Weekly Drought Update no.11

19 October 2022

Welcome to our eleventh newsletter. This week's bulletin provides an update on leakage technology and our water resources situation.

Hot Topic – Leakage technology

To support our ongoing commitment to reduce leakage we have been looking at innovative ways to repair and detect leaks.

To help us with customer side leakage we have been trialling 'the Aquapea' which is capable of repairing a leak from inside the pipe. The innovative product eliminates the need for an excavation on a customers' property minimising disruption for our customers.

The Aquapea is deployed at a customers' boundary box, and travels along the pipe getting drawn into the ongoing leak. Customers still require a Aquapea repair. However, on average a repair takes just 20 minutes.

Within our trial, a total of 67 jobs, Aquapea worked in 50% of instances. It saved a total of 0.5Ml/d in the jobs it was partially/ fully successful in.

As a result, we have taken the decision to use this technology as an enhancement to our CSL 'toolbox'.
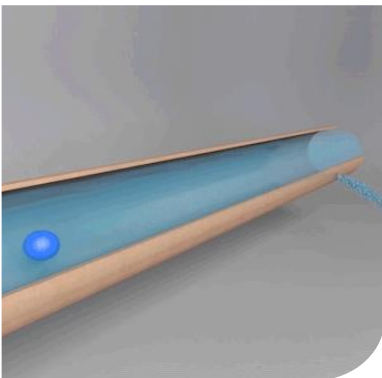
Aquapea

FIDO bugs

FIDO

FIDO is an advanced water leak detection technology that can predict leak probability and leak size. The technology analyses every leak alert from our acoustic logger estate. With the use of FIDO bugs, sensors that can be used easily on the network, where permanent acoustic loggers are absent, the technology has the capability to process 2,800 files per minute with up to 92% accuracy. The technology also provides leak sizing to enable effective prioritisation with an output of small/medium/large, with sizing thresholds (l/sec) which we can set. Some additional benefits of the technology include:

- Acoustic logger availability insight: We have proven in field trials that our understanding and reporting of acoustic logger availability is not fully accurate. We are utilising FIDO to give a more accurate reflection of which loggers are working correctly so that our maintenance teams are more targeted in their maintenance visits.
- Unmeasured consumption (Both HH & NHH): Using the technology to deploy the FIDO bugs in areas where there are potentially unmeasured consumers and help pinpoint locations. The technology can convert acoustic sound files into a diurnal flow graph, giving insight into the flows specific properties/buildings/ streets are using.

Water resources available for our customers

Nine of the last twelve months have experienced below average rainfall. September has had 125% of Long Term Average (LTA) rainfall. Despite above average rainfall in September this summer (April – September) was the eighth driest summer on record with only 63% of LTA rainfall. October has so far seen 15% LTA (to 10 October).

River levels responded to recent periods of rain, but declined again and remain well below average with the River Thames at Farmoor at the fifth lowest on record.

Groundwater levels are below normal and notably low across our supply area but with exceptionally low levels in the upper Kennet and Thames.

Soil moisture deficit (SMD) increased over the summer months but is now starting to decrease but remains well above average.

This means that soil is drier than average limiting the opportunity for groundwater levels to recover. It has also caused our pipes to move and crack leading to an increase in leakage.

Customer demand is normal in London and above normal in Thames Valley for this time of year.

Reservoir storage levels in London
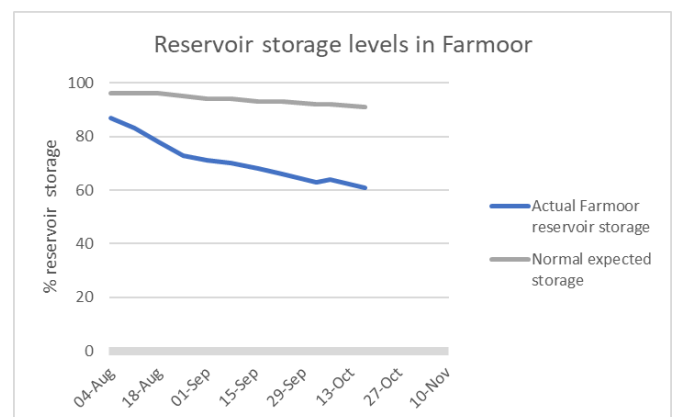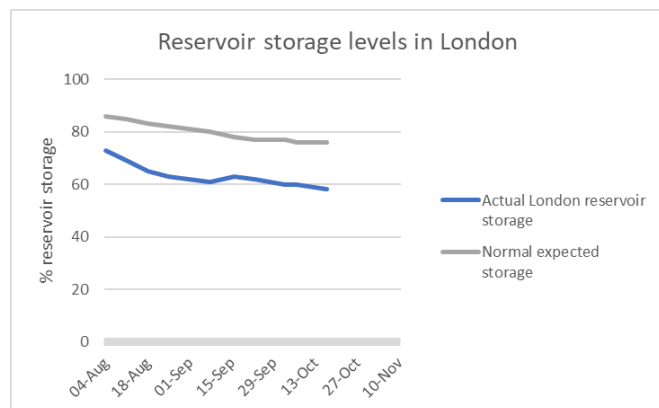
London storage levels are 58% against an average of 76% for the time of year. This is split across West London (50%) and Lee Valley (94%).

West London storage is low due to river constraints that have limited abstraction to Queen Mother, Queen Mary and Wraysbury.

Lee Valley has benefited from elevated North London Artificial Recharge scheme (NLARs) abstraction and enhanced Thames-Lea-Tunnel transfer.

Reservoir storage levels in Farmoor