _____

Who should be involved?

It's important when developing a flood plan or running a simulation to engage all the key stakeholders including statutory organisations and community groups. Many local authorities provide contact details of these local groups on their website or in their existing flood plan.

Key groups are:

Agencies

- Environment Agency – regional office
- Met Office
- The National Flood Forum

Emergency services

- Fire Service
- Police
- St John's Ambulance
- Ambulance Service NHS
- Red Cross

Utility companies

- Gas
- Water
- Electricity

Local authorities (councillors and staff members)

- Parish Council
- Borough Council
- District Council
- County Council

Local groups

- Flood committee
- Rural community council
- Local community venues
- Schools
- Local childrens' nurseries
- Local community groups
- Citizens' Advice Bureau
- Churches/religious organisations
- Elderly care homes
- National Farmers Union
- GP surgeries

Individuals

- Volunteers with special skills (e.g. tractor drivers)
- Residents

Who should be involved?

Local businesses

- Suppliers of sand bags
- Timber providers
- Hotels
- Post Office
- Solicitors
- Local business groups
- Regeneration partnership
- Chamber of Trade
- Vet surgeries

Transport services

- Community transport operators
- Dial a ride

Health services

- Health practices
- Primary Care Trust

Sample press release for workshop



[INSERT DATE] For immediate release

[YOUR TOWN/VILLAGE] to run community flood planning project

"Dry Run" brings together local community leaders to tackle flood risks

On [INSERT DATE], leading members of the [INSERT AREA] community including councillors, emergency services, community groups and residents will participate in an innovative flood planning workshop at [VENUE]. The workshop, called *Dry Run*, will involve a flood simulation exercise for [AREA] and is part of Flood Plan UK (www.FloodPlanUK.org) - a national project which seeks to help areas at risk of flooding add a community-wide dimension to existing flood plans. FloodPlanUK.org has been spearheaded by insurers Norwich Union with the support of the National Flood Forum and the Environment Agency. The project has received local endorsement from [INSERT LOCAL COUNCIL/MP WHERE RELEVANT].

Local project organisers [INSERT INDIVIDUALS OR GROUP] will be holding an informal public consultation exercise at [VENUE] on [DATE] in order to gather initial views from residents on flood risk and [AREA's] preparedness to deal with a flood incident. [INSERT TOWN/VILLAGE] has been flooded several times in recent memory [INSERT DETAILS/YEARS].

[LOCAL PROJECT SPOKESPERSON] said, "Planning and preparation can reduce the impact and trauma of a flood, and get people back to normal more quickly. We rely on councils and emergency services, but communities also have a key role to play in this. It's the range of organisations taking part that makes this project unique, and should make [AREA] one of the best prepared communities in the UK."

The workshop will guide groups of participants through a series of realistic flood scenarios that have been devised in close collaboration with the local Environment Agency and will incorporate feedback from the community consultation exercise. For example how would the community respond to a car being swept under a bridge? Or to a vulnerable member of the community becoming stranded? Most importantly, participants will be encouraged to think about whether the right people are speaking to each other in advance. The resulting plan will be complementary to current plans laid out by local and national Government, the Environment Agency, emergency services and others.

Those interested in attending the workshop should contact [CONTACT DETAILS].

- Ends -

For media enquiries please contact [YOUR CONTACT DETAILS].

[Click here to download a Microsoft Word template for the press release](#)

Sample agenda for workshop



09.00	Arrivals – tea and coffee
09.30	Start – welcome and introductions
09.45	Who does what during a flooding? (group work)
10.15	Plenary review (all groups)
10.30	Simulation (part 1)
12.00	Lunch
12.30	Simulation (part 2)
13.30	Lessons learned
14.00	Close