



Managing drought in England and Wales

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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.

Published by:

Environment Agency
Horizon House, Deanery Road
Bristol BS1 5AH
Tel: 0117 934 4000
Email: enquiries@environment-agency.gov.uk
www.environment-agency.gov.uk

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1 Introduction

This document explains how droughts are managed in England and Wales and who is responsible for managing them.

The Environment Agency has drought plans in place that set out the operational activities we will take in a drought. Water companies also have drought plans to show how they will manage water supply through a drought. This summary provides some background to supplement the operational details contained in these plans.

Droughts are natural events. A drought happens when a period of low rainfall creates a shortage of water for people, the environment, agriculture, or industry. Some droughts are short and intense, for example, a hot, dry summer, while others are long and take some time to develop.

Droughts can happen anywhere in England and Wales, not just the drier parts of south east England. Some droughts affect a large area while others are concentrated in a few catchments. Every drought is different and each can have a different effect on people, business and the environment.

2 Responsibilities for managing water resources

In England and Wales, the main organisations responsible for managing water resources are the Environment Agency, water companies and the Government in England and Wales.

The Environment Agency is responsible for managing water resources in England and Wales and making sure there is enough water available for people and the environment. We do this by regulating the abstraction of water, monitoring the environment and working closely with the water industry and other abstractors to manage resources.

Water companies' water supply duties are set out in the Water Industry Act 1991. Water companies are responsible for providing an efficient and economical system for public water supply in their area, without damaging the environment or affecting the needs of other water users.

The Department for Environment, Food and Rural Affairs (Defra) and the Welsh Government are responsible for the policies relating to water resources in England and Wales. They ensure the legislative framework for water resource management is fit for purpose. They direct companies on the development and content of their water resource and drought plans.

There are other organisations such as local authorities and individuals such as abstractors who also play a part in making sure water is used properly and efficiently.

All these organisations have their own distinct responsibilities for drought management. Further details are included in the References section.

3 Drought planning

In a drought there is less water available and as no-one knows for certain when a drought will end, there is a need to conserve supplies so they last as long as possible. Effective water resources and drought management starts with planning, both in the long-term and short-term.

3.1 Water companies

All water companies in England and Wales have a duty to prepare 25-year plans showing how they will manage their water resources into the future. In these plans, companies show how they will collect, store and transport water to meet demand in a dry year.

Due to the variable nature of rainfall, it is essential that water companies are prepared in case more unusual prolonged periods of dry weather threaten the security of their supplies. For this reason, water companies' drought plans complement their long-term strategic water resources plans. The drought plans set out the range of short-term actions necessary to monitor and manage the impact of drought on their customers and the environment. The actions a company might take range from publicity campaigns and changes in normal operations, to customer restrictions and drought permits or orders. It is important that companies plan these actions in advance in order to consider any potential impacts on the environment and other water users, and plan measures to avoid or minimise these impacts.

3.2 The Environment Agency

The Environment Agency has drought plans for each of its regions, for Wales and head office. Each part of the organisation has a plan in place reflecting the different operational responsibilities, setting out the steps it will take to recognise, monitor and lessen the effects of a drought. The plans set out the actions that are taken at different stages throughout the drought and detail the indicators that will determine the various actions. They also give details on the Environment Agency's arrangements for reporting and communications.

3.3 Government

Defra and the Welsh Government develop the legislation for drought management and make directions to water companies about their drought plans.

3.4 Other organisations and groups

A number of other organisations and groups also play a part in managing drought, for example Natural England and Countryside Council for Wales, British Waterways and local authorities. All those involved in dealing with the effects of drought plan their activities to prepare in case a drought occurs and to ensure that the responsibilities of each different party are clearly defined and understood.

4 Drought management actions

The type of action taken to manage drought and its impacts corresponds to the severity of a drought.

In the first phase of a drought, water companies will often make changes to the way they operate their water supply systems to conserve water in order to meet customer demands. At this stage, water companies and the Environment Agency will also use publicity campaigns and other communications to encourage people and businesses to reduce demand for water.

In England and Wales, water companies can introduce restrictions on using hosepipes for garden watering and car washing. This is often the next drought measure that is taken. The Environment Agency has the power to restrict or ban agricultural spray irrigation if this is necessary to protect the environment.

Further drought measures require legal permission granted either by the Environment Agency or Government Ministers in the form of drought orders or drought permits providing that the applicant demonstrates that there has been an exceptional shortage of rain. The further drought measures that can be taken are:

- water companies can apply to abstract more water
- water companies can apply to reduce other abstractions
- water companies can apply to restrict certain types of water use
- the Environment Agency can apply to restrict or ban abstraction to protect the environment.

Ultimately in a very severe drought, water companies can apply to restrict water demand by using either standpipes or bowsers. These measures have not been implemented for drought management since 1976.

Throughout a drought, the water companies monitor water availability by collecting data about the state of their water resources so they are aware of the onset of a drought and can monitor its development. The Environment Agency monitors river flows, groundwater levels and the environmental impacts of the drought, and where possible, takes action to lessen the impact of drought on the environment (for example, by organising fish rescues).

4.1 Responsibilities during a drought

The Environment Agency, Government, the local authorities and water companies all work closely together at every opportunity to ensure the effects of drought are minimised and to make sure that we manage the need for water of consumers, abstractors and other users whilst protecting plants and animals from damage.

The following table sets out the principal activities each organisation will take during a drought:

| Organisation | Activity |
|--------------------|---|
| Government | <ul style="list-style-type: none"> • Reports on drought to Parliament, the cabinet and to the Welsh Government. • Contributes to publicity campaigns about using water wisely during a drought. • Decides on drought order applications. • Prepares for a state of emergency and co-ordinates emergency arrangements with local resilience groups in exceptionally severe droughts. |
| Environment Agency | <ul style="list-style-type: none"> • Monitors environmental indicators such as river flows, groundwater levels, reservoir levels and river ecology to recognise the onset, development and recovery of droughts. • Reports on the state of water resources during a drought to the public, government and the media. • Checks water companies are following their drought plans and taking the necessary actions to protect public water supplies. • Deals with drought permit applications from water companies to allow them to abstract more water without damaging the environment. • Influences and advises water companies on managing water resources. • Promotes awareness of drought and water efficiency. • Protects the environment when water levels or river flows are low by enforcing abstraction licence conditions and restricting spray irrigation if required. • Carries out actions to reduce the impacts of a drought. • Can apply for drought orders to protect the environment. |
| Water companies | <ul style="list-style-type: none"> • Run publicity campaigns to encourage customers to use water wisely. • Work with large businesses to reduce their water use. • Increase work to find and fix leaks and reduce water pressure. |

| | |
|-------------------|--|
| | <ul style="list-style-type: none"> • Implement water conservation schemes. • Obtain water to increase supplies from back-up emergency sources. • Introduce temporary restrictions on water use. • Apply for drought permits or drought orders to abstract water. • Apply for drought orders to restrict non-essential use of water. • Apply for drought orders in relation to discharges of water and abstractions by others. • As a last resort, apply for emergency drought orders to introduce standpipes, tanker supplies and rota-cuts for water supplies. |
| Local authorities | <ul style="list-style-type: none"> • Promote water efficiency to local communities with the local water company and the Environment Agency. • May assist water companies to implement emergency drought measures in an exceptionally severe drought. |

5 Deciding when to take action

Droughts usually take a long time to develop and different actions are needed as a drought progresses. The sequence of actions will not always be the same, as each drought is different and is managed on an individual basis.

The Environment Agency and water companies decide when a drought is happening and what actions they need to take by identifying and monitoring drought indicators. These indicators are often called drought triggers and a range of different triggers are used to identify whether to take drought actions. Triggers can be based on:

- hydrological thresholds, such as rainfall, river levels and flows, reservoir storage and groundwater levels
- environmental indicators such as water quality and ecology
- levels of customer demand.

As a trigger is approached or crossed, the Environment Agency or water company sets up their own drought team who will consider whether to implement a pre-determined action or move to the next stage of drought management. The drought team decides whether it needs to initiate action based on a range of factors, including present and forecast weather conditions and how effective the action would be.

6 The legislative framework

The legislation relating to drought management provides a structured approach for managing droughts in a flexible way.

6.1 Drought plans

Water companies must prepare and maintain a drought plan under the provisions of the Water Industry Act 1991 as amended by the Water Act 2003.

The [Drought Plan Direction 2011](#) sets out the requirements for the preparation of a drought plan. The legislation defines a drought plan as 'a plan for how the water undertaker will continue, during a period of drought, to discharge its duties to supply adequate quantities of wholesome water, with as little recourse as reasonably possible to drought orders or drought permits'.

Water companies must submit their drought plans to Ministers in central Government or the Welsh Government. Ministers direct the companies to change their plans or to publish them.

The Environment Agency acts as a technical advisor to government and as such, advises government on the water companies' drought plans and publishes detailed technical guidance on preparing drought plans in the [Water Company Drought Plan Guideline](#) (Environment Agency, 2011).

6.2 Temporary water use restrictions

Water companies can implement temporary water use restrictions under their own powers in the Water Industry Act 1991 (as amended by the Flood and Water Management Act 2010). Government has recently changed these powers after consultation and water companies are now able to restrict a much wider range of water uses in a drought such as using a hosepipe to fill a domestic swimming or paddling pool.

These restrictions are temporary measures that reduce the demand for water and are usually one of the first steps a water company can take to protect its supplies during a drought. The water company does not require any approvals to restrict these uses of water but must run a period of public notice and allow for representation to be made before the restriction comes into force.

6.3 Drought orders and drought permits

Drought orders and drought permits are legal mechanisms to allow more flexibility in managing water resources when there is an exceptional shortage of rain (Water Resources Act 1991 as amended by the Environment Act 1995 and the Water Act 2003).

Water companies can apply to the Environment Agency for a drought permit. A drought permit may allow them to take water from specified sources or to modify or suspend conditions contained in their abstraction licences.

Water companies or the Environment Agency can apply for drought orders. Drought orders are granted by the Secretary of State in England or Welsh Ministers in Wales . Drought orders can go further than drought permits as they deal with discharges of water, abstractions and discharges other than by the affected water company, supply, filtration, and treatment obligations. They also allow water companies to prohibit or limit particular uses of water which are detailed in the Drought Direction 2011.

Water companies can also apply to the Secretary of State or Welsh Ministers for emergency drought orders. Emergency drought orders go further than ordinary drought orders as they enable a water company to have complete discretion on the uses of water that may be prohibited or limited, and to authorise supply by stand-pipes or water tanks.

Find out more in Defra's publication on [drought orders and drought permits](#).

6.4 Spray irrigation restrictions

The Environment Agency can restrict spray irrigation during periods of drought. Most abstraction licences for spray irrigation now contain conditions where the licence holder has to reduce or stop abstracting water once the river has dropped to a certain level. However, some older licences do not have these restrictions and in these cases we use section 57 of the Water Resources Act 1991 to impose restrictions when necessary.

Restricting spray irrigation can seriously disrupt a business so these restrictions are only implemented when the environment is threatened. The Environment Agency works with abstractors, keeping them informed about possible restrictions and seeking voluntary reductions in water use first.

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