South West Water

Summary of our proposed Drought Plan



southwestwater.co.uk

Version 5
11/07/2022

Bringing water to life – supporting the lives of people and the places they love for generations to come.

All water companies have a vital role today and every day, providing customers with safe and clean drinking water.

We also believe we have a unique role to play in supporting the lives of people and the places they love for generations to come. That's why we exist.

For us, it's not just about what we do, but how we do it. That's why we place such importance on living our core values daily – being trusted, collaborative, responsible and progressive – and always operating in the public interest. Especially in emergency situations.

This document accompanies our Revised Draft Drought Plan ("Our Plan"), and explains to our customers how we will manage water supplies during a drought.

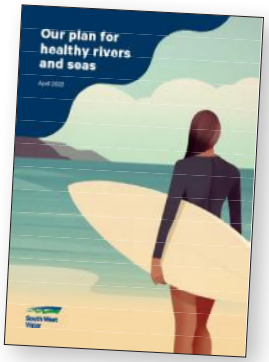
This document covers the following::

- Water resource zones in the South West and Bournemouth regions
- What is a drought
- Responding as a drought develops
- Communicating in a drought
- Isles of Scilly
- Next steps



Introduction

The South West is renowned for its natural environment. As the water and wastewater service provider for the region we know we have a responsibility to look after the places our customers love.





Our commitment to delivering for the environment has never been more important. We recognise that this doesn't just apply to our wastewater activities, but to our production and supply of drinking water. We want the South West to be the destination for water quality, minimising our impact on the environment and keeping your water supplies resilient.

We are already taking positive steps to accelerate our environmental plans. We have recently published our plan for healthy rivers and seas – WaterFit – which outlines how we can all play our part, working with partners, customers, visitors and local communities to protect and enhance the South West's water for future generations. Last year we also published our Green Recovery Plan which outlined £82m of investment which included; improving river quality, smart metering, water resource development and peatland restoration.

Although thankfully rare events, droughts can present a major challenge to public water supply and can have a detrimental impact on the natural environment we are working so hard to protect. With the impacts of climate change liable to produce more variable weather patterns, including the changes of deeper and more prolonged droughts, it is essential we have plans in place to ensure that your water supplies are maintained and that our supplies of raw water resources, which include our rivers, are protected for the benefit of the wider environment.

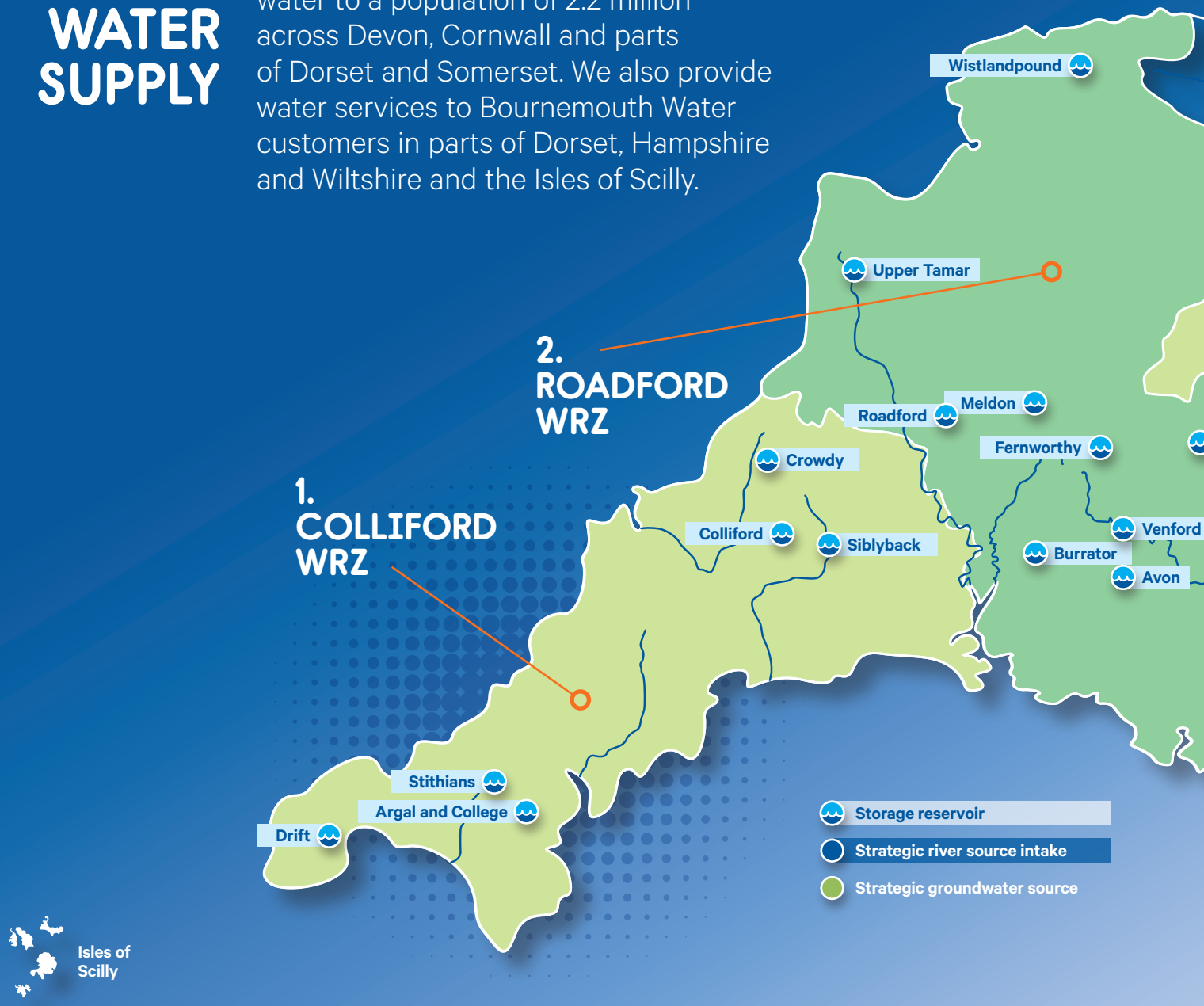
We have avoided water restrictions since the mid-1990s, through a combination of careful investment and by managing our precious water resources. To maintain this high level of service for our customers in a sustainable way we are continually taking positive steps to maintain our water resources, such as targeting industry leading leakage by delivering a 15% reduction in water lost from our pipes, as well as enhancing customer engagement to help them manage their water use through the installation of smart meters. Steps like these help us to improve our resilience to droughts, minimising the impacts of abstracting water on the environment, whatever the severity of drought we may be faced with.

The impact of increases in global temperatures could potentially lead to larger and longer droughts, more intensive periods of rainfall and sea rises, all of which could pose a varying degree of risk to the services and supplies to South West Water customers. If in the rare case we were faced with a drought in the region we have prepared Our Drought Plan, which would guide us through what specific actions should be taken.

We are confident that this plan will ensure that we can keep your water supplies resilient whilst protecting the environment.

YOUR WATER SUPPLY

South West Water provides drinking water to a population of 2.2 million across Devon, Cornwall and parts of Dorset and Somerset. We also provide water services to Bournemouth Water customers in parts of Dorset, Hampshire and Wiltshire and the Isles of Scilly.



OUR AREA

DID YOU KNOW?

90% of the water in our area is from rivers and reservoirs

Predicted to be the hottest region in the UK from 2050 with temperatures of **25-30°C**

Average rainfall is **1,000mm** per year



WATER RESOURCE ZONES

We divide the region we supply into strategic supply zones, known as Water Resource Zones (WRZs).

Three of these zones are principally reliant on a large reservoir: Colliford, Roadford and Wimbleball. Each reservoir supports all the local water sources in that zone.

On top of that, Wimbleball and Colliford reservoirs have pumped storage systems which means we can pump water from the river back into the reservoirs during times of high river flow (normally in the winter). This means that if a reservoir hasn't recovered from a drought through natural refill, we can help top it up during the winter so that it's full for the following summer.

In our Wimbleball WRZ, we also have access to groundwater sources which are robust even after prolonged periods of low rainfall.

Unlike South West Water's supply, for our Bournemouth Water supply zone we rely on two large rivers. These sources are resilient to all but extremely severe droughts, beyond anything experienced in the past.

In recent years we have significantly improved the connectivity of our water mains network which allows us to move water around the region from areas of water availability to those areas under stress.

Nevertheless, we need to ensure we are prepared for any potential drought and our Plan includes what actions we could take as a drought progresses. It describes how we would manage our water resources and put downward pressure on demand to ensure that we can continue to supply drinking water.

OUR REVISED DRAFT DROUGHT PLAN

Customers tell us their number one priority is a safe and reliable supply of water.

In the South West, we have successfully avoided water restrictions since the mid 1990s, through a combination of careful investment and by managing our precious water resources in a responsible way. Bournemouth Water has never had to have water restrictions.

Our Water Resources Management Plan published in 2019, and updated every five years sets out our strategy for managing supply and demand for South West Water and Bournemouth customers for the next 25 years and we are proud of our track record in ensuring a safe and continuous public water supply for all.

Droughts are rare and natural events caused by a serious lack of rain over several months, and therefore the risk of a severe drought is low. However, the impact of climate change has increased volatility in our weather patterns, including global warming, flooding, droughts and heat waves.

It is therefore important that we have clearly set out plans in place to ensure we can maintain a supply of clean drinking water to a population of over 2.3 million people across the South West and Bournemouth, whatever the weather, as well as looking after the environment.

Of course, no drought is the same, and the type of actions we would take would reflect the particular circumstances.

The Drought Plan is a key statutory document all Water Companies are legally required to have which outlines how we would react to a developing drought, the actions we would take, how we would communicate with customers and stakeholders, and work with other water companies, to maintain a water supply to customers.

This document is a summary of our full plan which is available on our website **southwestwater.co.uk/drought-plan**.

The Isles of Scilly have been included in a separate Drought Plan as the islands are geographically remote with no connection to our mainland water supply systems. See page 14 for further information.

Our Water Resources Management Plan be found here: **southwestwater.co.uk/environment/a-precious-resource/water-resources-management-plan/**

WHAT'S NEW IN THIS DROUGHT PLAN

We produce a Drought Plan at least every five years. Key updates in this plan are:

- How we will work with other companies in the region
- Illustrated examples of how we would manage a drought
- Updated communications plan building on 2018 and 2019 dry weather events
- What we would do to avoid the need for severe restrictions on water supply such as rota cuts.

WHAT IS A DROUGHT

Droughts are natural events caused by a serious lack of rain over several months. No two droughts are the same and they can occur at any time.

A drought puts pressure on river flows, groundwater levels and the environment, and this pressure is increased further when the demand for water increases. The South West has high levels of tourism, especially in the summer during periods of hot weather – this hot weather combined with the increase in population could put a strain on our water resources and levels of service. Where there is a risk that our customers may suffer a reduced level of service, perhaps in the form of restrictions on hosepipe use, this is when we would consider invoking our Drought Plan.

SUPPLY AND DEMAND

Maintaining our customers water supply during times of drought would involve taking actions to reduce both supply and demand:

Supply – actions we take that could increase our supply of water are called 'supply-side actions'. For example, permits to increase our abstraction of water.

Demand – actions that could reduce customer demand for water or leaks on the network are called demand-side actions. For example, communications campaigns focused on saving water, increased leakage detection, or in severe cases a temporary water use restriction for customers.

LEVELS OF SERVICE

By maintaining our water resources carefully, we are able to deliver a high level of service for our customers, minimising the likelihood of introducing actions to reduce demand or call upon additional sources of supply.

However, like all water companies, South West Water cannot provide unrestricted supplies under exceptional circumstances – this would be neither economically viable nor environmentally acceptable. Our planned level of service for our mainland supply area is shown below.

Measures		Level of service
Normal operation	→	Not applicable
A major publicity campaign requesting voluntary savings	→	1 in 10 years
Temporary Use Bans (TUBs)	→	1 in 20 years
Supply-side Drought Orders or Drought Permits (to increase water available from sources)	→	1 in 20 years
Demand-side Drought Orders restricting on non-essential use	→	1 in 40 years
Emergency Drought Order – partial supply, rota cuts or standpipes	→	Unacceptable

Our Plan looks to manage resources and demand to meet these levels of service, and we do not consider Emergency Drought Orders as being acceptable to our customers. Our plans have been developed to ensure they should not be required.

RESPONDING AS A DROUGHT DEVELOPS

Droughts are unique and it is never possible to predict how severe they might become or how long they might last.

That is why we have developed Our Plan which is flexible and adaptable to cope in all circumstances. We would adopt a twin track approach to both bring down the demand for water whilst preparing additional sources of supply, and the actions we would take would be determined by the developing severity of the drought.

In line with Environment Agency guidelines, we categorise droughts by severity into more frequent, but less severe droughts (Level 1) through to more significant droughts (Level 2) and very severe and deep droughts (Level 3).

Although, we take many factors into account when identifying the transition from one level to another, including rainfall and the demand for water, it is principally the storage levels in our reservoirs which guide us and triggers the actions needed.

Importantly, prior to implementing any restrictions on demand, we would set out the activity we have undertaken on measures that are within our control such as leakage reduction or increasing our supply capability.

The following table sets out a high level summary of the measures we would take as a drought deepens.

INCREASING DROUGHT SEVERITY ↓

Drought severity	Actions	
	Demand side	**Supply side**
LEVEL 1	Communications campaign Increased leakage control	Drought actions with minor environmental impacts (optimising sources, reducing outage)
LEVEL 2	Temporary use bans	Drought actions with minor environmental impacts
LEVEL 3	Non-essential use bans	Moderate environmental impact drought permit and ordinary drought orders
	All possible actions to avoid emergency drought orders	All possible actions including major environmental impact drought permits and orders

To implement the above actions, our Plan sets out a set of triggers that we will use to decide what and when we take action.

In South West Water the triggers are based on the storage levels in the reservoirs. In Bournemouth Water the triggers are based on the level of demand. The different triggers are needed because the South West Water system is dominated by reservoir storage, whereas in Bournemouth Water water is supplied direct from the two main rivers with little storage. An example of the triggers is illustrated on page 10.

SUPPLY ACTIONS WE WOULD TAKE IN A DROUGHT

As well as looking to reduce demand during a drought, we would also look to increase our water supply availability.

The environment is likely to be under stress during a drought and our Plan sets out the options we would consider in an order that minimises the impact on the environment.

The following table gives examples of the options we would undertake across the different parts of our supply network.

Actions per zone

WRZ	Drought severity	Return period*	Actions
Colliford	LEVEL 1	> 1 in 500 years	**Restormel Abstraction Licence –** Drought Permit to allow additional abstraction during the winter
	LEVEL 2	> 1 in 500 years	**Stannon Lake Licence –** Drought permit to increase abstraction licence
	LEVEL 3	> 1 in 500 years	**Porth Reservoir and Rialton Intake –** Recommissioning reservoir and former river intake
Roadford	LEVEL 1	1 in 200 to 500 years	**Roadford Reservoir Winter Pumped Storage –** Drought Permit to recharge reservoir in the winter
	LEVEL 2	c. 1 in 500 years	**Slade –** Recommissioning of licensed, disused reservoir
	LEVEL 3	> 1 in 500 years	**Challacombe Reservoir –** Drought permit to allow use of disused reservoir
Wimbleball	LEVEL 1	1 in 200 to 500 years	**North Exeter Boreholes –** Recommissioning of licensed, disused borehole sources
	LEVEL 2	> 1 in 500 years	**Wimbleball Spring Sources –** Drought Permit to allow additional abstraction during the winter
	LEVEL 3	> 1 in 500 years	**Wimbleball Compensation Flow –** Drought permit to change compensation flow
Bournemouth**	LEVEL 2	> 1 in 500 years	**Wimborne WTW –** Recommissioning of licensed, disused well source
	LEVEL 3	> 1 in 500 years	**Stanbridge Licence –** Drought permit to increase abstraction licence

* Return period is an estimate of the average time between droughts of this severity or greater.

** There is no Level 1 supply option for Bournemouth. Instead we will look to reduce demand. Further details in the main Draft Drought Plan.

As each option is implemented, it improves the resource availability and increases the level of drought resilience to each further drought level.

DROUGHT PERMITS

Drought Permits allow us to access water outside our normal licensed conditions.

The need for Drought Permits is unlikely given our current water resources position, however, we have included one large-scale permit for our Roadford WRZ in the event that there's an extended period of high demand which causes increased use of Roadford reservoir. This is considered a Level 1 action due to its very limited impact on the environment because we'd be abstracting water from the river for up to three months over winter, when the flows are naturally high. This is in agreement with the Environment Agency following a detailed environmental impact assessment.

We have already made preparations so that the Environment Agency would be able to issue this Drought Permit quickly if it is needed.

ACTIONS BEFORE SEVERE RESTRICTIONS

Our levels of service are set to avoid severe demand restrictions such as rota cuts that would restrict daily access to water – as occurred in 1976.

However, droughts are not predictable. Our Plan includes detail on what further emergency measures we would take to avoid severe restrictions to supply in the most serious, rare droughts.

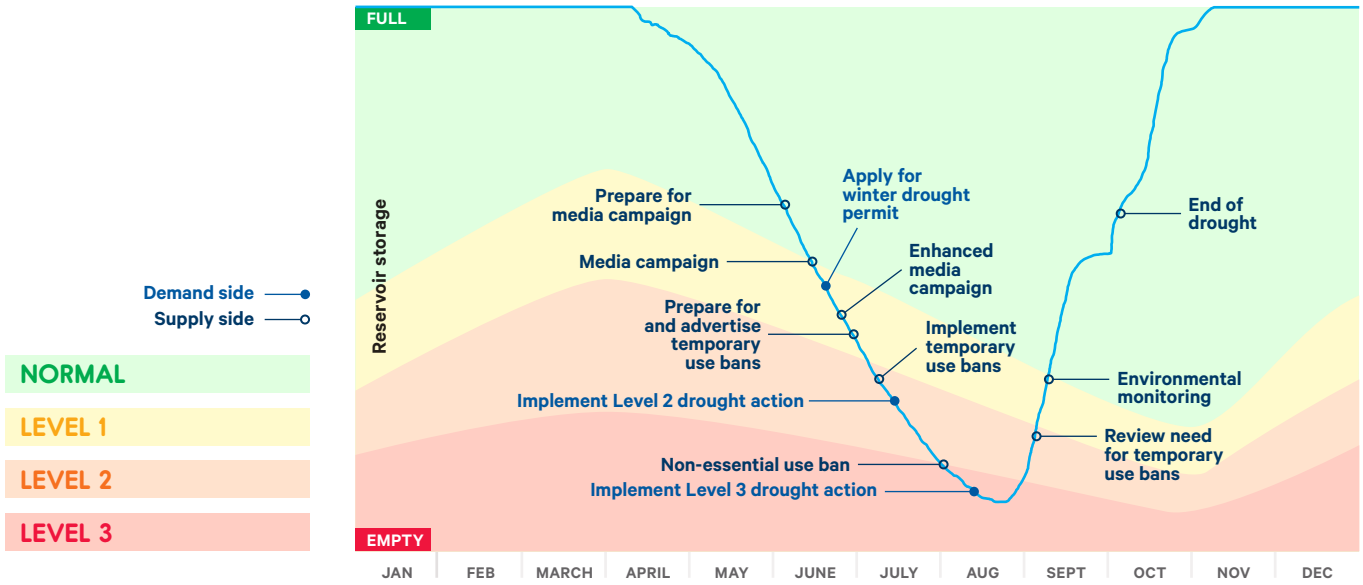
IMPLEMENTING THE DRAFT DROUGHT PLAN IN PRACTICE

No drought is the same, but it is important our Plan is clear and concise.

Our Plan includes a number of scenarios and examples of possible droughts of varying severity together with the actions we would take and how they would be implemented.

In the example below we have used a reservoir in Devon, and shown how the actions would be sequenced as the drought gets more and more severe and storage reduces.

It shows the twin track approach to reducing demand and increasing supply capability. It also highlights a key learning point from past dry weather events - that actions need to be taken early to allow the right lead time for their implementation.



PROTECTING THE ENVIRONMENT

The type of actions we would take would reflect the severity of the drought, but we would seek to minimise the stress on the environment by prioritising our interventions from low impact Level 1 actions, through to more significant, but rarely needed, Level 3 actions.

Only in extreme droughts, more extreme than a repeat of the 1975/76 drought, would we need to consider Level 3 actions in our region.

All our supply options have been assessed in conjunction with the Environment Agency as having limited and no long term effects on the environment. We have also agreed with the Environment Agency that should low flow conditions develop in any rivers due to a drought we would work with them to manage our water supplies in the best way possible.



COMMUNICATING IN A DROUGHT

Droughts are thankfully infrequent, but when they occur, communicating with our customers is of equal importance to the physical actions we'd need to take to maintain supply.

Our Plan includes a detailed communication plan setting out how we would operate. This is based on best practice together with our actual experience of implementing many of these measures in 2018 when we experienced prolonged periods of dry weather, and to manage the exceptionally high demand during Covid-19 lockdowns in 2020. For each level of the drought it explains what we will communicate, how and to whom.

Communication would cover a range of media channels, including:

- Social
- TV / radio interviews
- Newspapers
- Website
- Proactive outbound media communications
- Paid for social media to target particular hotspot areas
- Detailed communication to regulators on activities we are undertaking and our projections.

The table below gives an overall summary of how our communication plan will operate in a drought. The structure we have adopted allows the communications to be agile and adapt to the situation as a drought develops or recedes.

The communication during a drought would be overseen by a specific team.

A summary of the phases of communication plan

Drought severity	Forecast position	Phase	Purpose	Frequency
NORMAL OPERATING STAGE	No forecast of Level 1 or lower	Normal operation	–	Monthly
	Reasonable forecast of Level 1 or lower (within 8 weeks)	Early awareness phase	Raise awareness of dry weather	Fortnightly
	Level 1 or lower forecast likely (within 4 weeks)	Prepare for media campaign phase	Signal that we will be calling for reductions in demand	Weekly
↓ **Company drought communication group formed** ↓				
DROUGHT OPERATING STAGE	LEVEL 1 OR LOWER	Media campaign phase	Communicate resource position and call for restraint on demand	Weekly with messages updated every two days
	LEVEL 2 OR LOWER	Demand restrictions phase	Communicate formal restrictions on demand (TUBs)	Daily
	LEVEL 3 OR LOWER	Severe demand restrictions phase	Communicate non-essential use bans and emergency drought orders	2-3 times daily

VULNERABLE CUSTOMERS

In communicating with our customers during a drought, we would also tailor specific communications and support for vulnerable customers.

This would cover:

- Customers on our Priority Services Register in our region
- Customers with medical conditions requiring a constant supply of water would be prioritised
- Specific contact with hospitals, nursing and care homes and special schools in the region to offer support for our most vulnerable customers.

As a drought intensifies, the communications would adapt to become more specific on what is needed for different customer groups.

WATER SAVING

Now more than ever we encourage people to do everything they can to help nature out and save water. During a drought the communication will strongly promote water saving devices and measures to encourage customers to be more water efficient. This would include:

- Engagement with media channels on early drought messages and water efficiency
- Updating our website to have water saving messages on the landing page
- Updating our billing landing page to direct customers to advice on water efficiency
- Use of customer email and text messaging for outbound water saving messages.

MANAGEMENT STRUCTURE

The above sections set out what actions we will take in a drought, when we will take them and how we will communicate during a drought.

To oversee this process, our Plan sets out the management structure that will oversee this process.

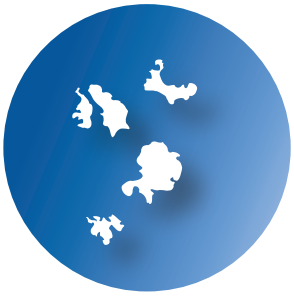
This follows our incident procedure model with clear roles and accountabilities. As a drought deepens the management oversight will increase in seniority reflecting the increasing risk to supply and the increasing potential for restrictions in customer use and increased media attention. We used this structure in 2018 and have taken learnings from that event.

REGIONAL CO-ORDINATION

Droughts may be localised or they may cover a whole region. Our Plan sets out how we will work with our neighbouring companies during a drought to align messages and decisions to all customers to ensure consistency.

In doing so this may mean we bring in our actions slightly earlier if at a regional level there is benefit from aligning decisions. This is particularly important in the Bournemouth Water area where customers may also receive media messages related to Southern Water and Wessex Water.

ISLES OF SCILLY



On 1 April 2020 South West Water assumed responsibility for the public water supply and waste treatment on the Isles of Scilly, taking on the established sources and small networks on the five inhabited islands.

The islands are geographically remote from the mainland and have no connection to our mainland water supply systems. They have a separate Drought Plan as they require a different approach to that traditionally used in water resource planning.

This is the first time that a drought planning approach has been applied to the Isles of Scilly, but our plan still follows the Drought Plan structure set out by the Environment Agency and used in the main plan.

As we work through the delivery of our planned investment and environmental studies, we will continue to develop and evolve our drought planning for the islands.

YOUR WATER SUPPLY

Most of the water on the islands comes from groundwater sources. On St Mary's about 40-50% of water comes from the desalination of seawater. This is taken from coastal boreholes and, in the summer months, from a seasonal sea water intake.

Mainly due to the size of the islands, large storage reservoirs are not possible. Therefore, the islands are sensitive to drought. We have made sure we have considered this and each of the five inhabited islands separately as they each have their own water supply system.

SUPPLY AND DEMAND

As on the mainland, maintaining our customers' water supply during times of drought would involve taking actions to reduce both supply and demand.

Supply – actions we take that could increase our supply of water. For example, permits to increase our abstraction of water on the Isles of Scilly may involve calling on support from neighbouring islands where spare water may be available and can be transferred.

Demand – actions that could reduce customer demand for water. For example, increased leakage detection and on island communication campaigns focused on saving water.

To help us protect precious water resources on the islands we have been promoting free water meters for all our customers. Having water meters helps put our customers in control of how much water they use. On average, with a water meter household water use reduces by about 15% and saves money at the same time.

RESPONDING AS A DROUGHT DEVELOPS

Our plan for the islands is flexible and the actions we would take will be determined by the developing severity of the drought (see page 6 for a high-level summary of the measures we would take as a drought deepens). As any drought develops, we will work with the local community and the Council for the Isles of Scilly to adapt these actions while taking account of local knowledge and the need to achieve the least impact on the community and environment.

DROUGHT TRIGGERS

We have a set of triggers that we will use to decide what action we need to take during a drought and when. These are based on a combination of groundwater levels and demand on each island, as well as rainfall and temperature conditions. We tested our drought triggers against the 2018 dry weather event to check their appropriateness for an event for which we have data and recent operational experience, and we are confident that our overall approach and the triggers are appropriate for this current version of the drought plan.

COMMUNICATING IN A DROUGHT

We understand that communicating in a drought is essential and we have developed a community communication plan for the islands depending on drought severity – this includes promoting the ongoing need to protect water resources on the islands even when drought triggers have not been reached. We will start messaging the importance of this from the islands famous Gig Week.

As on the mainland, we will tailor specific communications and support for vulnerable customers and ensure we have the right management structure to oversee our Plan.



Our Isles of Scilly Drought Plan be found here:
southwestwater.co.uk/drought-plan



NEXT STEPS

We produce our Drought Plan every five years in consultation with customers and stakeholders.

Our new Draft Drought Plan was published for consultation on 8 June 2021 and all of the feedback received as part of the consultation was considered. On 21 September 2021 we published a revised Draft Drought Plan with our Statement of Response, outlining the changes we made to the Plan.

Our Final Drought Plan will be published when permission is granted by Defra. If there are any further changes requested to the Plan by Defra it will be updated alongside this summary document.

The revised Draft Drought Plan 2021/22, Isles of Scilly Drought Plan, Statement of Response and this summary document can all be viewed on our Drought Plan webpage.

www.southwestwater.co.uk/drought-plan



South West
Water

southwestwater.co.uk