

1: Setting the Scene



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1 Setting the Scene

Document purpose:

This chapter sets the scene for the technical documents that set out our draft Water Resource Management Plan methodology and recommended best value adaptive plan.

We provide background on our company, the customers and areas we serve and the primary water sources within each area. We explain our current levels of service to customers. The document explains what a water resource management plan is, the steps and methodology used, and the formal timescales and process we must follow in developing a draft plan, consulting and then developing our draft Plan. We also explain the planning framework and regulation we must follow in developing our plan. The document also sets out how we have met the WRMP direction statement, how to navigate our plan and shows a list of our suppliers that have supported the development of our draft Plan.

The final section of this document sets out critical background information which has been used to underpin our WRMP methodology and shows how our WRMP is aligned with our Local, National and Regional Plans. We have also set out our progress against delivering our WRMP19 plan and targets.

This chapter also sets out a summary of key insights from our 2022 drought and how we have used this to inform our WRMP.

Summary:

South West Water provides drinking water to 1.76 million people across Devon and Cornwall, 0.45 million people in the Bournemouth region and since April 2020, we also supply the Isles of Scilly. We have a total of five Water Resource Zones (WRZ) as follows; **SWW Supply Area:** Colliford, Roadford, Wimbleball, Isles of Scilly; **BW Supply Area:** Bournemouth WRZ

We understand our statutory requirements and we want to deliver long term value for the customers and communities we serve, while creating public and environmental value across our planning period.

We have a clear strategic approach and vision for the next 25 years which has informed our plans for our region. These strategic objectives are to:

- Recycle and reuse; harvest and reuse grey water and rainwater
- Nurture the environment
- Provide water resources to meet all needs for homes, businesses, and the environment
- Provide a resilient infrastructure;
- work with customers, businesses and stakeholders to encourage thriving communities across the region

Our Plan must meet key government targets: delivering stretching reductions in per capita consumption and leakage; reducing abstractions from our rivers to provide long-term protection to our river environment; and increasing our resilience to drought.

We also have our own regional challenges with high levels of tourism causing peaks in summer demand. During the peaks of COVID, the region saw more people choose the South West as their new base for work, life and holidays. The legacy of the pandemic is that more people work from home than before and water use continues to be high.

We must also ensure our plan is resilient to climate change. During 2022 we experienced record high temperatures and low rainfall, combined with additional customer demand for water. We have used this insight to test our plan. Further information is provided in Appendix 1.1 to this Chapter.

1 About South West Water and Bournemouth Water

South West Water (SWW) provides drinking water to a population of 1.76 million people across Devon and Cornwall and parts of Dorset, Somerset and, since April 2020, the Isles of Scilly (SWW supply area). Since our merger with Bournemouth Water (BW) in 2016, we also supply approximately 0.45 million customers in the Bournemouth area (BW supply area). Figure 1 shows our supply area.

Within the SWW supply area, we provide on average about 490 million litres of water each day – although, as we have observed in 2022, dry conditions and extreme heat can create marked increases in daily demand. Rivers and reservoirs are our main resources in this area, providing about 90% of our region’s water resource needs. The remainder is comprised of groundwater sources such as boreholes, wells and springs, which are predominantly located in East Devon.

Within the BW supply area, which covers parts of Dorset, Hampshire and Wiltshire, we provide on average 145 million litres of water each day. The water resources in this area are principally river abstractions, supported by groundwater sources.

Figure 1: Our Region



We have a total of five Water Resource Zones (WRZ) as follows:

- **SWW Supply Area:** Colliford, Roadford, Wimbleball, Isles of Scilly
- **BW Supply Area:** Bournemouth WRZ

2 Our priorities for the future

We understand our statutory requirements and we want to deliver long term value for the customers and communities we serve, while creating public and environmental value across our planning period.

Having an overall strategic approach and vision for the next 25 years is an essential basis on which we can co-create plans for a sustainable future for our region.

Along with our customers and a broad range of stakeholders who bring needs and contribute vital skills and insights, we know we will be instrumental in determining how we will all face the challenges of the coming decades and use them to secure society and the natural environment in a stronger position than ever.

We will champion **recycling and reuse**, working with stakeholders to encourage home improvement grants that will allow properties to harvest rainwater and grey water, reducing the need for potable water to water gardens and clean driveways and patios.

We are committed to **nurturing the environment**. We will increase our work to restore uplands and moorlands to make the water environment more resilient. We will address abstractions at sensitive locations to protect river flows and wildlife in rivers and reservoirs. We will also be reducing our water abstractions at some locations to support the restoration of our rivers.

We are committed to **providing water resources to meet all needs for homes, businesses, and the environment**. We will develop a diversified mix of water resource solutions including desalination. We will reduce leakage, including customer side leakage, as we look to continue to bring leakage down, targeting a 50% reduction by 2050. We will install smart meters to support our journey to reduce per capita consumption and leakage. We will build greater capacity, through building more regional reservoirs and interconnection, facilitating greater transfer and recycling.

We are committed to **a resilient infrastructure**, capable of meeting the challenge of climate change, boosted by decarbonisation of our operations and investments.

And overall, we are committed to **working with customers, businesses and stakeholders** to encourage thriving communities across the region, ensuring affordable bills and seeking active participation of from our customers and communities to help us understand and address their needs. Working with local partners, we will deliver our shared objectives for people and the environment.



ENSURING WATER RESOURCES FOR ALL NEEDS



NURTURING THE ENVIRONMENT



RECYCLING AND REUSE



WORKING WITH CUSTOMERS AND STAKEHOLDERS



A RESILIENT INFRASTRUCTURE

3 The challenges we face

We face several challenges including

- **Climate change** – there is uncertainty about the long-term impacts of climate change, but what we do know is that we face longer, drier and hotter summers, and more erratic rainfall in autumn and winter, making the supplies of water less.
- **Population growth and seasonal peaks in demand** - the South West has long seen the population of the region swell in the summer months, boosted by the tourists that flock to our region every summer to enjoy the beautiful coasts and landscapes, creating summer demand for water much higher than the winter needs.
- **Adapting post-COVID19** – the pandemic changed all our lives, changing where we worked, holidayed, and lived. During the peaks of COVID, the region saw more people choose the South West as their new base for work, life and holidays. The legacy of the pandemic is that more people work from home than before, water use continues to be high as people continue to protect their health through increased washing and hygiene practices, and people increasingly recognise that the South West is the destination for staycations and summer breaks.

We have a major role to ensure that we can maintain a sustainable and resilient water supply, that is affordable; is shaped by our customers and stakeholders' views; and which delivers a positive benefit to society and the environment.

We need to invest and adapt to meet these future challenges and deliver against our priorities. These challenges impact the volume of water we have available to use to meet a growing population and demand for water.

We have the desire and the obligation¹ to meet ambitious new targets and make a step change in delivering a best value plan which considers wider societal and environmental factors.

To meet these challenges, our Plan sets out how we will

- **Protect our environment through creating sustainable abstractions.** We have undertaken research and analysis in collaboration with the EA to understand how we will protect our river environment, identifying rivers at risk from over-abstraction, with the resulting risk of loss of habitat and the invasion from non-native species. We have developed our 'Environmental Destination' to make a positive difference, to meet our environmental statutory requirements and reduce unsustainable abstractions in the longer term to meet the Government's objectives.
- Support the **reduction of per capita consumption.** We have a long-term per capita consumption (PCC) target of 110 l/p/d with an intermediate target of 120 l/p/d by 2037. We have a contribution to make towards achieving these targets through water efficiency programmes including education and identifying leaks on the customer-side pipework. Achieving the targets will also be enabled by the implementation of future government policy changes² on water saving devices.
- **Reduce leakage across our network** by 50% by 2050 relative to a baseline of 2017/18, with an interim target of 31% by 2037. This will be achieved through tackling leakage on both our trunk mains and distribution systems while supporting our customers with identifying customer-side leakage.
- **Be resilient to a 1 in 500 drought by 2039/40.** We have assessed a range of options on how quickly we are able to build the required resilience and put forward a best value to deliver this improvement.
- Our overall plan must be **sustainable, deliver biodiversity net gain** (the environment should be in a better state than when we started), and should **contribute to achieving net zero carbon.**

¹ As per the WRMP planning guidance set by the EA, Ofwat and Natural England.

² The Policy Changes refer to the need for the Government to play a role in how houses are built, how water-using appliances are labelled (to drive reduction in demand) and to make grants available for home improvement for installation of water recycling and harvesting systems.

4 Succeeding together

We have a big ambition for improving the environment and the service we offer to customers and will comply with all government and regulatory guidance in these areas. However, achieving a sustainable future is not something that South West Water can deliver alone.

We want to actively work with communities and, in particular, broader stakeholders to co-create solutions both at a strategic level and when we get into the detailed design and delivery of specific schemes. Diversity of insight, challenge and support will create better solutions than we alone can develop. Similarly, by working with partnering organisations, we can develop different funding mechanisms and access different statutory powers which allow better solutions for our customers and communities.

To achieve our ambition, we are dependent on others to play their part. We look to the Government to legislate to promote changes in how water efficiency is achieved: changes to building and planning regulations and new schemes to help customers make good choices around purchasing water using devices (water efficiency labelling) and rainwater harvesting. We also look for support in educational and curriculum changes to promote more sustainable living and role modelling from the Government itself in good water efficiency practices.

We are working closely with our supply chain and the DWI to develop new treatment processes. Our investment on the Isles of Scilly will require DWI (Drinking Water Inspectorate) support for treatment solutions to tackle saline and brackish waters, in addition to removal of radon. Similarly, we will be working with the DWI to ensure that effluent recycling options can be developed to meet all quality requirements. We are challenging our suppliers to develop lower-cost and lower-carbon treatment solutions to minimise impacts from new treatment structures.

We also need customers to change the way they use water, from simple actions such as not running the tap while they brush their teeth to more difficult 'cultural shifts' such as letting lawns brown during dry weather and recover when it rains, rather than watering them. We will do all we can to inform customers about the value of water and provide guidance on how they can reduce usage, but we cannot enforce behavioural change. As our understanding of the environment grows and technology allows us to manage our water abstraction more dynamically, we have greater opportunities to think about abstraction in more innovative ways. Facilities to tailor abstraction more closely to changes in river levels – including increases to river abstraction to mitigate flood events – could be possible with future licence reforms. This is an area in which we will look to work closely with the EA and DEFRA ahead of WRMP29.

5 Our levels of service – our current position (under our WRMP19)

An important part of our plan is knowing the levels of service that customers currently enjoy.

Table 1 presents our current levels of service for our supply areas under our WRMP19. These levels of service apply to both household and non-household customers.

Drought Action	Min. Long-Term Levels of Service	Current Levels of Service	
		SWW Supply Area ⁽⁴⁾	BW Supply Area
Publicity, appeals for restraint and water conservation measures	1 in 10 years	> 1 in 10 years	> 1 in 10 years
Temporary Use Bans (TUBs) ⁽¹⁾	1 in 20 years	> 1 in 20 years	> 1 in 20 years
Supply-side Drought Orders or Drought Permits	1 in 20 years	> 1 in 20 years	> 1 in 20 years
Demand-side Drought Orders ⁽²⁾	1 in 40 years	> 1 in 40 years	> 1 in 40 years
Emergency Drought Orders – partial supply, rota cuts or standpipes ⁽³⁾	1 in 200 years	> 1 in 200 years	> 1 in 200 years

Table 1: Our Levels of Service

(1) Formerly termed hosepipe bans. Return period calculated based on our historic design drought (1975/76), being at least 1 in 40 years in our SWW supply area WRZs and at least 1 in 100 years in BW supply area.

(2) Formerly termed bans on non-essential use.

(3) Previously service level listed as unacceptable. Following further guidelines from the Environment Agency we included in our WRMP19 an estimated return period for this service level based on our drought analysis. Drought return periods of this magnitude are inherently uncertain, but the events that would cause these interventions are rare. Note that in this dWRMP24 we have set out adaptive programmes to future demand and supply scenarios such that South West Water is able from 2039 and onwards to supply water to its customers through a 1 in 500 year event without resorting to Emergency Drought Orders.

(4) The Isles of Scilly (IoS) has been part of SWW since 2020. While data collection around drought performances is more limited than on the mainland, the potential installation of new desalination plants by 2025 as part of the need to meet a Drinking Water Quality commitment has the added benefit of providing a robust and reliable source of water. These plants are the only viable way to meet the drinking water requirements set for the islands given the availability of alternative water sources, although desalination as a source of potable water is not approved currently on the mainland. Subject to regulatory approvals for the desalination plants, we will align the service level for IoS to that on the mainland. The desalination plants will provide valuable 'lessons learned' for installing desalination elsewhere in England and Wales.

6 What is a Water Resources Management Plan?

6.1 How do we develop a Water Resource Management Plan?

The Water Resources Management Plan (WRMP) is a strategic document which sets out how the company plans to maintain the balance between supply and demand for water for a minimum planning period of 25 years.

It is a statutory requirement that every five years water companies produce and publish a WRMP. The WRMP demonstrates that we have long-term plans in place to accommodate the impacts of population growth, drought, our environmental obligations, and climate change uncertainty, to balance the supply and demand for water in the communities that we serve.

This is South West Water and Bournemouth Water's fifth published WRMP. For the Isles of Scilly, this will be the first WRMP developed.

Our dWRMP24 has been developed to answer a logical sequence of questions, which aligns with the process described in the Water Resources Management Planning Guidelines 2022, **Figure 2**.

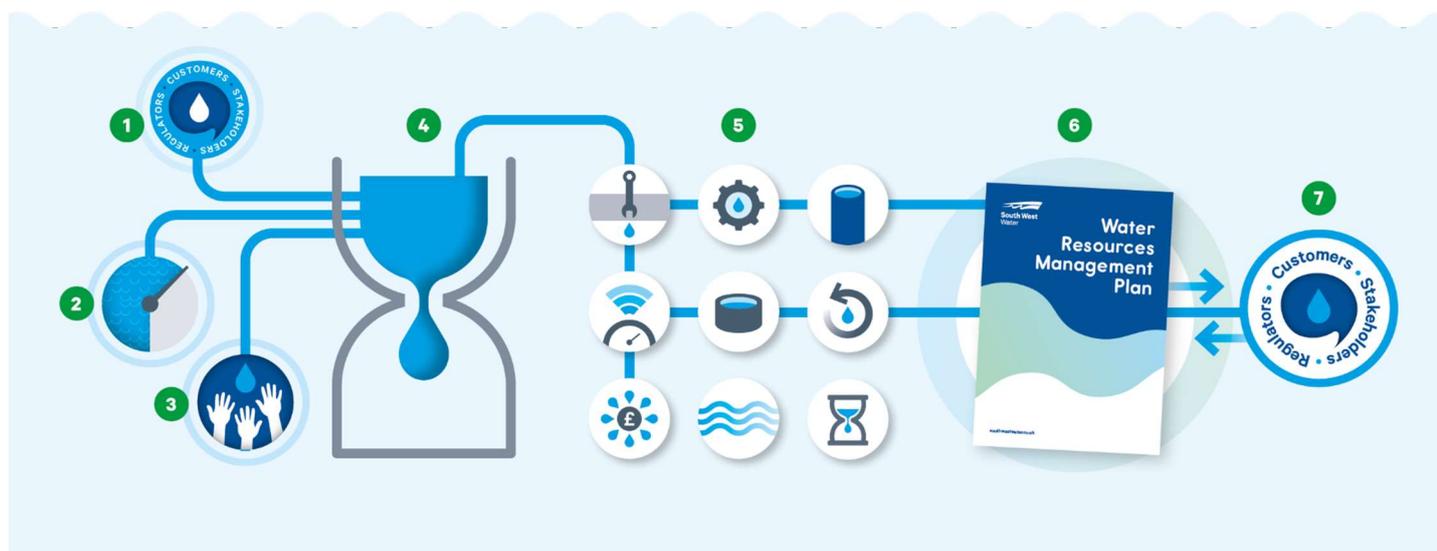


Figure 2: The overall methodology for developing a Water Resource Management Plan

- 1. A 25-year Demand Forecast:** How much water will our customers need in the future, considering factors such as climate change, population and technological changes (Chapter 6)
- 2. A 25-year Supply Forecast:** This illustrates how much water is available for use now and how this may change in the future. We consider the impact of climate change and potential reductions in the volume of water that we can take from rivers and groundwater, to protect the environment over the longer-term (Chapter 4 and 5)
- 3. We research our customers & stakeholders needs:** We research our customers' needs and preferences and consult with our stakeholders, including businesses, local authorities, charities, regulators, and other water suppliers, and use this insight to inform our plan (Chapter 3)
- 4. Do we Have Sufficient Water?** We assess whether we will have sufficient water now and in the future, based on our 25-year demand and supply forecast. We calculate the likely effects of climate change, population growth and other future uncertainties. (Chapter 7)
- 5. An Options Assessment:** We undertake a twin-track approach to developing options, assessing ways to both reduce water consumption (demand-side options) and ways to increase the availability of water supply (supply-side options). These options will include leakage reductions, customer metering, water efficiency and new sustainable abstractions. (Chapter 8, 9 and 13)
- 6. Plan development and appraisal:** We assess how robust these options are based on future uncertainties. These include climate change, population, and technology advancement, and align to the adaptive-planning requirements defined by Ofwat. In developing these options, we have taken a 'natural capital' approach in considering the wider environmental and social benefits and impacts. We have also considered customer affordability and the views of our customers and stakeholders. (Chapter 10 and 11)
- 7. We publish our draft plan and consult:** Following the publication of our draft plan we consult with our stakeholders to inform our final plan and then manage and update our plan thereafter, through ongoing monitoring of performance.

6.2 What are the timescales and legal process we must follow?

In developing our draft WRMP, we have undertaken significant engagement with our customers and stakeholders; this is discussed in Chapter 3.

We continuously engage with our customers and stakeholders, but our focused pre-consultation for this dWRMP began in early 2022. We have undertaken enhanced pre-consultation with OFWAT and EA and reflected their feedback in our dWRMP to ensure our planning is aligned with our regulator's expectations.

Our engagement programme was greatly boosted by the secondment of a stakeholder engagement and co-creation specialist from one of our key environmental partners in April 2022 – bringing an external stakeholder into the heart of the planning process.

Overall, we have engaged with over 16,000 customers and over 200 stakeholders during the preparation of this dWRMP, and this has helped to shape our approach. It has enabled a move towards the co-creation of options to address our water resource challenges and it has informed the preferred options that make up part of our best value plan.

Our Plan will be published for consultation in February 2023, with the final plan published in late 2023 once feedback from stakeholders has been received.

During the next year, we will be working with customers and stakeholders, as well as continuing to update and improve our own analysis, to work towards a final Plan that meets the needs of our region.

Over similar timescales, we will also be completing our Price Review to Ofwat (PR24), which will build and further develop our proposals and strategies and, in turn, inform our final WRMP.

An important consideration in developing our final Plan will be reflecting and learning from how the current drought has changed attitudes to the acceptability of water restrictions, and how the drought and extreme heat impacted on the supply demand balance.

Although there is a formal process to follow for publication of our plan and receiving responses, we want to maintain an active dialogue about how things are progressing. As such, we will publish informal updates on our thinking and how we are responding to feedback through the year.

A summary of the overall timescales and process is shown in

Figure 3 below.

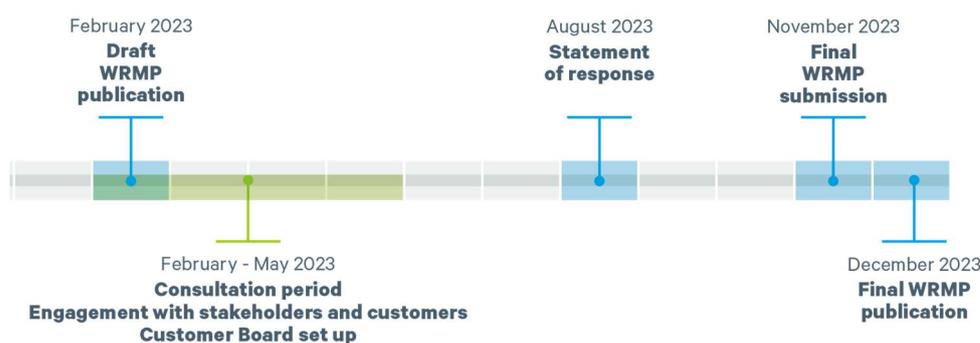


Figure 3: An overview of the process for drafting, consulting and publishing our final WRMP.

The statutory process set out in the Water Industry Act 1991 requires us to publish our dWRMP for public consultation. This process provides customers and stakeholders with an opportunity to consider the proposals we have set out in the dWRMP in terms of managing the water resources and demand in our supply area, how this may affect them, and to provide us with any feedback and comments. We value all the feedback we receive, and we will take time to review all the comments submitted and write a formal statement of response setting out how we have taken on board the comments received and used them to develop our final WRMP. Our statement of response will be published and available on our website within 26 weeks of publishing our dWRMP for consultation.

Our public consultation is open for a period of 12 weeks from February 2023 to May 2023. For more information on the consultation questions and how you can submit feedback please refer to Annex C of this Chapter.

6.3 The planning framework

We have prepared our plan in accordance with the Water Resources Planning Guideline (April 2022) and the Water Resources Management Plan (England) Direction 2022 (April 2022).

The Government's Water Resource Management Plan (England) Direction 2022 (referred to as 'The Direction') and the Water resources planning guidelines (April 2022) set out legal requirements for the structure and content of our Plan and the required level of Board Assurance.

The WRMP Guidelines set out the requirements for how the plan should be developed, including

- The methods for supply and demand forecasting and the key planning assumptions made
- Assessing risks and uncertainties including climate change
- How we have engaged with our customers and stakeholders to co-create a plan at both a local and catchment-level and have considered and acted upon their views in creating the plan
- Environmental and habitats assessments to ensure that our plan fully complies with all our environmental obligations
- The options development and assessment process including least-cost and best-value principles
- Presenting and justifying the plan

When producing this plan, we have referred to the following additional governmental guidance and legislation:

- Water Industry Act 1991, Sections 37A – 37D, as amended by the Water Act 2003, and Water Resources Act 1991
- Government expectations for water resources planning (Defra April 2021)
- February 2022: The Government's strategic priorities for Ofwat, (updated March 2022)
- The Water Supply (Water Quality) Regulations 2016

We have also followed the following environmental legislation and guidance:

- Environment Act 1995, and Environment Act 2021
- Environmental Assessment of Plans and Programmes Regulations 2004
- Conservation of Habitats and Species Regulations 2017
- Water Environment (Water Framework Directive) (England and Wales) Regulation 2017 (WFD regulations)
- Eels (England and Wales) Regulations 2009
- Wildlife and Countryside Act 1981
- Countryside and Rights of Way Act 2000
- Natural Environment and Rural Communities Act 2006
- Invasive Alien Species (Enforcement and Permitting) Order 2019
- Strategic Environmental Assessment Directive (2001/42/EC)
- Habitats and Wild Birds Directives (92/42/EEC and 2009/147/EA)
- Water Industry Strategic Environmental Requirements (WISER)
- Environment Agency and Natural England, October 2017
- Meeting our future water needs: a national framework for water resources (Environment Agency March 2020)

For our WRMP24, we have carefully followed all relevant and up to date guidance issued by the regulators, the Government and the water industry. We have used the outcome from our Strategic Environmental Assessments (SEA), Habitats Regulations Assessments (HRA) and other environmental requirements to inform our decision making around our options and best-value plan (Chapter 10). We have developed our long-term strategy in line with government expectations and planned to be resilient to a 1 in 500 year event by 2040. We plan to maintain our current levels of service for planned restrictions to supply and will test the latest customer view on this following the dry, hot weather in 2022, as part of our public consultation process.

Additional detailed technical guidance and methodologies on specific aspects of the Plan are referenced in the relevant Chapters throughout our dWRMP.

6.4 Compliance with government direction

Our dWRMP must comply with the Water Resources Management Plan (England) Direction 2022, which came into force on the 28th of April 2022 and directs all water undertakers wholly or mainly in England on the contents of our WRMPs. Table 2: lists the requirements set out in the Directions and where these are addressed within this dWRMP.

Table 2: Requirements of the Water Resource Management Plan (England) Direction 2022 and where they have been addressed in the dWRMP

Direction 2022 Reference	Contents of WRMP required by the WRMP (England) Direction 2022	WRMP Reference
2. (1)	...a water undertaker must prepare a water resources management plan for a period of at least 25 years commencing 1 st April 2025.	WRMP Tables cover 2025-2050.
3.(1) (a)	The appraisal methodologies which it used in choosing the measures which it has identified in accordance with Section 37A(3)(b) and its reasons for choosing those measures.	Chapters 10 & 11.
3. (1) (b)	For the first 25 years of the planning period, its estimate of the average annual risk, expressed as a percentage, that it may need to impose prohibitions or restrictions on its customers in relation to the use of water under each of the following – <ul style="list-style-type: none"> (i) Section 76(b); (ii) Section 74(2)(b) of the Water Resources Act 1991(c); and (iii) Section 75 of the Water Resources Act 1991, and how it expects the annual risk that it may need to impose prohibitions or restrictions on its customers under each of those provisions to change over the course of the planning period as a result of the measures which it has identified in accordance with Section 37A(3)(b).	Chapter 8 and Chapter 11.
3. (1)(c)	The assumptions it has made to determine the estimates of risks under sub-paragraph (b) including but not limited to drought severity.	Chapter 5
3. (1)(d)	In respect of greenhouse gas emissions – <ul style="list-style-type: none"> (i) The emissions of greenhouse gases which are likely to arise as a result of each measure which it had identified in accordance with Section 37A(3)(b), unless that information has been reported and published elsewhere and the water resources management plan states where that information is available; (ii) How those greenhouse gas emissions will contribute individually and collectively to its greenhouse gas emissions overall; (iii) Any steps it intends to take to reduce those greenhouse gas emissions. (iv) How these steps will support the delivery of any net zero greenhouse gas emissions commitment made by it; and (v) How these steps will support delivery of the UK Government’s new zero greenhouse gas emissions targets and commitments. 	Chapter 4, WRMP Table 4, Chapter 10 – how GHG has informed decision making; Chapter 11: Figure 11 to 14 and Section 6.4
3. (1)(e)	The assumptions it has made as part of the supply and demand forecasts contained in the water resources management plan in respect of – <ul style="list-style-type: none"> (i) The implications of climate change, including in relation to the impact on supply and demand of each measure which it has identified in accordance with Section 37A(3)(b); (ii) Household demand in its area, including in relation to population and housing numbers, except where it does not supply, and will continue not to supply, water to domestic premises; and 	Chapter 5 Supply Chapter 6 Demand Chapter 14 IOS

Direction 2022 Reference	Contents of WRMP required by the WRMP (England) Direction 2022	WRMP Reference
	(iii) Non-household demand in its area, except where it does not supply, and will continue not to supply, water to non-domestic premises or to an acquiring licensee;	
3. (1)(f)	Its intended programme for the implementation of domestic metering including – (i) The proportion of smart meters to other meters; (ii) If it does not intend to install smart meters, the reason for this; (iii) Its estimate of the cost of that programme, including the costs of installation and operation of meters;	Chapter 9 Demand options and Chapter 11 Recommended Plan, WRMP Table 2
3. (1)(g)	Its estimate of the total number of meters installed to record water supplied to domestic premises at the commencement of the relevant planning period and including a breakdown of – (i) The number of smart meters; (ii) The number of meters that are not charged by reference to volume; (iii) The number of meters that are charged by reference to volume including – (aa) optant metering; (bb) change of occupier metering (cc) new build metering; (dd) compulsory metering; and (ee) selective metering;	WRMP Table 2
3. (1)(h)	Its estimate of the total number of domestic premises which will become subject to domestic metering during the planning period and including a breakdown of – (i) The number of domestic premises with smart meters; (ii) The number of domestic premises with meters that will not be charged by reference to volume; (iii) The number of domestic premises with meters that will be charged by reference to volume including (aa) optant metering; (bb) change of occupier metering (cc) new build metering; (dd) compulsory metering; and (ee) selective metering;	Chapter 6 Demand Chapter 9 Demand Options WRMP Table 2, 3, 5
3. (1)(i)	Its estimate of the impact on demand for water in its area of any increase in the number of premises subject to domestic metering.	Chapter 6: Demand forecasting WRMP Table 3
3. (1)(j)	Its assessment of the cost-effectiveness of domestic metering as a mechanism for reducing demand for water by comparison with other measures which it might take to meet its obligations under Part III of the Act;	Chapter 9 Demand options Chapter 11 DM
3 (1)(k)	Its intended programme to manage and reduce leakage, including anticipated leakage levels and how those levels have been determined;	Chapter 9 Demand options
3 (1)(l)	If leakage levels are expected to increase at any time during the planning period, why any increase is expected and if so, the proposed plan of works that will be undertaken to mitigate this;	n/a – we do not plan any increase in leakage

Direction 2022 Reference	Contents of WRMP required by the WRMP (England) Direction 2022	WRMP Reference
3 (1)(m)	<p>How its intended programme to manage and reduce leakage will contribute to-</p> <ul style="list-style-type: none"> (i) A reduction in leakage by 50% from 2017/18 levels by 2050; and (ii) Any leakage reduction commitment it has made in respect of its appointment area; 	Chapter 11
3 (1)(n)	<p>In respect of any relevant regional water resources plan –</p> <ul style="list-style-type: none"> (i) How this plan has been considered and reflected in its water resources management plan; or (ii) Where the plan has not been considered and reflected in its water resources management plan, the reasons for this. 	<p>We have considered and reflected the regional plan. Section 9.5.3 of chapter 1.</p>

7 How to navigate our plan

We have created a range of documents for our various stakeholders, listed in Table 3 below.

We have a non-technical summary, as well as a suite of more technical documents and appendices.

Our technical documents focus on our four WRZs on the mainland within the SWW and Bournemouth Region; we have a dedicated Isles of Scilly (IoS) Technical Chapter 14.

Document Chapter	Document Purpose
Customer Summary	This document provides a non-technical summary of the planning problem and our proposals to manage the challenges set out.
Technical Document: This suite of documents provides a more technical summary of the plan as set out below.	
Chapter 1: Setting the Scene	<p>This chapter sets the scene for the Technical Documents that set our Water Resource Management Plan methodology and recommended best value plan.</p> <p>We provide background on our company, the customers and areas we serve and the primary water sources within each area. We explain our current levels of service to customers. The document explains what a water resource management plan is, the steps and methodology used, and the formal timescales and process we must follow in developing a draft plan, consulting and then developing our final draft plan. We also explain the planning framework and regulation we must follow in developing our plan. The final section sets out how we have met the WRMP key planning principles set out within the guidance and how to navigate our plan.</p> <p>Appendix 1.1: insights into the current drought describes the supply demand balance observed in 2022. The current drought has led us to model different scenarios around supply and demand to inform our final WRMP.</p>
Chapter 2: Our Region	Overview of the water supply system and how it is sub-divided into five Water Resource Zones within the South West and Bournemouth Water Regions, including the Isles of Scilly
Chapter 3: Customer and Stakeholder Engagement	This chapter sets out our approach to customer and stakeholder engagement. It describes our engagement to date, our plans to continue engagement as we finalise our WRMP, what we have learnt from this engagement and how we have used this to inform our plan.
Chapter 4: Enhancing and Protecting the Environment	This chapter sets out how we will enhance and protect the environment. We explain the environmental requirements set out by the Government and Environment Agency, our strategy and objectives for protecting the environment in line with these requirements and our proposed 'environmental destination.'
Chapter 5: Forecasting our Supply Requirements	<p>This chapter explains the methodology used to calculate the future water supply forecast, including a view on uncertainty.</p> <p>Appendix 5.1 Aecom Outage Assessment report. A report setting out levels of outage within the water production system.</p> <p>Appendix 5.2 Supply Modelling. A detailed supporting appendix setting out the approach to supply modelling and climate change assessments.</p>
Chapter 6: Forecasting Demand	<p>This chapter sets out our approach to forecasting demand. It presents our baseline and long-term forecasts for peak and dry years and other scenarios. We reconcile forecasts with our previous ones and discuss the assumptions and the uncertainties associated with our forecasts. The main assumptions made in the analysis are stated as we discuss the modelling undertaken.</p> <p>Appendix 6.1: Ovarro Household demand forecast 2021-22. Supporting information used to inform demand forecasting</p>

Document Chapter	Document Purpose
	<p>Appendix 6.2 Experian Population and properties forecasts (Feb 22). Supporting information used to inform demand forecasting.</p> <p>Appendix 6.3: Arup report, Assessment of Water Demand in Private Water Supply, Agriculture (Livestock) and Mining sub sectors to inform the Regional Plan</p> <p>Appendix 6.4: Experian Non Household analysis (Jan 22)</p>
<p>Chapter 7: Supply demand baseline, headroom and challenges</p>	<p>This chapter consolidates our demand and supply forecasts and establishes our target headroom, and our baseline forecast and the other scenarios that we use to develop our Plan. We discuss the uncertainties associated with the demand and supply forecasts and hence the headroom and baseline forecasts. We use the baseline forecast, together with the drivers for change to define the challenge that we face over the short, medium, and long-term and therefore define the needs to be addressed by our Plan.</p> <p>Appendix 7.1: Aecom report on Headroom Assessment (from WRMP19) used to inform a WRMP24 view of headroom.</p>
<p>Chapter 8: Supply-Side Options</p>	<p>This chapter sets out our approach for developing and selecting the supply-side options. It builds on our supply forecast and water resources strategy to identify the potential, feasible options that will go forward for final assessment to build our Plan. We list our unconstrained, constrained, and feasible options and comment on our approach, selection and decision-making.</p> <p>Appendix 8.1: Supply-side options further detail</p> <p>Appendix 8.2: Interconnector / Network projects</p>
<p>Chapter 9: Demand-Side Options</p>	<p>This chapter sets out our approach for developing and selecting the demand-side options. We have slightly different approaches for our efficiency, leakage and metering option development. Our approach builds on our demand forecasts and water resources strategy to identify the potential, feasible options that will go forward for final assessment to build our Plan. We list our unconstrained, constrained and feasible options and comment on our approach, selection and decision-making.</p> <p>Appendix 9.1: RPS leakage options</p> <p>Appendix 9.2: Wood demand-side options</p>
<p>Chapter 10: Plan Development</p>	<p>This chapter describes the approach that we have used to develop our Plan. It builds upon the previous work where we have developed: our forecasts; our baseline; and our options. It covers the modelling that we have undertaken, the scenarios that we have developed, and how these have been used to develop our draft Plan. Finally, we discuss how the draft Plan will be developed further, to align with: our Long-Term Delivery Strategy; our PR24 submission; and our Final WRMP.</p> <p>Appendix 10.1: Best value methodology</p>
<p>Chapter 11: Recommended plan</p>	<p>The previous chapters have set out the results of the customer research; our baseline supply and demand forecasts; the development of possible options and the results of our scenario testing. This chapter sets out the details of our best value plan and the associated costs and benefits and delivery considerations; we have also set out our monitoring plan to ensure we adapt our plan to future changes. We outline our water resources strategy and show how this has been used to define our Plan and how this aligns with other strategies and plans. We show how our plan is supported by our stakeholders and complies with the relevant statutory requirements.</p>

Document Chapter	Document Purpose
Chapter 12: Board Statement and Assurance	<p>This chapter sets out how we have met our obligations in developing our draft plan, ensured alignment with the West Country Water Resources Plan, developed a best value plan and proactively engaged with our Board so that they may scrutinise, challenge and oversee the development of the plan.</p> <p>This chapter contains the Board Assurance statement and references extracts from our Assurance report (Jacobs: Dec 2022).</p>
Chapter 13: Strategic Environmental Assessment Main Report	<p>A report generated by our consultants Mott MacDonalds, who have undertaken environmental screening for our options and carried out programme level assessments of our Plans.</p> <p>Annex 1: SEA Environmental Report Appendices (Covering process, policies, programmes, baseline information and assessment scoring criteria)</p> <p>Annex 2: Informal Habitats Regulations Assessment (HRA)</p> <p>Annex 3: Water Framework Directive (WFD) Assessment</p> <p>Annex 4: Biodiversity Net Gain (BNG) and Natural Capital Approach (NCA) Assessment</p> <p>Annex 5: Invasive Non-Native Species (INNS) Assessment</p> <p>Annex 6: WRZ SEA Assessments</p>
Chapter 14: Isles of Scilly Technical Summary	<p>A dedicated section that provides a technical summary of the approach, supply-demand balance and challenges, the options, and the best-value plan for the Islands.</p>

Table 3: How to Navigate our Plan

8 Acknowledgements

We have developed our draft Plan with significant support from a wide array of industry experts and consultants. This section acknowledges their support and shows the breadth of skill that has been used to inform our dWRMP.

Theme	Consultant / Supplier	Scope of support
Customer and Stakeholder Consultation	Westcountry Rivers Trust	Provided a stakeholder engagement and co-creation specialist to the Water Resources Team on secondment and additional technical advice and support from a fisheries and river restoration specialist.
	ICS Consulting	Undertook qualitative and quantitative research with a range of household customers to understand their views and preferences for specific elements of the plan
	Turquoise Thinking	Held qualitative focus groups with non-household customers to test demand-side options to reduce usage
	Eftec	Delivered willingness to pay engagement to give customer values for service attributes
	Atkins	Provided stochastic flow data for water resources modelling
Supply-side forecasting	HR Wallingford	Advised on our approach to stochastic modelling and climate change
	Aecom	A study of outage across the water production system to inform supply modelling.
	Aecom	Provided resource to undertake hydrological modelling and development our understanding of environmental destination requirements
	Ovarro	Produced our household demand forecasts
Demand-side Forecasting	Experian	Developed our population and housing growth forecasts Produced our non-household demand forecasts
	Mott MacDonald	Completed high-level environmental screening as part of short-listing the feasible supply options Undertook Environmental and Biodiversity Net Gain assessments of feasible options as part of their wider Strategic Environmental Assessment scope
Supply-side options	Stantec	Undertook carbon assessments to inform overall cost-benefit of all feasible supply-side options
	Chandler KBS	Developed costings for all supply-side schemes
	Woods	Developed a range of unconstrained and constrained demand-side options comprising water efficiency, metering, and leakage options. (undertaken as part of the Regional Plan)
Demand-side options	Stantec	Undertook carbon assessments to inform overall cost-benefit of metering and water efficiency
	Artesia	Undertook an evidence review of metering
	RPS Consulting	Developed leakage strategy options and recommendations for PR24 and dWRMP.
	Aecom and Aqua	Developed a metering investment model to inform the optimum metering strategy for inclusion in the dWRMP and Price Review
Decision Making / Plan development	Aecom	Provided management and technical resource to develop our regional water resources plan

Theme	Consultant / Supplier	Scope of support
	ICS consulting	Provided our S-EBSM modelling tools and developed our best-value framework to support effective decision making
Regional Planning	Arup	Conducted a review of important non-public water supply abstractors in our region
Assurance	Aqua	Undertook cost assurance of the unit costs used for the metering options
	Jacobs	Undertook a broad review of the methodologies and processes used in developing our dWRMP
	Artesia	Undertook cost assurance and benchmarking of the unit costs used for the leakage options
Isles of Scilly	Nijhuis Industries	Undertook analysis to inform the supply-demand balance for the Islands, supported the design of the upgraded treatment works to address water quality risks and the longer-term supply options to improve WAFU, resilience and reduce water quality risks

Table 4: Table of suppliers who have supported the development of SWWs dWRMP

9 Background Information

The following section sets out some important background information on methodology, baseline and planning assumptions and provides evidence of how we link to other plans.

9.1 Comparison with WRMP19 forecast position

We published our last WRMP in 2019, and this section considers the similarities and differences between that plan and this one. It also considers our progress against the schemes presented within that plan.

Shortly after our last WRMP was published, we saw a global pandemic impact on our customers' demand. Movement restrictions introduced to slow the spread of COVID19 and resulted in societal changes around things such as home-working and tourism that were not foreseen within WRMP19. In developing this plan, we have had to consider how these changes have affected base-year demand and how they might persist in the future. We discuss this in Section 6.

Our assessment of the water supply available remains consistent with that presented in the previous plan, but the requirement in WRMP24 to plan to 1 in 500 drought resilience has required us to recalculate our water available for use under more severe droughts. WRMP24 also introduces our 'environmental destination' plan, which will lead to reductions in the amount of water we can abstract from the environment compared to our assumptions in WRMP19. Section 5 of this plan explains how we have produced our new forecasts.

Our 2019 WRMP did not include any supply-side schemes. However, increased demand experienced since the Coronavirus pandemic and the current drought has led us to seek to increase the resilience of our supply network in the Colliford WRZ. We are currently progressing several additional supply options and for this draft plan we have considered how this new capacity will affect our strategy. We discuss the lessons learned from the 2022 drought in Appendix 1.1.

We have commitments to deliver demand-side WRMP schemes in our PR19 Final Determination. Further requirements have been added as part of 'Green Recovery' – see Section 9.1.2 and Section 9.1.3– and potentially through the 'DEFRA accelerated program' – see Section 9.1.4.

9.1.1 WRMP19/Final Determination 19 outputs

This section sets out the progress to delivering our key outputs for WRMP19 and states any assumptions around our PCC, demand, and leakage baseline targets.

Our WRMP19/ Final Determination (2019) had the following targets and outputs, Table 5: WRMP19 Targets.

Scheme outcome description	Benefits to be delivered (MI/d)	Delivery date	Category
Leakage	20.3	2024-25	Leakage 2020-25
Water efficiency 8% PCC reduction	9.4	2024-25	Demand-side 2020-25
Metering	1.5	2024-25	Metering
Effluent Reuse - 5 WWTW	2.8	2024-25	Demand-side 2020-25

Table 5: WRMP19 Targets

The Coronavirus pandemic led to difficulties in achieving our leakage targeted performance in 2020/21, but increased levels of investment during 2021/22 recovered our position. We are now on track to meet our AMP7 performance commitment on leakage.

The increase in demand seen during the pandemic has put enormous pressure on our PCC reduction activities at the same time as social-distancing guidelines reduced our ability to deliver planned face-to-face water efficiency activities. However, we were quick to move our home water efficiency audits to virtual visits and we have significantly increased our customer engagements during the summer of 2022 – which we will continue – and we plan to see the benefits of this in this reporting year.

Despite the pandemic affecting our optant metering programme during 2020/21, we remain on track with our delivery against WRMP19.

We have now adapted 4 wastewater treatment works to use final effluent in some processes, rather than potable water, saving 1.13 MI/d, with an additional 0.99 MI/d of savings currently being delivered through other schemes.

Our baseline forecasts have considered these factors, but there is uncertainty around some of these impacts. We will continue to analyse recent data to improve the forecasts we present in the final version of this plan.

9.1.2 Green Recovery: Roadford pumped storage scheme

We have committed to deliver the following as part of the 'Green Recovery':

- A new intake pumping station on the River Tamar to Roadford reservoir to increase its yield during drought periods and potentially facilitate water transfers
- To lay a new raw water main and treated water main between the Prewley and Northcombe water treatment works to address water quality and sufficiency concerns

In developing our Roadford pumped storage green economic recovery scheme, we made assumptions around the assets that were put in place after the 1995 drought and which have not been used since that time. One of those assumptions was that the existing pipeline to Roadford could take the full planned flow. We have subsequently investigated the assets and identified that the main will need to be dualled to achieve this flow, and the green economic recovery funding is insufficient to cover the cost of this additional capacity.

The full benefit of 10 MI/d Deployable Output (DO) in a 1 in 500 drought will not therefore be achievable under the funding awarded, and the benefit of the scheme will be 6 MI/d instead. The scheme is still cost-effective at this reduced DO.

Component	Derivation	Unit	Decimal places	2019-21	2020-21	2021-21	2022-21	2023-21	2024-21	2025-21	2026-21
Raw water abstracted	Input	MI/d	2	233.08	238.58	246.46	243.47	241.44	239.21	239.07	238.76
Non-potable water supplies (if applicable)	Input	MI/d	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Raw water imported	Input	MI/d	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potable water imported	Input	MI/d	2	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
Raw water exported enter as -ve	Input	MI/d	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potable water exported enter as -ve	Input	MI/d	2	-2.65	-2.65	-2.65	-2.65	-2.65	-2.65	-2.65	-2.65
Deployable Output before forecast changes	Input	MI/d	2	249.33	249.33	249.33	249.33	249.33	249.33	255.33	255.33

We have included the benefits of this scheme in our baseline deployable output assessment and this is visible within our planning tables. SWW WRMP tables v1.3a, "SWWRDF Table 3" Row 6BL (1 in 500 year DO before forecast changes) shows a step change of 6 MI/d between 2024-25 and 2025-26 which relates to the delivery of this scheme.

Ahead of our Statement of Response we are working to establish a revised baseline position following our supply interventions in response to the 2022 drought. A new Lyd abstraction licence has been accelerated in response to the 2022 drought in parallel to the Gatherley Green Recovery scheme. The Lyd licence will allow South West Water to abstract 40 MI/d from the River Lyd between November and March to enable pumped refill into Roadford Reservoir. At this time, both the Lyd and Gatherley pumped refill schemes rely on the same pipelines to transfer water into Roadford Reservoir. In this dWRMP24 submission the Gatherley Phase 2 option (ROA15) includes increased pipeline capacity which would facilitate the use of both the Lyd and Gatherley schemes in parallel, and this is selected in our preferred plan from 2032 onwards.

9.1.3 Green Recovery Metering & Leakage

We have committed to deliver the following as part of the 'Green Recovery' programme:

- Smart metering upgrades for 44,800 installations and 76,072 basic meters replaced by or upgraded to smart meters
- Replacing/repairing 2,076 supply pipes

The smart metering benefits of 0.93 MI/d in Roadford WRZ from the work, as stated in the Green Recovery Final Determination, are incorporated in our demand figures beyond 2024/25, i.e., they begin to deliver savings beyond 2024/25.

We have used our Final Determination performance commitment level for the 24 / 25 baseline.

Total demand in the Roadford zone is around 233 ML/day at the end of AMP7 (Row 45BL I Table 3 of the WRMP24 tables v2.0) and 0.93 MI/d difference in starting point is not expected to make a material difference to our plan.

WRMP24 reference	Component	Derivation	Unit	Decimal places	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	
43BL	Total Household Metering penetration (excl. voids)	34BL / (34BL + 35BL)	%		1	84.3%	84.6%	85.2%	85.8%	86.3%	86.7%
44BL	Total Household Metering penetration (incl. voids)	(34BL) / (34BL + 34.7BL + 35BL + 35.1BL)	%		1	83.7%	83.9%	84.5%	85.1%	85.6%	86.1%
45BL	Distribution input	sum (12BL-15BL) +21BL + 22BL + 27BL + 28BL	MI/d	2	226.76	232.25	240.14	237.14	235.11	232.8	

Our metering data tables account for our Green Recovery investment programme, i.e., our smart metering installations. The only exception to this is for new connections, where we are continuing to install AMR meters. This position is being reviewed and could lead to small data table change to account for this between our draft and final submission.

9.1.4 Defra Accelerated Delivery Programme

We have not included the DEFRA fast-track accelerated delivery programme in our dWRMP baseline. We are currently in discussion with DEFRA around this work and while the details remain uncertain, we have not made any adjustment to our baseline or options. Our discussion with DEFRA currently covers the following items:

- Acceleration of our proposed metering strategy in Colliford by starting the proposed smart metering programme 2 years earlier than stated in our draft WRMP, with a planned completion by 2035. This programme will deliver 37,300 new domestic smart meters and 2700 commercial meters by 2025 in combination with a pre-fit flow regulator. This is estimated to reduce PCC by an additional 0.1% by 2025.
- Providing free customer supply-pipe leakage repairs. This is estimated to deliver an additional 0.6% leakage reduction across the SWW region.
- Installation of supply-side option COL 2: Colliford Pumped Storage Stage 2 (River Camel Abstraction).
- Accelerating the work via the Regional Plan to deliver the feasibility and design works for Cheddar 2 Reservoir, to achieve delivery of the scheme by circa 2030. See Chapter 11 for how this aligns with our adaptive strategy.

9.2 Insights from the current drought

We have carried out a review of the supply and demand observed during the current drought (2022):

- Across the region we have seen rainfall, over an extended period, at the 2nd or 3rd lowest level since rainfall records began in the 1890s.
- We also saw extreme heat - the warmest year on record - which impacted evaporative losses from our reservoirs (a loss of an addition ~0.5% of capacity compared to recent years) and increased demand for water as customers strove to maintain their gardens, fill paddling pools and keep cool.
- If we examine the effective precipitation (rainfall figures adjusted for evaporative losses), the Roadford and Wimbleball Zones have seen conditions in 2022 drier than all the reference years in the 60 years since the Met Office effective precipitation records began.
- The combination of extra hot and extra dry is exceptional, as illustrated in the chart below (Figure 4).

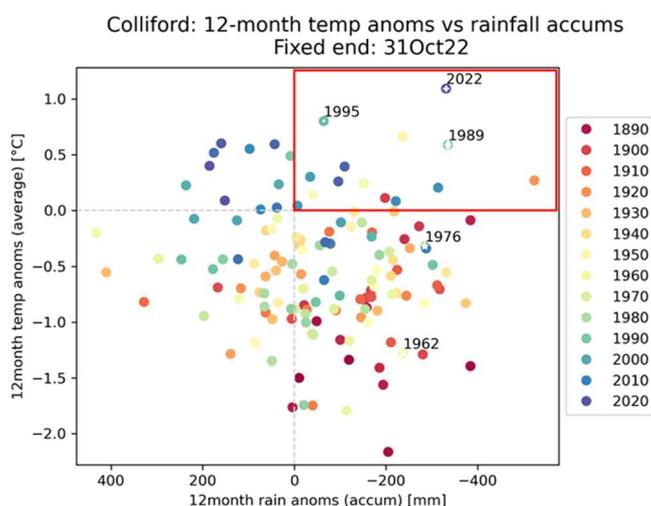


Figure 4: Graph showing Rainfall and temperature data for Colliford

Demand has been significantly higher than forecast when the WRMP19 was approved. In Colliford, average demand throughout 2022 has been 38 ML/D higher than our WRMP19 ‘dry year’ forecast – driven by covid effects. This volume of water is equivalent to 49% of the storage in Colliford reservoir over 12 months.

The resilience to Exceptional Shortage of Rainfall (ESRO) in 2022 has been diminished by the increased demand above that forecast in WRMP19. That is to say, the demand assumptions in our approved drought plan show us to be resilient to a 1 in 500 year low river flow event in Colliford, the actual demand observed during this year’s drought has increased our reliance on drought measures beyond what would have been expected in WRMP19.

While we have not definitively quantified the rarity of the 2022 event, what we can say from our analysis of 2022 is that:

- the combination of pressures resulted in a situation beyond the currently regulatory planning design requirement of 1:200

- the demand assumptions in our WRMP19 show us to be resilient to a 1 in 500 year low river flow event in Colliford. The actual demand observed during this year's drought has increased our reliance on drought measures beyond what would have been expected in WRMP19.
- We continued supply to our customers without resorting to "Drought Level 3" (e.g., Non-Essential Use Bans) or "Drought Level 4" (e.g., standpipes and rota cuts) actions, consistent with our existing levels of service.

While our baseline 'dry year' demand for dWRMP24 is closer to what we have observed this year, than our WRMP19 figure, it is still below the observed demand as we remain committed to delivering PCC and leakage targets by 2025. We have run three additional scenarios of increased demand including one which is the demand seen in 2022 and a further scenario that is 15% above the dry year demand as illustrated below (we refer to this scenario as 'high, high, high' in our plan).

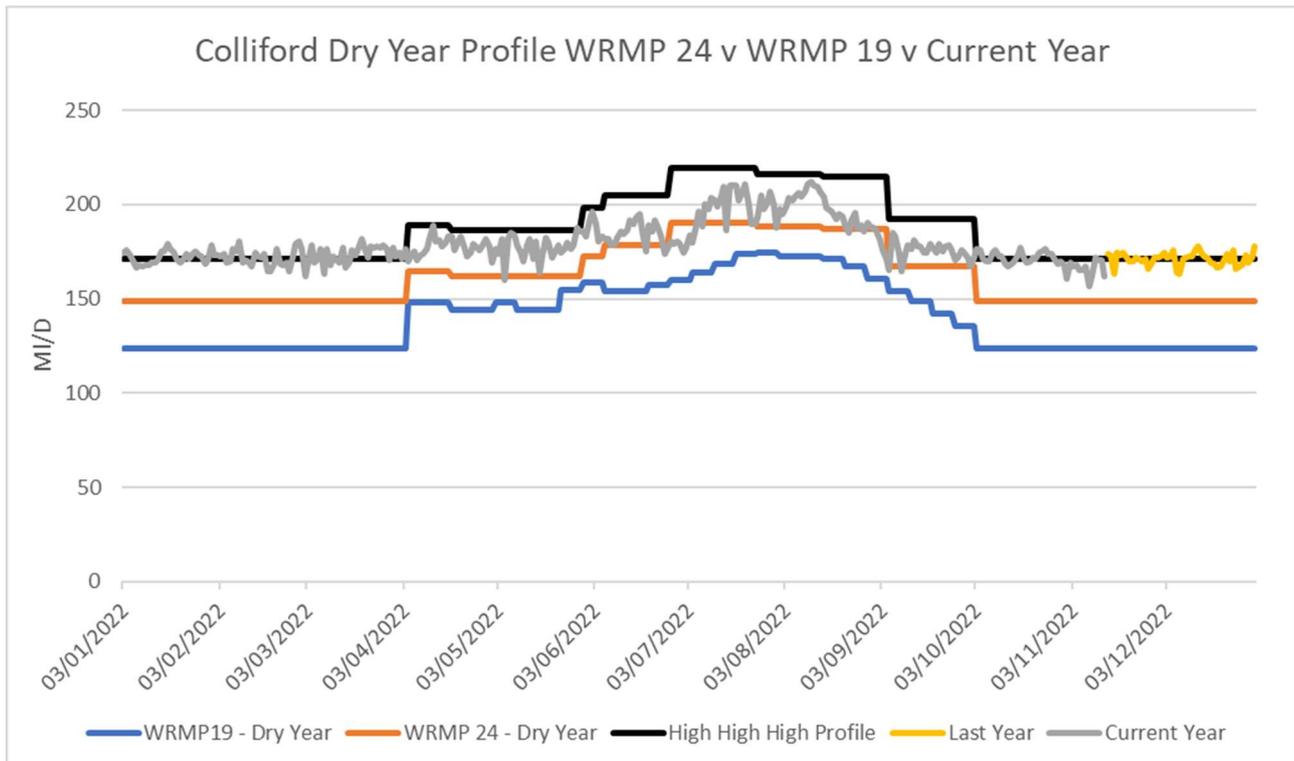


Figure 5: Graph showing actual demand and how our additional scenarios used in our sensitivity testing compare.

We have also modelled climate change scenarios that reflect hot/ dry weather conditions becoming more common. Refer to Chapter 10 for more information on the scenarios and sensitivity tests we have used to inform our adaptive strategy.

Further details on our drought review are provided in Appendix 1.1.

9.3 Planning period and base-year position

The Environment Agency's Water Resources Planning Guideline¹³ (WRPG) (v10 December 2021) states that WRMPs should take a long-term view, setting a planning period that is appropriate to the risks of the company and region, but which covers at least the statutory minimum period of 25 years.

SWW's Problem Characterisation process (Annex A of chapter 1) identified that the scale and complexity of our water supply planning problem is currently medium, we have therefore planned for a 25-year period.

The base year is the starting point for the forecasts and projections of future supplies and demands over the planning period. For the purposes of this WRMP, the base year used for the supply/demand data is 2020/21, but due to the changes in consumption that occurred because of the covid pandemic from March 2020, we have based our demand forecasts on 2019/20 adjusting as required to account for longer-term impacts.

9.3.1 Accounting for COVID

The COVID19 pandemic has created unusual demand patterns in our region. The various lockdowns have seen demand in domestic properties rise, with some corresponding, but smaller fall in non-household consumption. We have also seen changes in the tourism patterns which are an important component of water demand.

As such, we have been cautious about using data for the 2020 to 2022 period as it has been distorted by factors which are outside of usual planning approaches.

While we believe lockdown demand to be unrepresentative of future demands for our region, we need to establish a 'post covid' position which sits between customer behaviour seen pre-lockdowns and that observed during restrictions. A project is ongoing to inform our revised draft plan position.

Our baseline position is a conservative one, assuming a return towards pre-covid levels of demand. Ongoing high demand during 2022 has provided further insight into what post-covid demand looks like.

While this data is being analysed to help inform our final WRMP position, we have undertaken an extensive range of scenario testing to evaluate the impact of demand above our baseline on the dWRMP. These scenarios provide a clear basis for engaging with stakeholders around what level of demand we should set, and what the implications are for the final WRMP.

In summary: We have set out a clear baseline demand based on historic observations, and three higher demand scenarios to understand the implications of higher demand on the dWRMP.

9.3.2 Options: Uncertainties and how we have addressed these in our baseline

During any planning cycle, there is always uncertainty resulting from external changes which have the potential to impact on the baseline or modelled rate of change. For the current planning cycle, WRMP24, there is arguably more uncertainty due to changes in demand arising from covid restrictions impacting on actual demand in the recent years which would usually be the basis for future planning, and the subsequent societal changes which are playing out post lockdown. Uncertainty also arises due to activity to deliver additional supply-side options, not identified in our WRMP19, for construction in the current period.

In response we want to ensure that the assumptions we have used in developing our dWRMP are clear and that we have undertaken sensitivity and scenario modelling to quantify and make visible the implications of these assumptions. While we must put forward a single best value plan based on a single set of assumptions, we will consider scenarios in which other assumptions are made to inform our adaptive plan and effective consultation. Changes in 2023 may lead to a change from the proposed best value plan to one of the other presented scenarios.

Drought Options

We are currently deploying a number of drought permits in line with our Defra approved drought plan to manage in-year demand and make additional water supplies available.

We are also proposing that some of these schemes are further developed to become permanent water resources to make our supplies more resilient.

The following section sets out how our Drought Options have been considered within the dWRMP.

For our dWRMP our planning assumptions are that

1. if a new water resource option has not been constructed and has not been licensed, it should not be included in our baseline for dWRMP planning. As such the option is still available to be picked as part of developing our plan.
2. drought permit options set out in our Defra approved drought plan can be selected as part of our response.
3. where an agreed regulatory/funding driver exists for the current period, that the work will be delivered – this covers new sources at Lyd/Gatherly Phase 1 (see Table 1E) and investment in the water treatment works on the Isles of Scilly.

To test the sensitivity of these assumptions we

- have examined the changes in the draft WRMP which will result from the Porth WTW being reinstated. This option exists as a drought option and as an option available for permanent deployment in the WRMP. We are planning to deploy this option as a drought response in 2022/23, and to make this option permanent in 2023. As set out above at the time of submitting our dWRMP we will not have completed engineering or licensing for this option and as such it is not being included in the baseline. Instead, our sensitivity testing will examine how our plan will change if this option was commissioned in 2023.
- have examined the changes in the dWRMP which will result from the increase of Stannon abstraction by 2 Ml/d. This option exists as a drought option and as an option available for permanent deployment in WRMP. We are deploying this option as a drought response in 2022/23, and plan to make this option permanent in 2023. As set out above at the time of submitting our dWRMP we will not have completed licensing for this option and, as such, it is not being included in the baseline. The sensitivity testing will examine how our plan will change if this option was commissioned in 2023³.

³ Refer to Chapter 11, Adaptive Strategy, where the impacts of not implementing Porth and Stannon WTWs are discussed.

- will also run a scenario where 10 Ml/d of additional supply-side resources are available in the Colliford Zone. This scenario would reflect broader improvements in resilience above Porth and Stannon and again allow us to assess sensitivity to our underlying modelling assumptions. One additional source of water could be desalination, and this is discussed in our unconstrained supply options (Chapter 8) – although it is neither licensed nor built and as such is not included in our baseline.

9.4 Planning Scenarios

Planning scenarios are based on a design ‘dry year’ condition, which is defined as a period of low rainfall but with unconstrained demand i.e., no customer restrictions on demand such as Temporary Use Bans (TUBs), since this is the scenario when the supply demand balance would be under the greatest stress.

The WRPG requires all water companies to base their WRMPs on the dry year annual average (DYAA) scenario (for demand) and the 1 in 500 drought scenario (for supply). The EA technical guidance and the Government expectations for water resources planning (April 2022) both state that this level of resilience should be achieved by 2040.

We have used the DYAA scenario for all of our WRZs as the basis of our demand forecast for this WRMP, supported by an assessment of the deployable output (DO) and Water Available For Use (WAFU) during a 1 in 500 year drought.

The dry year critical period planning scenario (DYCP) corresponds to the period of peak water demand, which normally occurs during the summer months of June, July and August. The peak period of demand is usually defined in terms of the average day peak week (ADPW) demand. We have considered a DYCP scenario in our Bournemouth and Isles of Scilly WRZs in addition to the DYAA scenario. In Bournemouth this is required because it is the infrastructure capacity during peak periods which constrains DO. On the Isles of Scilly there is a large seasonal variation in demand driven by tourism. In our other WRZs; Colliford, Roadford and Wimbleball, we do not consider a DYCP scenario because the operation of our strategic reservoirs means these WRZs are not peak-constrained.

9.5 Links to other Plans

Our dWRMP24 is closely related to several other frameworks, plans and strategies. This now includes links with other tiers of water resources planning through the National Framework, Regional Plans and the development of the Strategic Resource Options. This is a stepped change in the water resource planning process since the development of our WRMP19. We have embraced this change and worked hard with our regulators, neighbouring water companies and stakeholders to develop our WRMP24 in the context of the evolving water resource planning process. How the WRMP is linked to other plans, from national down to local level, is set out in the following section.

9.5.1 Government’s 25-Year Environmental Plan

The 25-year Environment Plan sets out the Government’s comprehensive and long-term approach to protecting and enhancing our natural environment (landscapes and habitats) in England for the next generation. These ambitions align well with our research showing that the environment is a key priority for our customers and stakeholders.

Our WRMP24 reflects the ambitions set out in the 25-year Environment Plan by setting our destination for the following:

- Environmental sustainability and resilience (Chapter 4) through our plans to reduce abstractions and carry out pilot studies on the use of catchment and nature-based solutions to contribute to water resources management outcomes
- Supporting nature recovery using natural capital in decision making (Chapter 8 – natural capital assessments of our supply-side options, and chapter 10 on our decision-making process)
- Adopting a holistic and adaptive catchment approach (Chapter 4 - Section 5.1)
- Delivering net gain for the environment (Chapter 4 – Section 5.3 and Chapter 11.)

9.5.2 Business Plan and long-term delivery strategy

We are currently developing our 2024 Business Plan, and the forecasts and activities within this WRMP feed into that plan. Our final WRMP will be fully consistent with the Business Plan by

- using a long-term adaptive planning approach. (Refer to chapter 10)
- developing scenarios and sensitivity tests to develop and test our plan, including the common reference scenarios identified in Ofwat’s Final guidance document on PR24 long-term delivery strategies. Our analysis for the adaptive planning approach is presented in Chapter 10.

- ensuring consistent cost estimates: we have used a consistent costing methodology for both PR24 and WRMP using a single cost-consultant (Chandler KBS). This has enabled us to use a consistent costing methodology, cost base and use of optimism bias. We confirm that the WRMP has been presented in a 2020/21 price base. Further information on our cost assumptions is contained in Chapter 8 & 9, which explain the various options investigated for the WRMP24.
- aligning with the Government’s 25-year environment plan. (See section 9.5.1 above)
- ensuring relevant performance commitments are reflected.
- considering Ofwat’s draft methodology guidance in producing this draft plan; we will review the recently published final methodology as part of developing our final WRMP.

9.5.3 Regional planning

We are members of West Country Water Resources Group (WCWRG) alongside Wessex Water and Bristol Water. The group was formed in 2017 and picked up the role of producing the regional plan when the requirement was introduced in 2018. While members have liaised extensively prior to the creation of the group, no regional planning tools were in place, and this has limited the potential to produce a fully integrated Regional Plan. The 2024 Regional Plan is therefore being used to integrate each company’s WRMP into an over-arching structure, rather than setting the strategy for each. WCWRG are now scoping the creation of regional planning tools, which will more effectively allow 2029 WRMPs to be developed through a regionally optimised strategy.

Many aspects of this plan have been influenced by the WCWRG Regional Plan and the work done to support it. Refer to Annex B for a comprehensive summary of our linkages and alignment with the Regional Plan.

Through our additional scenario and sensitivity testing undertaken to inform our adaptive strategy (discussed in Chapter 10 and 11) we are now aware that Cheddar 2 is likely to play an important role in ensuring there is sufficient water available across the west country region in the event of more adverse climate change or abstraction reductions. Wessex Water’s current draft WRMP will not be aligned with this messaging; this alignment activity will occur as part of the consultation process as we work towards producing our revised draft plans.

9.5.4 Other national, regional and local plans

Both this and the West Country Regional Plan have been prepared considering the objectives of the Environment Agency’s National Framework for Water Resources, including the following:

- Increasing resilience to drought so that restrictions such as rota cuts and standpipes are needed no more than once every 500 years on average by 2040
- Reducing leakage to 50% of the 2017/18 level by 2050
- Reducing average per capita consumption to 110 litres per person per day by 2050
- Delivering environmental improvement through our Environmental Destination plan
- Exploring opportunities for large supply and transfer schemes beyond the boundaries of our supply system to provide benefits to our customers

We have established our population forecasts aligned with local authority plans. These align with a population basis for both our Drainage and Wastewater Management Plan and PR24.

As we consult on our draft plan and develop our final plan, we will continue to identify opportunities to introduce biodiversity net gain aligned with any Local Nature Recovery Strategies, which were introduced as part of the Environment Act. A particular focus will be on how to enhance biodiversity as part of implementing our preferred supply-side options.

Our growth forecasts have been based on the future development set out in local authority plans to reflect growth ambitions and plan to meet the additional needs of new businesses and households.

9.5.5 Drought Plan

Our Drought Plan sets out the operational process and activities we would undertake during a drought. It complements the WRMP which is the strategic planning document for maintaining the balance between supply and demand in the future.

Our Emergency Plan covers the actions we would take in the event of a civil emergency, as such situations fall outside the purpose of a Drought Plan.

Our current Final Drought Plan was approved by Defra in Sept 2022.

In developing the WRMP we have linked it directly to the approved Drought Plan – for example, the tools used for assessing the impact droughts in the Drought Plan are the same tools used in the WRMP.

This dWRMP has been prepared during the first significant drought we have experienced in our region for over 25 years, which has provided additional experience and knowledge that we will be able to use in our future Drought Plans and WRMP. Insights from our experience in 2022 (see **Appendix 1.1: Insight into the 2022 drought**) have been used to establish additional sensitivity tests which are presented as part of our dWRMP. We have also had to make assumptions around the treatment of drought options in the plan – Section 9.2 of this chapter. The final version of this WRMP will be updated to reflect our latest insights from the continuing drought.

Our WRMP is consistent with the assumptions and measures set out in our DEFRA approved Drought Plan. Links to the Drought Plan are documented in the Water Resources Planning Table 6 “Drought Plan Links” and our assumptions deriving this information are provided in Chapter 5. As per the guidance, our Deployable Output assessment is undertaken without the inclusion of drought management actions such as TUBs, NEUBs, drought permits or supply-side drought orders.

Refresh of Drought Plan: Considering the extremely dry weather that we experienced in 2022, we will review our Drought Plan and prepare and publish a revised plan following engagement with the Environment Agency and re-consultation if material changes are identified. This will reflect the completion of our environmental assessment (HRA) work and response on the Lower Avon for the Bournemouth region and will include appropriate updates to reflect other material changes that are the result of taking actions to address the drought affecting Devon and Cornwall this summer. Given the multi-year impacts of the current drought it is envisaged that we will begin consultation on a review of our drought plan in Autumn 2023 (after submission of our final WRMP).

9.5.6 River Basin Management Plans

Through the WINEP and Environmental Destination plan we are working with the Environment Agency to identify the environmental impact of current SWW abstractions and identifying the best licensing strategy to ensure compliance with River Basin Management Plan (RBMP) objectives including Good Ecological Status (GES).

Where new options have been identified, a Strategic Environmental Assessment (SEA) has been undertaken that includes a Habitat Regulations Assessment (HRA), a Water Framework Directive (WFD) Assessment and an Invasive Non-Native Species (INNS) Assessment to determine any potential effects on the environment which would have implications on RBMPs. The SEA work has also assessed Natural Capital and the potential impacts on ecosystem services that each supply option may have. Biodiversity Net Gain assessments have been undertaken to understand the potential impacts and benefits of each option within the catchment. Chapter 8 and Chapter 13 provide further information.

We are continuing to develop our Upstream Thinking programme and will be extending it to more catchments to cover all our major abstractions. We will also be widening our focus in using nature-based solutions to provide multiple benefits including reduction of flood risk.

This will help to ensure that in relation to water resources, we

- help to prevent deterioration and support the achievement of protected area and water body status objectives
- contribute to sustainable catchments by ensuring supplies are well managed under both drought and more normal conditions

This will result in a plan that supports River Basin Plans more widely.

9.5.7 Water abstraction plan for 2027

The Environment Agency water abstraction plan for 2027 aims to update all catchment abstraction licencing strategies by 2027 to ensure sustainable abstraction. We are working with the Environment Agency to manage this process as part of our WINEP investigations and Environmental Destination strategy.

The River Otter catchment in our Wimbleball WRZ was identified by the EA as a ‘Priority Catchment’ due to existing water pressures in the catchment. We are working with the EA and other catchment stakeholders as part of the revised East Devon Abstraction Licensing Strategy and Lower Otter Restoration Plan to ensure a sustainable position is achieved in the catchment going forward. Our Environmental Destination in our Wimbleball WRZ reflects this with reduction for several of our groundwater sources in the Lower Otter catchment.

9.5.8 Drainage and Wastewater Management Plans (DWMPs)

Water and sewerage companies must produce drainage and wastewater management plans (DWMPs) covering a minimum of 25 years to look at current and future capacity, pressures, and risks to their networks such as climate change and population growth. They must detail how companies will manage these pressures and risks through their business plans and how they will work with other risk management authorities or drainage asset owners.

The development of SWW DWMP and WRMP are progressing using the same planning assumptions and the same principle of pro-active stakeholder engagement to co-create positive outcomes for the environment and our customers.

Our DWMP and WRMP will use the same growth forecasts and climate change scenarios.

We will also seek to maximise opportunities across both plans – for example joint discussions around options for effluent reuse.

9.5.9 Drinking Water Safety Plans

Our drinking water is of a high quality and meets the standards of the Drinking Water Directive. We comply with all legislation concerning the water quality of publicly supplied water including Section 68(i) of the Water Industry Act 1991 and Water Supply (Water Quality) Regulations 2000. We have considered how each of our supply and demand option may impact on the ability for us to supply water that meets the Water Supply (WQ) regulations 2000 – these include but are not limited to considering the water quality of any new source, or how the water quality could be impacted from changes to abstraction levels throughout the year.

As part of ensuring long-term protection and sustainability of our drinking water quality, we have identified all our sources and applied a consistent approach across all WRZs to protect and improve the quality of our drinking water supplies. This follows our Drinking Water Safety Plan and includes how we intend to prevent any potential deterioration of water quality and reduce losses where possible.

For example, in our SWW supply area, our Upstream Thinking initiative encourages and supports tackling water pollution at the source by working with farmers and landowners in upstream areas of our water sources. This initiative also helps deliver the WFD objectives for our watercourses and groundwater bodies.

Our options have been screened to consider potential water quality issues that could arise, and no significant issues have been identified.

9.5.10 Local Nature Recovery Strategies

The Environment Act 2021 introduced Local Nature Recovery Strategy for areas in England. Public authorities will have duties in relation to these.

The WRMP should support recovery and enhancement of biodiversity according to opportunities and priorities identified in strategy areas (the Nature Recovery Network). To this end we are submitting proposals to undertake investigations with an Environmental Destination driver under our PR24 WINEP (in development). These would investigate the potential implications for our abstractions of future climate change scenarios considering environmental and ecological requirements. We will also continue to support landowners in delivering environmental land management under the future schemes which will replace Countryside Stewardship, through our catchment management programme.

9.6 Problem Characterisation

The UKWIR methodology WRMP 2019 Methods – Decision Making Processes: Guidance sets out a process of ‘Problem Characterisation’ which is an assessment tool widely adopted by the industry for identifying a water company’s vulnerability to various strategic issues, risks and uncertainties. This enables a company to identify a proportional response in terms of the effort and cost devoted to adopting the selected decision-making tools and methods used within the water resources planning process.

There are two elements to the problem characterisation assessment:

- **Strategic needs**- a high-level assessment of the scale of need for new water resources and/or demand management strategies (“How Big is the Problem?”)
- **Complexity factors**– an assessment of the complexity of issues that affect investment in a particular water resource zone or area. (“How Difficult is it to Solve?”)

The detailed assessment for the Strategy Needs and Complexity Factors are contained in Annex A of this Chapter; the overall scores derived through expert judgement within the SWW Water Resources Team are set out in Table 6.

Factors	Wimbleball	Colliford	Roadford	Bournemouth
Strategic Needs	6	6	6	6
Complexity Factors (Total)	10	11	10	8
A – Supply CF	3	4	3	3
B – Demand CF	4	4	4	1
C – Investment Programme CF	3	3	3	4

Table 6: Summary of problem characterisation assessment

The results of these assessments are shown below in Table 7. Although the assessment was undertaken independently for each resource zone, the complexity score for all has been determined to be medium level of complexity with high strategic needs.

Compared to our 2019 WRMP the current problem characterisation shows an increase in both complexity and strategic need, requiring more careful consideration of the tools and methods used to produce our plan.

Many of the methods used previously were compatible with the results of this assessment, but it does require increased focus on decision-making methods. Because of this we have developed more complex multi-criteria decision-making tools and have chosen to adopt an adaptive planning approach. As part of this we are implementing a stochastic EBSD investment planning approach to plan around the inherent uncertainty more effectively within water resources planning. Further information on this is discussed in our Chapter 10.

NB The Problem Characterisation for the Isles of Scilly can be found in Chapter 14.

		Strategic Needs Score (“How big is the problem”)			
		0 (None)	2 (Small)	4 (Medium)	6 (Large)
Complexity Factors Score (“How difficult is it to solve”)	Low (<7)				
	Medium (7-11)				✓
	High (11+)				

Table 7: Modelling complexity factors

Annex A: Problem Characterisation

This section sets out the detailed scoring and assessment across the strategic need and Complexity Factors is set out for each of the mainland WRZs in the following annex. The problem characterization assessment for the Isles of Scilly is set out in chapter 14, which is a dedicated stand-alone chapter focused purely on the Islands.

Degree of modelling complexity using problem characterisation findings

A problem characterisation has been undertaken for all resource zones, and the results are shown in Table 8 to Table 11 below. The tables below use the following colour coding (as per the UKWIR guidance):

Low level of concern
 Moderate level of concern
 High level of concern

Strategic WRMP risks	No significant concerns (Score = 0)	Moderately significant concerns (Score = 1)	Very significant concerns (Score = 2)
S. Level of concern that customer service could be significantly affected by current or future supply-side risks, without investment			All
D. Level of concern that customer service could be significantly affected by current or future demand-side risks, without investment			All
I. Level of concern over the acceptability of the cost of the likely investment programme, or that the likely investment programme contains contentious options (including environmental/planning risks)			All

Table 8: Strategic WRMP risks

S: Climate change and need to reduce abstraction through the environmental destination programme will see significant reductions in WAFU. This is particularly acute in the Bournemouth WRZ, where required abstraction reductions look set to be more than half of WAFU.

D: Over the past two years DI has risen above the dry year annual average level forecast in WRMP19 (related to population growth linked to COVID) and we don't yet know the extent to which this will persist into the future, leading to supply-demand balance concerns particularly in Colliford WRZ.

Industry leakage and customer consumption targets are ambitious and represent a large step-change from the current position. This makes the economic deliverability of these targets uncertain.

I: The level of abstraction reduction required within the plan will lead to required investment greatly exceeding that in recent years and will have a corresponding impact on bill levels.

Additionally, the scale of the deficits resulting from abstraction reductions and climate change may require the promotion of more contentious options such as new sources, including effluent reuse. Meanwhile, the behavioural change required to meet aggressive household consumption reduction targets could prove unpopular.

S	Supply-side complexity factors	No significant concerns (Score = 0)	Moderately significant concerns (Score = 1)	Very significant concerns (Score = 2)
S (a)	Are there concerns about near-term supply system performance, either because of recent Level of Service failures or because of poor understanding of system reliability/resilience under different or more severe droughts than those contained in the historic record? Is this exacerbated by uncertainties about the benefits of operational interventions contained in the Drought Plan?	BNM	RDF WMB	CLF
S (b)	Are there concerns about future supply system performance, primarily due to uncertain impacts of climate change on vulnerable supply systems, including associated source deterioration (water quality, catchments etc.), or poor understanding?		BNM CLF RDF WMB	
S (c)	Are there concerns about the potential for ‘stepped’ changes in supply (e.g., sustainability reductions, bulk imports etc.) in the near or medium term that are currently very uncertain?		CLF RDF WMB	BNM
S (d)	Are there concerns that the ‘DO’ metric might fail to reflect resilience aspects that influence the choice of investment options (e.g., duration of failure), or are there conjunctive dependencies between new options (i.e. the amount of benefit from one option depends on the construction of another option). These can both be considered as non-linear problems.	BNM CLF RDF WMB		

Table 9: Supply-side complexity factors

S(a): Over the past two years DI has risen above the dry year annual average level forecast in WRMP19, leading to supply-demand balance concerns particularly in the Colliford WRZ.

The 2022 drought has been the most severe in our region for decades and has highlighted aspects of our drought plan which will need updating to reflect more recent experience.

In the Bournemouth WRZ, Summer 2022 did not highlight issues with current system performance.

S(b): Many sources are vulnerable to climate change impacts, which remain uncertain.

S(c): New environmental destination requirements may mean that abstraction reductions will be required, and there is some uncertainty currently over the timing and scale of these.

In the Bournemouth WRZ these uncertainties are particularly acute due to the large, but currently uncertain, abstraction reductions required from the River Avon.

S(d): No significant concerns.

D	Demand-side complexity factors	No significant concerns (Score = 0)	Moderately significant concerns (Score = 1)	Very significant concerns (Score = 2)
D (a)	Are there concerns about changes in current or near-term demand, e.g., in terms of demand profile, total demand, or changes in economics/demographics or customer characteristics?	BNM		CLF RDF WMB
D (b)	Does uncertainty associated with forecasts of demographic/economic/behavioural changes over the planning period cause concerns over the level of investment that may be required?	BNM	CLF RDF WMB	

D	Demand-side complexity factors	No significant concerns (Score = 0)	Moderately significant concerns (Score = 1)	Very significant concerns (Score = 2)
D (c)	Are there concerns that a simple 'dry year/normal year' assessment of demand is not adequate, e.g., because of high sensitivity of demand to drought (so demand under severe events needs to be understood), or because demand versus drought timing is critical?		BNM CLF RDF WMB	

Table 10: Demand-side complexity factors

D(a): Over the past two years DI has risen above the dry year annual average level forecast in WRMP19, leading to supply-demand balance concerns particularly in the Colliford WRZ.

DI in the Bournemouth zone has remained around forecast levels.

D(b): It is likely that demographic and societal changes will have contributed to the recent rise in DI, which has particularly affected Colliford WRZ.

D(c): The requirement to plan to a 1 in 500 event pushes understanding of demand beyond the available evidence. While this remains a concern, it is believed that the change in demand between a 1 in 200 and 1 in 500 event is unlikely to be significant.

I	Investment programme complexity factors	No significant concerns (Score = 0)	Moderately significant concerns (Score = 1)	Very significant concerns (Score = 2)
I (a)	Are there concerns that capex uncertainty (particularly in relation to new or untested technologies) could compromise the company's ability to select a 'best value' portfolio over the planning period?		BNM CLF RDF WMB	
I (b)	Does the nature of feasible options mean that construction lead time or scheme promotability are a major driver of the choice of investment portfolio?	CLF RDF WMB	BNM	
I (c)	Are there concerns that trade-offs between costs and non-monetised 'best value' considerations (social, environment) are so complex that they require quantified analysis (beyond SEA) to justify final investment decisions.		BNM CLF RDF WMB	
I (d)	Is the investment programme sensitive to assumptions about the use of new resources, mainly because of large differences in variable Opex between investment options?		BNM CLF RDF WMB	

Table 11: Investment programme complexity factors

I(a): All zones contain options which are early in their development cycle, so pose some risks. In particular the Bournemouth WRZ contains options with large capex uncertainty such as the Mendips Quarries SRO, but the large scale of the forecast deficit means that this uncertainty is unlikely to materially impact the investment programme.

I(b): While some potential schemes have long lead times, this is unlikely to materially impact the investment portfolio, except in the Bournemouth WRZ. Solutions required in Bournemouth include Mendip Quarries, which is unlikely to be available until the 2040s, and this will drive other investment to maintain supply until the resource becomes available.

I(c): Many outcomes of the plan are set by regulator expectations and guidance, making these a major driver of investment. Other best-value considerations will impact the plan, but only within the boundaries set by these required outcomes.

I(d): Our understanding of the required abstraction reductions in the Bournemouth WRZ is still developing, and we do not yet have a complete view of the likely use of options. However, the large forecast means that this uncertainty is unlikely to materially impact the investment programme.
For the SWW WRZs use will be a consideration; it does not pose more risk than other uncertainties.

Annex B: Linkages to the Regional Plan

Introduction

The WRMP planning guidelines and Government Direction Statement (clause 3 (1) (n)) places a requirement on water companies to ensure alignment with any relevant regional plans as shown in the table below and we have ensured that our WRMP24 fully aligns with the draft Regional Plan for the West Country area. Regional planning is not currently a statutory process and the timelines for future regional plans have not yet been finalised, but we consider that this planning process provides a real benefit to the best management of water resources across the wider region and we strongly support the principle of regional water resource planning. This is particularly important given the change in status of the West Country region from an area which had previously been considered to be in long-term supply surplus, to one where a long-term deficit occurs and measures will be necessary to address this. Working together across the region in a structured and well-planned manner will be an essential part of the journey to this long-term improvement in environmental and water supply resilience.

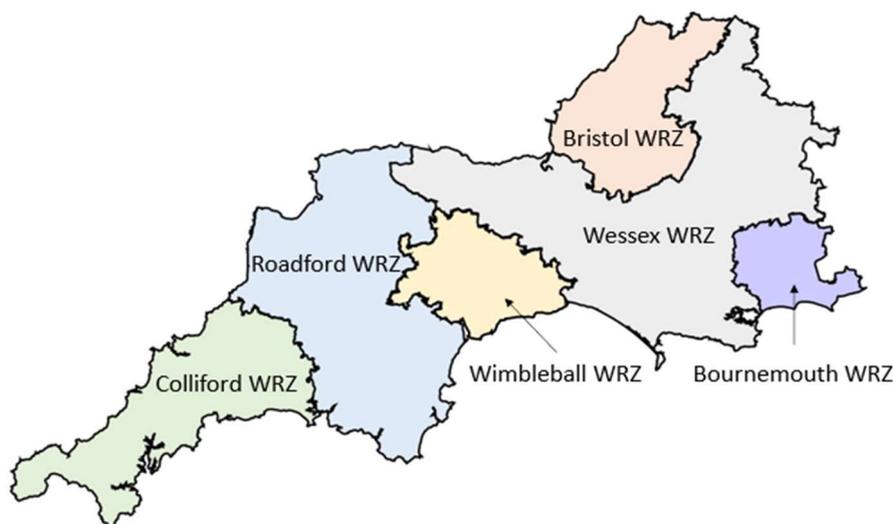


Figure 6: The West Country Regional Plan Area.

Thanks to an extensive pre-consultation and engagement process, regulators are aware of the general themes expressed in the Regional Plan and we are working closely with our regulators to ensure that we create the best outcomes for the environment and for water supply management.

West Country Water Resources Group

The West Country Water Resources Group (WCWR) was established in 2017 to allow greater collaboration in water resources management in the West Country Region. Membership of WCWR is shown below. The objective of the group is to support a coordinated approach to water resources planning in the West Country that transcends water company boundaries. The principle of planning for regional water management rather than just in our company area has been a driving theme for our WRMP24, and we have worked closely with other partners in the West Country region to build our plan.

WCWR is at an earlier stage of development than some well-established regional water resource groups (in the case of WRSE, the group has been in operation for 26 years) and the Regional Plan produced by WCWR reflects this earlier phase, identifying the changes and improvement required for a transition to a 2029 plan which will include full regional modelling of water resource management. The modelling approach is already being specified and contract discussions under way to identify the best approach to take for a robust regional model, which we anticipate can be created in AMP8.

The 2024 Regional Plan therefore acts to bring together each company's WRMP into an over-arching structure, rather than being the primary strategic driver for the individual company WRMPs. Planning tables from our draft WRMP will be used in the draft Regional Plan, and data validated by a third party, with a formal statement of alignment made within the Regional Plan. One key difference between the Regional Plan and individual company WRMPs is however that the Regional Plan includes a consideration of the needs of water users that are not supplied by water companies: this is an area of investigation for future Regional Plans and is likely to introduce new considerations into the WRMP process in future.

Pre-consultation and membership

The Regional Planning process has been highly influential in steering collaborative engagement between partner organisations and ensuring consistent approaches and assumptions are used in the development of company plans.

We have engaged through the West Country Water Resources Group with a range of stakeholders on the best management of water across the West Country region. One area of focus for our WRMP24 has been how three SROs (Cheddar 2, Mendip Quarries and Poole Recycling) might be used between companies in the region in the future in order to deliver greater resilience, environmental improvements and broader societal benefits,

The four core members of the WCWRG are:

- Bristol Water (now South West Water, but for the purpose of WRMP24 is treated as a separate organisation)
- Environment Agency
- South West Water Limited
- Wessex Water Limited

The associate members are:

- Canal and River Trust
- Consumer Council for Water
- Drinking Water Inspectorate
- National Farmers Union
- Natural England
- Ofwat
- Southern Water Services Limited
- Water Resources East
- Water Resources South East
- Water Resources West.

We have worked with other WCWRG members to build on our previous water resource plan. Our dWRMP24 therefore is consistent with the WCWRG Regional Plan, reflecting the overall strategy and the three outcomes identified: improving the environment, ensuring water supply resilience and delivering societal benefit.

Engagement with the core members of the WCWRG has been constant throughout the development of our dWRMP and we have implemented several joint projects to support the development of our plans and the consistency of methodologies and approaches used for water resource assessment across the West Country region. Areas we have worked together on include:

- **Demand forecasts**, consumption forecasts produced by Ovarro and Experian (see Chapter 6)
- **Demand options**, working together on water efficiency options (see Chapter 9)
- **Environmental Destination**, including the Focus Catchment Action Plans (see Chapter 4)
- **Decision-making methodology**, regional input to best value (see Chapter 10, appendix 10.1)
- **Population and properties forecasts**, were produced for WCWRG by Experian (see chapter 6)
- **Climate change assessment**, methods were developed by HR Wallingford for WCWRG (see Chapter 5)
- **1 in 500 drought assessment**, methods were developed by HR Wallingford for WCWRG (see Chapter 5)
- **Customer engagement/research** (see Chapter 3)
- **Use of Strategic Regional Options.** Following our recent drought we recognise the need for more water in the West Country Region, and believe that the Cheddar 2 scheme may play a crucial role to facilitate moving water between the Wessex, Bournemouth and Wimbleball WRZs. Until a regional model is available, it is difficult to provide the affordability and feasibility of integrating Cheddar 2.

As a result of this joint work, the SWW WRMP fully reflects and supports the achievement of the regional plan's long-term environmental destination as stated within Section 5.1.4 to Section 5.4 of the West Country Regional Plan.

The WCWR Steering Group meets every 5 weeks. Full details of the work carried out by WCWRG and the minutes of meetings are available on the WCWRG website.

At the time of writing our draft WRMP24, the West Country region is experiencing a period of serious and sustained drought, leading to increased customer awareness of the importance a resilient water supply. We will use the consultation period for WRMP24 to explore customer preferences on demand reduction compared with the greater certainty of supply options, and this may lead to a greater preference for Cheddar 2 reservoir in our final WRMP. Although the current Regional Plan for the West Country region does not include immediate work to develop Cheddar 2 reservoir, experience with the current drought is likely to result in changes in water trading between regional partners, and our final WRMP24 will consider these impacts in full.

Annex C: Consultation Questions and how to submit feedback on our draft plan.

The following table sets out the specific questions we would like feedback from our customers and stakeholders on, during our formal consultation period.

<p>Our Adaptive Planning Approach</p>	<ul style="list-style-type: none"> • In our dWRMP we have set out an adaptive planning approach that enables us to have plans across a large range of future scenarios. Are there any other future scenarios that you think we should consider? • Given the large range of future uncertainties that exist as described in our Plan, does our adaptive approach enable us to address your main concerns looking into the future? Do you think that there is a different approach that we could follow?
<p>Best value for our customers and the community</p>	<ul style="list-style-type: none"> • Do you think that our plan represents the best value for you and your community?
<p>Our approach to improve the environment</p>	<ul style="list-style-type: none"> • Do you agree with our various approaches to protecting the environment across our area of operations? • How do you feel about the potential impact of the combination of regulatory requirements and our own environmental aspirations as reflected in our Environmental Destination?
<p>Our approach to reducing demand for water</p>	<ul style="list-style-type: none"> • Our dWRMP24 sets out our preferred options for addressing a forecast supply/ demand deficit. How supportive, or unsupportive, are you of our options for reducing water demand? Are there other options that you think we should be considering for decreasing water demand? • Our plan has a significant focus on demand side reductions by 2050. Some of the options adopted are not within our direct control. Do you think this is the right approach? Should we plan for more additional new sources of water in case these measures do not deliver the water we have forecast? • How should we prioritise demand management? Are there other assumptions or risks (in addition to relying on government policy) that we should factor in to our plan? • Our ambition is to help to reduce customer water use to 110 litres per person per day by 2050. Achieving this will not only require significant investment by us, but also require government interventions, for example the labelling of water-using products. What is your view on this approach?
<p>Demand/ Supply Balance</p>	<ul style="list-style-type: none"> • To address the forecast supply/ demand deficit our dWRMP includes both options that will reduce demand and options that give us additional water supplies. Do you think our plan strikes the right balance between demand and supply solutions? • Are there any other significant risk factors that you feel could impact our supply-demand balance in future?
<p>Water recycling</p>	<ul style="list-style-type: none"> • Do you agree that water recycling should be a part of the solution for securing water supplies for the future? • Do you think that we should look at water recycling options where recycled water is stored in reservoirs, lakes or other water bodies? And where recycled water is released back into nearby rivers and then abstracted again downstream?

Water Network Resilience	<ul style="list-style-type: none"> Do you agree that we should develop our water network so that we can move more water between our supply areas and share supplies with our neighbouring water companies?
Droughts and Levels of Service	<ul style="list-style-type: none"> What are your views on our levels of service in the event of a drought? According to requirements from the government, we must be resilient to a 1 in 500-year drought event by no later than 2039. How supportive or unsupportive are you of this goal?
General	<ul style="list-style-type: none"> Do you have any additional comments on any of the plans we have proposed in our dWRMP?

Our consultation period on our draft Water Resources Plan will be open for 12 weeks from the 14 February until 9 May 2023.

If you would like to submit any comments on our proposals please see send them to the Secretary of State for the Environment, Food and Rural Affairs (Defra).

You can respond by e-mail to water.resources@defra.gov.uk

Please carbon copy (cc) wrrmp@southwestwater.co.uk and title your e-mail **South West Water Resources Management Plan**.

You can respond by letter to:

Secretary of State
Water Resources Management Plan Water Services
Department for Environment, Food and Rural Affairs
Seacole 3rd Floor
2 Marsham Street
London
SW1P 4DF



South West
Water



Bournemouth
Water

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