



Reservoir Flooding Frequently Asked Questions

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GENERAL QUESTIONS

1. What is a reservoir?

A reservoir is usually an artificial lake where water is kept for use. Some reservoirs supply water for household and industrial use, others serve other purposes, for example, as fishing lakes or leisure facilities.

The work currently being done on planning for reservoir emergencies involves large raised reservoirs that can hold at least 25,000 cubic metres (approximately 5 million gallons) of water above natural ground level. There are over 2,000 of these in England and Wales.

2. What is a reservoir emergency?

Usually this means a problem has been identified with the reservoir, so the water level has to be lowered to reduce the risk of reservoir failure and to enable repairs to be carried out.

3. What does reservoir failure mean?

All reservoirs are inspected regularly to ensure that if there are early signs of a problem then these are spotted and dealt with long before the reservoir or dam can fail. If a reservoir does fail it will no longer be able to safely hold water and will need to be emptied.

4. Why is this different from other types of flooding?

It could have exactly the same effect as other types of flooding, and cause a slow increase in the level of water. However, if a reservoir dam were to suddenly fail, a large volume of water could escape at once. It is important that plans are prepared to deal with this “worst case” scenario, so that anyone who might be affected by the flooding knows what action to take.

5. How will I know if my property might be affected by reservoir/ dam failure flooding?

Information about reservoir flooding in England and Wales is available from a number of sources. Reservoir flood maps are available on the Environment Agency’s website where you can enter a postcode to find out if you live or work in an area that could be affected by reservoir flooding. You can find a link to the reservoir flood maps and further information at:

<http://www.environment-agency.gov.uk/homeandleisure/floods/31650.aspx>

You may also hear directly from your local authority that you are at risk of reservoir flooding. Local authorities are initially preparing emergency plans for the 100 higher priority reservoirs in England and Wales *. As part of the plan, they will be contacting households that may be most affected.

*See question 8 for an explanation of why certain reservoirs have been classed as higher priority.

6. I don't live near a reservoir. Why do I need to be prepared for reservoir flooding?

Although people closest to a reservoir are most likely to be most affected if a reservoir failed, the extent of the flooding from a reservoir can extend 50 miles or more from the reservoir itself. Also, local geography such as valleys could channel the water and make flooding worse in areas at some distance from the reservoir.

7. What should I do if I spot any warning signs of a problem with a reservoir?

Members of the public should ring the Environment Agency Incident Helpline (0800 807060).

LOCAL EMERGENCY PLANS

8. Why are some reservoirs having special plans written and others aren't?

Reservoirs in the UK have a very good safety record and the chance of one of them failing is very small. However, because reservoir flooding could cause a lot of damage, Defra and the Welsh Assembly Government have carried out an assessment to identify those reservoirs (approximately 100 of the total 2,000 large raised reservoirs in England and Wales) to be treated as higher priority for emergency planning purposes. The reason for this is to allow local authorities to start putting emergency plans in place.

The higher priority reservoirs have been chosen based on the number of people that could be affected if they failed, and other factors such as the type and age of the dam. If a reservoir has been classed as higher priority it does not mean that the people living in the flood zone are more at risk of flooding than those in the flood zones of other reservoirs. However, emergency planners will be preparing specific plans for the higher priority reservoirs first (over the next two to three years). Once these plans are finished local authorities may begin to develop specific plans for other reservoirs in their area.

9. Why are you doing this work at all if reservoirs are so safe?

Although the chance of reservoir failure is low the emergency plans will ensure that people know what to do to reduce the risk of water escaping from a reservoir and how to reduce damage and danger if a reservoir does fail.

10. How will I know if there is an emergency?

You may be alerted in one or more of the following ways:

- Emergency services in your area may knock on your door or use a loudhailer system. You may be given an evacuation card which will give you specific advice about where you should go.
- Helicopter Skyshout (public address system) warnings may be given.
- Local television and radio news alerts.

If you know that your property is in an area that might be affected by reservoir flooding, and you need to know more, you should check your local resilience forum website for more information on emergency planning

(http://www.direct.gov.uk/en/Governmentcitizensandrights/Dealingwithemergencies/Preparingforemergencies/DG_176587).

If you live in an area that could be flooded if a reservoir failed, your local resilience forum members will be working on plans to use in the event of an emergency. You may be contacted if your property is in a priority zone.

You should always follow the advice of the emergency services.

RESERVOIR FLOOD MAPS

11. How will I know if my property is at risk?

Reservoir flood maps are available to everyone on the Environment Agency's website. These maps can be viewed by entering a postcode on the website, which will then display the flood maps and provide information about the reservoirs that could cause flooding at that location. A link to the reservoir flood maps can be accessed here:

<http://www.environment-agency.gov.uk/homeandleisure/floods/31650.aspx>

12. What is the likelihood of my house being flooded as a result of a reservoir failure?

The likelihood of flooding from a reservoir is far lower than for other types of flooding. Legislation ensures that reservoirs are regularly inspected by trained civil engineers and that essential safety works are carried out. This means that there are very high safety standards for reservoirs in the UK which makes the likelihood of a failure very low.

13. There is a reservoir near my home. However, when I search on the Environment Agency's website I can't find it. Why is this?

There are three main reasons why a reservoir might not be showing on the Environment Agency website. Firstly, the body of water may not be a reservoir as defined by the Reservoirs Act, i.e. it does not retain water above ground level. Secondly, the reservoir may be below 25,000 cubic metres capacity, in which case it is not part of the mapping project. Thirdly, the reservoir may have been constructed since the mapping was carried out in spring 2009.

In addition to these reasons, reinforced concrete covered reservoirs built since 1970, were excluded as these were designed and built to withstand forces far in excess of those they will ever experience and have therefore been assessed as having virtually zero chance of failure.

14. Where should I go to find out more information?

You can find details of local emergency planning on your Local Resilience Forum website:

http://www.direct.gov.uk/en/Governmentcitizensandrights/Dealingwithemergencies/Preparingforemergencies/DG_176587

HOW TO PREPARE FOR RESERVOIR FLOODING

15. Is there anything I should do in advance to prepare for an emergency?

To prepare for reservoir flooding you should:

- Know your risk. Visit the Environment Agency's website to see if you live or work in an area that might be affected by reservoir flooding;
- Plan where to go if you get caught in reservoir flooding;
- Put together a grab bag or flood kit of things you might need in an emergency;
- Know who you would need to contact and how;
- Be vigilant and be prepared to act quickly to get yourself to safety

You should also plan for the following:

Loss of Mains Electricity or Gas

Power cuts caused by a reservoir flooding can affect household appliances, lighting, and other electronic equipment. Loss of electricity over a longer period can also result in loss of mains water, sewerage and mobile communications.

Schools and offices may need to close temporarily unless they can find alternative power sources, or may have to alter their hours. You may want to think about the following points to minimise disruption:

- If you have children, you may wish to discuss back-up arrangements for childcare with neighbours/friends in the event of schools being closed.
- Storing key contact details separately from your mobile phone.
- Creating a core stock of essential supplies. This could include bottled water, a battery powered radio, torch, tinned food and alternative heating sources.

Disruption to Telecommunications

It is important to consider how you might cope if your landline and mobile phone were out of action, or you had no access to them. You could prepare for this happening by taking the following steps:

- Work out how your friends and family can stay in contact in the event of any disruption, perhaps by meeting at an agreed place.
- Consider developing alternative default arrangements (e.g. for meeting people or collecting children from school) which people can follow if you are unable to contact them.

Access to Property

Considering the following points may help you prepare for possible loss of access or damage to your property:

- Do you have copies of important documentation stored at another location?
- Do you know anyone who is particularly vulnerable in your local community and would you be able to help them if they were denied access to their accommodation?
- If you needed to leave the house, do you know where you would go and how you would get there? (Unless otherwise instructed, you should move away from the reservoir, keeping to higher ground, if you can do so safely).
- Do you have friends or family who could provide you with accommodation?
- What provision could you make for the family pets?
- What would you need to take with you if you had to be evacuated from your home?
- Prepare a list of useful numbers (e.g. family, the emergency services and your insurance company).
- Prepare an emergency kit – a grab bag. This could include personal documents, insurance policy, emergency contact numbers, a torch, a battery or wind-up radio, mobile phone, rubber gloves, waterproof clothing, first aid kit and blankets.
- Make a list of other items that may be vital to you in the event of an emergency. This may include family medication or items for your children (e.g. milk, baby food, sterilised bottles and spoons, favourite toys, nappies and wipes).

Specific information on how to prepare for general flooding is available on the Environment Agency's website. It includes guidance on creating a personalised flood plan.

Have a look at the Preparing for Emergencies pages on the DirectGov website (www.direct.gov.uk/en/Governmentcitizensandrights/Dealingwithemergencies/Preparingforemergencies/index.htm) for further information.

The following websites might also be useful:

Road Traffic

www.highways.gov.uk
www.traffic-wales.com

Rail

www.nationalrail.co.uk

Business

www.bis.gov.uk

Water Supply

www.defra.gov.uk
www.environment-agency.gov.uk

WHAT TO DO IN AN EMERGENCY

16. Who should I call if I think I notice a problem with a reservoir?

Call the Environment Agency Incident Helpline on 0800 807060 if you discover an apparent fault at a reservoir.

17. Where should we go if there is an emergency?

If you become aware that your property may soon be flooded and you have not received any earlier information, you should listen out for advice on the radio and television, take directions from local officials and prepare yourself as suggested in question 18 below. If you do not hear from officials but have good reason to believe you are in the flood zone of a reservoir that has a realistic chance of failing then you should follow the advice given on the Environment Agency's website:

<http://www.environment-agency.gov.uk/homeandleisure/floods/114476.aspx>

18. What should I take with me?

You should prepare a "grab bag" to take with you in the event of any emergency. Think about including any medication you need and important personal documents, insurance policy, emergency contact numbers, a torch, a battery or wind-up radio, mobile phone, waterproof clothing, first aid kit and blankets. If you have children include items for them, for example, milk, baby food, sterilised bottles and spoons, favourite toys, nappies and wipes.

19. Will it be safe to drive?

If emergency services are in the area, you should seek advice from them on the best way for you to evacuate the area. In some areas community transport may be provided. It is important to keep traffic flowing so that the emergency services have access to the reservoir and to people who need their assistance.

It is important not to underestimate the danger of floodwaters:

- Do not walk through moving water. 15cm (six inches) of moving water can knock you off your feet. If you have to walk in water, walk where the water is not moving. Use a stick to check the firmness of the ground in front of you.
- Do not drive through floodwaters. It only takes 60cm (two feet) of water to lift and sweep away a 4x4 car or small lorry.
- There may be hidden dangers in the water including rubble, vegetation and exposed drains.

20. How will I know which way to go?

You should follow instructions from the local emergency services. If there are no emergency services in the area, and if it is safe to do so, you should move away from the reservoir, keeping to higher ground. You should do this as soon as possible. Do not approach the flood water.

21. Will it be safe to shelter inside buildings?

No, not if you have been told to evacuate. If you are told to evacuate your property because it is in the path of the flood, you should leave your house as soon as possible. If you have not been told to evacuate you should await further information: tune into local radio or television stations and look out for the emergency services or other officials in the area.

22. Who will protect my business/property from flood damage?

It is unlikely that the emergency services will be able to protect individual properties from flooding as they will be involved in other emergency activity. You should make every effort to ensure that you are prepared to deal with an emergency of any sort by making sure your property/business is properly insured and following the advice below

RECOVERING FROM AN EMERGENCY

23. How quickly would we be allowed back into our property?

Although people will be keen to return to their properties, it is important that they do not return until it is safe to do so and after all the necessary repair work has been undertaken. It is important that the all clear is given on the safety of, for example, drinking water, electricity supplies and building structures, before people are allowed back. This can take some time.

FINANCIAL ISSUES

24. What impact will the public availability of reservoir flood maps have on insurance for people who find out their property is within a reservoir flood zone?

The UK Government and the Association of British Insurers (ABI) agreed a Statement of Principles in 2002 to ensure that flood insurance will be available as a standard feature of household and small business policies for low flood risk properties. Provided reservoirs are properly maintained then the probability of an individual reservoir flooding downstream properties is low risk.

Reservoir flood maps may reveal that areas previously thought to be free from flood risk are actually at risk of flooding should a reservoir fail. The increased flood risk from living in an area at risk from reservoir flooding is very small. ABI have indicated that they do not expect existing insurance policies for properties in a reservoir flood zone to be affected by the online publication of reservoir flood maps.

Further information on the Statement of Principles between the UK Government and ABI is available on Defra's website at:

www.defra.gov.uk/environment/flooding/policy/insurance/.

Welsh Assembly Government and the ABI have also agreed a Statement of Principles in July 2009. Further information on the Statement of Principles between Welsh Assembly Government and ABI is available on ABI's website at:

www.abi.org.uk/Information/48170.doc

25. How will this affect planning applications for new developments?

It should not affect planning applications for new developments as the risks are low, and flood risk is covered through separate national and local policy guidance. However all parties, especially the reservoir owner, should be given an opportunity to inform the decision making process.

26. If my business is closed down during an emergency, will I be compensated?

This will be a matter for you to discuss with the reservoir owner.

RESERVOIR LEGISLATION

27. Why is this work happening now?

Following the summer floods of 2007, Sir Michael Pitt was asked by UK Government ministers to carry out a review of the flood-related emergencies which had occurred that year. He made a number of recommendations aimed at improving the UK's ability to withstand flooding. The UK Government agreed all of his recommendations about reservoir safety; and agreed to fund the preparation of flood maps for large raised reservoirs (covered by the Reservoirs Act 1975), and to ensure that these maps were issued to local emergency planners before the end of 2009. This allows

planners to draw up more detailed emergency response plans, improving their ability to protect life and property.

The Flood and Water Management Act 2010 makes a number of changes to the legislation covering reservoirs; one of the aims of those changes is to increase reservoir safety even further by ensuring that plans are developed and held by reservoir owners and managers to enable local emergency responders, like the Police and the Fire and Rescue Service, to respond quickly and effectively to any reservoir emergency.

28. Will I be legally required to disclose that my property is in an area that might be flooded by a reservoir failure if I try to sell it?

There is no such legal requirement at present. However, potential buyers will be able to visit the Environment Agency's website and identify whether or not a property is in an area that could be affected by reservoir flooding (see question 11 for details).

29. Reservoirs have been around for a long time, why have people been allowed to build around them?

Reservoir flood modelling is a relatively new discipline and in the past it wasn't feasible to assess the likely impact of a reservoir failure and the areas that could be affected.

Planning Policy Statement 25 (PPS25), which sets out Government policy on development and flood risk in England, makes specific reference to the risk of reservoir failure in guiding land use planning applications and local authorities have been provided with general guidance on how to apply this.

In Wales, equivalent guidance is contained in Technical Advice Note (TAN) 15, which sets out the policy in respect of new development proposed in areas at risk from flooding.