Wimbleball Non-Essential Use Ban (NEUB) Drought Order Application

6th October 2026

South West Water

Covering notice

This drought order application has been compiled with reference the Environment Agency's Drought Plan Guideline (DPG) and its associated supplementary guidance on Drought Permits and Drought Orders and Hydrological Guidance for the Assessment of ESOR.

Some information contained within this document may change as part of the consultation process and the feedback we receive. If you wish to be kept informed of any changes, please contact waterresources@pennon-group.co.uk with your details and include in the subject line Wimbleball Non-Essential Use Ban Drought Order Application.

Security notice

The information in this document has been reviewed for reasons of security. In the publicly available version of this document the following information has been redacted.

- Readily identifiable locations including maps and grid references.

Executive summary

This document is South West Water's application for an ordinary drought order for a non-essential use ban (NEUB). A non-essential use ban is a restriction on specific non-essential uses of mains water by businesses and non-household customers during severe drought conditions. It is a measure water companies can apply to implement under a drought order when there is a serious threat to water supplies. It requires approval by the Secretary of State for the Environment, Food and Rural Affairs.

The proposed drought order would authorise SWW to prohibit or restrict specified non-essential uses of water. The restrictions proposed are those prescribed by the Drought Direction 2011 and are listed below:

- Watering outdoor plants on commercial premises;
- Filling or maintaining a non-domestic swimming or paddling pool;
- Filling or maintaining a pond;
- Operating a mechanical vehicle-washer;
- Cleaning any vehicle, boat, aircraft or railway rolling stock;
- Cleaning non-domestic premises;
- Cleaning a window of a non-domestic building;
- Cleaning industrial plant;
- Suppressing dust;
- Operating cisterns.

There are exemptions in some categories for reasons related to Health and Safety, animal welfare and impacts to environment. Please see Appendix 1 for the Draft Order conditions and any exemptions which exist.

The non-essential use ban would apply to customers in South West Water's (SWW) Wimbleball Water Resource Zone (WRZ) which includes Exeter, Exmouth, Crediton, Sidmouth, Tiverton and surrounding areas across Mid and East Devon and a small area of Dorset including Lyme Regis. The primary source of water for customers in this area is Wimbleball Reservoir which is currently at 18% capacity.

The need for this drought order has been caused by an Exceptional Shortage of Rainfall (ESOR) which began in March 2026. The period from March to end of September has been the 2nd driest in 155 years of record with only 54.5% of long term average rainfall recorded. The period of ESOR has coincided with record temperatures and 5 heatwaves resulting in unprecedented levels of demand. In response to the ESOR and levels of demand South West Water have implemented Temporary Use Bans (TUBs - commonly know as hosepipe bans) on our customers since July.

Additional measures have been taken to reduce the overall demand for water through targeted water efficiency and leakage activity, however the serious deficiency to water resources remains with Wimbleball Reservoir currently at 18% capacity. The application for a NEUB is our next step in escalation of actions to protect water resources further.

A sustained period of above average rainfall is needed to overcome the current ESOR and deficit in the hydrological position. The weather forecasts do not indicate a substantial change in position which has resulted in the need for this drought order application. This is the only action available to us which provides benefit to support Wimbleball Reservoir whilst having no significant increase in the risk to the environment.

Contents

Covering notice 1
Security notice 1
Executive summary 2
1. Description of proposals 5
1.1. Background to Wimbleball Water Resource Zone 5
1.2. Description of proposed drought order 6
1.3. Proposed start and end date of drought order 6
1.4. Summary of impacts 6
1.4.1. Environmental Assessment 6
1.4.2. Cost-Benefit Analysis 7
2. Statement of reasons 8
2.1. Reasons why permit is necessary 8
2.1.1. Exceptional Shortage of Rainfall (ESOR) 9
2.2. Evidence we have followed our Drought Plan 10
3. Actions to reduce demand and conserve supplies in line with our Drought Plan 11
3.1. Customer engagement on enhanced water efficiency 11
3.2. Implementation of TUBs 16
3.2.1. Liaison with retailers 18
3.2.2. Effectiveness of TUBs 19
3.3. Enhanced leakage control 21
3.4. Management of outage 24
4. Plan for water shortage 24
4.1. Communications 25
4.2. Emergency planning 25
5. Other options considered and risks if drought order refused 26
5.1. Other options considered 26
5.1.1. Supply Options 26
5.1.2. Demand Options 29
5.2. Risks if drought order is refused 30
6. Notices 30
6.1. Public notices 30
6.1.1. Newspapers 30
6.1.2. Website 30
6.2. Notice sent to specified bodies 31

7. Description of public inspection arrangements....31
8. Pre-application discussions....31
Appendix 1. Draft Drought Order
Appendix 2. Exceptional Shortage of Rainfall (ESOR) Case
Appendix 3. Cost-Benefit Analysis (CBA)

Figures

Figure 1: Map of Wimbleball WRZ. 5
Figure 2: Wimbleball Reservoir Storage during 2026....8
Figure 3: Wimbleball WRZ cumulative monthly rainfall from March to September 2026, compared to the 1991-2020 long term average and selected drought years 10
Figure 4: Section of Splash newsletter sent to customers....15
Figure 5: Summary of social media posts relating to water efficiency and TUBs 15
Figure 6: Imagery of tourist campaign at service station locations....16
Figure 7: Targeted social media post concerning the TUB introduced....17
Figure 8: Overview of social media messaging through paid and organic posts....18
Figure 9: Continued overview of social media messaging through paid and organic posts 18
Figure 10: Wimbleball WRZ DI historic data, key variables and model results showing impact of TUBs....20
Figure 11: Number of leaks found / reported....22
Figure 12: Number of leaks repaired....23
Figure 13: Repaired leak volume from April 2025 onward. 23

Tables

Table 1: Activities taken to engage with customers on enhanced water efficiency 11
Table 2: Activities taken to enhance leakage control 21
Table 3: Draft Drought Plan 2027 – supply options in preferred plan (Appendix 3, section A3.2.2) 26
Table 4: Draft Drought Plan 2027 – supply options screened out of preferred plan (Appendix 3, section A3.2.3)....27
Table 5: Draft Drought Plan 2027 – demand actions (Appendix 3, section A3.1) 29

1. Description of proposals

1.1. Background to Wimbleball Water Resource Zone

South West Water's (SWW) Wimbleball Water Resource Zone (WRZ) includes Exeter, Exmouth, Crediton, Sidmouth, Tiverton and surrounding areas across Mid and East Devon and a small area of Dorset including Lyme Regis. Public water supply is primarily supplied by water abstracted from the River Exe, supported by releases from Wimbleball Reservoir when required, to two large water treatment works (WTW) near Tiverton and Exeter. Water is also abstracted from groundwater boreholes in sandstone in East Devon across the River Otter catchment to several small WTWs.

Water can also be transferred in several locations to or from SWW's Roadford WRZ to the west of Wimbleball WRZ. The resilience of water supplies in Wimbleball WRZ relies on our ability to transfer treated water using the distribution network within the WRZ, typically moving water from west to east as needed.

Wimbleball Reservoir is a shared resource between SWW and Wessex Water with a split of around 43% and 57% respectively of the water held in the reservoir. SWW are the operator of the reservoir. Wessex Water have a direct abstraction from Wimbleball Reservoir to their WTW in West Somerset which they use in combination with other sources in this area to meet customer needs.



Figure 1: Map of Wimbleball WRZ.

1.2. Description of proposed drought order

A non-essential use ban (NEUB) is a restriction on specific non-essential uses of mains water by businesses and non-household customers during severe drought conditions. It is a measure water companies can apply to implement under a drought order when there is a serious threat to water supplies. It requires approval by the Secretary of State for the Environment, Food and Rural Affairs.

The proposed drought order would authorise SWW to prohibit or restrict specified non-essential uses of water. The restrictions proposed are those prescribed by the Drought Direction 2011 and are listed below:

- Watering outdoor plants on commercial premises;
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- Cleaning industrial plant;
- Suppressing dust;
- Operating cisterns.

There are exemptions in some categories for reasons related to Health and Safety, animal welfare and impacts to environment. Please see Appendix 1 for the Draft Order conditions and any exemptions which exist.

This drought order is included in SWW's draft Drought Plan 2027 that was open to public consultation earlier this year. Implementation of a NEUB is assumed to have 2.5% reduction in DI when it comes into effect which is equivalent to around 4 Ml/d but is also assumed to provide 0 Ml/d benefit during winter months from November to March. This is because many of the activities that are restricted under a NEUB have a weather driven component to them. A bottom up assessment undertaken to support the cost-benefit analysis (see Section 1.4.2) demonstrates the benefit of a NEUB in October to November could be around 0.7 Ml/d.

1.3. Proposed start and end date of drought order

This drought order application will be determined by the Secretary of State. If granted, the drought order would be in place for up to 6 months or until the water resource position for Wimbleball WRZ is restored to an acceptable level to provide confidence ahead of spring-summer 2027.

1.4. Summary of impacts

1.4.1. Environmental Assessment

This drought order would not have any detrimental impacts to the environment. The strategic environmental assessment for SWW's draft Drought Plan 2027 noted that the actions restricted in a NEUB would have an overall net benefit to the environment by reducing overall demand allowing more water to be retained in the environment.

There are activities outlined in the Drought Direction 2011 which could result in environmental impact but there are exemptions in the activities to ensure these are not realised. For example, there is an exemption for filling or maintaining a pond in which fish or other aquatic animals are being reared or kept in captivity.

1.4.2. Cost-Benefit Analysis

We have undertaken a cost-benefit analysis (CBA) of implementing a NEUB in order to determine whether the benefits of the NEUB outweigh the costs. This assessment was undertaken in line with the cost-benefit analysis framework proposed in the United Kingdom Water Industry Research (UKWIR) 2025 study Assessing the costs and benefits of nonessential use Drought Orders – A Feasibility Study (UKWIR Framework).

The Drought Order includes restrictions on water use which are expected to directly or indirectly reduce demand for water leading to changes with environmental and economic effects. The CBA implements a methodology for representing these effects and quantifying them where possible such that the costs and benefits can be compared.

The restrictions on water use align directly with all of those specified in a Non-Essential Use Ban (NEUB) within the Drought Direction 2011 with no additional exemptions applied.

The key conclusion is that the costs and benefits are sufficiently close that a clear conclusion on whether a NEUB is cost-beneficial cannot be made.

Key contributing factors include:

- Parameters with inherent uncertainty, such as weather forecasts.
- Uncertainty in valuation methods, in particular:
- A significant difference in the strategy for implementing EDOs by SWW (‘managed retreat’) from that used as a proxy for valuing benefits taken from a more general evidence base (‘rota cuts’).
- Potential differences in the composition of the actual business base from that in the more general evidence base used as a proxy.
- Uncertainty in the effectiveness of water savings from a NEUB in autumn compared to other times of the years.
- Potential for NEUB water savings this year to contribute benefits in a subsequent year.
- Significant elapsed time (up to 10 years) since surveys of willingness-to-pay values were done.

As costs and benefits are close, a number of other factors may contribute collectively to the balance between them, although these are individually considered minor.

Subject to these concerns, the main scenario modelled shows expected costs of approximately £1.5m, while expected benefits are £0.3m, giving a benefit-cost ratio of 0.186 and indicating a NEUB is not cost-beneficial. This main scenario includes a 5% probability that Level 4 restrictions will occur. This reflects modelling using historical evidence that would indicate Level 4 being reached in 3 out of 69 years of Wimbleball reservoir inflow scenarios (based on historic rainfall patterns).

The alternative scenario, with a 20% probability of Level 4 restrictions, shows expected costs of approximately £1.5m, while expected benefits are £1.3m, giving a benefit-cost ratio of 0.746, also indicating a NEUB is not cost-beneficial. The 20% probability reflects interpretation of long term average (LTA) rainfall statistics and use of an approach that the EA have taken in the national drought group.

However, both forecasting methods anticipate significant rain and the interpretation used in Scenario 2 can be understood as cautious.

The full Cost-Benefit Analysis report can be found in Appendix 3.

2. Statement of reasons

2.1. Reasons why permit is necessary

This section explains why we are applying for a drought order to restrict specified non-essential uses of water in Wimbleball WRZ.

As outlined in Section 2.1.1 and Appendix 2, an Exceptional Shortage of Rainfall (ESOR) has developed in the Wimbleball WRZ since March 2026, with the period to the end of September constituting the 2nd driest on record. This dry period has been coupled with sustained periods of heatwave which have in turn driven record levels of demand for both SWW and Wessex Water. The sustained high demand, low reservoir inflows and need to augment the River Exe abstraction means Wimbleball Reservoir has seen a period of prolonged drawdown. The impact to Wimbleball Reservoir of this is shown in Figure 2 with overall reservoir storage currently at around 18%.

The ESOR which began in March is considered a threat to water supplies because it has led to continued drawdown of Wimbleball Reservoir and a potential severe shortage of water resources.

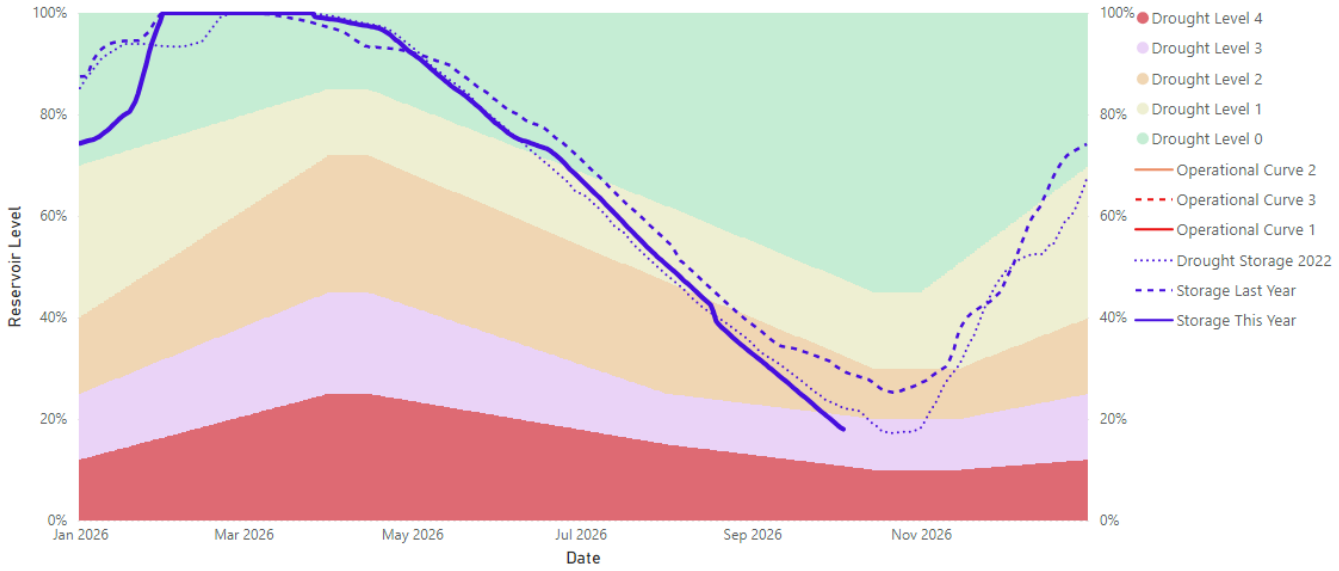


Figure 2: Wimbleball Reservoir Storage during 2026

Wimbleball WRZ has a population of approximately 380,000 people. Should dry conditions continue Wimbleball Reservoir, the primary source for the WRZ, risks entering drought level 4 and threatening water supplies.

To illustrate the daily demand pressure on Wimbleball Reservoir, we have taken the average outputs of our WTWs that treat water abstracted from the Exe, augmented with releases from Wimbleball in low flows. This is a recent average from June – August 2026, representing summer demand. Combined average output from these WTWs for this period is c. 76 Ml/d. Other outputs in the Wimbleball WRZ are groundwater sources; for the same period, they have a combined average output of c. 28 Ml/d. Therefore, Wimbleball Reservoir is SWW's primary source within the Wimbleball WRZ.

Additionally, under our dry weather operating strategy, Wimbleball Reservoir also supports the Kenick, Trenchford and Tottiford (KTT) reservoirs in Teignbridge in our Roadford WRZ, providing an average transfer of c. 5 Ml/d from Exeter WTW from June – August.

Furthermore, Wessex Water also abstract from Wimbleball reservoir between 20-40 Ml//d. This year, c. 57% of water supplied from Wimbleball to meet public water supply need has supplied Wessex Water, with the remaining c. 43% supplied to SWW. This illustrates that the pressures on Wimbleball Reservoir don't come solely from SWW customers in the Wimbleball WRZ, but a wider set of interconnected water supply systems which straddle water company boundaries.

The forecast effects of continued dry weather on customer supplies are for Wimbleball Reservoir to enter drought level 4 in late October if there is no significant rainfall. This is based on our "day zero" emergency planning response which outlines a scenario of no significant rainfall for contingency planning purposes and is not based on the likelihood of this occurring. Instead, it sets out a sequence of decisions and actions to consider if the water resource position does not improve. In drought level 4, our draft Emergency Drought Plan outlines that we would consider emergency drought actions to conserve supply and reduce demand (See Section 4 for further details). Therefore, continued dry weather would have a material impact on customer supplies, and the resource saved from this drought order would mitigate the risk of dropping into drought level 4 for a prolonged period of time.

For these reasons, by reducing demand upon Wimbleball Reservoir, this drought order aims to reduce the rate of drawdown and preserve reservoir storage.

2.1.1. Exceptional Shortage of Rainfall (ESOR)

An ESOR assessment for the Wimbleball WRZ has been presented for the period of March to September 2026 inclusive. Rainfall analysis for the Wimbleball WRZ for the period March to September 2026 has demonstrated that the period was the 2nd driest on record and was categorised as "Exceptionally Low" based on ranked rainfall probability bands and "Extremely Dry" based on statistical drought analysis. Based on this assessment it is considered that this constitutes an ESOR. See Appendix 2 for the full ESOR.

Supplementary analysis of other hydrological parameters has demonstrated how the ESOR has impacted the wider hydrological situation and continues to influence the water supply position in Wimbleball WRZ in September 2026.

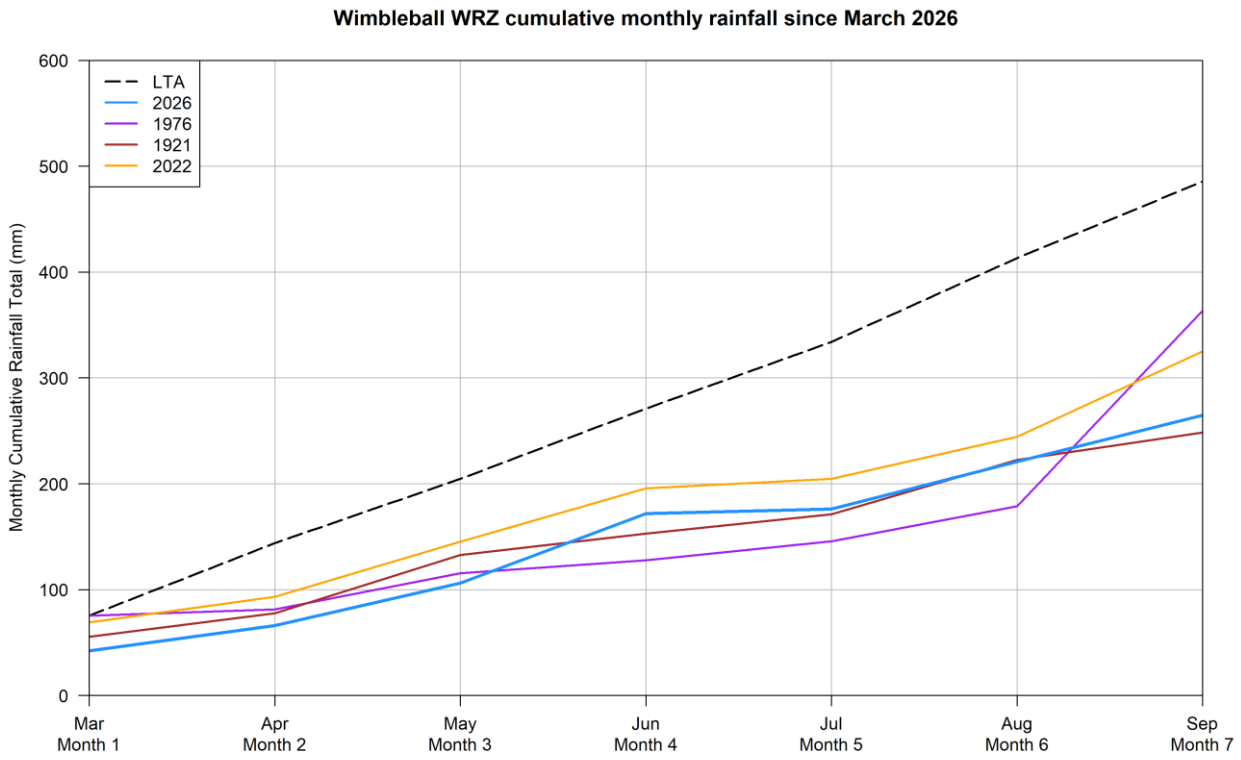


Figure 3: Wimbleball WRZ cumulative monthly rainfall from March to September 2026, compared to the 1991-2020 long term average and selected drought years

The weather and hydrological outlook for the autumn is for above average temperatures to continue, with a slightly increased of above average rainfall in the late autumn but uncertainty of the timing of when this rainfall will arrive. This means that the effects of the March to September 2026 ESOR are unlikely to be ameliorated in the near future.

2.2. Evidence we have followed our Drought Plan

South West Water's current published Drought Plan was finalised in 2022 and is available on our website. Water companies are required by government to update their drought plans every 5 years with an updated final Drought Plan due in 2027. At the end of May 2026 we started a public consultation on a revised draft Drought Plan, which finished at the end of July 2026.

Our draft Drought Plan 2027 includes several improvements that build from our experience of managing drought in 2022 across Devon and Cornwall. Subsequently we have been advised by the EA to operate to our draft Drought Plan in response to the current drought because it increases our resilience and provides greater protection to the environment by taking earlier actions. The most substantial update for Wimbleball WRZ is that this includes updated drought triggers for Wimbleball Reservoir which mean we are more likely to take actions earlier in the year than we would within the 2022 plan.

Based on the updated Wimbleball Reservoir drought triggers we are currently in drought level 3. We reached drought level 1 on 29th June 2026, drought level 2 on the 15th August 2026 and drought level 3 on 28th September 2026.

We acted early and proactively on these triggers, beginning to implement our Drought Plan by starting level 1 actions such as free water saving devices, customer communications and water efficiency audits from late June / early July. We also enhanced our customer-side leakage work and used water more efficiently internally, such as by stopping routine flushing at WTWs from

the end of June. We then implemented level 2 actions for some parts of our region in mid-July, including our initial Temporary Use Ban (TUB, commonly referred to as a hosepipe ban). This TUB was extended to the full Wimbleball WRZ on 8th August, ahead of crossing our drought level 2 triggers. In addition to this, we have enhanced our leakage detection and repair rates. More details of the above are provided in Section 3 of this document.

We have altered our operations during this period of low rainfall and high demand. As well as the actions outlined above, we have used sources strategically, maximising our Wimbleball WRZ groundwater sources where possible. We have liaised with Wessex Water, who abstract a higher volume of water from Wimbleball Reservoir than we do over the course of the year, to urge them to reduce their abstraction where possible. In July, we commissioned a new borehole in East Devon to increase groundwater yield available within Wimbleball WRZ.

We have made changes to operational practices that will help to avoid, or reduce the likelihood, of operational risks associated with drought. We have fitted variable speed drives to some boreholes to allow us to increase our abstraction within licence constraints. We have prepared pumps in our Roadford WRZ that will allow us to support KTT from Littlehempston, rather than from Wimbleball Reservoir. This will be useful in spring and autumn, when Littlehempston has excess production capacity during the period of hydrological recovery. Finally, we have secured an electrical supply for our River Exe pump storage scheme that increase the rate of refill of Wimbleball Reservoir over winter, and are developing options to replace current aged diesel powered pumps with electrical ones.

As well as the above, we further explain what we have done so far to conserve supplies in Section 3.

3. Actions to reduce demand and conserve supplies in line with our Drought Plan

3.1. Customer engagement on enhanced water efficiency

It is important that we communicate to our customers the need to reduce overall demand for water, to ensure we are using a limited resource efficiently. We have engaged with customers in a number of ways to encourage the efficient use of water.

Table 1: Activities taken to engage with customers on enhanced water efficiency

Timing	Activity and drought level action	Details
27th June onwards	Free water saving devices Level 1A	We enhanced our BAU programme of distributing free water saving devices across Wimbleball WRZ through increased promotion on social media. The additional customer communications outlined below drives more traffic to our website where customers can order these devices. Devices are also available to our engagement team to provide directly to customers at events.

		June 420 devices ordered in Wimbleball. July 1150 devices ordered in Wimbleball. August 2484 devices ordered in Wimbleball. Total saving from these devices estimated to be 62.9m^3/day.
27th June onwards	Social media messaging Level 1A	Messaging shared on social media outlining that hot weather often leads to increased water usage, but small changes by lots of people can make a big difference. Tips were shared on how to reduce usage in order to keep water flowing for everyone.
Week commencing 29th June onwards	Non-household efficiency audits Level 1B	Identified potentially high use businesses that we could engage with. This effort has resulted in 216 business water efficiency audits being completed in the area up to 4th September, with a further 26 scheduled in September alone. We anticipate each audit delivers a demand reduction of at least 365 l/d, leading to anticipated 78m^3/d reduction.
1st July	Newsletter Level 1B	Issued our 'Splash' e-newsletter to customers in the Wimbleball area, with a focus on promoting efficient use of water.
1st July onwards	Household efficiency audits Level 1B	Prioritised Wimbleball WRZ in our household audit programme, resulting in 647 audits completed across Wimbleball 1st July – 4th September, with further 791 audits scheduled from 7th September – 28th September. Anticipated savings of up to 20m^3/d up until 4th September, and a further 25m^3/d from scheduled audits. As part of this activity, we have also repaired 146 leaky loos. Anticipated savings of 36m^3/d
9th July	Messaging to water retailers, including free water saving devices Level 1B	Shared messages with our water retailers and contractors carrying out non-household efficiency audits across the Wimbleball area. Outlining that prolonged dry weather had

		resulted in exceptionally high demand, and asked non-households to look at how they could reduce water usage or delay high usage activities. Flagged opportunity to arrange free water efficiency visit, including free fixes for dripping taps or leaky loos, or free fitted tap inserts, shower restrictors, showerheads, cistern bags or urinal controls.
9th July	Customer SMS / voice message Level 2	All customers in the Allers supply area (excluding those on our Priority Services Register) received an SMS outlining that demand for water was exceptionally high locally.
10th July	Press release Level 2	Press release issued, urging customers to use water wisely as the prolonged heatwave was driving exceptionally high demand. An essential water use webpage went live on this day.
10th July	Social media advertisement campaign Level 2	Outlined activities we are taking to keep taps flowing and asking for customers' help to only use water for essential use.
11th July	Customer SMS Level 2	Additional SMS issued, asking customers to only use water for essential purposes and thanking those who were already helping.
20th July	Customer email/SMS/voice message/letter Level 2	Communications package to remind customers the hosepipe ban is in place and signposting to water-efficiency advice.
24th July	Mid Devon Show Level 2	Our engagement team visited the show to provide information on water-efficiency and provide water saving devices to visitors.
29th July – 3rd August	Social media organic campaign Level 2	Water efficiency-related posts highlighting the impact of heatwaves on water demand, including offering free water saving devices.
From 31st July (Exeter & Gordano service stations)	Tourist campaign – physical advertising Level 1b	Objective to deliver a water saving message for visitors to the South West. It also reassures customers we are aware of the challenges visitor numbers pose to increased water

Ended after first week of September		demand over the summer months. Overall estimated visibility to c. 17 million customers.
5th August onwards	Social media advertisement campaign Level 2	Paid campaign to increase reach across social media. Focused on water saving tips, including leaky loos, shorter showers, garden water saving, dripping taps and dual flush toilets.
7th August	Social media organic campaign Level 1A	Post advising that hosepipe ban would be introduced from 00:01 on 8th August, with water saving focus.
8th August	Social media advertisement campaign Level 2	Paid campaign to increase awareness of hosepipe ban in place.
8th August	Social media organic campaign Level 1A	Post advising hosepipe ban now in place, with water saving focus.
9th – 15th August	Social media organic campaign Level 1A	Posts sharing why a hosepipe ban is necessary.
10 August onwards	Ofwat – Let's Save Water launches Level 1B	South West Water has invested into the England and Wales national campaign. This runs alongside our own water efficiency activity. As part of the Yr1 activity, key partnerships launched 29th July with the main TTL advertising campaign running from the 10th Aug.
17th – 27th August	Social media organic campaign Level 1A	Variety of posts sharing water saving tips, highlighting water efficiency to visitors, and promoting free water saving devices.
28th August	Social media organic campaign Level 1A	Post thanking out customers for saving water over the drier, hotter months, and reminding them to continue using water wisely.
29th August – 10th September	Social media organic campaign Level 1A	Further posts promoting free water saving devices, water efficiency audits, reminders of hosepipe ban, and water saving tips.

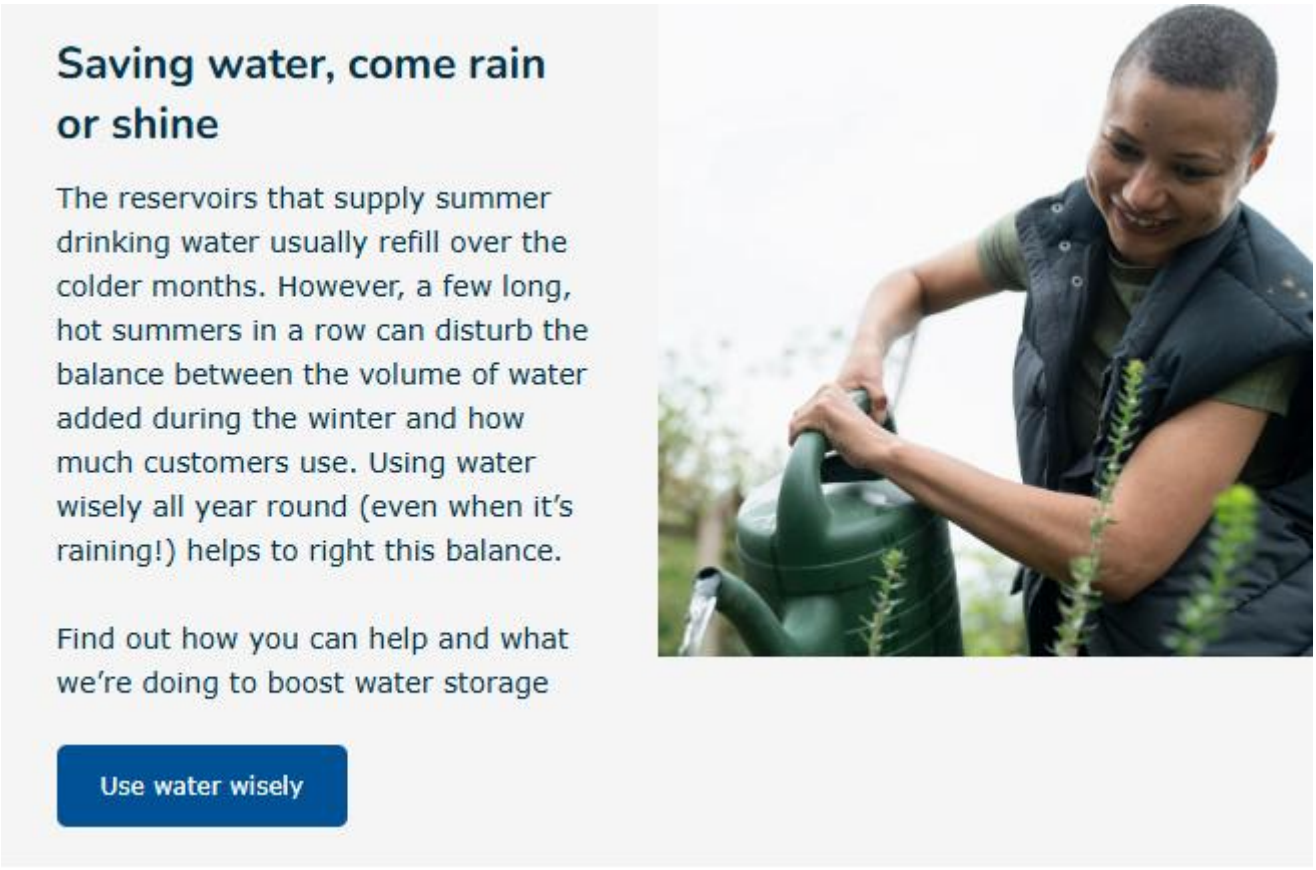


Figure 4: Section of Splash newsletter sent to customers

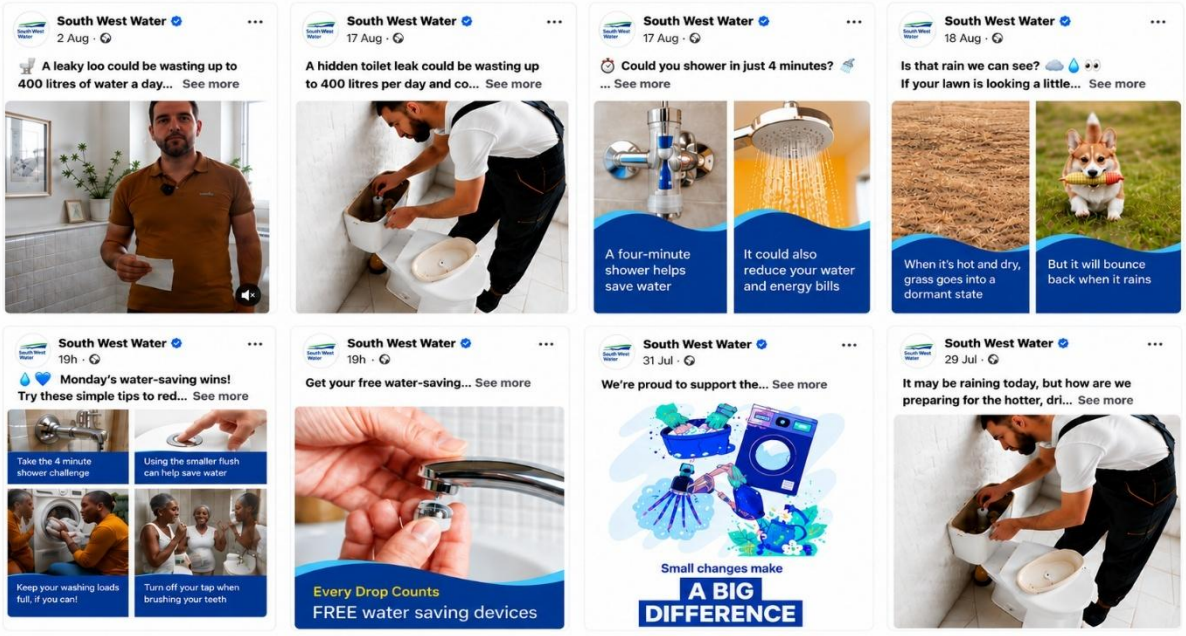


Figure 5: Summary of social media posts relating to water efficiency and TUBs

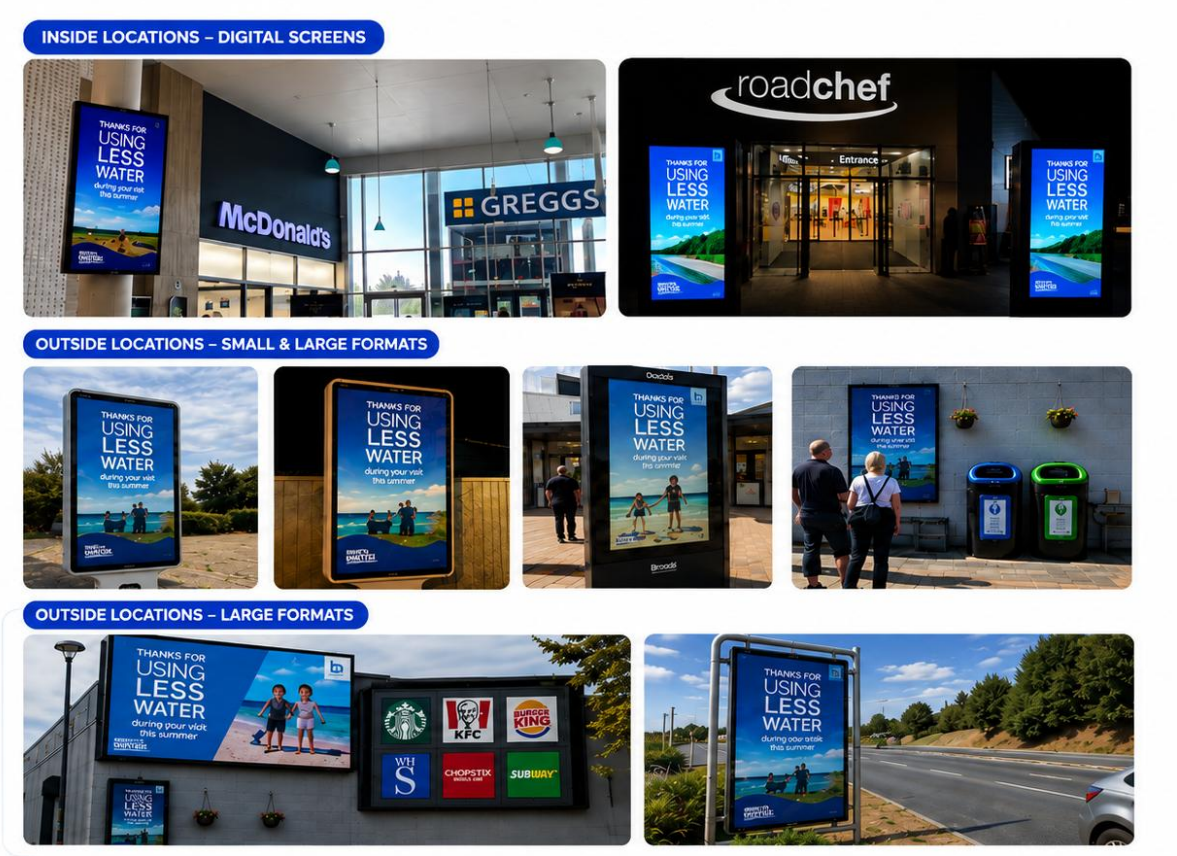


Figure 6: Imagery of tourist campaign at service station locations

It is difficult to quantify specific savings that have been achieved from these actions to an overall reduction in Distribution Input (DI) due to the DI surges in recent heatwaves, competing or overlapping activities and changes in weather. Further work will be undertaken to separate out these factors to enable better estimates of the benefits of our actions to support our ongoing drought management response. We cannot yet confidently estimate the impact of our communications campaigns, but we are developing approaches to track the level of engagement with our targeted campaigns.

3.2. Implementation of TUBs

Following repeated calls for restraint to our customers, a Temporary Use Ban (TUB) was announced on 13th July 2026, coming into effect at noon on 14th July 2026. The ban covered customers in Mid Devon and parts of East Devon, including the full Allers supply area within Wimbleball. Notice was sent to the local press and London Gazette. News of the TUB was shared with the media, local MPs and sent via SMS to 27,951 customers on 13th July 2026. It was also shared on social media and received widespread news coverage both locally and nationally.



Figure 7: Targeted social media post concerning the TUB introduced.

Another SMS was sent to customers on 14th July 2026 when the TUB came into force, and reminder communications were issued to customers through letter/email/SMS and voice message on the 20th July.

The short implementation period was necessary due to the operational constraints we were experiencing in our network. Industry experience shows that there is often a temporary increase in customer demand between notice and implementation, causing escalated issues.

With the continued onset of drought, TUBs were extended to cover the whole of the Wimbleball area (and all of SWW customers) on 8th August 2026 with messaging to customers through direct communication, social media and press activity. Information about the hosepipe ban and signposting to water efficiency was also available on our website.

We have focused on the following across our social media channels to drive awareness of the hosepipe ban, our water resources position, the impact of drought and water saving advice. To increase reach, paid Meta ads have been used alongside organic placement on a daily basis.

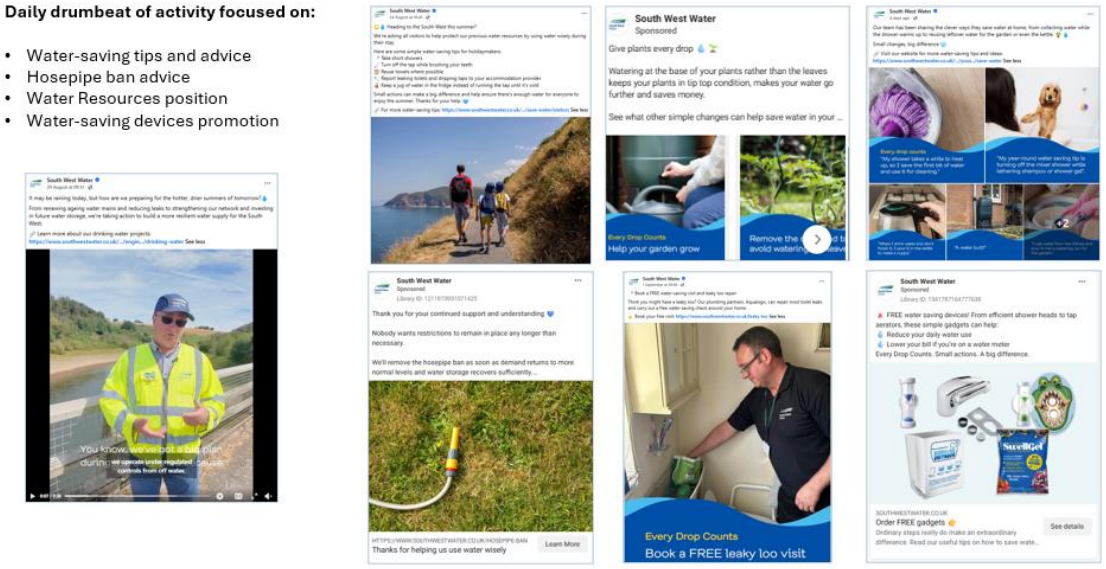


Figure 8: Overview of social media messaging through paid and organic posts

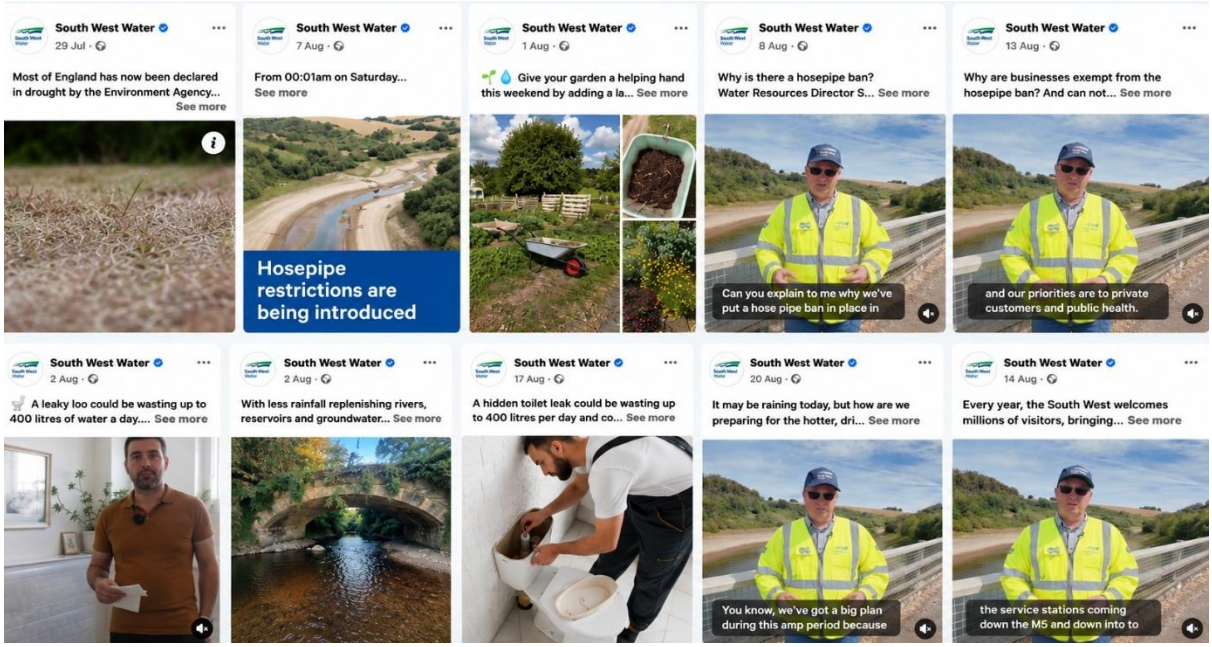


Figure 9: Continued overview of social media messaging through paid and organic posts

3.2.1. Liaison with retailers

We proactively contacted non-household (NHH) customers and retailers to explain the implementation of the TUB, clearly outlining the drivers behind the decision. Communications highlighted the significant lack of rainfall across our region and the sustained high levels of demand experienced on the network throughout the summer period. We explained how these factors had combined to place pressure on available water resources and why customer support was essential in helping to protect supplies.

Customers were asked to comply with the TUB restrictions where applicable and more broadly, to consider reducing their water consumption wherever possible. Our messaging focused not only on the restrictions themselves but also on the wider importance of water efficiency and the

role that all customers, including NHHs, can play in helping to safeguard water resources during periods of drought and water stress. To ensure that communications reached as many customers as possible, we adopted a multi-channel approach. Customers with registered contact details were contacted directly via SMS, providing timely information about the restrictions and directing them to further guidance and support. In addition, we worked closely with retailers, requiring them to communicate key messages to their customers through their own channels, including websites, email campaigns and customer letters where appropriate. This collaborative approach helped to maximise customer reach while ensuring consistent messaging across the market.

Recognising that larger users have the potential to deliver significant water savings, we also specifically targeted our NHH high users. These NHH customers were engaged directly and encouraged to take advantage of our free water efficiency audit service. The audits were promoted as an opportunity to identify and implement water-saving measures, reduce consumption and improve resilience during the period of supply pressure.

Throughout this process, we engaged closely with retailers to ensure our activities complemented, rather than duplicated or undermined, any existing water efficiency services and offerings they provide to their customers. Maintaining this collaborative relationship enabled us to support a coordinated NHH response to the drought conditions while ensuring customers received clear and consistent advice. All communications included extensive supporting information to help customers understand the situation and the actions they could take. This included frequently asked questions, detailed explanations of the TUB restrictions, information on rainfall deficits and drought conditions, updates on network demand and practical guidance on improving water efficiency.

3.2.2. Effectiveness of TUBs

There are a limited number of customers in the Wimbleball area who have a smart (AMI) meter, so assessment of the impact of TUBs is carried out using DI data. We acknowledge therefore that the data is ‘noisy’ and includes the impact of concurrent activities to reduce leakage and targeted working with non-households to reduce demand.

The impact of TUBs in the Wimbleball area has been analysed through development of a statistical model using data on DI in combination with a range of factors to explain variability in demand such as weather, days of week, school holidays etc. DI data is inherently noisy due to the multiple influences of weather and other parameters on all of household, non-household and leakage data. To reduce this noise and variability we use a 7 day average DI instead of individual daily values. We have trained a statistical model using data from 2020 onwards and multiple weather parameters to simulate how we think demand would have responded to weather conditions seen post-TUB implementation, and compared these results to the actual DI seen.

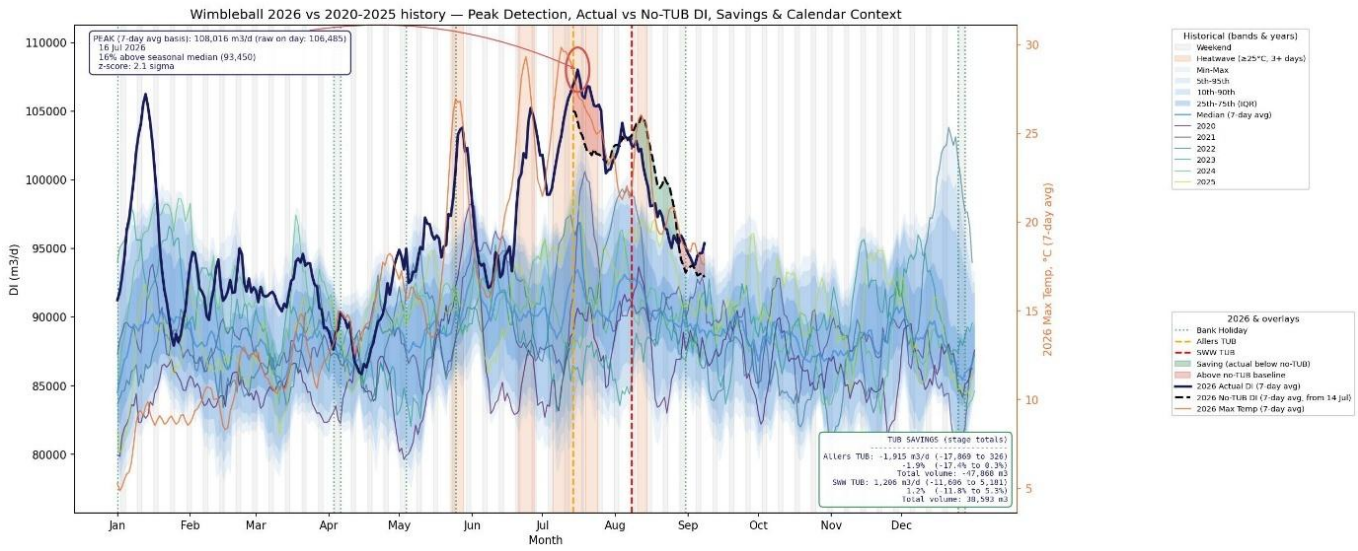


Figure 10: Wimbleball WRZ DI historic data, key variables and model results showing impact of TUBs

In Figure 10 the modelled impact of TUBs benefit is shown in the shaded green area to the right of the vertical red line (the date when the whole of Wimbleball had TUBs introduced – 8th August). This is equivalent to a total of 1.2Ml/d, or 1.2% of DI over the 32 day period. The most important factor which influences DI is the maximum daily temperature (as indicated in Figure 10) – note the peaks in DI slightly follow the temperature peaks due to the use of 7 day rolling average DI.

Notably, analysis of the Allers specific area impact showed no saving in DI at a WRZ level over the 25 day period between TUBS implementation, and then introduction across the wider Wimbleball area. Further analysis at a DMA level is planned in the future to improve our understanding of the effectiveness of the targeted implementation. This data is not available at the time of this drought order application because it requires enhanced quality control checks before it can be used to support this analysis.

Notably in 2026 we have seen demand spikes higher than any previously recorded demand across all our operating regions. This makes any assessment of effectiveness difficult as the prediction of ‘typical’ behaviour in response to a set of weather conditions is based on a limited data set.

We also monitor customer sentiment based on our social media. This is an important element to understand likely receptiveness, and potential compliance with both voluntary and enforced restrictions on water use. Our summary for the South West Water area (Devon, Cornwall and Isles of Scilly, based on data from 28/08/26) was that:

- Restrictions were increasingly normalised as the national drought widened;
- Initial anger focussed on aspects such as leaks, bills and investment rather than the need to conserve water;
- The story has moved from challenging the TUB to accepting sustained drought.

3.3. Enhanced leakage control

Table 2: Activities taken to enhance leakage control

Timing	Activity and drought level action	Details
6th July	Reduce customer side leakage Level 1A	We accelerated our face-to-face visits and contacts to properties where identified leaks were above an agreed threshold. Any leak with a confirmed threshold over 1m3 per hour was prioritised for 24hr attendance – however it is important to note that not all leaks are reported to us with a volume so we cannot do this for all.
June onwards	Leakage control and pressure management Level 1B	Since week commencing 29 June 2026, SWW has intensified leakage detection and repair activity across the Wimbleball WRZ in response to drought conditions. We took early action to move approximately 20 staff from other regions into this area in June. As drought became more widespread, we have not been able to sustain this level of enhanced resourcing. There is a current recruitment campaign for leakage technicians to increase our headcount by approx. 10%. We are also undergoing a TUPE exercise of approx. 45 contracted leak detection staff by October. Between 29 June and 31 August 2026, leakage repairs completed within the WRZ have delivered approximately 479 Ml/d of cumulative leakage volume offset (using ESPB volumes). We have also looked at the opportunity for pressure management schemes within the region – although not planned within the WRMP. We have reviewed the 143 DMA's across which we have 52 with PRV controllers and reduced pressures at a number of these existing controllers.
July onwards	Customer side leakage Level 2	We have reduced the average enforcement time to 34 days for all new leaks raised within the drought period that have led to enforcement. Comparison the year before was 102 days (albeit a number of legacy leaks were included in this data set). We have not yet lowered the threshold at which we take enforcement action as this has a

		substantial resource requirement that we are not able to fulfil within the short timescale that the drought has escalated over. The volume of SPL repaired in 2026 is currently 23.5m^3/hour higher than in 2025.

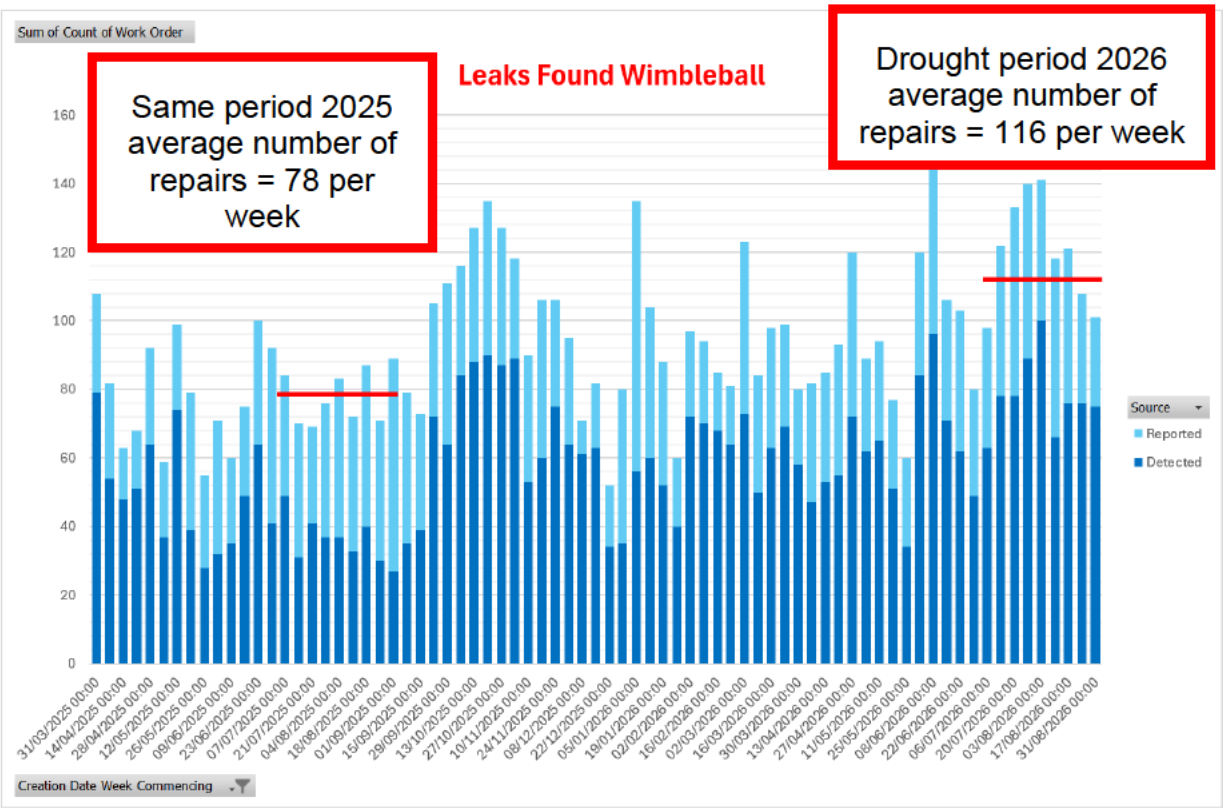


Figure 11: Number of leaks found / reported

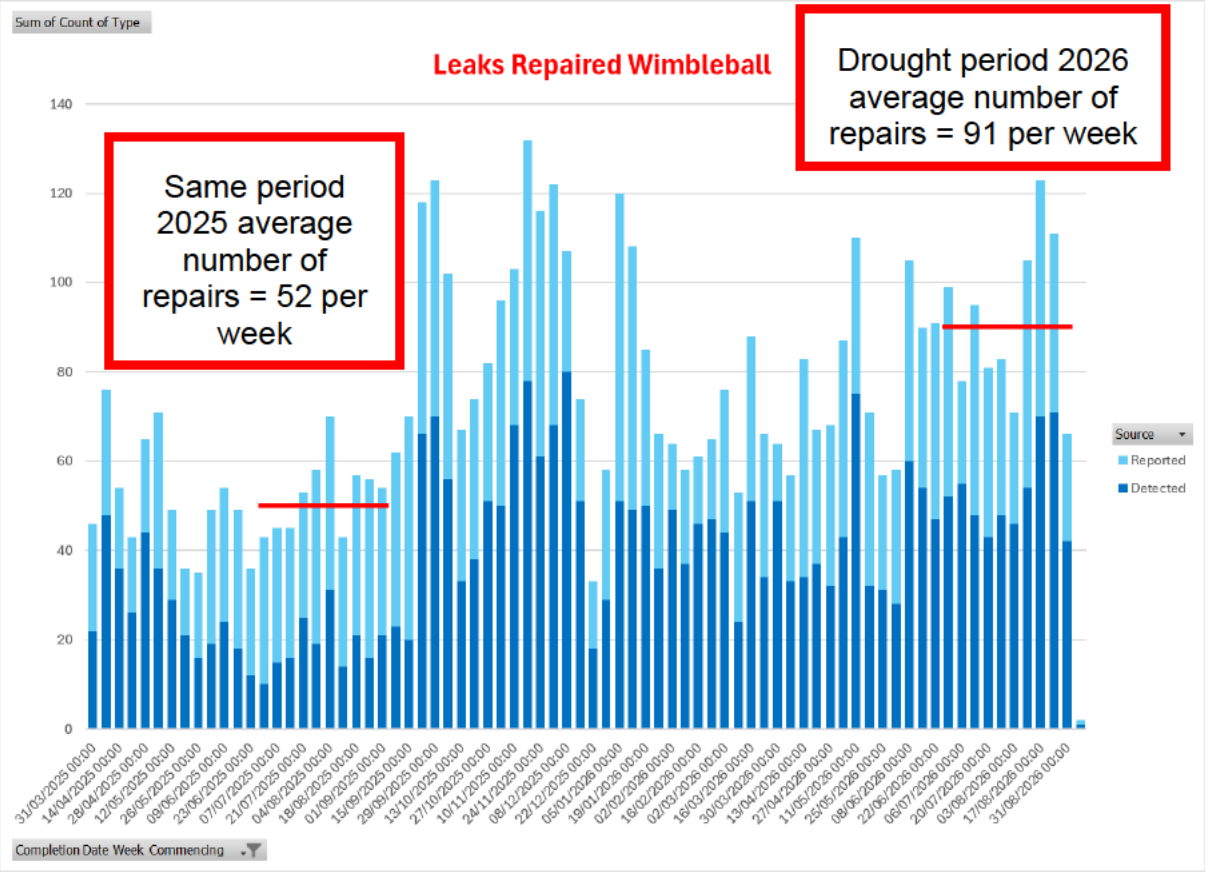


Figure 12: Number of leaks repaired

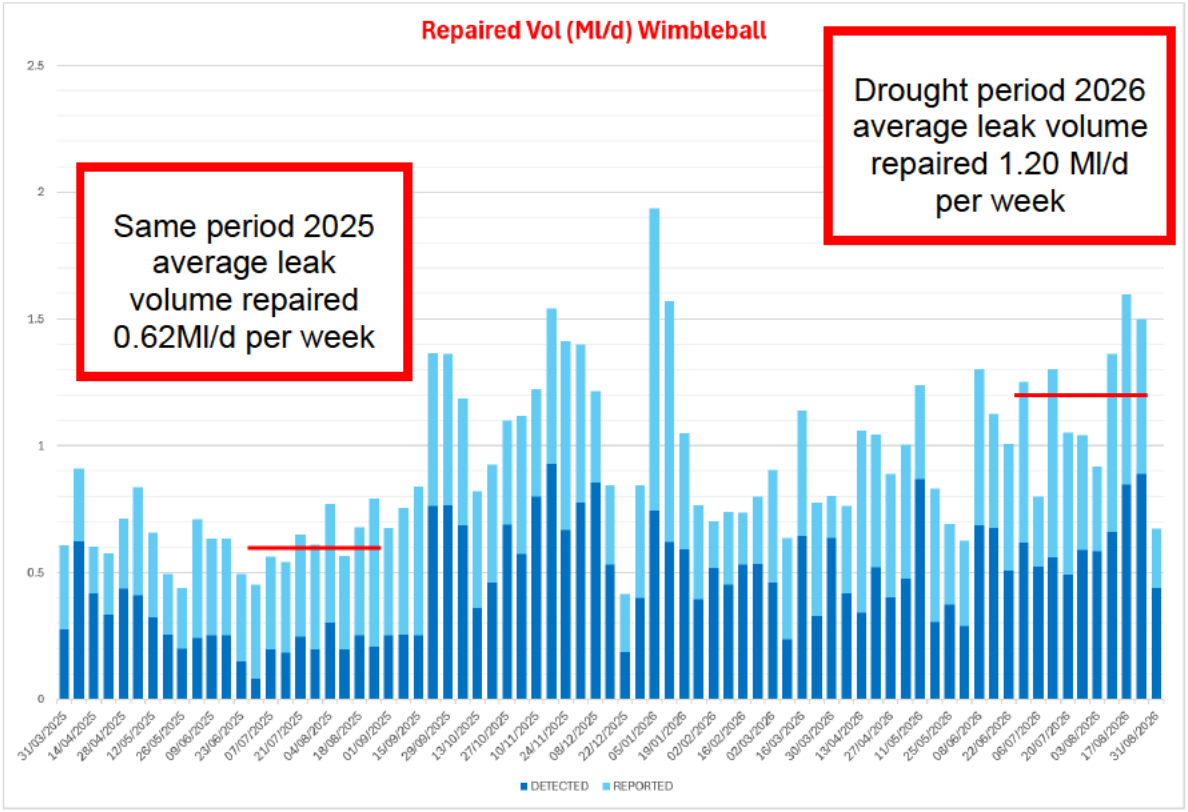


Figure 13: Repaired leak volume from April 2025 onward.

The prolonged period of hot and dry weather has increased demand and placed additional stress on the network, resulting in higher levels of burst activity linked to drying soils. July 2026 saw around 50% more burst mains than July 2025 and around 18% more than July 2024, demonstrating the increased pressure experienced across the network during the recent hot and dry weather period.

Leakage detection and repair volumes have substantially risen in the Wimbleball area as part of our targeted response to drought. We have found ~50% more leaks in 2026 compared to an equivalent period in 2025 and then undertake 75% more repairs in response to these. We estimate that these leak repairs provide a benefit of ~1.2 Ml/d a week in 2026 compared with 0.6 Ml/d a week in 2025.

3.4. Management of outage

Since the ESOR period began there have been outages greater than 24 hours totalling 2.03 Ml/d, of which 0.96 Ml/d was unplanned, and 1.07 Ml/d planned. The relevant sources impacted were:

- **Dotton WTW** – unplanned outage (started in Feb) where borehole had to be taken offline due to poor water quality following heavy rainfall and high river levels. Borehole was brought back into service as soon as water quality was confirmed as satisfactory.
- **Ottery WTW** – borehole taken offline for camera inspection and to allow recovery of water level. The camera survey of the borehole was needed to understand performance and the outage period allowed recovery of the level in the borehole prior to it being brought back online.
- **Pynes WTW** – a planned outage for routine cleaning of one of the clarifiers, and an unplanned outage where works flow had to be reduced due to elevated levels of MIB (2-Methylisoborneol) in the raw water. MIB is a compound which imparts a taste and odour to the water – the treatment process was not able to adequately remove the MIB and low levels in the treated water resulted in taste and odour contacts from customers. Cleaning of the clarifier at Pynes was necessary to ensure demand could be met during the summer period. The reduced flow was necessary to manage water quality – additional temporary treatment was installed to aid removal of MIB so the works output could be returned to normal as soon as possible.

With the very high demands in the Wimbleball area during the heatwaves we have had to increase manning of treatment works to ensure maximum works output was sustained. Additional resources were deployed out of hours to ensure the planned clean of the clarifier at Pynes was completed as quickly as possible. This was also the case with the recent water quality issues at Pynes, with rapid mobilisation of temporary treatment on site.

The above outages did not affect our ability to supply customers and there has been no overall impact on the WRZ supply demand balance.

4. Plan for water shortage

The EA's Drought Planning Guidance, including supplementary guidance on Drought Permits and Orders, outlines that a drought order application should provide details of our plan for dealing with water shortage, in alignment with our Drought Plan. This section provides our high-level communications plan regarding implementation of NEUBs, and any further drought actions

in Section 4.1. It then outlines the steps we are planning to take to deal with water shortage in Section 4.2.

4.1. Communications

Regarding NEUBs, we informally contacted retailers via telephone to inform them of our intention to submit an application the week before applying. At time of writing, we plan to send written communications to retailers via email a day before submitting our application, confirming our intent to submit. We will address any questions retailers may have during the determination period directly, and through our website outlining further details.

Should a NEUB be implemented, we would issue emails and call retailers to inform them with as much advance notice as possible. We would aim to provide FAQs to address any questions or concerns related to either their retail business or their customers who might be impacted by the restrictions.

Prior to NEUB implementation, we would engage with retailers to understand and tailor our approach to communications with their customers, based on their advice and preferences. We would aim to adjust our approach depending on each retailer in order to work collaboratively, for example discussing whether communications would be best sent from ourselves as the wholesaler, or through the retailer. We would consider hosting a webinar prior to implementation to give retailers the opportunity to discuss NEUBs with us, and allowing us to respond to any questions.

Should any further drought actions be required, we would use the draft Emergency Plan framework that we have developed this year to structure our communications with customers and stakeholders. We have been undertaking additional work to ensure that we are prepared to communicate more extreme messages to customers, aiming to build up urgency in messaging rather than suddenly publishing harsh messaging regarding threats to water supply.

4.2. Emergency planning

Wimbleball Reservoir reached drought level 3 on 28th September 2026 which is the trigger for implementing our emergency drought planning response. This emergency planning activity is underway jointly with Wessex Water who also rely on Wimbleball Reservoir for water supply. This contingency planning uses a “day zero” approach to plan for the possibility of reaching a position where water supply could be lost.

The calculation of “day zero” is based on a position of continuing the current rate of Wimbleball drawdown through October and November. This implicitly assumes that there is no significant rainfall which overcomes the current soil moisture deficit to allow the start of hydrological recovery. This is not a forecast and does not consider likelihood of this event occurring but instead sets out a sequence of decisions and actions to consider if the water resource position does not improve. Both companies are identifying possible actions which would reduce the overall demand for water from Wimbleball Reservoir further. South West Water has already been granted a drought permit to cease the reservoir compensation flow whilst releases are being made for supply abstraction. The remaining options in our draft Drought Plan for both supply and demand are discussed further in Section 5.1.

Joint emergency planning meetings are being held weekly between South West Water, Wessex Water and the Environment Agency to discuss the emergency planning response.

5. Other options considered and risks if drought order refused

5.1. Other options considered

5.1.1. Supply Options

Tables 3 and 4 below list the other actions which could increase our supply that are considered within our draft Drought Plan. This includes actions identified as viable options in our draft Drought Plan 2027, and those that were rejected from our preferred plan. These cover all the options in the currently published 2022 Drought Plan.

Emergency contingency planning is currently underway, including liaison with the EA, Defra and Wessex Water. This includes a review of the actions included and screened out from our draft Drought Plan 2027, as well as wider potential emergency actions. See Section 4.2 for further detail on emergency planning underway.

No additional options that would be beneficial in the current situation were identified. We will continue to review the potential options as the dry weather progresses to identify when it may be appropriate to implement any additional actions as part of our ongoing Drought Management Group in line with our Drought Plan.

Table 3: Draft Drought Plan 2027 – supply options in preferred plan (Appendix 3, section A3.2.2)

Action ID	Action Name	Action Type	Drought Level	Action Status
W-03	Wimbleball Reservoir – reduce compensation flow	Drought Permit	2	Application submitted 16th September 2026, granted by EA 2nd October 2026, implemented by SWW 3rd October 2026.
W-24	Colaton Raleigh boreholes - improved abstraction control	Action	2	Current demand is too high to take boreholes offline for the required time to upgrade abstraction control, otherwise ready to implement.
W-09	River Exe to Wimbleball Reservoir - extend pumped storage abstraction season to include April and May	Drought Permit	2	Only valid in April and May.
W-06	Brampford Speke & Stoke Canon - abstract from new source	Drought Order (discharge to Exe)	3a	This action preserves Wimbleball reservoir storage for longer, enabling supply releases to be abstracted from the River Exe for longer. We will not be implementing this as a standard Drought Plan action this autumn.
W-22	Wimbleball Reservoir - reduce fish bank releases	Drought Permit	3b	This action preserves Wimbleball reservoir storage for longer, enabling supply releases to be abstracted from the River Exe for longer. The Environment Agency have already requested a fisheries release in August 2026 which

				reduce Wimbleball storage by ~3%.
W-26	Wessex Water to reduce abstraction from Wimbleball Reservoir as far as feasible within their operating constraints L1	Action	1	This action preserves Wimbleball reservoir storage for longer, enabling supply releases to be abstracted from the River Exe for longer. South West Water and Wessex Water are working together to align operations where feasible. Both companies implemented temporary use bans in August 2026 covering the Wimbleball and Wessex WRZs.
W-27	Wessex Water to reduce abstraction from Wimbleball Reservoir as far as feasible within their operating constraints L2	Action	2	This action preserves Wimbleball reservoir storage for longer, enabling supply releases to be abstracted from the River Exe for longer. South West Water and Wessex Water are working together to align operations where feasible. Both companies implemented temporary use bans in August 2026 covering the Wimbleball and Wessex WRZs.
W-28	Wessex Water to reduce abstraction from Wimbleball Reservoir as far as feasible within their operating constraints L3a	Action	3a	This action preserves Wimbleball reservoir storage for longer, enabling supply releases to be abstracted from the River Exe for longer. South West Water and Wessex Water are working together to align operations where feasible. Both companies implemented temporary use bans in August 2026 covering the Wimbleball and Wessex WRZs.

Table 4: Draft Drought Plan 2027 – supply options screened out of preferred plan (Appendix 3, section A3.2.3)

Action ID	**Action Name**	**Rejection Reason in Drought Plan**
W-01	Quartermile Lane booster pumping	This is now a BAU pumping arrangement
W-02	Musbury booster pumping	Water quality issues, would require flushing. Resilience benefit only, no benefit in this situation as Quartermile Lane is the key network transfer point for this area.
W-04	Hook Springs - remove annual abstraction limit	Yield constrained in dry weather. Annual limit increase not beneficial in this situation.

W-05	Wilmington Springs - remove annual abstraction limit	Yield constrained in dry weather. Annual limit increase not beneficial in this situation.
W-07	Otter Valley licences - increase annual abstraction limit	Screened out because waiting to see conditions on new Otter Valley licences. Annual limit increase not beneficial in this situation.
W-08	Otter Valley boreholes - stream support suspension	Screened out because waiting to see conditions on new Otter Valley licences.
W-10	Coleford borehole - abstract from new source	Low yield and radioactivity risk
W-11	Knowle borehole - abstract from new source	Low yield and radioactivity risk
W-12	River Exe for Tiverton WTW - reduce prescribed flow	Likely to be little water available during drought conditions. Not a constraint while Wimbleball supply releases available.
W-13	River Exe for Exeter WTW - reduce prescribed flow	Likely to be little water available during drought conditions. More likely to be needed if lose Licence of Right. Not a constraint while Wimbleball supply releases available.
W-14	Squabmoor Reservoir - abstract from new source	No treatment infrastructure, water quality concerns.
W-15	Increase depth of borehole pumps	Screened out until specific sites identified. Abstraction licence daily limits are the key constraint, so no benefit identified.
W-16	Increase Roadford WRZ to Wimbleball WRZ transfers	This is a BAU activity, the balance of transfers varies within and between years. Transfers have been maximised as much as possible to increase supply in Wimbleball WRZ.
W-17	Stop transfers from Wimbleball WRZ to Roadford WRZ	This is a BAU activity, the balance of transfers varies within and between years. Transfers have been minimised as much as possible to increase supply in Wimbleball WRZ.
W-18	Reviewing and implementing actions to optimise current sources and network	Replaced by individual actions
W-19	Temporary booster pumping stations	Replaced by individual actions
W-20	East Devon boreholes - increase annual abstraction limits	Most likely to be yield limited in dry weather. Review once changes to Otter Valley licences known.

W-21	Wistlandpound Reservoir - reduce compensation flow	Compensation flow >Q99.9. Low benefit as compensation flow = 0.7 Ml/d. Wistlandpound storage not a constraint in this situation.
W-23	Otter Valley G4C borehole - abstract from new source	Screened out of Drought Plan actions because it is due to be included in new Otter Valley abstraction licences. Action implemented in July 2026 under EA Local Enforcement Position while waiting for new licences to be issued.
W-25	Otter Valley D1 borehole - improved abstraction control	Delivered by DWS, now BAU.

5.1.2. Demand Options

The table below summarises our demand side actions listed in our draft Drought Plan. We have provided an explanation against each in the context of our current overall drought response.

Table 5: Draft Drought Plan 2027 – demand actions (Appendix 3, section A3.1)

Action Name	**Drought Level**	**Summary against in current situation**
Customer communications campaign	1a	Implemented see section 3.1.
Customer side leakage	1a	Implemented see section 3.3.
Free water saving devices	1a	Implemented see section 3.1.
Household and business efficiency audits	1b	Implemented see section 3.1.
Company use of water (internal to Pennon)	1b	Implemented see section 2.2.
Leakage control and pressure management	1b	Implemented see section 3.3.
Reward through billing	1b	Under consideration – see narrative below table.
TUB with exemptions	2	Implemented see section 3.2.
NEUB	3a	Current application.
Removal of some TUB exemptions	3a	Under consideration – see narrative below table.

We are currently exploring a method by which to implement a ‘Reward through billing’ approach for community level demand reduction that would focus on household customers and apply in the Wimbleball WRZ. This approach is primarily aimed at keeping a focus on reducing water

use through the winter months to support reservoir recharge. Details of the proposed scheme and how we can achieve wide enough take-up are currently being considered and this may be implemented in coming weeks. 'Reward through billing' is not an 'immediate impact' option as there is a disconnect between billing frequency and action so is not thought to offer an immediate relief from the current high demand and low rainfall position.

To supplement potential implementation of a NEUB we are also considering if there is a non-household and/or retailer incentive that could be successfully delivered and offered across the region. This would go beyond the actions outlined in our draft Drought Plan. We are currently looking at effectiveness of other similar schemes and the potential costs and delivery mechanisms for this.

At drought level 3 we also include in our draft Drought Plan the option to remove exemptions from our TUB. This would mean that certain activities such as watering freshly laid turf or newly planted trees would be excluded as well as certain individuals who are currently exempt on health or disability grounds. Evidence suggests that TUBs are effective primarily in hot and dry weather conditions – and our assessment of the impact of our TUB supports this view (see Section 3.2.2). Therefore, we are carefully considering whether removal of exemptions would deliver any additional benefit as we head into the autumn and winter months when temperatures are cooler.

5.2. Risks if drought order is refused

If this order is not granted, there will be increased risk to security of supply if the current ESOR persists, both in the current year and for winter refill in preparation for next year. In our "day zero" emergency planning work, every possible action will move the risk of "day zero" further out. There are no other feasible options that deliver benefit with no significant risk of environmental impact.

6. Notices

The following sections explain where we have provided notice as required in Schedule 8 to the Water Resources Act 1991.

6.1. Public notices

6.1.1. Newspapers

We have published public notices on Tuesday 6th October 2026 in the following newspapers:

- National: London Gazette
- Local: Western Morning News

We will provide evidence to Defra of these notices appearing in print to follow on from this application when they are available.

6.1.2. Website

We have published public notices, our drought order application and the supporting documents on the South West Water website alongside NEUB FAQs to ensure customers in the affected areas have a single point of information.

https://www.southwestwater.co.uk/non-essential-use-ban

6.2. Notice sent to specified bodies

EA guidance states that specified bodies for drought orders include the EA, local authorities, other water companies.

We have provided notice on Tuesday 6th October 2026 via email to Dorset Council, Mid Devon District Council, East Devon District Council, Exeter City Council, Teignbridge District Council, North Devon District Council and Devon County Council as the local authorities covering the area that the drought order application affects. This notice has been sent to senior leaders at each council.

We have provided notice on Tuesday 6th October to water retailers operating in Wimbleball WRZ via email, as well as IWNL Water and Last Mile Water NAVs. We have also provided notice on Tuesday 6th October 2026 to Wessex Water, as they also abstract from Wimbleball Reservoir, the primary source of concern in the WRZ.

Navigation authorities would not be impacted by the drought order in the terms set out in the EA's Drought Planning Guidance, as it would not directly impact any watercourse.

7. Description of public inspection arrangements

As outlined in Paragraph 1(3)(b) of Schedule 8 to the Water Resources Act 1991 a complete copy of our drought order application is available for inspection by anyone for 7 days from the date of notice; Tuesday 6th October 2026. These will be available until the end of the day on Tuesday 13th October 2026 at the following location:

- South West Water, Peninsula House, Rydon Lane, Exeter, EX2 7HR
    - Monday – Friday, 09:00-17:00
- https://www.southwestwater.co.uk/non-essential-use-ban

8. Pre-application discussions

In preparation for this drought order application, SWW met with the Environment Agency on the 30th September to discuss our approach.

Appendix 1

Draft Drought Order

South West Water

STATUTORY INSTRUMENTS

2026 No. XXXX

WATER RESOURCES, ENGLAND

South West Water Ltd (Wimbleball WRZ) (Non-Essential Use) Drought Order 2026

Made - - - -	*XXXXX 2026*
Coming into force - -	*XXXXX 2026*

The Secretary of State is satisfied, as mentioned in section 73(1)(a) of the Water Resources Act 1991(**a**) ("the Water Resources Act") that, by reason of an exceptional shortage of rain, a serious deficiency of supplies of water is threatened in the Wimbleball Water Resource Zone ("WRZ") of South West Water Limited ("the Company"), being the areas referred to in article 1(6) of the following Order ("the specified areas").

An application to the Secretary of State has been made by the Company for an ordinary drought order under section 73(3)(b) of the Water Resources Act(**b**).

The Secretary of State is satisfied that the proper notices of the application have been published and served by the Company in accordance with paragraph 1 of Schedule 8 to the Water Resources Act(**c**).

[In accordance with paragraph 2(1)(b) of Schedule 8 to the Water Resources Act, an opportunity of appearing before and being heard by a person appointed by the Secretary of State for the purpose has been afforded to the objectors, the Company and other persons to whom it appeared to the Secretary of State expedient to afford such an opportunity.]

Under section 74(2)(b) of the Water Resources Act, the Secretary of State has given to water undertakers generally a direction dated 29th March 2011 and entitled the Drought Direction 2011(**d**).

It appears to the Secretary of State expedient, with a view to meeting the deficiency of supplies of water in the specified areas, to authorise the Company, under section 74(2)(b) of the Water Resources Act, to prohibit or limit the use of water which it supplies in the specified areas for certain purposes, being the purposes set out in the Drought Direction 2011.

(a) 1991 c. 57. Section 73(1) of the Water Resources Act 1991 as amended by paragraph 139(1) and (2) of Schedule 22 to the Environment Act 1995 (c.25) and by S.I. 2013/755.
(b) Section 73(3) of the Water Resources Act 1991 as amended by paragraphs 128, and 139(1) and (3), of Schedule 22 to the Environment Act 1995 (c.25) and by S.I. 2013/755.
(c) Paragraph 1(2) of Schedule 8 as amended by paragraph 128 of Schedule 22 to the Environment Act 1995 (c.25) and by paragraph 3(7) of Part 1 of Schedule 11 to the Local Government (Wales) Act 1994 (c.19) and S.I. 2010/765 and 2013/755.
(d) A copy of the Drought Direction 2011 can be obtained from Water Supply & Regulation Division, Department of Environment, Food and Rural Affairs, Room 304, 55 Whitehall c/o 3-8 Whitehall Place, London SW1A 2HH [UPDATE ADDRESS].

DRAFT

The Secretary of State makes the following Order in exercise of the powers conferred by sections 73(1), 74(2)(b) and 74(5)(a) of, and paragraph 2(5) of Schedule 8 to, the Water Resources Act(**e**):

Citation, commencement, interpretation and application

1. (1) This Order may be cited as the South West Water Limited (Non-Essential Use) Drought Order 2026.

(2) This Order shall come into force on XXXXX 2026.

(3) In this Order—

"the Act" means the Water Industry Act 1991;

"the 2010 Order" means the Water Use (Temporary Bans) Order 2010 (S.I. 2010/2231)

"health or safety reasons" includes—

(a) removing or minimising any risk to human or animal health or safety; and

(b) preventing or controlling the spread of causative agents of disease;

"hosepipe" has the same meaning as in section 76A of the Act;

"non-domestic building" means any of the following not being domestic premises within the meaning of section 76(2)(i) of the Act and article 12(3) of the 2010 Order —

(a) a building that is not used principally as a dwelling or dwellings;

(b) any other structure.

"the Company" means South West Water Limited; and

"signed plan" means the plan prepared in duplicate, signed on behalf of the Secretary of State for Environment, Food and Rural Affairs and marked South West Water Limited (Wimbleball WRZ) (Non-Essential Use) Drought Order 2026, one duplicate of which has been deposited and is available for inspection at the offices of the Company and the other at the offices of the Water Supply & Regulation Division, Department of Environment, Food and Rural Affairs, Room 304, 55 Whitehall Place, London SW1A 2HH [UPDATE ADDRESS].

(4) Using a hosepipe, in relation to a purpose set out in articles 3 to 12 of this Order, includes the following—

(a) drawing relevant water through a hosepipe from a container and applying it for the purpose;

(b) filling or partly filling a container with relevant water by means of a hosepipe and applying it for the purpose.

(5) In paragraph (4), "relevant water" does not include water supplied by a water undertaker before the use of water to which the purpose relates was prohibited under an ordinary drought order.

(6) This Order applies in relation to water supplied by the Company in any part of its Wimbleball WRZ area of supply. The Wimbleball Water Resource Zone includes Exeter, Exmouth, Crediton, Sidmouth, Tiverton and surrounding areas in Mid and East Devon together with parts of Dorset, including Lyme Regis.

DRAFT

(e) Section 73(1) of the Water Resources Act 1991 as amended by paragraph 139(1) and (2) of Schedule 22 to the Environment Act 1995 (c.25) and by S.I. 2013/755.

Power to prohibit or limit the use of water for certain purposes

2. The Company may prohibit or limit the use of water for any of the following purposes set out in articles 3 to 12 of this Order.

Purpose 1: watering outdoor plants on commercial premises

3. (1) Watering the following plants on commercial premises using a hosepipe—

(a) plants which are in a pot or other container that is outdoors or under cover;

(b) plants which are in the ground under cover.

(2) The purpose specified in paragraph (1) does not include watering plants that are—

(a) grown or kept for sale or commercial use; or

(b) part of a National Plant Collection or temporary garden or flower display.

(3) In this article—

"commercial premises" means any land, building, other structure or premises not being domestic or other non-commercial premises within the meaning of section 76(2)(c) of the Act and article 6(2) of the 2010 Order;

"grown" includes cultivated or propagated;

"National Plant Collection" means a plant collection which is part of the National Council for the Conservation of Plants and Gardens' National Plant Collection scheme;

"plants" includes plant organs, seeds, crops and trees;

"temporary garden or flower display" means a garden or flower display that is—

(a) at a show or exhibition; and

(b) on public display for a period not exceeding 7 days; and

"under cover" means in a greenhouse or outbuilding or under a permanent canopy.

Purpose 2: filling or maintaining a non-domestic swimming or paddling pool

4. (1) Filling or maintaining a swimming or paddling pool other than a domestic swimming or paddling pool within the meaning of section 76(2)(e) of the Act and article 8(2) of the 2010 Order.

(2) The purpose specified in paragraph (1) does not include—

(a) filling or maintaining a pool that is open to the public;

(b) filling or maintaining a pool where necessary in the course of its construction;

(c) filling or maintaining a pool using a hand-held container which is filled with water drawn directly from a tap;

(d) filling or maintaining a pool that is designed, constructed or adapted for use in the course of a programme of medical treatment;

(e) filling or maintaining a pool that is used for the purpose of decontaminating animals from infections or disease;

(f) filling or maintaining a pool that is used in the course of a programme of veterinary treatment;

(g) filling or maintaining a pool in which fish or other aquatic animals are being reared or kept in captivity;

(h) filling or maintaining a pool that is for use by pupils of a school for school

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swimming lessons.

(3) For the purposes of article 4(2)(a), a pool is not open to the public if it may only be used by paying members of an affiliated club or organisation.

Purpose 3: filling or maintaining a pond

5. (1) Filling or maintaining—

(a) a non-domestic pond; or

(b) a domestic pond within the meaning of section 76(2)(g) of the Act and article 10(2) of the 2010 Order.

(2) The purpose specified in paragraph (1) does not include—

(a) filling or maintaining a pond in which fish or other aquatic animals are being reared or kept in captivity;

(b) filling or maintaining a pond using a hand-held container which is filled with water drawn directly from a tap.

(3) The purpose specified in paragraph (1)(b) does not include filling or maintaining a domestic pond using a hosepipe.

Purpose 4: operating a mechanical vehicle-washer

6. Operating a mechanical vehicle-washer, whether automatic or not.

Purpose 5: cleaning any vehicle, boat, aircraft or railway rolling stock

7. (1) Cleaning any vehicle, boat, aircraft or railway rolling stock using a hosepipe.

(2) The purpose specified in paragraph (1) does not include cleaning any vehicle, boat, aircraft or railway rolling stock for health or safety reasons.

(3) In this article—

"boat" means a vessel or other thing which—

(a) is designed, constructed or adapted to move through, in, on or over water; and

(b) is not a private leisure boat within the meaning of section 76(2)(d) of the Act and article 7(3) of the 2010 Order; and

"vehicle" means any of the following not being a private motor-vehicle within the meaning of section 76(2)(b) of the Act and article 5 of the 2010 Order—

(a) a vehicle designed, constructed or adapted for use on roads; or

(b) a trailer or other thing designed, constructed or adapted for attachment to a vehicle falling within sub-paragraph (a) of this definition.

Purpose 6: cleaning non-domestic premises

8. (1) Cleaning any of the following using a hosepipe—

(a) any exterior part of a non-domestic building other than a window;

(b) a non-domestic wall.

(2) The purpose specified in paragraph (1) does not include the cleaning of any exterior part of a non-domestic building or a non-domestic wall for health or safety reasons.

(3) In this article, "non-domestic wall" means a wall or any other enclosing structure or partition which—

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(a) does not form part of a non-domestic building; and

(b) is not within the curtilage of a domestic building.

Purpose 7: cleaning a window of a non-domestic building

9. Cleaning a window of a non-domestic building using a hosepipe other than for health or safety reasons.

Purpose 8: cleaning industrial plant

10. Cleaning industrial plant using a hosepipe other than for health or safety reasons.

Purpose 9: suppressing dust

11. Suppressing dust using a hosepipe other than for health or safety reasons.

Purpose 10: operating cisterns

12. (1) Operating a cistern in any building that is unoccupied and closed.

(2) In this article, "cistern" means an automatically-operated flushing cistern which services a water closet pan or urinal.

Duration of authorisation

13. The authorisation given by article 2 shall cease to have effect on XXXX 2026.

INSERT DATE/SIGNATURE

[TITLE] on behalf of the Secretary of State for Environment, Food and Rural Affairs

EXPLANATORY NOTE

(This note is not part of the Order)

This Order, which is made on the application of South West Water Limited ("the Company"), makes provision to meet a serious deficiency of supplies of water which is threatened in its Wimbleball Water Resource Zone area of supply as a result of an exceptional shortage of rain.

It authorises the Company to prohibit or limit the use of water supplied by it for certain purposes, being purposes set out in the Drought Direction 2011.

The authorisation given by this Order ceases to have effect on XXXX 2026.

A copy of the Drought Direction 2011, which was given by the Secretary of State to water undertakers generally on 29th March 2011, can be obtained from Water Supply & Regulation Division, Department of Environment, Food and Rural Affairs, Room 304, 55 Whitehall c/o 3-8 Whitehall Place, London SWlA 2HH [UPDATE ADDRESS].

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Appendix 2

Exceptional Shortage of Rainfall Assessment

South West Water

Addendum for NEUB Drought Order Application

This ESOR assessment was first undertaken for SWW's drought permit application in mid-September. This assessment relied on forecast rainfall data from 13th to 30th September. The total rainfall for September in the assessment is 43.9 mm. For this Drought Order application the outturn data for September has now been calculated as 42.6 mm which is 1.3 mm lower than was forecast.

The March to September total rainfall for the ESOR assessment is 264.8 mm which based on the updated outturn data would be 263.5 mm which is less than 0.5% difference. The ESOR case and its conclusions have therefore not materially changed and the following analysis has not been updated.

The only updates to this document compared with the drought permit submission in mid-September are to Section 5 "Forward Look" and an additional Appendix B which includes the outturn September rainfall data.

Executive summary

This report demonstrates the Exceptional Shortage of Rainfall (ESOR) in Wimbleball Water Resource Zone (WRZ) from March to September 2026 and its subsequent impacts on the hydrological situation which has led to South West Water's application for a drought permit in the Wimbleball WRZ. The Environment Agency's Devon, Cornwall and the Isles of Scilly Area officially moved to 'Prolonged Dry Weather' status on 16 July 2026 following the period of dry weather which started in March 2026.

Rainfall analysis has been undertaken for the period March to September 2026, using observed rainfall data up to 12 September and forecast rainfall data from 13-30 September. The analysis uses established techniques outlined in the Environment Agency technical ESOR guidance using the Environment Agency's Daily Rainfall Tool (DRT) dataset for the Wimbleball WRZ. Analysis of additional variables has also been included to demonstrate the subsequent impacts of the ESOR on the hydrological and water supply systems.

The conclusions from this ESOR assessment demonstrate;

- Wimbleball WRZ rainfall for the period March to September 2026 (with forecast rainfall covering the period 13-30 September) is categorised as "Exceptionally Low" based on ranked rainfall probability bands. The analysis demonstrates this 7 month period had only 54.5% of the March-September long term average (LTA) rainfall.
- Wimbleball WRZ rainfall for the period March to September 2026 was the 2nd driest on record, categorised as "Exceptionally Low" based on ranked rainfall probability bands and "Extremely Dry" based on rainfall SPI analysis.
- Soil Moisture Deficit (SMD) for south-west England exceeded historic maxima in August 2026.
- Record breaking high temperatures have been experienced across the south west of England in 2026, with five successive heatwaves and prolonged high temperatures experienced across the Wimbleball WRZ during May to August.
- An analysis of rainfall and potential evapotranspiration across the Wimbleball WRZ using the SPEI technique shows that March to September 2026 was the most severe on record.
- Gauged river flows at Thorverton on the River Exe have dropped below the Wimbleball Reservoir augmentation threshold and will require sustained above average rainfall for

flows to recover and augmentation to stop. Recovery is unlikely to occur until the late autumn.

- The Met Office 3-month outlook for September to November and the UK Hydrological Outlook for the same period suggest that temperatures are likely to remain higher than average, with only a slightly increased chance of above average rainfall in the late autumn. The effects of the March to September 2026 ESOR are unlikely to be ameliorated in the near future.

Contents

Addendum for NEUB Drought Order Application 1
Executive summary 1
1. Introduction 5
1.1. Purpose 5
2. Assessment 5
2.1. Rainfall data 5
2.2. Period of analysis 6
2.3. Geographical extent of analysis 6
3. Rainfall Analysis 7
3.1. Cumulative Rainfall Analysis 7
3.2. Rainfall Ranking and Probability Bands 10
3.3. Standardised Precipitation Index Analysis 11
3.4. Rainfall Analysis Summary 13
4. Analysis of Additional Variables 13
4.1. Soil Moisture Deficit 13
4.2. Temperature 14
4.3. Standardised Precipitation-Evapotranspiration Index Analysis 16
4.4. River Flows 18
5. Forward Look 19
5.1. One Month Outlook 19
5.2. Three Month Outlooks 19
6. Summary 19
Annex A - September rainfall forecast data sources 21
Annex B - September rainfall outturn data sources 22

Figures

Figure 1 Wimbleball WRZ Thiessen polygons and rain gauge locations 5
Figure 2 Map of Wimbleball WRZ Wimbleball Reservoir just to the north 7
Figure 3 Wimbleball WRZ monthly rainfall totals from March to September 2026 8
Figure 4 Wimbleball WRZ monthly rainfall totals as a percentage of LTA from March to September 2026 9
Figure 5 Wimbleball WRZ cumulative monthly rainfall from March to September 2026 9
Figure 6 Wimbleball WRZ cumulative monthly rainfall as a percentage of LTA from March to September 2026 10

Figure 7 Wimbleball WRZ rainfall probability bands for March to September total rainfall 11
Figure 8 Wimbleball WRZ rainfall SPI since March 2026 12
Figure 9 Wimbleball WRZ 7 month (March to September) SPI for full period of record 12
Figure 10 MORECS soil moisture deficit (SMD) for Devon and Cornwall EA Area 13
Figure 11 March to August mean temperature for SW England and S Wales Region – 1884-2026 15
Figure 12 Wimbleball WRZ daily mean temperature for 1991 to 10 September 2026 15
Figure 13 Wimbleball WRZ daily temperature for 01 March to 10 September 2026 16
Figure 14 Wimbleball WRZ Cumulative SPEI from March to September 2026 17
Figure 15 Wimbleball WRZ 7 month cumulative SPEI (March to September 2026) 17
Figure 16 Gauged flows at Thorverton on the River Exe for 2022 and 2026 compared to prescribed flow threshold and Wimbleball supply releases 18

Tables

Table 1 Monthly rainfall totals for 2026 compared to LTAs for Wimbleball WRZ 8
Table 2 Driest 10 ranked years of rainfall totals from March to September 10

List of Acronyms

EA – Environment Agency

EA DRT – Environment Agency Daily Rainfall Tool (rainfall dataset)

ESOR – Exceptional Shortage of Rainfall

SMD – Soil Moisture Deficit

SPEI – Standardised Precipitation-Evapotranspiration Index

SPI – Standardised Precipitation Index

WRZ – Water Resource Zone

1. Introduction

1.1. Purpose

An Exceptional Shortage of Rainfall (ESOR) assessment has been undertaken by South West Water as evidence of the need for a drought permit for Wimbleball Reservoir. The legal criteria that must be met in granting a drought permit or order include: "If the Secretary of State/Environment Agency is satisfied that, by reason of an exceptional shortage of rain, a serious deficiency of supplies of water in any area exists or is threatened…" There is no prescriptive approach or set definition for assessing an ESOR. This ESOR assessment refers to guidance within the Environment Agency's supplementary guidance on Drought Permits and Drought Orders.

2. Assessment

2.1. Rainfall data

The rainfall assessment uses the Environment Agency's Daily Rainfall Tool (EA-DRT) dataset. This dataset comprises Met Office HadUK rainfall data (v1.3.1.0) from 1871 to the end of 2024 and the Environment Agency's own gridded rainfall dataset from January 2025 onwards.

The Environment Agency provided EA-DRT data for the Wimbleball Water Resource Zone (WRZ) for the period 1871 through to August 2026 (monthly rainfall totals) and 01-08 September 2026 (daily rainfall totals). Data for 09-12 September was obtained from rain gauge data available via the EA'S Hydrology Data Explorer (HDE) and an areal average calculated using the Theissen polygon method (see Figure 1 below). Forecast rainfall data provided by DTN[1] was used to extend the rainfall assessment from 13 September through to 30 September 2026. See Appendix A for a table summarising the data sources for the September rainfall.

The long term average (LTA) period used for this assessment is 1991-2020, which is the Environment Agency's standard period for hydrological and water resources assessment.

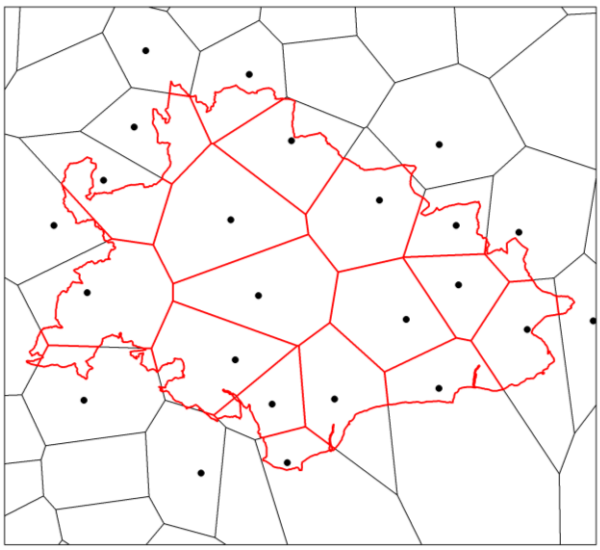


Figure 1 Wimbleball WRZ Thiessen polygons and rain gauge locations

[1] Weather - DTN

2.2. Period of analysis

The starting point for the main period of analysis considered for the ESOR is 01 March 2026. March rainfall totals for the Wimbleball WRZ were well below average at 56% of the 1991-2020 LTA. This caused a rapid recession in inflows to Wimbleball Reservoir which subsequently started to draw down from 27 March 2026. This rapid flow recession is particularly exceptional because it was preceded by the wettest winter period on record for both the November to February and December to February periods (based on a ranking analysis of the EA-DRT data for Wimbleball WRZ described in section 2.1). The benefit of this record-breaking winter rainfall did not persist within the hydrological system as would normally be expected. March 2026 is therefore considered to be the point at which the water resource situation in the Wimbleball WRZ was no longer normal.

The dry weather persisted through the spring, summer and autumn to date, with record breaking hot spells occurring in May, June and July and five widespread and prolonged heatwaves occurring over the period May to August. On 16 July, the Environment Agency Devon, Cornwall and Isles of Scilly Area officially moved to 'Prolonged Dry Weather' status, with their press release noting that:

Despite a wet start to 2026, March to May has seen Devon, Cornwall and Isles of Scilly get below-average amounts of rainfall. Rainstorms in early June did not make up for that loss with soils drier than average. Exceptionally low flows in rivers are becoming more common. Private water supplies from boreholes are beginning to struggle in places.

On 29 July, Environment Agency Devon, Cornwall and Isles of Scilly Area officially moved to 'Drought' status, with their press release noting that:

"The South West faces the same pressures as many other parts of England who are also in drought. Water demand is high, rainfall is low. The environment is feeling the strain and it is starting to show with signs of low flows in rivers and fish in distress. Every drop of water we take means there is less for the environment and we can all use water more wisely."

The end point for the period of analysis is 30 September 2026. This is just after the drought permit is likely to be determined.

2.3. Geographical extent of analysis

The geographical extent of the analysis is for the whole Wimbleball WRZ.

Wimbleball WRZ shown in Figure 2 follows the Devon border to the north and stretches from Lyme Regis in the east to Crediton in the west. Its southern border is the South Devon coastline. It includes the large population areas of Exeter, Exmouth and Tiverton.

Selection of the whole WRZ means the area considered includes a large proportion of the River Exe catchment where ESOR has resulted in low flows on the River Exe resulting in releases from Wimbleball Reservoir. It also relates to our customer area where we have seen unprecedented levels of demand driven by record breaking heat. The WRZ is currently covered by a Temporary Use Ban.

Whilst Wimbleball Reservoir lies just outside of the WRZ to the north, the natural catchment inflows to the reservoir are exceptionally small compared with release being made to support abstraction on the River Exe which is included within Wimbleball WRZ. Whilst the drawdown of the reservoir is influenced by the low inflows, it is primarily driven by high releases to support the River Exe abstraction of South West Water and the direct abstraction of Wessex Water from the reservoir itself.

Given the widespread extent of the dry conditions in 2026 the overall conclusions of this ESOR analysis are unlikely to be sensitive to the choice of geographical extent such as using the River Exe hydrological catchment area.



Figure 2 Map of Wimbleball WRZ Wimbleball Reservoir just to the north

3. Rainfall Analysis

This section presents the rainfall analysis to support ESOR. It uses established techniques which are outlined in the Environment Agency's technical guidance[2].

3.1. Cumulative Rainfall Analysis

The monthly rainfall totals for March to September 2026 in millimetres and as a percentage of the LTA are shown in Table 1 and in Figure 3 and Figure 4. The cumulative monthly rainfall was also calculated, as totals in millimetres (shown in **Table 1**) and as a percentage of the cumulative LTA (shown in Figure 6). Selected historic drought years are also shown in Figures 5 and 6 for comparison.

Monthly rainfall totals have been below average throughout the ESOR period, with just 54.5% of the March-September LTA rainfall received. Only 4.5mm rainfall fell during July. Cumulative rainfall over this 7 month period was lower than that received in 1976 and 2022. A week of rainfall in early June improved the rainfall statistics but without wider benefit to the water resource position due to the depleted soil moisture position (see Section 4.1).

[2] Hydrological guidance for the assessment of an Exceptional Shortage of Rain (ESoR). Environment Agency, March 2025 v2.1.

Table 1 Monthly rainfall totals for 2026 compared to LTAs for Wimbleball WRZ

Month	Rainfall (mm)	% of LTA	Cumulative rainfall (mm)	Cumulative % of LTA
March	42.3	56.0	42.3	56.0
April	23.9	34.9	66.2	45.9
May	40.0	65.9	106.2	51.9
June	65.6	99.0	171.8	63.4
July	4.5	7.2	176.3	52.8
August	44.6	56.1	220.9	53.4
September*	43.9	60.8	264.8	54.5

**September rainfall totals include forecast rainfall totals for 13-30 September*

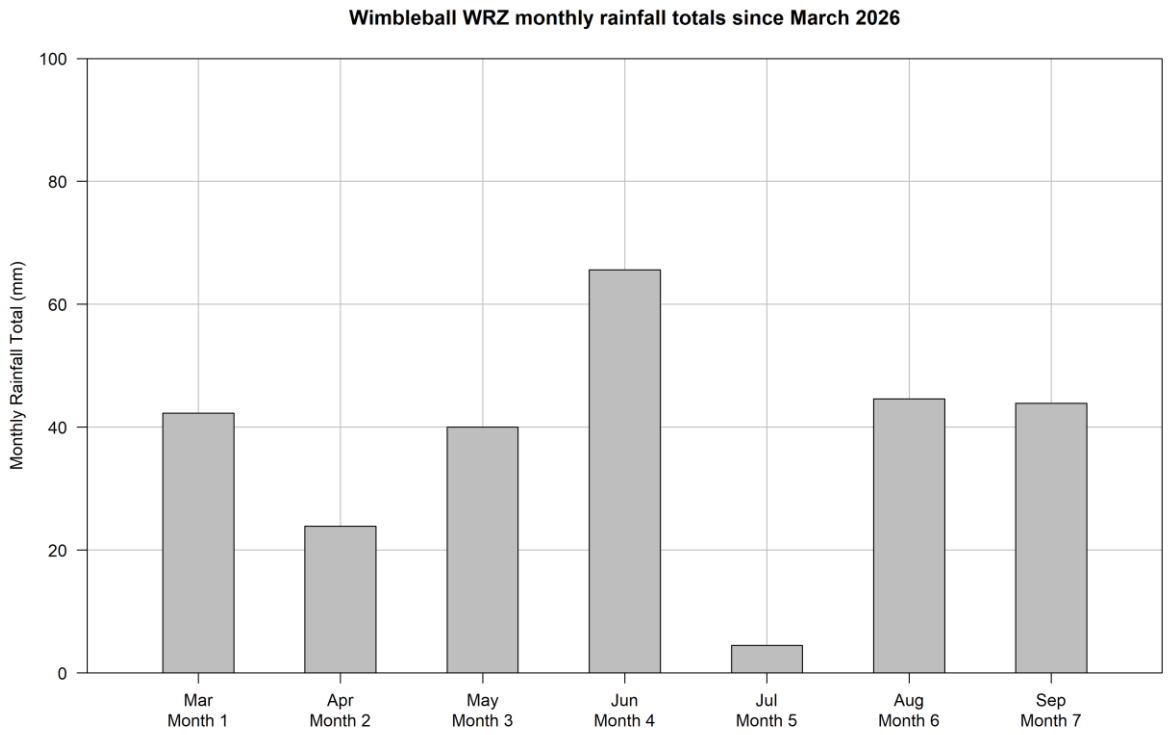


Figure 3 Wimbleball WRZ monthly rainfall totals from March to September 2026

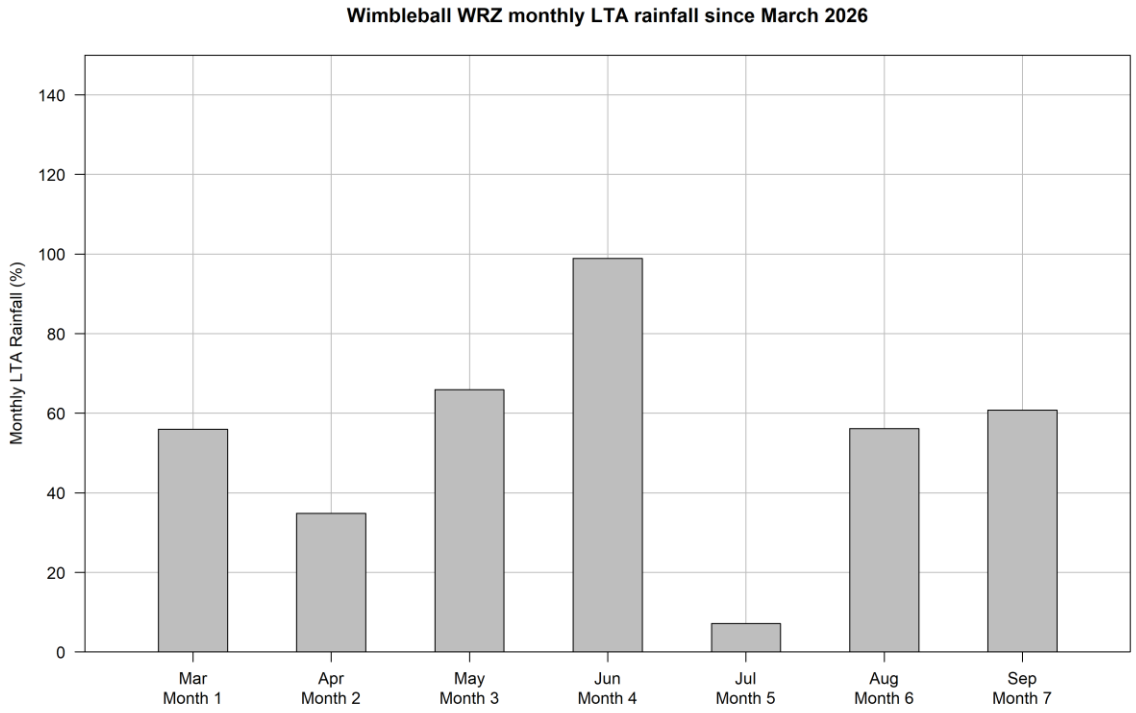


Figure 4 Wimbleball WRZ monthly rainfall totals as a percentage of LTA from March to September 2026

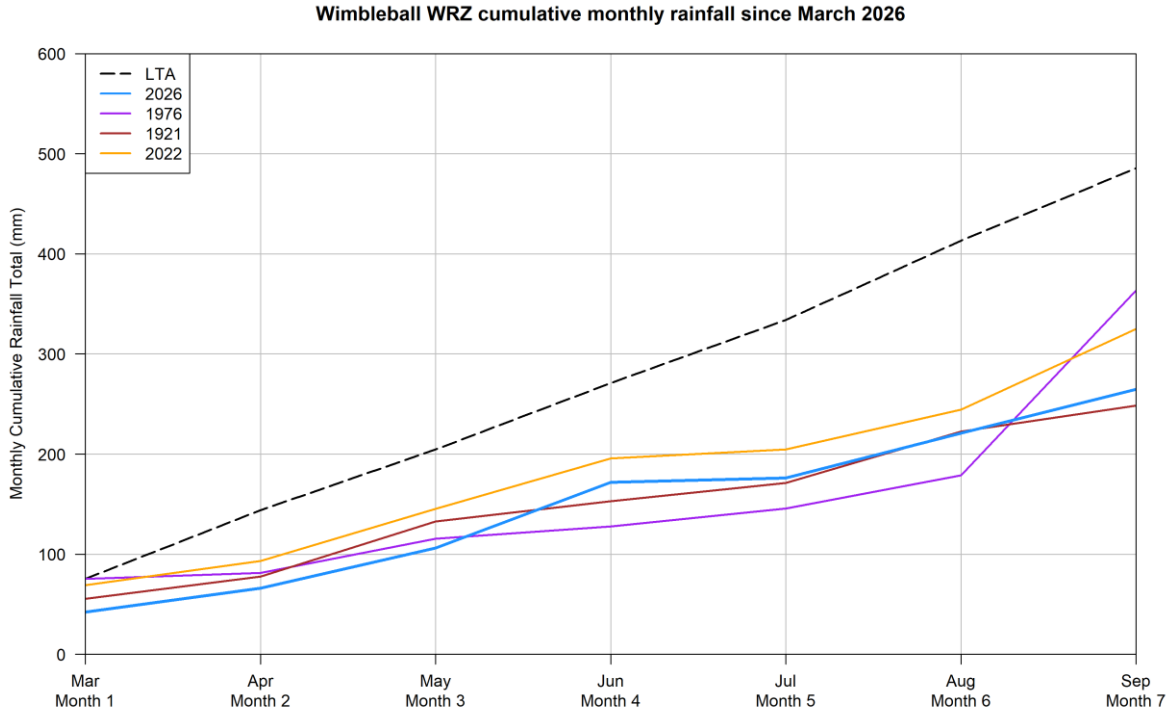


Figure 5 Wimbleball WRZ cumulative monthly rainfall from March to September 2026

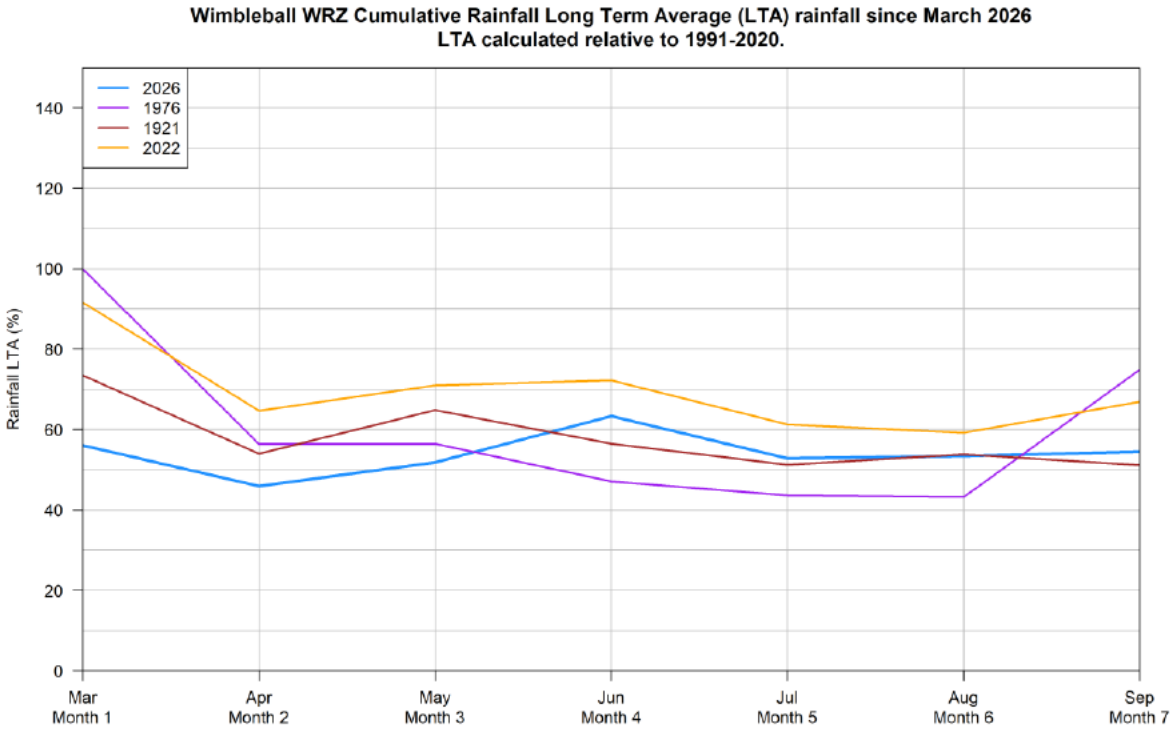


Figure 6 Wimbleball WRZ cumulative monthly rainfall as a percentage of LTA from March to September 2026

3.2. Rainfall Ranking and Probability Bands

The total rainfall for the period March-September has been calculated for each year in the historical rainfall dataset for comparison with 2026. These have been ranked from driest to wettest and expressed as a percent of the long term average. The driest 10 years are presented in Table 2. This historical context for the full period of record is presented in Figure 7.

The period from March-September 2026 received 54.5% of the LTA rainfall, making it the 2nd driest on record out of 155 years and the driest since 1921. This is assigned a rainfall probability band of "Exceptionally Low" meaning there is a less than 5% chance of a rainfall amount falling into this category.

Table 2 Driest 10 ranked years of rainfall totals from March to September

Rank	Year	Rainfall (mm)	LTA (%)	Rainfall Probability Band
1	1921	248.5	51.2	Exceptionally low
2	**2026**	**264.8**	**54.5**	**Exceptionally low**
3	1887	278.6	57.4	Exceptionally low
4	1990	293.4	60.4	Exceptionally low
5	1929	294.6	60.7	Exceptionally low
6	1906	297.8	61.3	Exceptionally low
7	1911	309.3	63.7	Exceptionally low
8	1900	315.2	64.9	Exceptionally low
9	2003	321.2	66.2	Notably low
10	2022	325.1	67.0	Notably low
LTA	*1991-20*	*485.57*	*100%*	

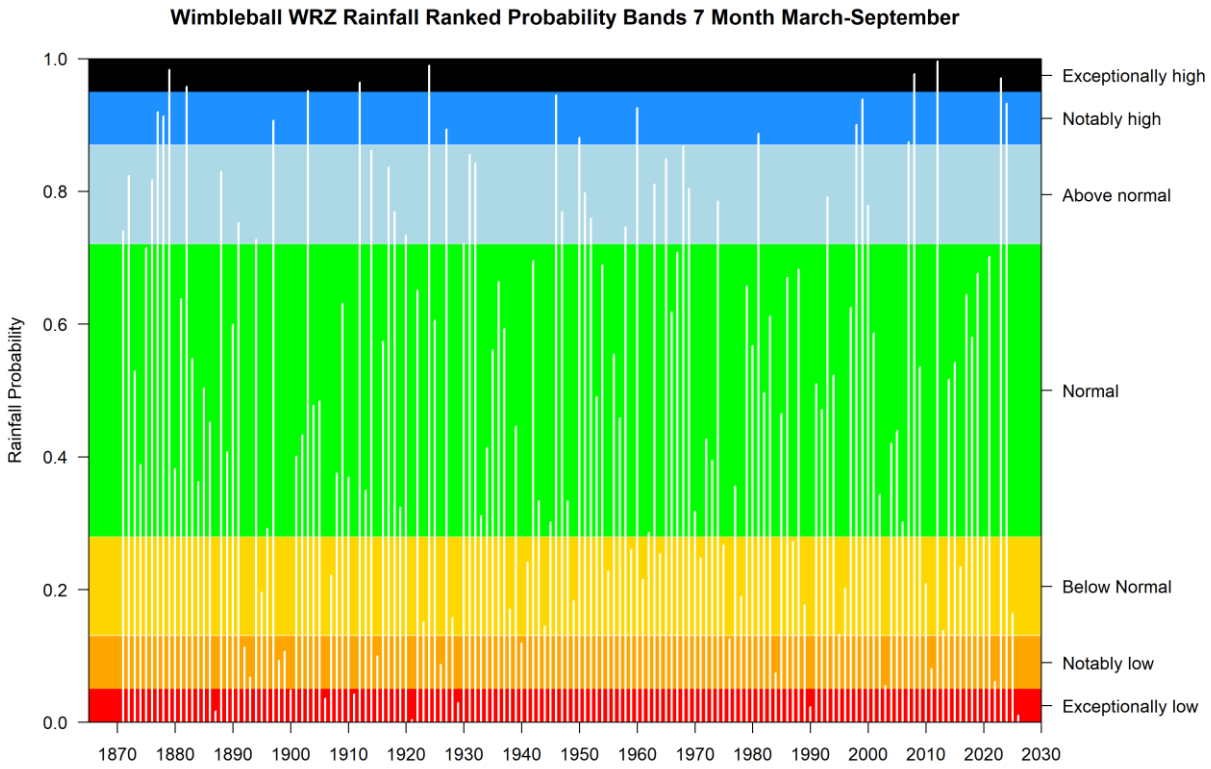


Figure 7 Wimbleball WRZ rainfall probability bands for March to September total rainfall

3.3. Standardised Precipitation Index Analysis

The analysis of rainfall has been extended by calculating a Standardised Precipitation Index (SPI) for the data. This has been undertaken using the same SPI calculation as outlined in the Environment Agency's SPI tool[3]. The SPI has been calculated starting from March 2026 with an additional month added whilst moving through the event (e.g. Mar, Mar-Apr, Mar-May), with a 7 month SPI covering the analysis period – see Figure 8.

The SPI of -0.99 for the one month period for March was classed as "Near Normal" although was right on the boundary of the 'Moderately Dry' class. The 2, 3 and 4 month SPIs of -1.66, -1.96 and -1.75 respectively, were all classed as 'Severely Dry'. The 5, 6 and 7 month SPIs of -2.4, -2.55 and -2.7 respectively were all classed as "Extremely Dry". Comparing the March to September 7 month SPI period with all other years in the EA-DRT dataset demonstrates that 2026 was the 2nd driest on record, with only the 1921 SPI of -2.97 being drier (Figure 9).

[3] Environment Agency Standardised Precipitation Index (SPI) Tool. Version 2.0. Environment Agency.

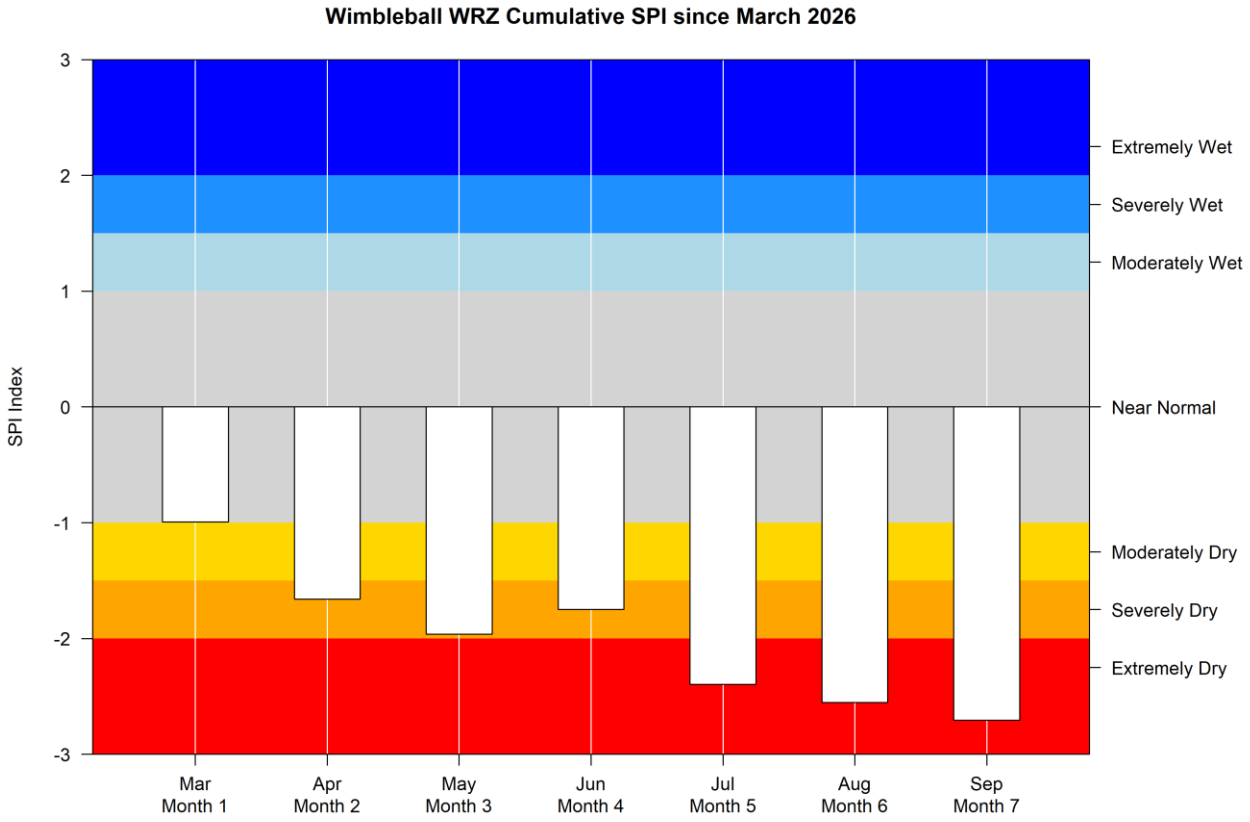


Figure 8 Wimbleball WRZ rainfall SPI since March 2026

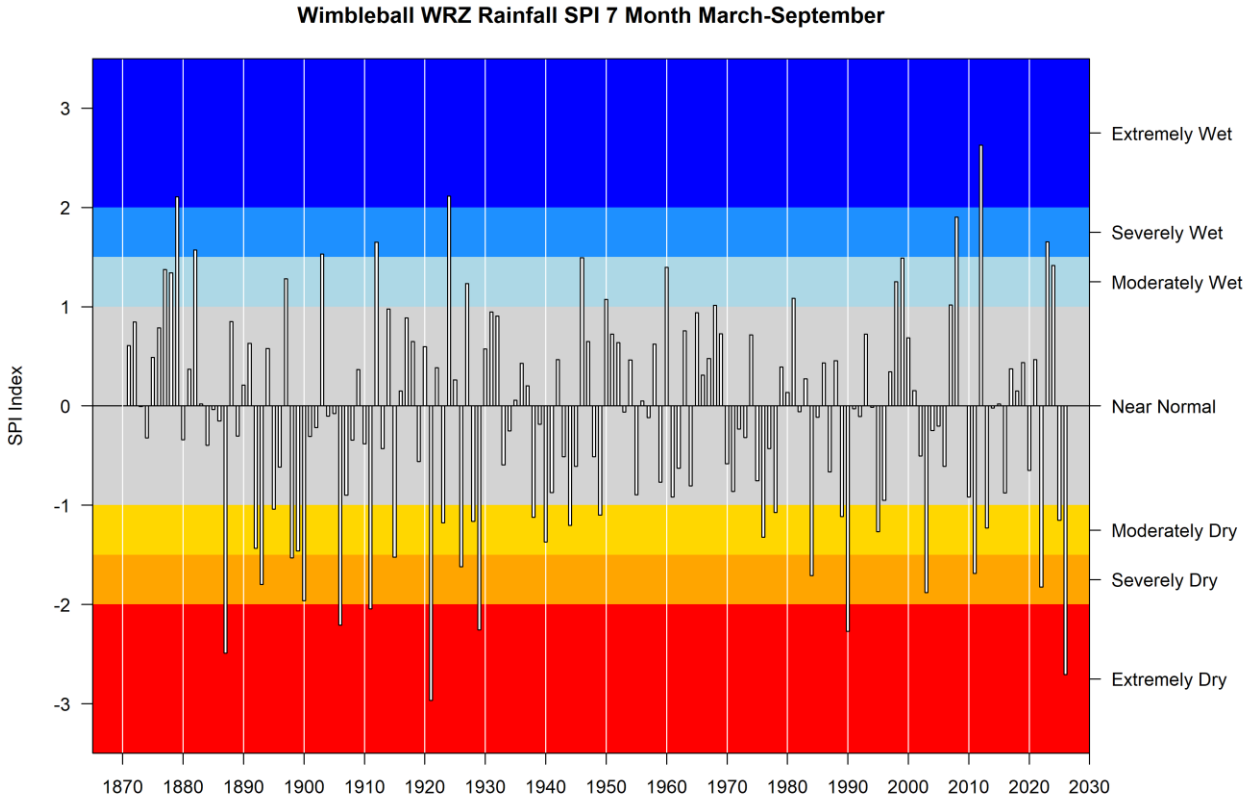


Figure 9 Wimbleball WRZ 7 month (March to September) SPI for full period of record

3.4. Rainfall Analysis Summary

Analysis of the EA-DRT rainfall dataset for the Wimbleball WRZ rainfall from March to September 2026 demonstrates that the period was the 2nd driest on record and was categorised as “Exceptionally Low” based on ranked rainfall probability bands and ‘Extremely Dry’ based on rainfall SPI analysis. Based on this assessment it is considered that this constitutes an Exceptional Shortage of Rainfall.

The following sections demonstrate how the ESOR in March to September has impacted the wider hydrological situation and continues to impact the water resource position in the Wimbleball WRZ.

4. Analysis of Additional Variables

4.1. Soil Moisture Deficit

The analysis presented in this section is based on the Met Office’s MORECS 40km dataset for the Devon, Cornwall & Isles of Scilly EA Area. The MORECS dataset provides information on Soil Moisture Deficit (SMD) which describes the hydrological position of the soil and reflects the accumulated balance of rainfall and evaporation. When evaporation exceeds the rainfall amount, a soil moisture deficit accumulates which means that the soil has the potential to capture and store rainfall when it falls rather than generating runoff which enters rivers. At the end of a dry period this effect can be witnessed where river levels do not increase even though it is raining. Whereas when it has been wet for a sustained period, and the ground is already saturated, there is no soil moisture deficit, and any rainfall leads to a subsequent increase in river flows.

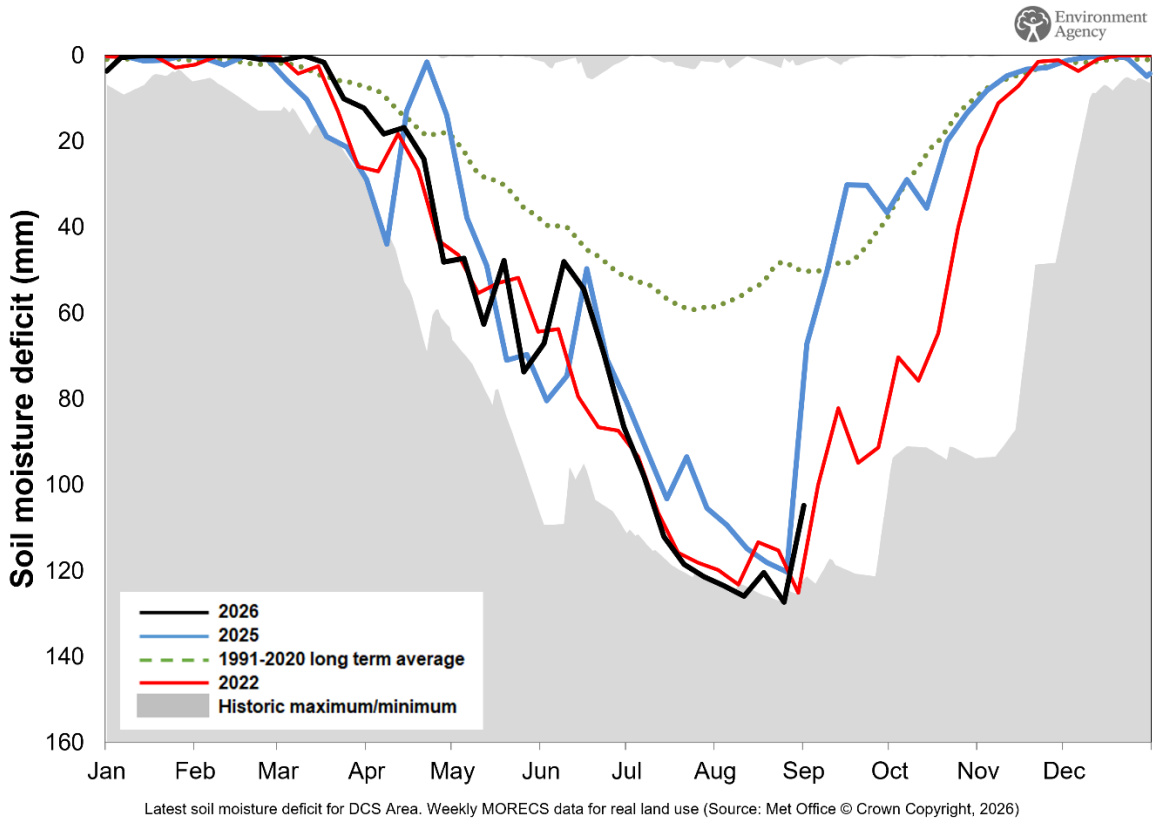


Figure 10 MORECS soil moisture deficit (SMD) for Devon and Cornwall EA Area

The SMD for 2026, compared to 2025, 2022, maximum, minimum and 1991-2020 long term average SMD, is shown in Figure 10. The SMD began to accumulate from mid-March and has continued to do so throughout the analysis period until the end of August. Rainfall events in May and June caused brief and minor recoveries but the SMD then increased to exceed the historic maximum on record in early August. Rainfall events since late August have started to reduce the SMD but sustained rainfall is now needed to overcome the deficit before river flows are likely to increase.

The analysis of SMD demonstrates that the ESOR period from March to September 2026 continues to impact on the hydrological conditions and water supply position currently being experienced across the Wimbleball WRZ.

4.2. Temperature

An analysis of the Met Office National Climate Information Centre's historical regional temperature record[4] for SW England and S Wales shows that the average temperature over the period March to August 2026 was the hottest on record (see Figure 11). Data for September 2026 is yet to be published.

Historical daily temperature data for the Wimbleball WRZ has been calculated from the Met Office's HadUK dataset[5] for the period January 1991 to 31 August 2026 (data for September 2026 is not yet available). The data is shown below in Figure 12 and the maximum recorded temperature of 26.9°C which occurred on 25 June 2026 is plotted as the dotted straight line.

Daily temperature data for September 2026 has not yet been published by the Met Office but data for a MeteoCentre weather station in Exeter[6] has been used to provide indicative values for the Wimbleball WRZ to extend the daily record through to 10 September 2026 (see Figure 13). The combined datasets clearly show the heatwaves in May and June and the extended period of high temperatures in July and August.

[4] metoffice.gov.uk/pub/data/weather/uk/climate/datasets/Tmean/date/England_SW_and_S_Wales.txt
[5] https://catalogue.ceda.ac.uk/uuid/789b3065d74a4c948ab05d33556c86d0/
[6] Weather Station Exeter - Historical Weather

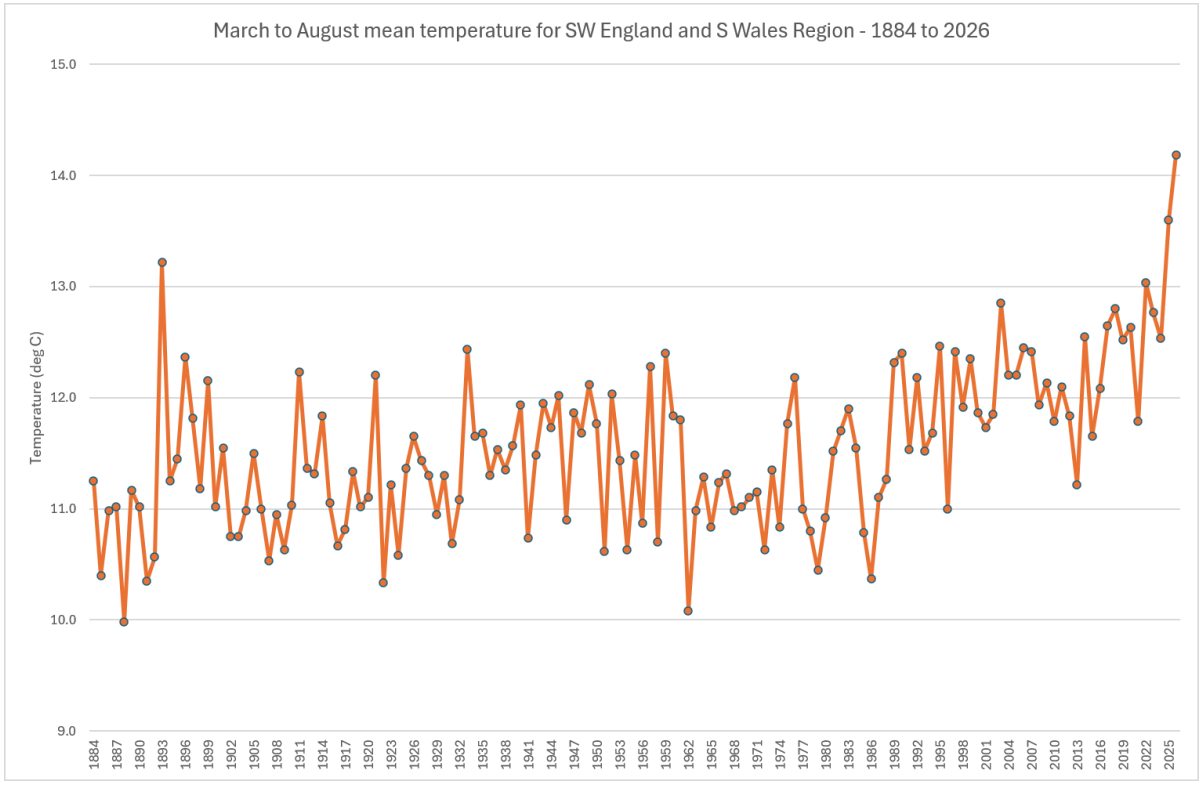


Figure 11 March to August mean temperature for SW England and S Wales Region – 1884-2026

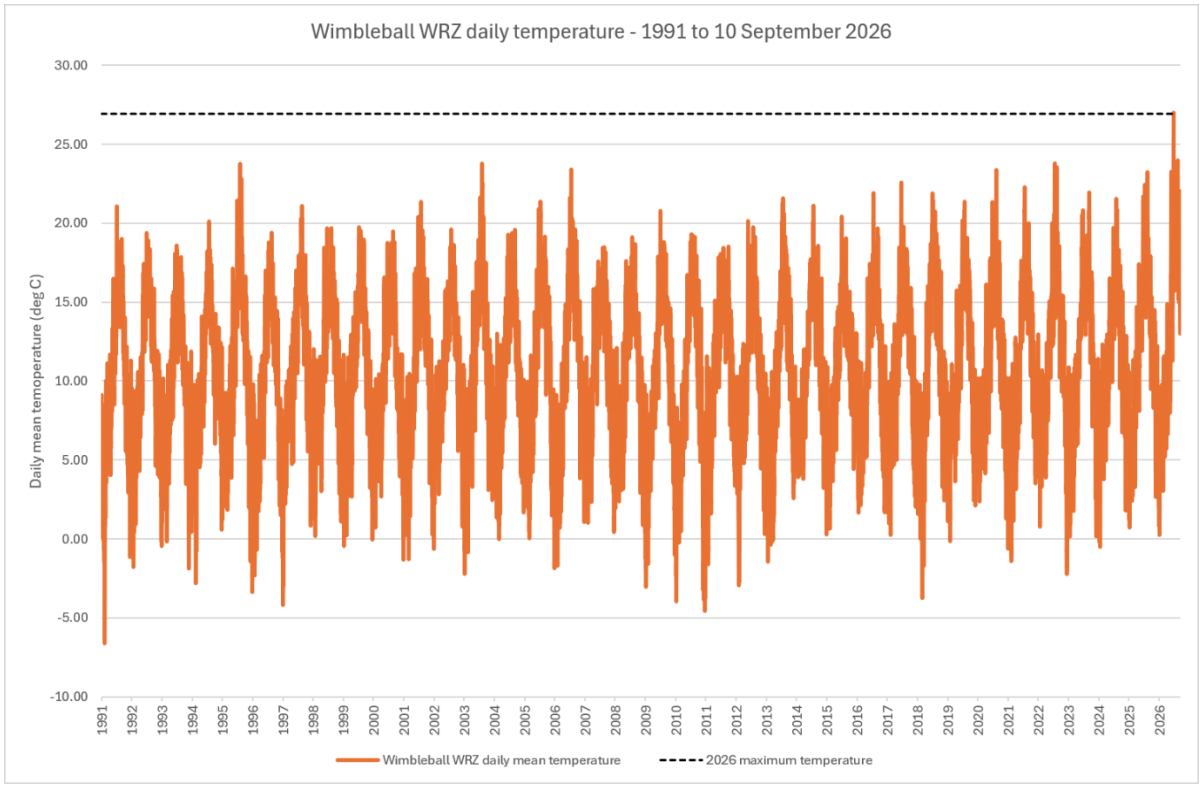


Figure 12 Wimbleball WRZ daily mean temperature for 1991 to 10 September 2026

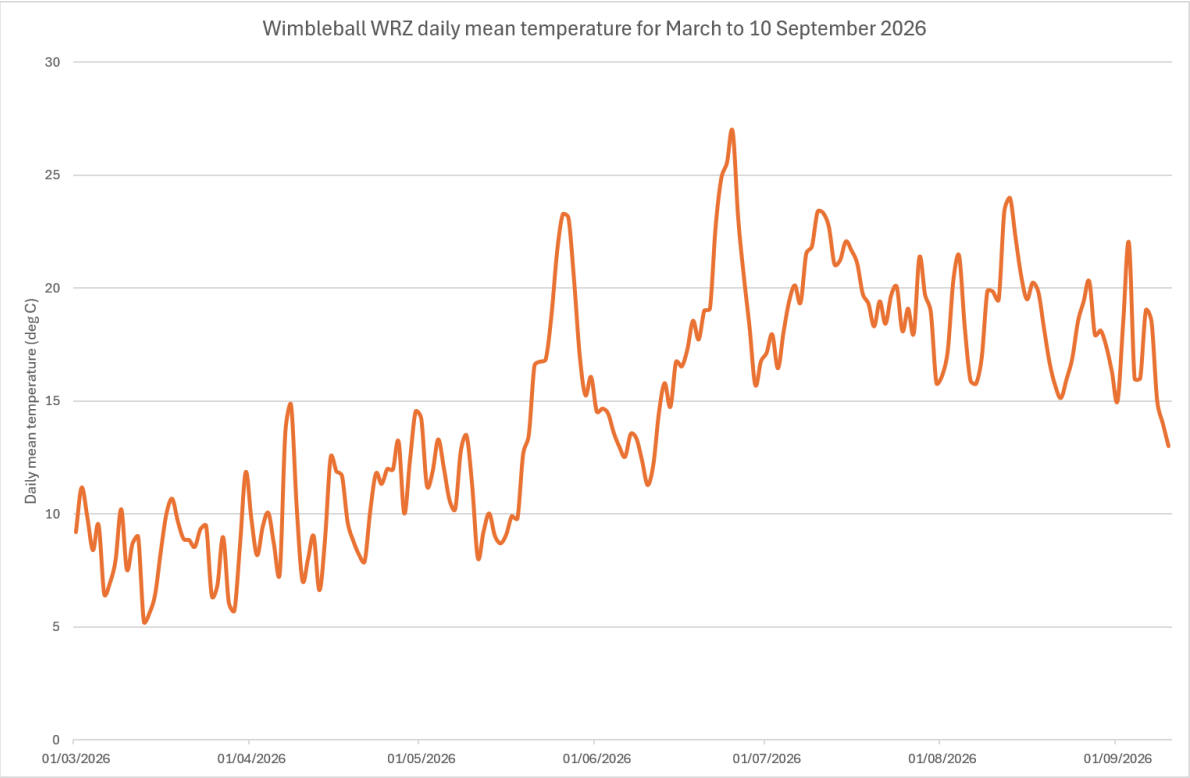


Figure 13 Wimbleball WRZ daily temperature for 01 March to 10 September 2026

4.3. Standardised Precipitation-Evapotranspiration Index Analysis

The analysis presented in this section uses the Environment Agency's gridded potential evapotranspiration (PET) dataset for the Wimbleball WRZ, together with the rainfall dataset discussed in the rainfall analysis section above. The datasets are combined into a single index called the Standardised Precipitation-Evapotranspiration Index (SPEI). By accounting for PET, SPEI captures the effects of temperatures increases and heat waves on drought severity. The Environment Agency's PET dataset only starts in 1961 so for the purposes of this assessment it was extended back to 1884 using the Met Office's NCIC data for mean temperature for the South West England and South Wales region using a monthly regression approach. Whilst this earlier data is on a regional scale, it can be used with reasonable confidence to illustrate the severity of the current situation. PET data for September 2026 was unavailable so data for September 2025 was used which is likely to be a conservative estimate.

The cumulative SPEI results for 2026 show a very similar picture to the SPI analysis, with the 7 month cumulative SPEI of -2.53 falling into the 'Extremely Dry' category (see Figure 14). However the 7 month SPEI for 2026 ranks as the worst on record and significantly worse than 2022 (SPEI of -1.62) and 1976 (-1.27) (see Figure 15). This is a direct result of the increasing background global temperatures as well as the succession of heatwaves that have occurred since May.

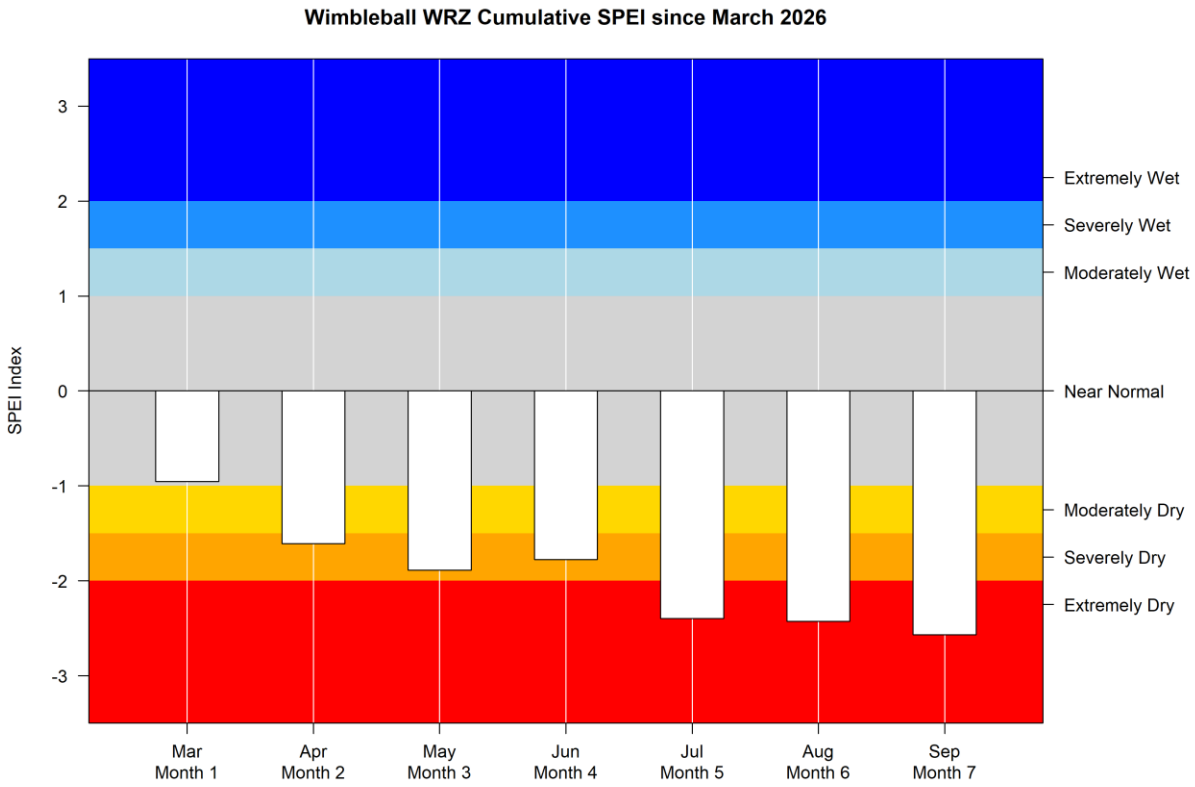


Figure 14 Wimbleball WRZ Cumulative SPEI from March to September 2026

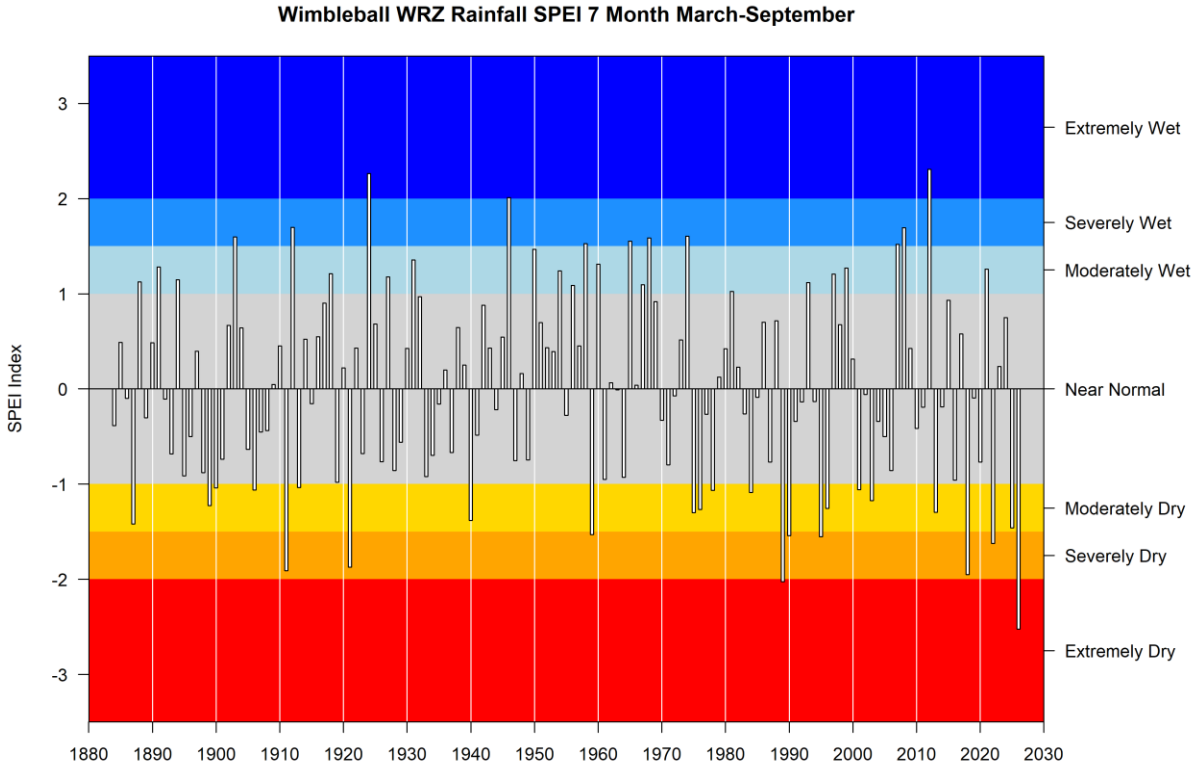


Figure 15 Wimbleball WRZ 7 month cumulative SPEI (March to September 2026)

4.4. River Flows

Gauged flow data for the River Exe at Thorverton was downloaded from the EA's Hydrology Data Explorer website. The combination of hydrological conditions experienced over the March to mid-September 2026 period, as described in preceding sections, have resulted in flows at Thorverton receding at a similar rate to the drought in 2022.

Abstraction for public water supply from the River Exe at Bolham and Northbridge has to be supported during the summer months by supply releases from Wimbleball Reservoir. When flows at Thorverton drop below the prescribed flow threshold of 3.158m^3/s, the majority of the abstraction demand must be met from the supply releases.

As can be seen in Figure 16 (which uses gauged flow data rather than naturalised for simplicity), flows dropped below the prescribed flow threshold in early May 2026 although rainfall in mid-May and early June increased flows again briefly before they dropped again towards the end of June. Supply releases commenced towards the end of April 2026 to supplement flows for abstraction at Bolham and Northbridge to meet customer demand for water. This was a similar start date to 2022. Supply releases were briefly reduced following the June rainfall before increasing again from the end of June.

In 2022, supply releases continued until late October when flows at Thorverton showed a sustained increase above the prescribed flow threshold. Based on 2022, flows are unlikely to return above the prescribed flow threshold until the late autumn and only with sustained above average rainfall to overcome the soil moisture deficit that has accumulated.

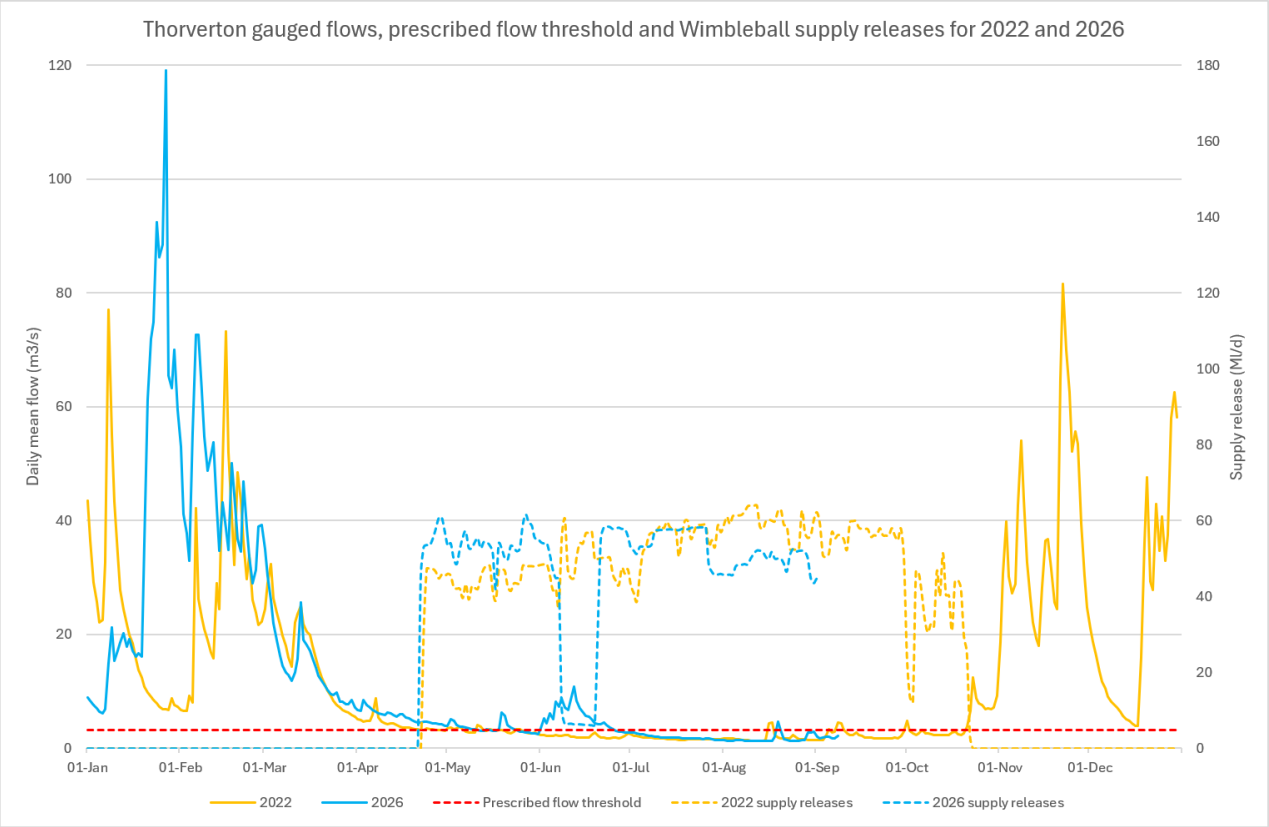


Figure 16 Gauged flows at Thorverton on the River Exe for 2022 and 2026 compared to prescribed flow threshold and Wimbleball supply releases

5. Forward Look

5.1. One Month Outlook

The frontal systems that have been bring some rainfall over recent weeks have typically been tracking further northwards over the UK and the South West peninsula has not received significant rainfall from these. When these types of weather systems are forecast, the uncertainty in the how the fronts track across the UK means that the forecasts for the South West are variable and can change quickly.

Currently there is significant uncertainty in the weather outlook for October with disagreement between forecast providers. The Met Office forecast for the first half of October is for a drier period interspersed with occasional light rainfall. The DTN forecast for the next 15 days suggests closer to average rainfall but this relies heavily on a potentially significant amount of rainfall on a single day on 7th October.

The 2nd half of October is uncertain. The Met Office forecast from 18th October to the end of the month states:

"The second half of October will probably maintain a changeable pattern overall with weather systems often moving in from the Atlantic. These will bring showers or longer spells of rain, with the wettest and windiest weather in the northwest, drier in the southeast. There is a chance that a period of more widely dry conditions could develop for a time, but confidence in the details of this is low. Temperatures will probably be above average overall."

None of the weather forecast provides evidence for a high amount of rainfall with high confidence which is needed to ameliorate the current ESOR position.

5.2. Three Month Outlooks

The Met Office 3-month outlook[7] for October to December suggests that there is a an increased chance that rainfall across the UK will be above average later in the period. With a "double than normal chance of this period being wet overall". Temperature is nearly twice as likely to be milder than average.

These forecasts suggest that temperatures are likely to remain higher than normal. Whilst it looks unlikely that the next 3 months will be drier than average, there remains uncertainty on the timing and amount of rainfall. Consequently the timing of when any rainfall will alleviate the current ESOR position is unknown.

6. Summary

An ESOR assessment for the Wimbleball WRZ has been presented for the period of March to September 2026. The rainfall analysis demonstrates an ESOR which has subsequently caused knock on impacts to hydrological and water supply systems with the Wimbleball WRZ as outlined in the Statement of Reasons in the main application.

Analysis of the Environment Agency's DRT rainfall dataset for the Wimbleball WRZ rainfall from March to September 2026 demonstrated the period was the 2nd driest on record and was categorised as "Exceptionally Low" based on ranked rainfall probability bands and "Extremely Dry" based on rainfall SPI analysis. Based on this assessment it is considered that this constitutes an ESOR.

[7] Met Office UK 3-month outlook Oct-Nov-Dec

Supplementary analysis of soil moisture deficit, temperature, SPEI and river flows demonstrate how the ESOR has impacted the wider hydrological situation, which continues to impact the water supply position in Wimbleball WRZ in September 2026.

The weather outlook for the autumn is for above average temperatures to continue, with an increased chance of above average rainfall in the late autumn. However given the uncertainty in the October weather forecast this means that the effects of the March to September 2026 ESOR are unlikely to be ameliorated in the near future.

Annex A - September rainfall forecast data sources

Date	Data Source	Attribute Name	Units	Wimbleball Daily Rainfall
01/09/2026	EA_DRT_Daily	Rainfall	mm	1.3
02/09/2026	EA_DRT_Daily	Rainfall	mm	1.4
03/09/2026	EA_DRT_Daily	Rainfall	mm	1.9
04/09/2026	EA_DRT_Daily	Rainfall	mm	0
05/09/2026	EA_DRT_Daily	Rainfall	mm	0.1
06/09/2026	EA_DRT_Daily	Rainfall	mm	0.3
07/09/2026	EA_DRT_Daily	Rainfall	mm	15.7
08/09/2026	EA_DRT_Daily	Rainfall	mm	2.1
09/09/2026	SWW Hydrology Explorer Derived	Rainfall	mm	0.037
10/09/2026	SWW Hydrology Explorer Derived	Rainfall	mm	1.373
11/09/2026	SWW Hydrology Explorer Derived	Rainfall	mm	0.069
12/09/2026	SWW Hydrology Explorer Derived	Rainfall	mm	0
13/09/2026	DTN Ensemble Median	Rainfall	mm	2.6
14/09/2026	DTN Ensemble Median	Rainfall	mm	0.9
15/09/2026	DTN Ensemble Median	Rainfall	mm	3
16/09/2026	DTN Ensemble Median	Rainfall	mm	0.2
17/09/2026	DTN Ensemble Median	Rainfall	mm	0.9
18/09/2026	DTN Ensemble Median	Rainfall	mm	0
19/09/2026	DTN Ensemble Median	Rainfall	mm	6.7
20/09/2026	DTN Ensemble Median	Rainfall	mm	0
21/09/2026	DTN Ensemble Median	Rainfall	mm	0
22/09/2026	DTN Ensemble Median	Rainfall	mm	0
23/09/2026	DTN Ensemble Median	Rainfall	mm	0
24/09/2026	DTN Ensemble Median	Rainfall	mm	0
25/09/2026	DTN Ensemble Median	Rainfall	mm	0
26/09/2026	DTN Ensemble Median	Rainfall	mm	0
27/09/2026	DTN Ensemble Median	Rainfall	mm	0
28/09/2026	DTN EXTENDED Ensemble Median	Rainfall	mm	0
29/09/2026	DTN EXTENDED Ensemble Median	Rainfall	mm	0
30/09/2026	DTN EXTENDED Ensemble Median	Rainfall	mm	5.3

Note: 13-27 Sep : DTN Ensemble forecast (15 day forecast from 13/09) - median ensemble over full duration
28-30 Sep : DTN Extended Ensemble forecast (48 day forecast from 13/09) - median ensemble over full duration

Annex B - September rainfall outturn data sources

Date	Data Source	Attribute Name	Units	Wimbleball Daily Rainfall
01/09/2026	EA_DRT_Daily	Rainfall	mm	1.3
02/09/2026	EA_DRT_Daily	Rainfall	mm	1.4
03/09/2026	EA_DRT_Daily	Rainfall	mm	1.9
04/09/2026	EA_DRT_Daily	Rainfall	mm	0
05/09/2026	EA_DRT_Daily	Rainfall	mm	0.1
06/09/2026	EA_DRT_Daily	Rainfall	mm	0.3
07/09/2026	EA_DRT_Daily	Rainfall	mm	15.7
08/09/2026	EA_DRT_Daily	Rainfall	mm	2.1
09/09/2026	EA_DRT_Daily	Rainfall	mm	0.1
10/09/2026	EA_DRT_Daily	Rainfall	mm	1.6
11/09/2026	EA_DRT_Daily	Rainfall	mm	0.1
12/09/2026	EA_DRT_Daily	Rainfall	mm	0.3
13/09/2026	EA_DRT_Daily	Rainfall	mm	1.2
14/09/2026	EA_DRT_Daily	Rainfall	mm	0.3
15/09/2026	SWW Hydology Explorer Derived	Rainfall	mm	0.2
16/09/2026	SWW Hydology Explorer Derived	Rainfall	mm	1.4
17/09/2026	SWW Hydology Explorer Derived	Rainfall	mm	0.1
18/09/2026	SWW Hydology Explorer Derived	Rainfall	mm	0.4
19/09/2026	SWW Hydology Explorer Derived	Rainfall	mm	1.1
20/09/2026	SWW Hydology Explorer Derived	Rainfall	mm	0.0
21/09/2026	SWW Hydology Explorer Derived	Rainfall	mm	0.1
22/09/2026	SWW Hydology Explorer Derived	Rainfall	mm	0.3
23/09/2026	SWW Hydology Explorer Derived	Rainfall	mm	0.8
24/09/2026	SWW Hydology Explorer Derived	Rainfall	mm	0.2
25/09/2026	SWW Hydology Explorer Derived	Rainfall	mm	0.0
26/09/2026	SWW Hydology Explorer Derived	Rainfall	mm	0.1
27/09/2026	SWW Hydology Explorer Derived	Rainfall	mm	1.0
28/09/2026	SWW Hydology Explorer Derived	Rainfall	mm	0.1
29/09/2026	SWW Hydology Explorer Derived	Rainfall	mm	9.1
30/09/2026	SWW Hydology Explorer Derived	Rainfall	mm	1.1

Note: Data from 9th September updated compared with data in Appendix A.

Appendix 3

Cost-Benefit Analysis

South West Water

FINAL REPORT

Pennon Group
Wimbleball Reservoir NEUB support

Cost Benefit Assessment - Initial Analysis

2026-10-05

UK0028302.3354 - Pennon - NEUB CBA support

Document distribution

Pennon Group

Wimbleball Reservoir NEUB support

Cost Benefit Assessment - Initial Analysis

2026-10-05

Prepared for

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Prepared by

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Table of contents

Executive summary **5**

1. Introduction **6**

1.1 Overview 6

2. Methodology **7**

2.1 Definition of a NEUB 7

2.2 Status of development of analytical frameworks for assessing costs and benefits of a NEUB 7

2.3 Application of the UKWIR framework to the assessment of costs and benefits of a NEUB proposed by SWW 8

2.3.1 Overview 8

2.3.2 Representation of costs and benefits 9

2.3.3 Representation of individual values of water restrictions 9

2.3.4 Representation of groups and values experiencing water restrictions 10

2.3.5 Representation of uncertainty 11

3. CBA results and calculations **12**

3.1 Implementation of methodology 12

3.1.1 General considerations in implementation 12

3.1.2 Key assumptions 12

3.1.3 Scenarios representing the probability of outcomes 13

3.2 Main results 14

3.3 Detailed results 14

3.4 Commentary on results and their sensitivities 16

4. Conclusions **18**

5. Limitations statement **19**

References **20**

Table 3.1 Overall CBA Results for NEUB 14

Table 3.2 CBA Results for NEUB 15

Appendix A – The hydrological response of Wimbleball

Appendix B - Further Details

Appendix C - Glossary

Executive summary

This Cost Benefit Assessment (CBA) supports the potential implementation of a Drought Order by South West Water (SWW). The methodology reflects the status of related work by the industry association UK Water Industry Research (UKWIR) which is subject to current development.

The Drought Order includes restrictions on water use which are expected to directly or indirectly reduce demand for water leading to changes with environmental and economic effects. The CBA implements a methodology for representing these effects and quantifying them where possible such that the costs and benefits can be compared.

The restrictions on water use align directly with all of those specified in a Non-Essential Use Ban (NEUB) within the Drought Direction 2011 with no additional exemptions applied.

The key conclusion is that the costs and benefits are sufficiently close that a clear conclusion on whether a NEUB is cost-beneficial cannot be made.

Key contributing factors include:

- Parameters with inherent uncertainty, such as weather forecasts.
- Uncertainty in valuation methods, in particular:
  - A significant difference in the strategy for implementing EDOs by SWW ('managed retreat') from that used as a proxy for valuing benefits taken from a more general evidence base ('rota cuts').
  - Potential differences in the composition of the actual business base from that in the more general evidence base used as a proxy.
- Uncertainty in the effectiveness of water savings from a NEUB in autumn compared to other times of the years.
- Potential for NEUB water savings this year to contribute benefits in a subsequent year.
- Significant elapsed time (up to 10 years) since surveys of willingness-to-pay values were done.

As costs and benefits are close, a number of other factors may contribute collectively to the balance between them, although these are individually considered minor (See **Section 3.1.1**).

Subject to these concerns, the main scenario modelled shows expected costs of approximately £1.5m, while expected benefits are £0.3m, giving a benefit-cost ratio of 0.186 and indicating a NEUB is not cost-beneficial. This main scenario includes a 5% probability that Level 4 restrictions will occur. This reflects modelling using historical evidence that would indicate Level 4 being reached in 3 out of 69 years of Wimbleball reservoir inflow scenarios (based on historic rainfall patterns).

The alternative scenario, with a 20% probability of Level 4 restrictions, shows expected costs of approximately £1.5m, while expected benefits are £1.3m, giving a benefit-cost ratio of 0.746, also indicating a NEUB is not cost-beneficial. The 20% probability reflects interpretation of long term average (LTA) rainfall statistics and use of an approach that the Environment Agency have taken in the national drought group.

However, both forecasting methods anticipate significant rain and the interpretation used in Scenario 2 can be understood as cautious.

1. Introduction

1.1 Overview

This Report aims to describe the approach and initial assessment adopted for a Cost Benefit Assessment (CBA) used to support the potential implementation of a Drought Order by South West Water (SWW).

The Drought Order includes restrictions on water use which are expected to directly or indirectly reduce demand for water leading to changes with environmental and economic effects. The CBA implements a methodology for representing these effects and quantifying them where possible such that the costs and benefits can be compared.

The restrictions on water use align directly with all of those specified in a Non-Essential Use Ban (NEUB) within the Drought Direction 2011 with no additional exemptions applied. The prohibited uses include:

- Watering sports grounds / pitches and outdoor plants.
- Filling or maintaining non-domestic swimming pools.
- Filling or maintaining ponds.
- Operating mechanical vehicle washers.
- Washing vehicles, boats, aircraft or railway rolling stock.
- Cleaning non-domestic premises.
- Cleaning windows.
- Cleaning industrial plant.
- Dust suppression.
- Operating cisterns in unoccupied premises.

It is not proposed to apply any additional exemptions to businesses, beyond the exclusions stated in the Drought Direction 2011 which focus on health, safety and welfare or people and animals. Wholesale water companies do not have a direct relationship with businesses who are served by retailers and therefore the addition of specific exclusions would be exceptionally hard to monitor or agree due to a lack of data and information about these customers.

The context is informed by work on the assessment of NEUBs by the industry association UK Water Industry Research (UKWIR). The most recent publication is *Assessing the costs and benefits of nonessential use Drought Orders – A Feasibility Study* (UKWIR, 2025) which was used to inform the development of the CBA. Additional work on NEUBs is currently being procured by UKWIR.

The assessment defines a methodology for representing these effects and quantifying them where possible such that the costs and benefits can be compared.

All values are expressed in current (2026) prices, except where specified.

2. Methodology

2.1 Definition of a NEUB

A NEUB specifies activities which are no longer permitted. Activities defined by ten purposes may be listed in the Drought Order which implements the NEUB and include, for example, watering plants on commercial premises (Purpose 1) and filling or maintaining a pond (Purpose 3). Not all businesses will be affected by a NEUB therefore there is potential for the impact for any given business to be between 0% and 100% of their water use (for instance in the case of a commercial car wash).

From an economic perspective, the new restrictions change the context for water users and water suppliers and have the intention and expectation of reducing demand for water and volumes abstracted from water sources. There are direct economic effects for users and suppliers, such as lower water bills, and well as knock-on indirect effects, such as for people using services provided by businesses which now are subject to restrictions.

There are also wider effects to the environment from the reduced volumes taken from water sources such as rivers and boreholes. These may also have economic effects such when a deeper river enables a kayaking business to continue to operate or when higher flow rates avoid damage to ecosystems and biodiversity which people value.

A NEUB may also be associated with other short and long term effects such as providing signalling to consumers which enhances water saving behaviours and investment in water saving technologies.

A NEUB is a relatively new mechanism and may be unfamiliar to water users and society. There is potential for both the specification of a NEUB and its effects to change over time as well as to contribute to structural adaption by society and in the economy. For example, insurance providers might offer cover to businesses with significant exposure to a NEUB.

2.2 Status of development of analytical frameworks for assessing costs and benefits of a NEUB

The overall unfamiliarity with a NEUB and wide range of possible direct and indirect effects is reflected in the status of analytical frameworks as well as in the availability of precedent studies and relevant data.

UKWIR, the water industry research association, has directly considered NEUBs in a recent report *Assessing the costs and benefits of nonessential use Drought Orders – A Feasibility Study* (UKWIR, 2025). The report provides a review of conceptual frameworks, precedents, and valuation work and is considered to be authoritative in its assessment. No appreciable research has been done to supplement or challenge the UKWIR findings.

While the work commissioned by UKWIR has the overarching aim of establishing a general methodology and a specification of best practice, the report recognises that the recommendations it contains are at an early stage and provide a ‘framework’ rather than a completed methodology. Additional work on NEUBs is currently being delivered by UKWIR and a generic methodology can be considered to be evolving rather than fully defined.

The work on a NEUB methodology in UKWIR (2025) is based on a literature review which reports other frameworks for costs and benefits which are both different and more extensive than the main recommendations that UKWIR derive.

There have been very few NEUBs implemented to date (UKWIR, 2025) and there are limited precedents to draw from. In particular, the representation of customer characteristics in precedent work has been developed by and for individual companies rather than for the industry.

In seeking to advance the identification and development of a generic framework, the report (UKWIR, 2025) recognises dependency on multiple aspects including:

- physical conditions, including climate, hydro-geology, and hydrology;
- the scale, extent, distribution and variety of the customer base, as well as in scope and willingness to change behaviour in response to prices, water restrictions, and changing environmental conditions;
- data available, including hydrological, water use and consumer data; and
- alternative 'bottom up' and 'top down' methodologies for valuing customer costs, using respectively stated preference survey data and broader contextual economic data (of industry and economic activity (GVA)).

In general, the framework provides greater focus and definition on the aspects which have clearer quantitative metrics and can make use of existing studies for the values water users place on interruptions to water supply, while the wider aspects are considered qualitatively alongside a recognition that they often have values which are more difficult to determine.

Notwithstanding the complexity and status of research, the UKWIR framework is currently considered the relevant approach to identifying and quantifying economic effects.

2.3 Application of the UKWIR framework to the assessment of costs and benefits of a NEUB proposed by SWW

2.3.1 Overview

The methodology used here follows the UKWIR framework in focusing on effects with clearer quantitative metrics and existing supporting studies. When applied, this means a focus on the quantitative changes to water demand and supply and on the values water users place on the changes. It allows a calculation of the monetary changes from changes in water volumes using quantitative data from SWW and from existing work programmes, in particular on drought modelling and on the use of the Wimbleball reservoir.

The consideration of all wider issues is made qualitatively in **Section 4 Conclusions**. This section and the results section that follow cover only the aspects with quantitative representation.

In short, the cost and benefits calculations represent:

- **The NEUB itself** - it leads to and is directly defined in terms of reduced water consumption compared to an expected (baseline) level of use without a drought and associated drought controls.
- **The costs of reduced water consumption** - primarily represented and quantified in terms of monetary effects on water users.
- **The benefits** - which arise because the need to implement more severe controls, such as emergency drought orders as a drought becomes prolonged, can be delayed. Some types of benefits can also be represented and quantified in terms of monetary effects on water users from not experiencing the more severe controls while other types of benefit include those arising from effects (or avoided effects) on the environment.

For the calculations of the associated costs and benefits, the intentions and recommendations of the UKWIR framework are used.

The methodology as implemented here has the high level specification described in the following sub-sections while the specifics of the calculations are seen in the Detailed Results (**Section 3.3**) and Commentary (**Section 3.4**)

2.3.2 Representation of costs and benefits

The NEUB restrictions on water use by NHHs lead to direct and knock-on effects at a range of spatial and temporal scales. The representation used here is recognised as a simplification of a more complex reality. Analysis is carried out at the regional level, and specific impacts to any given business are not identified or considered.

The primary simplification is to consider the assessment as of alternative scenarios for water use. These scenarios combine elements under human control, such as the implementation of the NEUB itself, and elements which are not, such as weather. Two subsidiary simplifications address the variety of the effects for individuals and limitations in the evidence base. They are: (1) to consider people and businesses in groups and, (2) to use a single number for each of the same groups to represent the value people place on the restrictions they experience.

A cost benefit assessment which gives a result in favour of a NEUB (a human intervention) will show an overall net positive value across all groups of people affected, taking into account the magnitude of the positive and negative effects they experience. The theoretical justification for implementing such a NEUB is that, as there is an overall net positive value, a process of sharing would allow the positive benefits to be shared with those experiencing negative effects so that no one was worse off, while all would additionally gain from a share of the overall net benefit. In practice, specific sharing arrangements may be limited or notional though the NEUB effects occur within a context of other societal systems, such as general taxation, which may have complementary and offsetting effects.

With these simplifications, costs are assumed to arise from restrictions on water use for the different groups. NEUB restrictions lead to costs for NHHs by limiting their choice of activities. In a prolonged drought, Emergency Drought Orders (EDO), would result in further restrictions and costs for a larger group of people and businesses. Where physically possible, costs would be minimised by allocating water individually to people and businesses in these groups to give the lowest overall total of costs.

The reservoir at Wimbleball allows water which is saved by one group to be used by another and at different times. Benefits are defined as the difference between the lower overall costs if water is reallocated and the higher overall costs if water is not reallocated.

In practice, benefits arise when water saved by NHHs is allocated to HHs who would otherwise experience severe restrictions, such as rota cuts and standpipes. This representation of benefits follows the UKWIR framework in linking the costs of water savings from NEUB restrictions to the benefits from a delay in more severe restrictions.

The NEUB is proposed to be applied within the Wimbleball WRZ. The water saved by NHHs ('NEUB water') reduces the water taken from the network. The River Exe forms the main part of the network between Wimbleball reservoir upstream and [redacted] downstream where water is abstracted to supply Exeter and surroundings. The reduction in abstraction would allow a corresponding reduction in release from Wimbleball and would cause a reduction in flow in the river. In practice, this is likely to be relatively small, but in principle could have environmental effects, particularly if the river is already experiencing the low flows associated with drought conditions. It is an indication of how other groups of people, in this case people benefiting from the environmental conditions of the river (such as fishers), may also be affected, if indirectly, by a NEUB.

Representation of individual values of water restrictions

There are two alternative methods identified in the UKWIR framework for estimating the values which individuals place on water restrictions:

1. “Stated Preference (SP) Studies” - these use surveys which ask people and businesses how much they would be prepared to pay to avoid water restrictions or experience them less often.
2. “Gross Value Added (GVA)” - GVA methods seek to represent the link between water use and economic outcomes. Precedent studies are influenced by the geographies they cover and their different characteristics (e.g., London and the North West).

The advantage of SP studies is that a simple money value represents the difference with and without water restrictions. The value represents what people are willing to pay for the world to continue unchanged and as such there is no need to investigate chains of knock-on impacts. SP studies are often referred to as ‘Willingness to Pay’ (WTP) studies. UKWIR, 2025 notes that “stated preference studies can capture the full costs of NEUBs, as perceived by businesses and households, avoiding the separate collection of data on all direct, indirect, and adaptation costs listed above”. SP methods are extensively studied in academic literature, and it is noted that the survey design is crucial. The groups defined need to match actual groups and any inherent heterogeneity tested and controlled for. This CBA uses values from evidence in existing SP studies.

GVA methods typically consider economic sectors and so can make use of customer databases which include industry classifications. Despite the advantage of better representing the actual businesses in an area, there are gaps in evidence regarding their responses to restrictions and the actual economic effects. Although in some sectors, such as car washing, effects may be major and foreseeable, smaller changes across larger sector, such as offices, may be more significant and subject to greater uncertainty in levels of response, while indirect effects lead to further complexity in representation.

2.3.3 Representation of groups and values experiencing water restrictions

The accuracy of the cost-benefit assessment will depend on how well the chosen groups and values represent the actual groups and values.

The choice over how to represent groups affected by water reallocation is primarily conditioned by the physical possibilities for operating the water collection and distribution network and by the evidence available for understanding behaviour and values.

The main groups selected to be considered in this CBA are the NHHs who need to directly change their activities as a result of the NEUB restrictions published in the Drought Order and a wider group of HHs and NHHs who would be affected by the more severe restrictions from EDOs.

SWW has existing understanding of the first group (NHHs in the Wimbleball WRZ) from sources such as billing and metering datasets and from survey work. SWW has expert knowledge of the physical network and of plans for implementing EDOs affecting the second group of HHs and NHHs. However, there is limited evidence on the level of negative value experienced by individual people and businesses from NEUB and EDO restrictions.

The evidence for the values these groups assign to water restrictions is provided in SWW survey work and in a summary of other SP survey work by Metcalfe et al. 2023 (See **References**). A key feature of the other sources is that they include estimates of values for both NEUB restrictions and for more severe EDO restrictions including rota cuts. The plan that SWW has for implementing more severe EDO restrictions is not rota cuts but a strategy of ‘managed retreat’ in which the network is subdivided to allow alternative supply options in each subdivision, including (as an extreme) the use of bowsers. This strategy addresses practical issues arising on the SWW network from rota cuts such as water quality standards and the ability to resupply having made a deliberate interruption. Survey work to identify WTP values in such complex and currently hypothetical circumstances is inherently challenging and has the potentially unreliable results. As such, SWW do not have survey results reflecting EDO conditions, but only for NEUBs.

An analytical approach can be envisaged for estimating the value that users would experience for a subdivided network under EDO conditions using surveys and other methods but it remains difficult and beyond the resources available within the time of this NEUB application. For use in a CBA, it would also need to be consistent with previous (or new) survey work on the effects, responses and values of NEUB restrictions.

This consistency between evidence for NEUB and EDO situations is considered as more important than the use of the evidence available from SWW survey work which is only available for NEUB alone. Furthermore, the NEUB definition used for the SWW survey is less specific than the NEUB definition in other survey work and further assumptions would need to be made to reconcile results across these two sources.

As a result, the more general evidence base is used in this CBA, noting that this implies:

- The composition of the NHH and HH groups in the general evidence base is representative of the same groups in the Wimbleball WRZ;
- Differentiation by sub-type of HH or NHH is not possible because the general evidence base has WTP values only for the two groups (HHs and NHHs) and it means that, in effect, users are represented as two aggregated blocks, each with a single volume of water consumption and single WTP value;
- The 'severe restrictions' of EDO conditions in Wimbleball WRZ (to be actually achieved with a strategy of 'managed retreat') are represented by the proxy of 'Level 4 restrictions' as described in the SP studies in the general evidence base, including the associated WTP values.

The assumptions in these implications are untested.

For clarity below, the likely actual strategy of 'managed retreat' is referred to as 'SWW EDO restrictions' while the proxy used in the assessment as a substitute for it is referred to as 'Level 4 restrictions'.

2.3.4 Representation of uncertainty

The likelihood of events occurring is relevant to the consideration of the costs and benefits. If, over a period, costs are expected to occur 10 times and benefits only once then the CBA for the period should reflect a similar balance of costs and benefits. Over a number of years, conditions requiring Level 4 restrictions are less likely to occur than conditions requiring a NEUB. Accordingly, the costs of a NEUB may be incurred in circumstances where the benefits associated with delaying Level 4 restrictions do not arise.

The CBA assumes the probability of a NEUB within the immediate period is 100%, as this is the event being assessed. The probability of Level 4 restrictions depends on:

- the likelihood of rain, as this recharges the reservoir;
- the volume of water saved by measures including TUBs and NEUBs;
- legal requirements determining use of water, in particular for compensation flows; and
- customer response and behaviour more generally, including response to weather and temperatures.

Of these, the likelihood of rain leads to the greatest potential change in outcomes (See **Appendix A**).

More detailed results of drought forecast modelling undertaken to support this CBA are presented in **Appendix A**. In summary a 5% probability is estimated for the occurrence of Level 4 restrictions, reflecting historical evidence that Level 4 was reached in 3 out of 69 years of Wimbleball reservoir inflows, while a 20% probability is a possible and cautious interpretation of long term average (LTA) rainfall statistics with an approach similar to that taken by the Environment Agency in the national drought group.

3. CBA results and calculations

3.1 Implementation of methodology

3.1.1 General considerations in implementation

The methodology reflects the status of related work by UKWIR and follows the main intention in the current UKWIR framework. The UKWIR work is subject to ongoing development.

The geographic area considered in the CBA comprises the Wimbleball WRZ which is the area in which both the NEUB applies and Level 4 restrictions would be implemented in a further prolonged drought.

The regulatory and hydrological context is important for the CBA. The choice of duration for a NEUB, and the specific restrictions it includes, is influenced by the regulatory framework and processes, the operation of the physical network and storage for water collection and distribution, industry practices, and SWW objectives.

The CBA assumes that only NHH users are directly affected by NEUB restrictions while all users (HH and NHH) would be affected by Level 4 restrictions.

The environmental effects of the proposed NEUB are currently assessed as minor and not considered further within the CBA. This is primarily because the effect of the NEUB is to implement a reallocation of water already within the water collection and distribution system. In particular, the NEUB will not increase or decrease abstraction from the environment. As mentioned above, the transfer flows have effects on the River Exe but these are considered minor (~4ML/d compared to a low river flow rate (Q95) of ~70 Ml/d at Pixton). Other potential environmental effects include changes in water use at NHHs in response to NEUB restrictions, which could have positive and/or negative effects. More indirectly, implementation of a NEUB may provide a signalling function changing people's behaviour towards the environment.

A number of other types of costs and benefits (some mentioned in UKWIR, 2025) are not represented. These are currently considered relatively small and include:

- water company customer communication costs;
- costs to the public sector (such as due to health impacts);
- savings on bills to water users from lower levels of consumption; and
- water company savings from reduced treatment and pumping costs.

There is a likely very minor potential for revision to the assignment of the costs of building and operating the water system to different groups as a result of the structure of benefits and costs arising from a NEUB which is not considered.

3.1.2 Key assumptions

In the main scenario the key assumptions are selected to have values as follows:

- **the duration of NEUB restrictions and the duration of the period before Level 4 restrictions would be introduced is 30 days** - The intention assumed is that a NEUB is applied for the longest possible period before Level 4 restrictions. The period chosen is consistent with NEUB restrictions on NHHs beginning in early October (notionally the 2nd) and with modelling (See **Appendix A**) which shows Level 4 restrictions being required approximately 30 days later for lower rainfall scenarios. It is also consistent with the start of Level 4 restrictions being an automatic (e.g. legal) cause for NEUB restrictions ending. Note that the NEUB period could be longer and would not end automatically if Level 4 restrictions are not required.

- **a NEUB would delay the need for Level 4 restrictions by 1 day** (See **Appendix A**) - This reflects more detailed modelling as well as the following indicative calculation. The maximum savings from NEUB restrictions on NHHs may save ~4 Ml/d (see below) and over 30 days (as above) this amounts to ~120Ml (4Ml/d * 30 days) while Wimbleball reservoir currently delivers ~90Ml per day. The NEUB saving is correspondingly worth approximately 1.3 days (120/90) of the daily supply from Wimbleball. The detailed modelling and analysis undertaken for this work indicates that 4Ml/d may be a maximum and daily savings could be as little as 0.705Ml/d (see **Appendix A**) which would mean that the delay in implementing Level 4 restrictions is less than a day, and so would reduce the corresponding benefits.
- **a NEUB is expected to reduce NHH consumption by at most 2.5%** of overall water supply (DI). This estimate reflects verification by SWW through consideration of measured NHH consumption and knowledge of business activities at premises (including excluded activities such as hospitals). 2.5% of DI is calculated as 4.23 Ml/d but this is considered to be an upper bound and savings could be as little as 0.705Ml/d (see above).
- **The costs of a NEUB for individual NHH users** are represented using results from a review of willingness to pay (WTP) surveys from work reviewing valuation studies used in support of PR19 and reported in a *Collaborative ODI Research Final Survey Values Report* (Metcalfe et al. 2023). The estimate covers the willingness to pay for avoiding one non-essential use ban lasting 5 months from May to September. The average value from the two studies in this review was £521 per property per year (in 2022 prices) which is £576 in 2026 after inflation. With five months accounting for 152 days, **this value is £3.76/property/day and is understood as the overall monetary value to NHH users in each property of their individual loss from a NEUB**.
- **The benefits for individual users experiencing the more severe Level 4 restrictions which are avoided** have values typically much higher than the monetary values indicated by NHH users for a NEUB. The estimate covers the willingness to pay for avoiding rota cuts and/or standpipes over a typical period of 2 months during a dry summer and covers both HH and NHH customers. The median values from the reviewed studies were £236 and £20,254 per property per year in 2022 prices for HH and NHH respectively (£261 and £22,380 in 2026 after inflation). With two months accounting for 61 days, **these values are £4.28/property/day and £366.88/property/day for HH and NHH users respectively and are understood as the overall monetary benefits for each day when Level 4 restrictions are avoided**.

3.1.3 Scenarios representing the probability of outcomes

The CBA defines scenarios using a parameter to represent the probability of Level 4 restrictions and two mutually exclusive outcomes:

- *Outcome 1: Level 4 restrictions are not required*. In this case the costs of the NEUB occur for each day that restrictions are in place but the benefits are zero because the delay in Level 4 restrictions the NEUB would have allowed is irrelevant,
- *Outcome 2: Level 4 restrictions are required.* In this case the costs of the NEUB occur for each day until Level 4 restrictions are required, while the water saved by the NEUB would allow a delay of 1 day (see above) before a subsequent 61 day period of Level 4 restrictions (See **Appendix A**).

Outcome 1 results in costs over the whole NEUB period, as Level 4 restrictions never occur (by definition). In Outcome 2, the NEUB period is considered to end with the start of the period of Level 4 restrictions.

In principle, additional scenarios could be represented with Level 4 restrictions occurring after different numbers of days. Each scenario would have different costs as these depend on the number of days of NEUB. In this work two scenarios have been used:

- Scenario 1 (main): 5% probability of Level 4 restrictions.
- Scenario 2 (alternative): 20% probability of Level 4 restrictions.

Further detail for the justification of these scenarios can be found in Appendix A.

The expected values calculated in the CBA are derived from values for the costs and benefits as defined in the Methodology section by multiplying by the probability of different outcomes.

3.2 Main results

The main result is that expected costs exceed expected benefits for the Main and Alternative Scenario (See **Table 3.1**). Further detail is provided in **Table 3.2 CBA Results for NEUB** below and commentary is provided in **Section 3.4**.

Table 3.1 Overall CBA Results for NEUB

	Scenario 1 (Main)	Scenario 2 (Alternative)
Costs (expected)	£1.5m	£1.5m
Benefits (expected)	£0.3m	£1.1m
Benefit-Cost ratio (BCR) - Expected Benefits divided by Expected Costs	**0.186**	**0.746**

Source: own calculation

3.3 Detailed results

The Rows in **Table 3.2** show the following:

- Rows 1.1 and 1.2: Number of total (and NHH) properties in the SWW Wimbleball WRZ
- Row 2.1: Duration of NEUB: Based on the period assumed for NEUB restrictions (see **Section 3.1.2** above).
- Row 2.2: Duration of Level 4 restrictions (if occurring): Not relevant for current scenarios (1 & 2).
- Row 2.3: Number of days of NEUB before conditions for Level 4 restrictions arise: Based on SWW modelling of rainfall likelihood and current reservoir situation.
- Row 2.4. Days of Level 4 restrictions avoided by NEUB: Based on SWW modelling of water savings from NEUB and effect on reservoir storage.
- Row 3.1: WTP to avoid NEUB (NHH only): Willingness to pay that NHH users report to avoid NEUB restrictions (from Metcalfe et al., 2023)
- Row 3.2: WTP to avoid Level 4 restrictions (NHH): This is the willingness to pay that NHH users report to avoid Level 4 restrictions (also from Metcalfe et al., 2023)
- Row 3.3: WTP to avoid Level 4 restrictions (HH): This is the willingness to pay that HH users report to avoid Level 4 restrictions (also from Metcalfe et al., 2023)
- Outcomes in Rows 4.1 - 4.9 (_out1 and _out2): Each of the Outcomes is defined with an overall probability reflecting its likelihood according to current forecasts (Row 4.1). The costs are calculated per day (Row 4.2) as the number of NHH users multiplied by the WTP to avoid a NEUB and then aggregated by the duration of the NEUB (Row 3.1). The benefits are calculated in a similar way per day, but including HH and NHH, and then aggregated by the number of days by which Level 4 restrictions can be delayed. Costs and benefits in each scenario are converted to expected costs and benefits (Rows 4.8 and 4.9). Expected benefits are zero in Outcome 1 (which is defined as having no Level 4 restrictions occurring) but will occur in Outcome 2 which does experience Level 4 restrictions and the corresponding benefits of delay.

- Rows 5.1 and 5.2: The expected costs and benefits as weighted by the overall probability for each scenario (Row 4.1).
- Rows 5.3: The ratio of the expected costs to expected benefits.

Table 3.2 CBA Results for NEUB

Row		Unit	Scenario 1 (Main)	Scenario 2 (Alternative)	Source
Area characteristics for Wimbleball WRZ					
1.1	Total properties (HH + NHH)	thousands	178.3	*same*	WRMP24 - values for 2026/27
1.2	Non-household properties (NHH)	thousands	13.1	*same*	WRMP24 - values for 2026/27
Durations					
2.1	Duration of NEUB	days	30	*same*	SWW input/assumption
2.2	Duration of Level 4 restrictions (if occurring)	days	61	*same*	SWW input/assumption
2.3	Number of days of NEUB before conditions for Level 4 restrictions arise	days	30	*same*	SWW historical trends/modelling
2.4	Days of Level 4 restrictions avoided by NEUB	days	1	*same*	SWW historical trends/modelling
Value of water supply to users according to conditions					
3.1	WTP to avoid NEUB (NHH only)	£/prop/day	£3.76	*same*	Metcalfe et al., 2023
3.2	WTP to avoid Level 4 restrictions (NHH)	£/prop/day	£366.88	*same*	Metcalfe et al., 2023
3.3	WTP to avoid Level 4 restrictions (HH)	£/prop/day	£4.28	*same*	Metcalfe et al., 2023
Costs and Benefits: Outcome 1 (Level 4 restrictions are not implemented)					
4.1_out1	Probability of Outcome 1	0-100%	95%	80%	SWW historical trends analysis
4.2_out1	Costs per day of NEUB	£m/day	0.049	0.049	calculated: 1.2 * 3.1
4.3_out1	Costs	£m	1.5	1.5	calculated: 4.2 * 2.1
4.4_out1	Benefits per day of Avoided Level 4 restrictions	£m/day	5.5	5.5	calculated: 1.2 * 3.2 + 1.3 * 3.3
4.5_out1	Benefits	£m	5.5	5.5	calculated: 4.4 * 2.4
4.6_out1	Probability of costs	0-100%	100%	100%	defined by outcome

Row		Unit	Scenario 1 (Main)	Scenario 2 (Alternative)	Source
4.7_out1	Probability of benefits	0-100%	0%	0%	defined by outcome
4.8_out1	Expected costs	£m	1.5	1.5	calculated: 4.6 * 4.3
4.9_out1	Expected benefits	£m	0.0	0.0	calculated: 4.7 * 4.5
Costs and Benefits: Outcome 2 (Level 4 restrictions are implemented)					
4.1_out2	Probability of Outcome 2	0-100%	5%	20%	SWW historical trends analysis
4.2_out2	Costs per day of NEUB	£m/day	0.049	0.049	calculated: 1.2 * 3.1
4.3_out2	Costs	£m	1.5	1.5	calculated: 4.2 * 2.1
4.4_out2	Benefits per day of Avoided Level 4 restrictions	£m/day	5.5	5.5	calculated: 1.2 * 3.2 + 1.3 * 3.3
4.5_out2	Benefits	£m	5.5	5.5	calculated: 4.4 * 2.4
4.6_out2	Probability of costs	0-1	100%	100%	defined by outcome
4.7_out2	Probability of benefits	0-100%	100%	100%	defined by outcome
4.8_out2	Expected costs	0-100%	1.5	1.5	calculated: 4.6 * 4.3
4.9_out2	Expected benefits	£m	5.5	5.5	calculated: 4.7 * 4.5
Overall expected costs and benefits and Benefit-Cost Ratio					
5.1	Expected costs (Weighted for Scenario 1 & 2)	£m	1.5	1.5	calculated: 4.1_out1 * 4.8_out1 + 4.1_out2 * 4.8_out2
5.2	Expected benefits (Weighted for Scenario 1 & 2)	£m	0.3	1.1	calculated: 4.1_out1 * 4.9_out1 + 4.1_out2 * 4.9_out2
5.3	Benefit-Cost ratio (BCR) - Expected Benefits divided by Expected Costs	0-1	0.186	0.746	calculated: 5.2 / 5.1

Source: own calculation

3.4 Commentary on results and their sensitivities

The reservoir is the primary means that allows reallocation between groups and over time that leads to the lowest overall costs.

The underlying structure of values that drives the use of the reservoir for reallocation is that the losses from EDO restrictions are greater than the losses from NEUB restrictions. To reduce total overall costs, water saved by NHHs under a NEUB should be reallocated to reduce the period of EDO restrictions and hence the EDO losses.

The CBA results have the following general features which underlie the sensitivity of results to key parameters:

- The longer the NEUB goes on the more water is retained within the reservoir and the more there is available to allocate to alleviate Level 4 restrictions. Above a certain level for the probability of Level 4 restrictions occurring, the more water retained (using a longer NEUB period) the better. In practice, the Level 4 probability is typically low at the beginning of the year (which is likely to make a NEUB not-cost beneficial if assessed then). As the probability rises the benefits of a longer NEUB become obvious, but, by then, it is too late to implement the longer NEUB.
- Water saved from a NEUB and retained in the reservoir may retain its potential value if it can be used when required even far into the future (subject to physical constraints on reservoir operation - see below). For example, water saved this year could be used to alleviate EDOs next year. A multi-year CBA addressing chronic structural issues and the role of a NEUB is an alternative and more complex formulation of the CBA. This potential future value could in principle increase the potential benefit of the NEUB as modelled here which covers just the circumstances of this year.
- If the reservoir becomes full, any saved NEUB water already in it is effectively lost, as it is notionally displaced by new 'free' water from recharge/rivers (which is preferred as it is available at a lower economic cost than NEUB water). In this case the NEUB only results in costs (the costs to businesses from the water restrictions) and no benefit (as the NEUB water is lost).
- In general, it is preferable to collect NEUB water when it is cheapest (has lowest economic cost) and has least risk of becoming valueless by being replaced by 'free' water. NEUB water is cheapest when restrictions have least impact on businesses. However, it is worth collecting NEUB water, even if it is not the cheapest it can be, if EDO restrictions are sufficiently likely.
- Similarly, NEUB water is of greatest value when it both: (1) has least risk of becoming valueless (by being displaced by 'free' water); (2) has greatest chance of being required. These conditions are satisfied when reservoir levels are low/falling and EDO restrictions are most probable.

More specific features of the results are:

- The longest NEUB period possible in this year would begin now and so sets an effective limit on the water savings that can be made.
- NHHs use more water for the uses to which a NEUB applies in summer and so a NEUB over summer would have collected more water than average.
- Within the Wimbleball area there are businesses who may be able to take specific actions that would mitigate the impact to them of a NEUB being implemented. This would reduce their economic impact and so lower the cost of a NEUB as included within the CBA. This is particularly true if investment could be amortised over multiple years and there is a NEUB potential over the same period.
- The acceptability of the SWW EDO strategy of managed retreat and the willingness of users to pay to avoid it is untested compared to other forms of Level 4 restrictions but could be significantly higher.
- The probability of Level 4 restrictions is complex to represent.
- Some cost elements are not currently represented (See **Section 3.1.1**).

Further detail on sensitivities is provided in **Appendix B** (to be provided on request).

4. Conclusions

The key conclusion is that the costs and benefits are sufficiently close that a clear conclusion on whether a NEUB is cost-beneficial cannot be made.

Key contributing factors include:

- Parameters with inherent uncertainty, such as weather forecasts.
- Uncertainty in valuation methods, in particular:
  - A significant difference in the strategy for implementing EDOs by SWW ('managed retreat') from that used as a proxy for valuing benefits taken from a more general evidence base ('rota cuts').
  - Potential differences in the composition of the actual business base from that in the more general evidence base used as a proxy.
- Potential for NEUB water savings this year to contribute benefits in a subsequent year.
- Uncertainty in the effectiveness of water savings from a NEUB in autumn compared to other times of the year.
- Significant elapsed time (up to 10 years) since surveys of willingness-to-pay values were done; and
- additional sources of uncertainty.

Subject to these concerns, the main scenario modelled shows expected costs of approximately £1.5m, while expected benefits are £0.3m, **giving a benefit-cost ratio of 0.186 and indicating a NEUB is not cost-beneficial**. This main scenario includes a 5% probability that Level 4 restrictions will occur. This reflects modelling using historical evidence that would indicate Level 4 being reached in 3 out of 69 years of Wimbleball reservoir inflow scenarios (based on historic rainfall patterns).

The alternative scenario, with a 20% probability of Level 4 restrictions, shows expected costs of approximately £1.5m, while expected benefits are £1.3m, giving a benefit-cost ratio of 0.746, also indicating a NEUB is not cost-beneficial. The 20% probability reflects interpretation of long term average (LTA) rainfall statistics and use of an approach that the Environment Agency have taken in the national drought group.

However, both forecasting methods anticipate significant rain and the interpretation used in the alternative scenario can be understood as cautious.

5. Limitations statement

This is an initial report produced as part of analysis which is ongoing and may be subject to revision.

References

Metcalfe, D. P., Chalak, D. A., Anciaes, D. P., & Bortolotti, D. (2023). *Collaborative ODI Research Final Survey Values Report June 2023*.

UKWIR. (2025). *Assessing the costs and benefits of nonessential use Drought Orders – A Feasibility Study*.



Appendix A – The hydrological response of Wimbleball

To understand the hydrological response of Wimbleball to NEUB interventions a selection of modelling and another analysis has taken place. This is as follows:

- **Drought Action benefit modelling:** This looks at the days to level 3 and 4 for a range of LTA rainfall scenarios, with and without demand and supply actions.
- **Understanding the likelihood of the LTA rainfall scenarios:** Analysis of the historical rainfall record and reservoir drawdown to contextualise the likliehood of each scenario.

This work has been explained futher below. The key conclusions to be used in the CBA have been set out at the end of this Appendix.

A.1 Drought Action Benefit modelling

Introduction

Drought Action Benefit Modelling has been undertaken for Wimbleball for three scenarios:

- Baseline - no drought actions
- Demand actions - only demand actions (TUBs/NEUBs applied)
- Demand and Supply Actions - demand actions and additional supply actions

All Scenarios include the representation of Level 2 commencing on 15th August 2026 when the Level 2 trigger threshold was passed at Wimbleball.

Demand Supply Action assumptions

The modelling assumes:

- Level 2 triggers use of TUBs (as occurred in August) as well as the potential for cessation of compensation release from Wimbleball through granting of a drought permit. Due to the application period for the drought permit the impact is assumed aligned with entering Level 3.
- Level 3 triggers a NEUB applied and assumed to result in a 2.5% saving in non-Household (NHH) consumption.

The detailed assumptions around each supply/demand action are set out in Table A.1.

Table A.1 Demand and Supply Actions Assumptions in the drought action benefit modelling

Action	Assumption
TUBs (demand)	• Triggered immediately when crossing drought zone level 2 (this occurred on 15/08 so they are online from the 1st day of the modelled drought action scenarios) • Assumed 5% reduction in distribution input • No demand savings assumed between 01st November and 31st March • Deactivated when storage leaves drought zone level 2.
NEUB (demand)	• Triggered immediately when crossing drought zone level 3 • Assumed 2.5% reduction in distribution input (we calculate the saving using the distribution input that has been impacted by TUBS) • No demand savings assumed between 01st November and 31st March • Deactivated when storage leaves drought zone level 3. • There is no NEUBS benefit assumed between 01/11/26 to 31/3/27
Wimbleball Compensation Permit reduction (supply)	• Can be applied for upon crossing drought zone level 2, however due to duration of application process is likely to only apply with timing aligned to entering dorught zone level 3. • Assumes a 9.09 Ml/d saving of reservoir storage but only if Wimbleball reservoir is making supply releases (parameter exported from water resource model simulations) • Only provides benefit when river flows are below the prescribed compensation flow. This means that at some point between Mid-October and Mid November the supply side option stops having any benefit. The exact date depends on the LTA rainfall scenario.

Hydrology Scenarios

The Drought Action Benefit Modelling simulated reservoir storage for a 40%, 60%, 80% and 100% long term average rainfall (LTA) scenarios with a range of historic inflow years, taken from other drought forecasting related work. The approach taken to inflows in that work (which has also been used here) is as follows:

- 40% and 100% LTA scenarios have a single "stitched" historic inflow scenario was used since this made limited difference to the dates of drought zone triggers
- 60% and 80% LTA rainfall scenarios each have 3 different stitched historic inflow scenarios to provide an indication of the uncertainty associated with the different forecast inflows.

The modelling assumes that:

- Level 4 would not be expected to be triggered after the 31st October due to the typical rainfall patterns (and is why the 80% and 100% LTA Rainfall scenarios do not have a level 3 or 4 trigger). However, in other circumstances, Demand and Supply actions can delay the date of the trigger, such as from late October to Early November.
- Recovery to Level 1 would confidently be expected to achieved by the end of March due to rain over the winter and so no triggers for recovery dates have been set after this point though recovery dates before this occur in some scenarios.

Table A.2 Results of Drought Action Benefit Modelling

Representative LTA Rainfall Scenario (%)	Autumn Historic Inflow Year	Winter Historic Inflow Year	Drought Actions applied	Level 2 Trigger Date	Level 3 Trigger Date	Level 4 Trigger Date	Level 4 end date	Level 3 end date	Level 2 end date
40	1978	1963	N	15-Aug	25-Sep	27-Oct	06-Dec	24-Mar	
40	1978	1963	D	15-Aug	26-Sep	31-Oct	03-Dec	18-Mar	
40	1978	1963	S&D*	15-Aug	26-Sep	06-Nov	28-Nov	25-Feb	
60	1978	1964	N	15-Aug	25-Sep	27-Oct	08-Dec	28-Dec	
60	1978	1964	D	15-Aug	26-Sep	31-Oct	04-Dec	20-Dec	
60	1978	1964	S&D*	15-Aug	26-Sep	06-Nov	27-Nov	16-Dec	
60	1978	2005	N	15-Aug	25-Sep	27-Oct	06-Dec	11-Jan	
60	1978	2005	D	15-Aug	26-Sep	01-Nov	04-Dec	04-Jan	
60	1978	2005	S&D*	15-Aug	26-Sep	07-Nov	28-Nov	24-Dec	
60	1978	1962	N	15-Aug	25-Sep	27-Oct	06-Dec	24-Mar	
60	1978	1962	D	15-Aug	26-Sep	01-Nov	03-Dec	18-Mar	
60	1978	1962	S&D*	15-Aug	26-Sep	07-Nov	28-Nov	25-Feb	
80	1964	1964	N	15-Aug	27-Sep	Not Triggered before 31st October		15-Nov	
80	1964	1964	D	15-Aug	29-Sep			18-Oct	
80	1964	1964	S&D*	15-Aug	29-Sep			15-Oct	
80	1971	1971	N	15-Aug	29-Sep			10-Nov	
80	1971	1971	D	15-Aug	01-Oct			02-Nov	
80	1971	1971	S&D*	15-Aug	01-Oct			22-Oct	
80	1996	1996	N	15-Aug	23-Sep			06-Nov	23-Nov
80	1996	1996	D	15-Aug	25-Sep			05-Nov	21-Nov
80	1996	1996	S&D*	15-Aug	25-Sep			05-Nov	21-Nov
100	1977	1977	N	15-Aug		Not Triggered before 31st October			12-Nov
100	1977	1977	D	15-Aug					12-Nov
100	1977	1977	S&D*	No Supply measure					

Key:

- Level 2 trigger date (15th August 2026)
- Level 3 trigger date
- Level 4 trigger data
- Level 4 end date (transition back to level 3)
- Level 3 end date (transition back to level 2)
- Level 2 end date (transition back to level 1)

No Demand or Supply Actions	**N**
Demand Actions Only	**D**
Demand and Supply Actions	**S&D**

*NOTE: level 2 and level 3 trigger dates are the same in the "Demand Actions only" and "Demand and Supply Actions" scenarios. The application process for the supply side option means that implimentation wil be after level 3 in Autumn 2026.

Key Conclusions

The modelling leads to the following conclusions:

- ***Level 3 Trigger date:*** Level 3 trigger date sits between the 26th September and 1st October in all scenarios except the scenario with 100% LTA rainfall. At the time of writing the current trajectory of Wimbleball drawdown indicates that Level 3 could be triggered on the 27th September.

- ***Level 4 Trigger date:*** In the 40% and 60% LTA scenarios the trigger dates are as follows:
  - No action (i.e. no TUB, NEUB, or compensation release reduction): 27th October
  - Only Demand Action (TUB and NEUB applied): 31st October/1st November
  - Supply and Demand actions (TUB, NEUB, and compensation release reduction): 6/7th of November

  Therefore implementation of the NEUB could bring a 5-6 day delay in Level 4. The Level 2 drought permit for compensation release reduction extends this delay by a further 6-7 days.

  In the 80% and 100% scenarios, Level 4 is not triggered before the end of October and therefore is assumed not triggered at all.

- **Level 3 recovery date:** This is the date that the WRZ moves from Level 4 to Level 3. It is only relevant to the 40% and 60% LTA scenarios.
  - Supply and Demand actions implemented: 27/28th of November
  - Only Demand Actions: 3rd/4th December
  - No Supply or Demand actions implemented: 6/8th December

- **Level 2 recovery date:** This is the date that the WRZ moves from Level 3 to Level 2. It is only relevant to the 40%, 60% and 80%LTA scenarios as in the 100% LTA Scenario the WRZ does not move to Level 3. This has a much wider range:
  - 40% LTA Rainfall scenario: 1st January assuming supply and demand options are triggered
  - 60% LTA Rainfall scenario: 16th December – 25th February assuming supply and demand options are triggered. This wide range represents the impact of different seasonal inflow scenarios.
  - 80% LTA Rainfall Scenario: 15th October – 5th November

A.2 Testing the NEUB effectiveness assumption

The assumption in the drought action benefit modelling above is that there will be a 2.5% reduction (at a 4.23Ml/d rate) in distribution input (we calculate the saving using the distribution input that has been impacted by TUBS). In parallel to the modelling undertaken above, this assumption has been investigated in more detail, looking at the range of users and likely savings over the autumn period.

This analysis has concluded that a 2.5% reduction would be possible over a 5 month period, however this would not be possible over one month (October) as has been assumed in the drought action benefit modelling in Section A.1. The rate could be as low as 0.705Ml/d in October. This means that the NEUB demand action delay impact of 5-6 days day on the start of level 4 is likely to be overstated.

The CBA has therefore considered a 1 day saving from the NEUB to be the most likely scenario.

A.3 Understanding the likelihood of the LTA rainfall scenarios

The likelihood of the different drought forecast scenarios is an important input to the CBA. This has been considered in two ways:

- Rainfall scenario probability using an analysis of the long term rainfall record.
- Projections of reservoir storage based on the historical inflow record.

The outcome of this analysis is presented below.

Rainfall Scenario probability

This approach used the historical rainfall record (154 years) to look at how many years have rainfall less than or equal to the LTA percentages used in the forecast of 40%, 60%, 80% and 100%. This is the same approach that the Environment Agency have taken in the national drought group as a way of contextualising the likelihood of the prospects scenarios.

Table A.3 Percentage of years where the cumulative LTA has been exceeded by that month

LTA (%)	Sep	Oct	Nov	Dec
40	16	6	1	0
60	39	21	14	10
80	60	53	50	43
100	78	82	91	89

This data can be understood as follows (using the example of the 40% LTA Rainfall scenario):

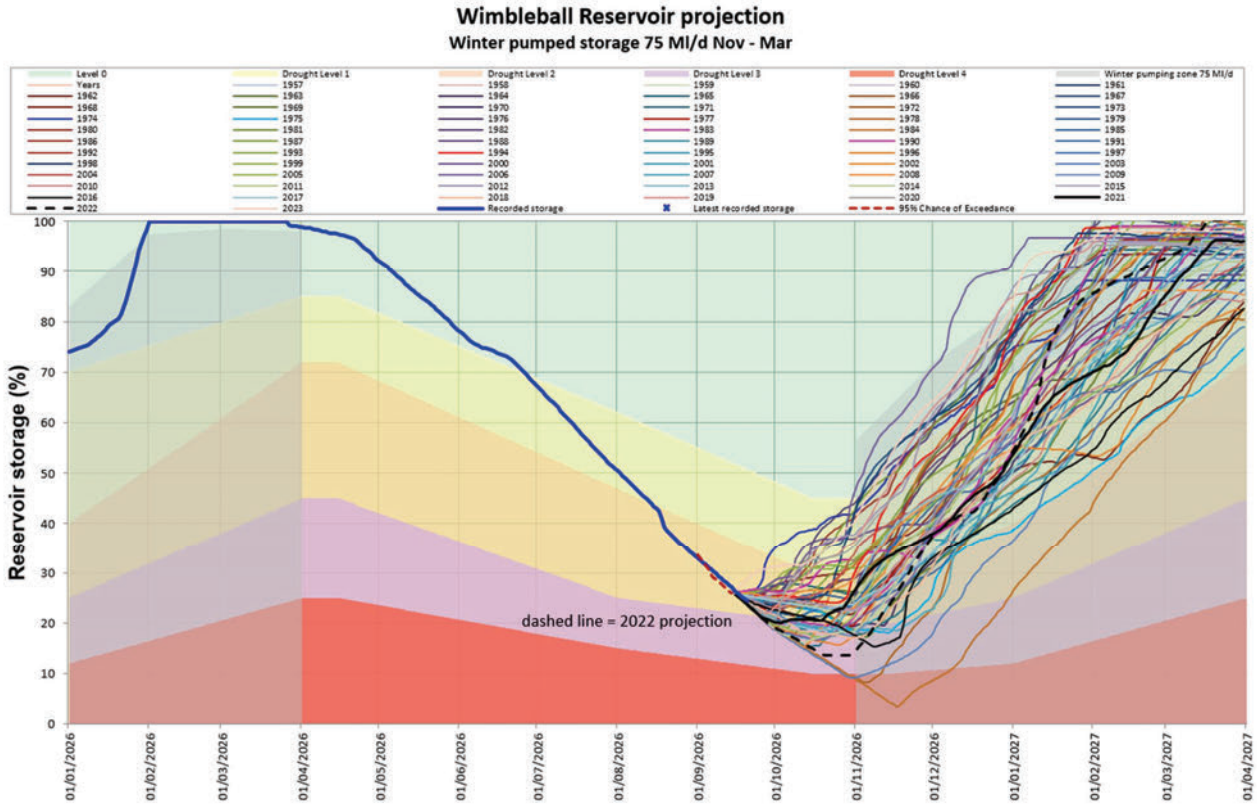
- 16% of historical years had cumulative rainfall to the end of September ≤40% of the LTA
- 6% of historical years had cumulative Sep-Oct rainfall ≤40% of the LTA
- 1% of historical years had cumulative Sep-Nov rainfall ≤40% of the LTA
- No years had cumulative Sep-Dec rainfall ≤40% of the LTA. This is because there have been zero years historically which recorded 40% of the rainfall September to December.

October is the key month for this Application. If Level 4 is reached it will be in a lower rainfall scenario - 40% or 60% of the LTA at the end of October/early November (as shown in Table A.2). Level 4 is not reached in the higher rainfall scenarios. From the data above there are 6% of Octobers in the 40% LTA scenario and 21% in the 60% LTA scenario.

Projections of Reservoir Storage

This approach projects reservoir storage based on the 69 years of inflow data available. Using this approach three years reach Level 4 by the end of October – 1978, 2003 and 2016.

Figure A.1 Projections of Reservoir storage



The worst projection which continues a deep drawdown into L4 is 1978 which experienced only 27.6% LTA rainfall through to the end of November and 17.84% Sep-Oct LTA rainfall at the time it entered Level 4. The other 2 years (2003 and 2016) both skim in and then back out because in November of these years there was enough rainfall to lift river flows to cease compensation releases to allow some pump storage back to the reservoir.

2016 has 65% LTA rainfall Sep-Oct and based on the rainfall analysis above 21% of years historically have had a similar level of rainfall, however only around 5% of years reach Level 4 in our storage projections.

A.3 Summary

The following has been concluded based on the analysis presented:

- Level 4 is only likely to be triggered in the 40% and 60% LTA scenarios
- The implementation of the NEUB will delay the start of Level 4 by 0-1 days in October in both of these scenarios, more substantive savings will result from the implementation of the compensation release.
- The probability of level 4 being triggered is likely to be somewhere between 5-20%, however it is considered that the lower probability is more likely based on inflow project modelling.

Appendix B - Further Details

This Appendix can be provided separately.

Appendix C - Glossary

Table C.1 Glossary

Abbreviation	Meaning
BCR	Benefit-Cost Ratio
CBA	Cost Benefit Assessment
EDO	Emergency Drought Order
DI	Distribution Input (water input to the distribution network)
GVA	Gross Value Added
HH	Household
Ml/d	Megalitre per day
NEUB	Non-Essential Use Ban
NHH	Non-Household
SWW	South West Water.
TUB	Temporary Use Ban
UKWIR	UK Water Industry Research
WRMP	Water Resources Management Plan
WRZ	Water Resource Zone
WTP	Willingness to Pay



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