



Drought Update
9 August 2022

Drought Update no.1, 9 August 2022

Welcome to our first drought update. In this period of prolonged dry weather, we will share regular bulletins with information about the water resources situation across Thames Water's water supply area, what we are doing to maintain reliable supplies to our customers, and what they can do to help.

Bulletins will also provide more detailed information on key developments and topics of particular interest, with this week's note covering our [desalination plant](#), the role it plays, and work currently being undertaken there.

Summary:

- The UK has had its driest July since 1885. We received 65% of average rainfall over the last six months.
- River and groundwater levels are below average and reservoir levels have fallen significantly.
- We have enacted plans that have helped meet the highest demand for water in our region in 25 years.
- 280 leak detectors and 160 repair teams are fixing 1,100 [leaks](#) every week – one every ten minutes, 24/7.
- Our customers can make a real difference with simple water saving measures at home.
- There are not currently water use restrictions in place in the Thames Water region but, given the long-term forecast of dry weather, we are planning to announce a [temporary use ban](#) in the coming weeks.

A hot and dry July

The UK has just experienced its driest July since 1885. We received just 1% of long-term average (LTA) rainfall in July and just 65% of LTA rainfall over the last six months. Alongside this the July heatwave led to the hottest day on record on 19 July and a significant, sustained increase in demand for water.

In early July, our modelling tools predicted a significant increase in demand for the period 15 to 20 July significantly above any normal summer "spike". We put plans in place across our treatment sites, water networks, customer, and logistics functions, and were able to maintain supplies across our region. The steps we took included:

- Increasing our treatment works output and storage levels in local 'service' reservoirs
- Delaying planned work so that our teams could focus on maintaining supplies
- Doubling staff available on 'standby' and out-of-hours
- Increasing resources in our customer centre and moving staff from back-office functions
- Removing some business customers from our network and delivering non-potable water via tanker, reducing demand in risk areas
- Proactively engaging with Local Resilience Forums

In parallel, we delivered an extensive communications programme, ramping up our campaign, including:

- Numerous TV and radio interviews – both locally and nationally
- Engagement with our customers through email (over 2.1 million sent) and SMS text messages (over 200,000 in specific 'hotspot' areas)
- Engagement with trade organisations such as the National Farmers Union and UK Golf Federation, Racecourse Association and The Crown Estate
- Liaison with all local councils seeking support in water efficiency messaging
- Engagement with stakeholders across our region, including MPs, local authorities and others

The current water resources situation

Supply

- 10 out of the last 12 months have seen below average rainfall.
- Over the last 6 months we have experienced 65% of long-term average rainfall.
- July 2022 was the driest since 1885 in the Thames Water supply area.

Demand

- The July heatwave saw demand increase to 2.9 billion litres per day.
- 150 million litres a day higher than normal in London in July; remains above normal.
- 90 million litres a day higher than normal in Thames Valley in July; it remains around the seasonal maximum.

Key measures of water supply and demand:

Key measure	Normal/expected level	Level at 4 August	Comment
London reservoir storage	86%	73%	Lowest reservoir storage for the time of year since 1990.
Farmoor reservoir, Oxford	96%	87%	Lowest reservoir storage for the time of year since 1995.
Flows in the River Thames at Teddington	<ul style="list-style-type: none"> • 8th lowest flow on record • Lowest flow since 2005 		Abstraction levels have been reduced to protect the environment and to meet navigation requirements.
Flows in the River Thames at Farmoor	<ul style="list-style-type: none"> • 3rd lowest flow on record • Lowest flow since 2011 		Further reductions in abstraction are projected during August.
Groundwater levels	For the time of year, levels are below normal across our supply area, but with notably & exceptionally low levels in the upper Kennet & Thames regions.		

The long-term weather forecast is for dry conditions for several more weeks, while demand for water in London and the Thames Valley is expected to reach its seasonal maximum during August. We will continue to see increased pressure on water supplies and will need to save water.

What we are doing to save water

We know that it is particularly important we do everything possible to reduce losses through leakage. It is higher than we and our customers want, and we are working hard to reduce it:

- Our leakage targets are set by our regulator, Ofwat, and require us to make a reduction of more than 20% by 2025. We have met our target for the last 3 years, cutting losses by more than 10%.
- We have more than 280 people working round the clock to detect leaks, mainly overnight as it is easier to spot leaks when people aren't using as much water.
- We have 160 repair teams working tirelessly to fix leaks 7 days a week and we are currently repairing more than 1,100 per each week.
- Hot weather inevitably leads to more leakage - partly because leakage increases as more water is used, and partly because the ground dries out and moves, putting pressure on our pipes and joints.
- In the next 3 years we will spend more than £55m installing technology that helps to reduce pressure fluctuations in our networks, which will reduce leakage. We are also increasing our investment in replacing water mains, spending almost £200m in the next 3 years. Renewing our ageing Victorian water infrastructure is a long-term programme and, over time, we will need to transition to a greater emphasis on replacing than repairing our pipes.

How water companies maintain supplies in a drought

Drought Plans are statutory documents water companies are required by the government to produce setting out the actions companies expect to take in the event of a drought.

We have a dedicated team of analysts and scientists monitoring our water resource levels at all times. The team takes into consideration a number of factors including Met Office forecasts, reservoir storage levels and expected customer demand. When considering implementing a Temporary Use Ban (TUB) we have to balance the impact on our customers and the environment.

We have been preparing for summer since the winter, making good use of abstractions earlier in the year to fill our reservoirs in London. We accelerated maintenance work on the QE2 reservoir in London which has provided more storage over the past dry months. We then launched our media campaign with customers.

We have started supporting our supplies in other ways, including drawing water from our North London Aquifer Recharge System which means we need to take less water from our reservoirs.

Given the long-term forecast of dry weather and another forecast of very hot temperatures coming this week we are planning to announce a temporary use ban in the coming weeks. We have written to the Environment Agency to update them on our approach and informed Ofwat. The timing is not confirmed due to a number of operational and legal procedural requirements but we will provide further updates to make clear when this could happen. In the meantime we are continuing to urge our customers and all water users to only use what they need for their essential use.

Restriction levels in our drought plan

Restriction Level	Frequency of occurrence	Water use restrictions
Level 1	1 year in 5 on average.	Intensive media campaign.
Level 2	1 year in 10 on average.	TUB and enhanced media campaign. Most of the restrictions this involves relate to the use of a hosepipe, with the filling of domestic swimming pools and ornamental fountains also restricted.
Level 3	1 year in 20 on average.	Non-essential use ban requiring the granting of a drought order and drought permits. These would be applied in a staged manner.
Level 4	Never (in reality this equates to - 1 year in 100 years on average).	If extreme measures (such as standpipes and rota cuts) were necessary, their implementation would require an emergency drought order.

Gateway Water Treatment (desalination) Works

Our Gateway Water Treatment Works in Beckton, east London, was completed in 2010 to be predominantly used during dry weather events. Since 2010 we have used it during dry spells to contribute to keeping our London reservoirs as full as we can. The 100 million litres a day (MI/d) that the Gateway can provide into London's water supply equates to 5% of our required supply. It can delay triggering the need for a temporary usage ban by approximately a week.

Planned maintenance has meant not having Gateway available. It is one of a number of schemes in our Drought Plan, including the North London Artificial Recharge Scheme (NLARS), the output of which has been increased from c.90MI/d to 150MI/d.

We understand however that stakeholders have questions as to why the planned work is being carried out during the summer.

In 2018, in the face of increasing concerns about a drought in 2019, Thames Water undertook a review of all the schemes in our Drought Plan, including Gateway. This review concluded that in order to maintain reliable supply the plant required significant investment and maximum output was revised to 100MI/d.

Phase 1 of this planned investment cost £22m and was completed in 2021. Work undertaken included upgrading the ultrafiltration and reverse osmosis membranes, as well as improvements to the water re-conditioning plant.

At the end of 2021 we decided to proceed with Phase 2 of the work needed to ensure that Gateway is reliably operational when we need it as part of our Drought Plan. In winter 2021/22 we had experienced two wet winters and, with the early completion of our QE2 reservoir maintenance work, our water resource position was healthy. Difficult decisions to undertake critical maintenance are always related to the balance of risks. In our view at that time, the prudent choice was to continue with the maintenance work at Gateway to ensure reliable availability of the plant in 2023.

The current planned outage at the Beckton desalination plant is to undertake essential maintenance and replacement work on key assets including chemical dosing pipework, air pipework, and upgraded electrical systems. This work is expected to be completed in February 2023. Whilst some of the Phase 2 work requires a plant outage, much of it does not. We are also challenging the contractor daily to see whether earlier completion is at all feasible.

However even if the Gateway water treatment works was operational this summer then we would still not rule out using temporary use bans as part of the next stage of our regional drought plan, due to the weather patterns we have seen this year and levels of customer usage.

We will need to boost our capability to deal with predicted population growth, climate change, greater drought protection and the need to increase our protection of the environment where we abstract. We plan out over 50 years to ensure we have the right resources to continue to meet our customers' needs while keeping bills affordable. We also continue to reduce leakage and help our customers to use water wisely by installing meters and providing water efficiency advice. Within this long-term planning we currently do not plan to build further desalination plants, but are reviewing schemes to transfer water between different company areas and reservoirs that would improve supply resilience across the whole of the south east region.

Every drop counts: our water saving tips for customers

- **Swap your hose for a watering can.** A sprinkler can use as much water in half an hour as the average family of four uses in a whole day.
- **Don't water when the sun's out.** Avoid watering plants when temperatures are high to help minimise the amount of water evaporating.
- **Take shorter showers.** On average, a shower uses around 10 litres of water a minute. If a family of four reduced their shower time by just one minute, they could save up to £45 on metered water bills and a further £52 on energy bills every year.
- **Turn off the taps while you brush your teeth.** A running tap uses on average 6-8 litres of water a minute, so this easy change can make a big difference.
- **Fix leaky loos and dripping taps.** Leaky loos are usually caused by a faulty flush valve or fill valve inside your cistern tank. A leaky loo can waste an average of around 400 litres of water a day – the same as five full bathtubs. Fixing a leaky loo can save around £350 a year.

Households can find a free [water saving calculator](#) on the Thames Water website where they can work out how much water and energy they are using and receive tailored advice on how to save.

