

BRISTOL
WATER

Bristol Water Drought Plan 2022-2027

About our Drought Plan

Our Drought Plan explains what we will do in the event of a drought and is part of our overall water resources strategy.

Our drought plan sets out how we will manage a drought, and the actions we will take during a drought, including when we may need to restrict the supply of water to customers and what customers can do to help.

This is a summary of our drought plan, setting out the range and timing of actions we could take to ensure secure drinking water supplies are maintained as a drought develops and worsens, and what you can do to help reduce demand for water should a drought occur.

You can see the full plan, which goes into more detail here: [Planning for Drought](#)

Your water supply

Bristol Water supplies drinking water to more than 1.23 million people each day.

Bristol Water supplies drinking water to more than 1.23 million people each day. Our supply area covers 2,400 square kilometres and ranges from Thornbury and Tetbury in the north to Street and Glastonbury in the south, and from Weston-Super-Mare in the west to Frome in the east.

Only around half of the water supplied within the Bristol Water supply area is sourced from within it, with the rest being transferred in from outside the area. This water is sourced from the Gloucester & Sharpness canal.

The Mendip Reservoirs and associated surface water abstractions provide approximately 42% of our supply, with groundwater providing approximately 12% of our water.

The water in our reservoirs is used to ensure that we have sufficient water available during the drier summer months and peak demand periods when rainfall is lower.

The Mendip Reservoirs are also important habitats for wildlife, and this is reflected in their environmental designations the sites hold.

The maximum volumes of water available to us from the environment are controlled by the Environment Agency through abstraction licences. The actual volume we use varies daily according to demand from our customers. Our current annual average daily demand for the Bristol Water supply area is 276 million litres (or mega litres) per day (2020/21 reporting data).

Due to the integrated nature of our water sources, we operate a single water resource zone. A water resource zone is the largest possible area in which all resources can be shared. We use the water resource zone for operational management, water resource planning and drought management.



Where our water comes from

 **46%**

Gloucester & Sharpness Canal

The Gloucester & Sharpness canal is owned and operated by the Canal & River Trust and is supplied by the River Severn and other local rivers, the Cam and the Frome. The water from this source is used to supply our largest northern water treatment works.

 **42%**

Reservoirs

We operate four major reservoirs, Chew Valley Lake, Blagdon, Cheddar and Barrow, which are supplied from river basins in the Mendip Hills.

 **12%**

Groundwater

As rain soaks through the ground it is stored in porous rock called aquifers. Our groundwater sources are all in shallow unconfined aquifers, hydraulically connected to local rivers. We pump the water to the surface, where it is treated and put into supply.

What is a drought?

Droughts are natural events which occur when a period of low rainfall creates a shortage of water. There is no single definition of drought – they are all characterised by some degree of rainfall shortage, but they are all different in terms of where they occur, how long they last, how severe they are, and the resulting effect on water sources and demand for water.

Different types of drought

Although each drought is different, we can still identify different types of drought. The Environmental Agency identifies three main types of drought which may occur separately or together:

1. Environmental drought
A shortage of rainfall having a detrimental effect on the environment.
2. Agricultural drought
When there isn't enough rainfall and moisture in the soils to support crop production or farming practices such as spray irrigation.
3. Water supply drought
When a shortage of rainfall is causing water companies concern about supplies for their customers.

Our drought plan is focused on managing the effects of a water supply drought, but also considers what we can do to better support the environment during drought conditions, and to support other abstractors within our region such as farmers during a drought situation.

Using our water resource modelling tools, we have tested our drought plan against different levels of drought severity to assess our drought triggers and actions.

This work shows the extent of the actions we are likely to have to take during a drought with a 0.5% chance of happening in any given year (a 1-in-200-year return period). The results of this assessment are set out in Appendix B of our [drought plan](#).

Drought indicators & triggers

We monitor the water resource situation throughout the year and across our operating area as part of our day to day operations.

This monitoring ensures that we can identify when a drought is developing and ensures steps can be taken early to help reduce the demand for water and secure water supplies.

We use drought indicators to identify when a drought is starting and if actions should be implemented.

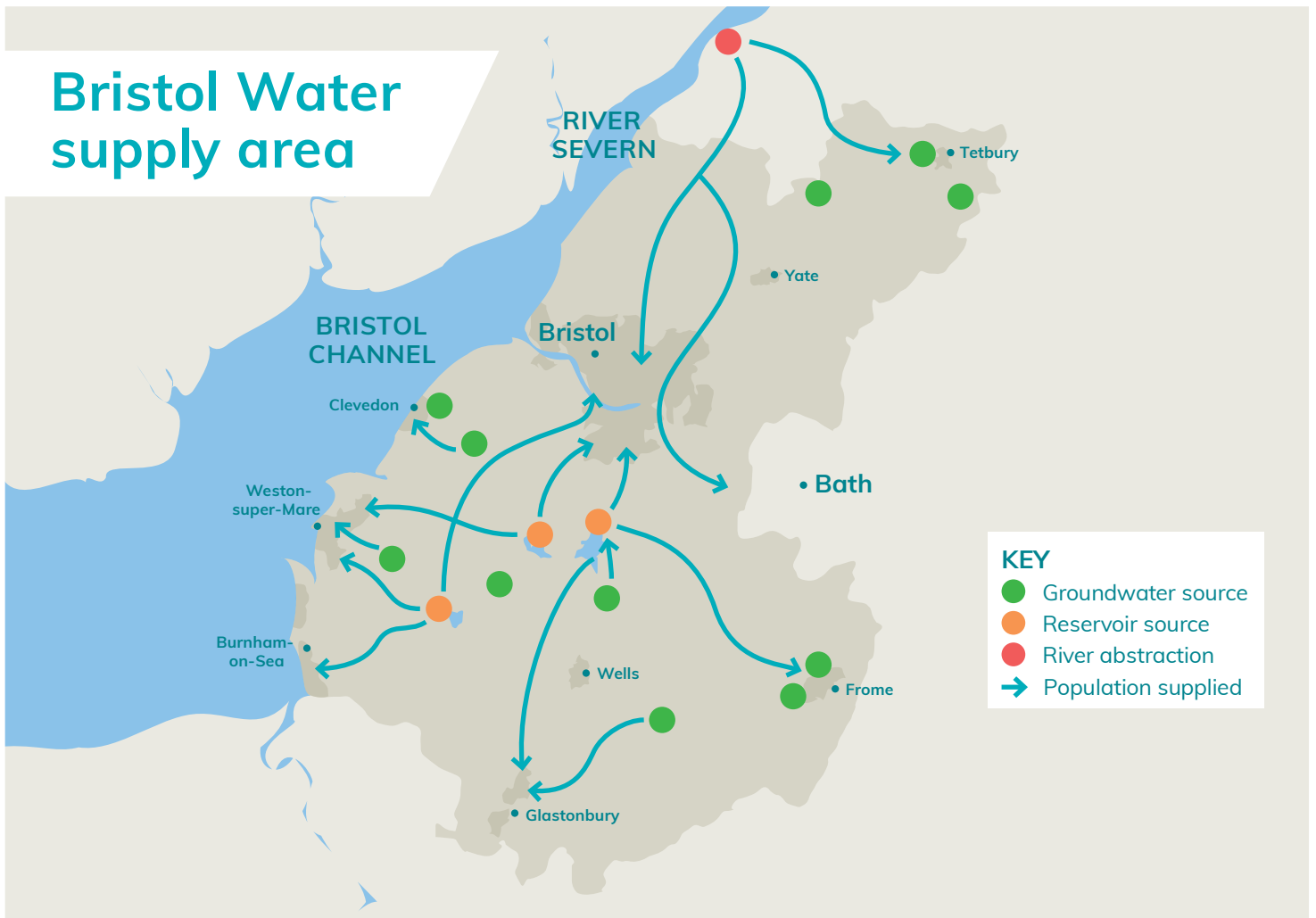
We monitor rainfall, reservoir storage, groundwater levels, river flow, environmental stress and other indicators such as demand for water to identify when we need to take action.

We have developed specific drought 'triggers' which are used as decision making tools to inform the overall drought management framework in terms of deciding when we need to take actions.

Our drought triggers are based on 6 drought management zones which reflect the phasing in of the required actions to maintain secure drinking water supplies.

These drought management zones are summarised in the table, next page, with the associated drought actions.

Bristol Water supply area



Drought Actions

A wide range of actions are available to us in order to maintain water supplies during a drought, these actions start with awareness campaigns and appeals to customers to use water wisely, and progress to formal water restrictions in the form of temporary use bans and non-essential use bans.

The steps we can take broadly fall into two categories – actions to reduce demand for water, and action to increase the water available for public water supply.

The actions we take are aligned to the Environment Agency’s drought restrictions ‘Levels’ 1 to 4.

Bristol Water DMZ	Drought Stage	Environment Agency Level 1-4 Category	Actions
1	Normal		Normal operation
2	Normal		Normal operation but implement dry weather system management
3	Developing Drought	Level 1	Drought actions: – appeal for restraint, – enhanced demand management, – enhanced leakage management – reduce bulk supplies to third parties
4	Drought	Level 2	Drought actions: – temporary use bans – Bringing disused sources back into supply (existing licence)
5	Drought	Level 3	Drought actions: – non-essential use bans – supply side drought permits
6	Severe Drought	Level 4	Emergency drought orders

Demand actions

As we enter a prolonged dry weather situation, we will start to implement actions to reduce demand for water in order to maintain drinking water supplies during a drought.

As part of our normal operations we implement a programme of leakage management to ensure that we keep our leakage level as low as possible. We also promote water efficiency all year round on our [website](#) and via social media campaigns, encouraging customers to be more efficient in how they use water in their homes and gardens.

As a drought develops, we will increase the profile of our water efficiency campaign, making customers aware of the potential situation and encouraging them to use water wisely. We will enhance the promotion of our 'Leakline' service to encourage customers to report leaks, to help us to keep leakage as low as possible as well as increasing our leakage management.

As a drought worsens, we may need to introduce water restrictions to ensure that we can continue to maintain vital water supplies for drinking and washing.

Reducing customer demand

Customers can make a significant contribution to reducing demand during a drought by making some relatively small changes to their water use habits. If customers can reduce demand enough, it may prevent us needing to implement more formal restrictions. Some of the ways in which customers can help are:

- Turning off the tap whilst brushing teeth. This could save up to 18 litres.

- For older style toilets, inserting a cistern displacement device, which will save over a litre every time the toilet is flushed.
- Take the shower challenge to cut shower time by 2 minutes. This could reduce water usage by 33%.
- Wait until they have a full load when using both their dishwasher and washing machine to get the most out of the water they use per wash.
- In the garden – mow on a higher setting to keep moisture in and don't worry about watering a brown lawn in the summer months.
- Use a sponge and bucket rather than hosepipe when washing the car. This can save hundreds of litres of water.

We will also work closely with businesses/non-household customers and their Retailers from the onset of a drought to encourage them to use water wisely to delay the need to implement any restrictions which could impact their operation.

Temporary Use Bans

Temporary Use Bans (TUBS) are used to introduce restrictions that temporarily ban certain types of water use. This includes the use of hosepipes and sprinklers for watering gardens, washing cars and other activities.

TUBS can be introduced without the need for a drought order, but we will advertise our intention to put a TUB in place prior to the ban being implemented, and customers, retailers, NAVs (New Appointments and Variations) and interested parties will be given the opportunity to make representations prior to any TUBS being implemented. The advert will include full details of what is being restricted.

These restrictions mainly focus on water use by domestic customers because this provides one of the largest water savings available and helps to protect public services and the economy by allowing businesses which rely on water to continue to operate.

Drought Order – Non-essential use bans (NEUBs)

If the drought continues to deteriorate, we will need to apply to the Secretary of State for the Environment, Food and Rural Affairs (Defra) for a Drought Order to further restrict water use through the implementation of non-essential use bans (NEUBs) under the Drought Direction 2011. In some cases, the Government may decide to hold a public inquiry before a Drought Order is granted.

[Full details of our demand management actions are available in Section 4 of our draft Drought Plan.](#)

Emergency drought orders

If the drought situation became significantly worse than the severe drought events that we have planned for we may not be able to maintain an uninterrupted supply of water for an extended duration. In this circumstance we would be moving to our incident response procedures and implementing an Emergency Drought Order, where intermittent supply cuts or supply via standpipes may be required. The likelihood of this occurring is very low.

Reducing customer demand

Cut water use by

18
LITRES



Reduce water use by

33%

Take the shower challenge – cut your shower time by 2 mins



Washing your clothes uses a weekly average of

112 litres

Wait until you have a full load when using your dishwasher and your washing machine to get the most out of the water they use per wash

In the garden,

Keep in moisture

Mow on a higher setting to keep moisture in the grass, that way you won't have to mow so often, if at all



Every time you flush you could **save over 1 litre of water**

Save hundreds of litres of water



Supply actions

Increasing the water available for public water supply also plays an important role in managing a drought.

Each drought is different, and we aim to take a flexible approach to the timing and use of supply-side actions to be able to respond appropriately to the specific drought conditions being experienced. There are two main options available to increase the supply of water without the need for additional permissions.

Firstly, we will discuss with the relevant water companies the feasibility of reducing any bulk supplies we provide to them in order to make more water available within our supply area. This would be managed in the context of the specific drought conditions and the most efficient use of water supplies across the South West region.

Secondly, we will consider the option to bring disused licensed sources back into supply. However, this may only be effective for a multi-year drought due to the long lead-in time required to put sources back into supply.

Drought Permits

When securing drinking water supplies in a drought we need to balance the actions we take with protecting the environment.

In some situations, we may need to apply for a Drought Permit to vary the conditions on our abstractions licences under which we operate. This could involve reducing the compensation flows we release into the rivers downstream of our reservoirs or increasing the volume of water we can take from some of our sources.

The decision to grant a Drought Permit sits with the Environment Agency and we will work alongside them to implement the monitoring and mitigation measures on the water courses likely to be affected by any of these Drought Permits.



Customers and the environment

Our water strategy is based on the use of Temporary Use Bans, such as hosepipe restrictions, once in every 15 years on average.



During our customer engagement process for the 2019 water resources management plan, our customers said that this 'level of service' is acceptable to them and this is what we have planned for. If we planned for less frequent restrictions, we would have to invest in more new resources which would be used very infrequently, resulting in higher water bills for customers. We last implemented a hosepipe ban over 30 years ago in 1990.

We also set 'levels of service' for the frequency of Drought Orders and Emergency Drought Orders granted by the Secretary of State, and these are set out in the table at the bottom of the page.

Communication

Effective communications with customers, stakeholders, neighbouring water companies, the organisations that regulate the water industry and the Government are an important part of drought management.

When prolonged dry weather occurs, we will form the 'Drought Management Group'. This Group

consists of expert representatives from departments across the business, that have the required knowledge to support the drought management process and coordinate our response to the drought. We will also work closely with the Environment Agency and other water companies to share information and co-ordinate awareness and engagement campaigns.

We have a detailed Drought Communications Plan which we will implement as a drought develops. Communications will build on our existing water efficiency campaigns to raise awareness of the situation and will be 'ramped up' as the drought becomes more severe. Drought information will be made available via a host of media channels, including press releases, social media our website, TV/radio interviews, leaflets, and posters.

Protecting the environment

The shortage of rainfall caused by a drought will have an effect on the environment. Environmental stress because of prolonged dry weather often occurs before the

public water supply is significantly affected. Where appropriate we will work with the Environment Agency to identify opportunities to support the environment if it becomes under stress and there is not a water supply drought.

Some of the Drought Permits we may apply for during a drought to maintain public water supply are linked to some of the sites within the region that are protected under national and/or international environmental designations. As part of the drought planning process, we carried out a strategic environmental assessment (SEA) to assess the potential effects of our drought actions on the environment. This is a statutory requirement under the Environmental Assessment of Plans and Programmes Regulations 2004 and helps to inform the selection and phasing of the demand and supply actions we have included within our drought plan. This information will also be used in prioritising drought actions during a drought.

If we apply for drought permits, we will work with the Environment Agency to further assess the likely effects of our actions on the environment and put appropriate monitoring and mitigation measures in place. We will also engage with customers and stakeholders as part of the Drought Permit application process to understand any concerns they may have.

Drought Action	Bristol Water Level of service
Temporary use bans (TUBS)	1 in 15 years on average
Drought Order – Non-essential use ban Supply side Drought Permits	1 in 33 years on average
Emergency drought order – partial supply and rota-cuts	1 in 200 years

Draft Drought Plan Public Consultation

This document is a summary of our draft Drought Plan for 2022 - 2027

The full technical report is available on our web site:

www.bristolwater.co.uk/about-us/our-plans/planning-for-drought/

The draft Drought Plan has been published for public consultation to provide customers and stakeholders the opportunity to consider the proposals we have set out and provide us with any feedback and comments.

Thank you for your interest in our drought plan. Your feedback is important to us and will enable us to develop a better drought plan that meets the needs of our customers, the communities within which we work, and the environment.

We will take time to review all the comments received and write a formal statement of response setting out how we have used them to develop our final drought plan.

Our public consultation will be open for a period of 5 weeks from 8th June – 13th July 2021.

If you would like to submit any comments on our proposals, please send them to the Secretary of State at the following address:

Via e-mail to: Water.resources@defra.gov.uk

Please title your e-mail
'Bristol Water draft Drought Plan consultation'

Or via letter to:
Secretary of State for Environment,
Food and Rural Affairs (Defra)

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2 Marsham Street
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