

Freeze/thaw incident 2022

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About us

We supply fresh, clean drinking water to **2.3 million** customers

On average, we treat and pump **530 million litres*** to customers each day

Each customer uses an average of **150 litres** a day

The average daily household bill is **60p***

We operate **87 treatment works**

Deliver water 24/7 through **9,000 miles** of pipe

Manage **33 sites** of Special Scientific Interest

Undertake **500,000** water quality tests each year

*2021/22 figures

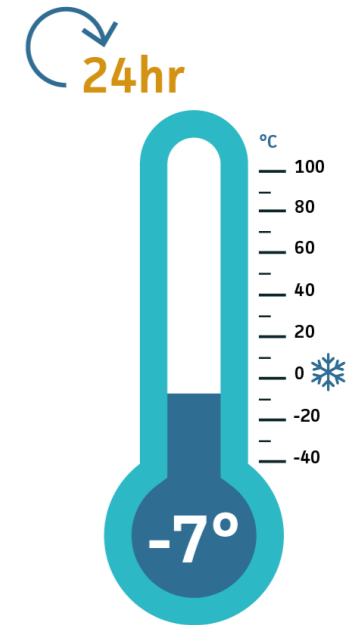
Our purpose

To provide today's public water service and create tomorrow's water supply solutions, fairly and responsibly, working with others to help society and the environment to thrive.



What happened?

- On the evening of Sunday 11 December a snowstorm affected Sussex and Kent.
- Overnight temperatures fell as low as **-7 degrees**.
- During the period the Met Office confirm that the temperature failed to get above freezing for **11 consecutive days** – not experienced since the 1960s.
- As a precaution, an inclement weather team was assembled, met regularly, reviewed contingency plans and planned for subsequent issues
- On Saturday 17 December, temperatures moved from a low of **-7 degrees to +13 degrees** in less than 24 hours
- Ground movement caused by thawing ground resulted in an outbreak of leaks both on ours and our customers' pipes. It was the speed of the event, and in particular the impact on customers own plumbing (both residential and business) that drove a rapid increase in demand over a period of one day.
- Due to those leaks demand increased by nearly **100 million litres** more than we'd expect at this time of year – the equivalent consumption of **three towns** the size of Eastbourne or Maidstone.



-7 to 13°C

Temperatures veered from
minus 7 to 13 degrees
in less than 24 hours

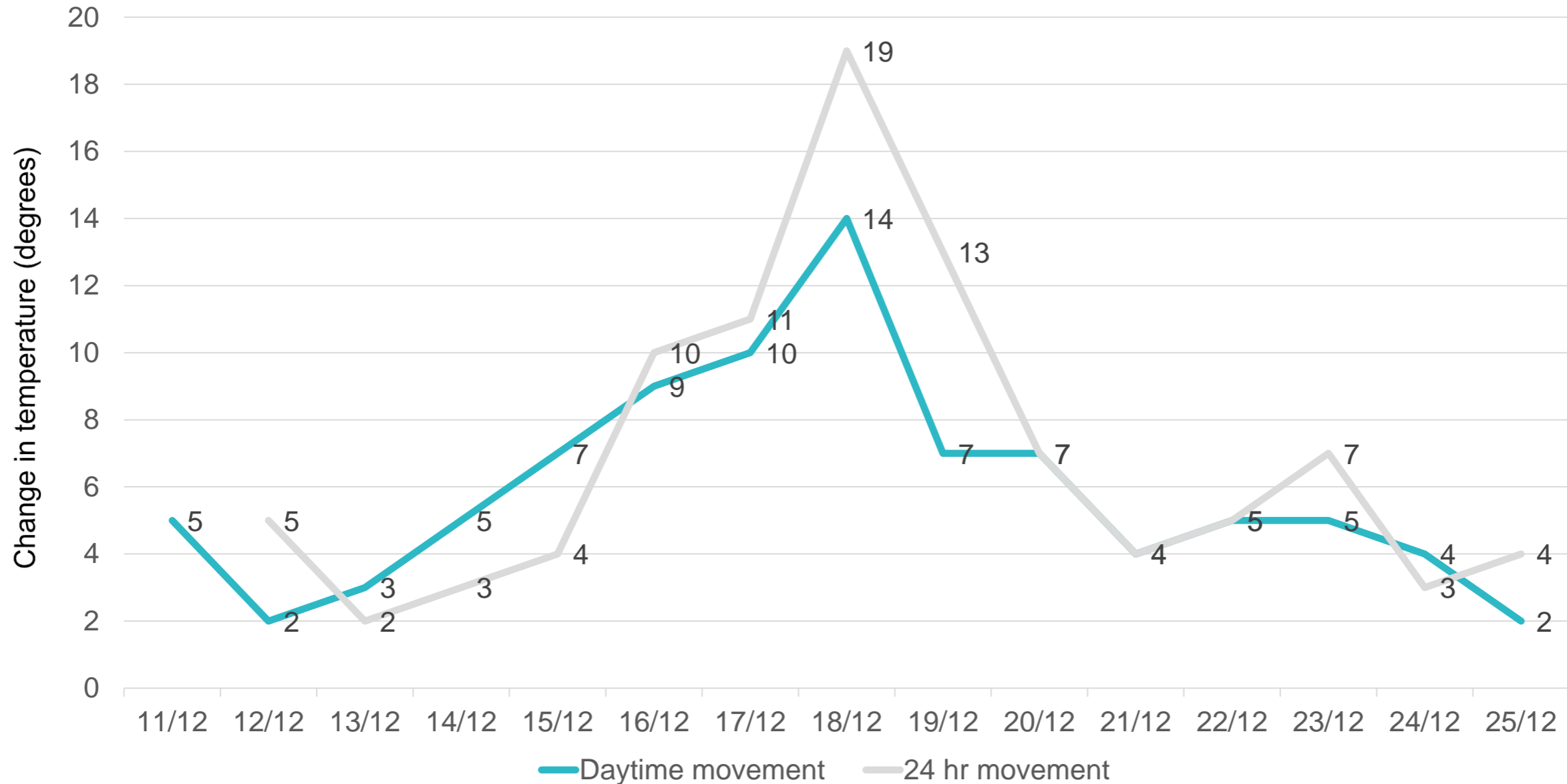
What happened?

- An **incident response team** was assembled from across the business. All 'business as usual' activity was stopped and focus applied to resolving the evolving incident.
- A similar picture emerged nationally. **Six** other water companies were also being affected, which puts strain on supply chains for **alternate water** and resources to **find and fix leaks**.
 - This reduced capacity to seek mutual aid from neighbouring water companies.
- Local resilience forums were engaged before the full impact was experienced
- **Nine** Bottled water stations and **two** livestock water collection hubs were set up.
- We have calculated that **75%** of leaks were experienced on customer properties.
- During the w/c **19 December** we worked around the clock to find and fix leaks.
- We repaired **473** leaks in total, this is over **three times** more leaks in one week than average for this time of year.
- We also repaired over **500** leaks on customer supply pipes, of these in the region of **100** repairs were free of charge.



9 bottled water stations
and 2 livestock water
collection hubs

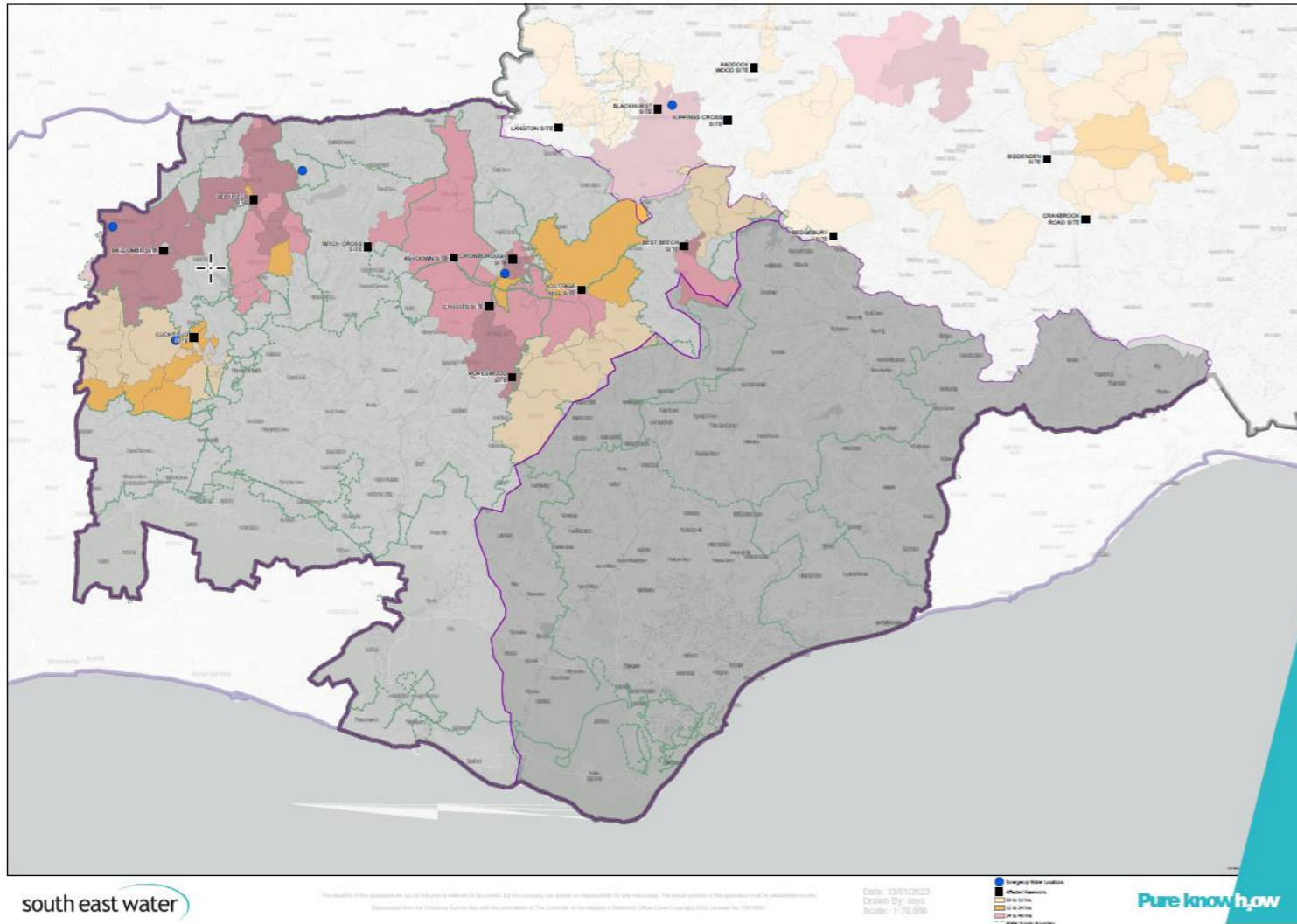
Daily temperature profile change – Kent & Sussex average



What happened in Sussex

- Barcombe Water Treatment Works (WTW) is a key supply site in Sussex.
- The extreme overnight temperatures (**-8 degrees**) on Friday 16 December caused equipment at the WTW to fail, despite trace heating being in place and operating at the site. Ice blocked a dosing line – an issue we've not experienced before.
- The treatment works was shut down and unable to process water for 10 hours due largely to chemicals and water in the site freezing as it was no longer flowing freely.
- This resulted in drinking water storage tanks draining and customers experiencing low pressure or no water. As a result around **22,000 properties** were impacted
- There were also **two major bursts** in the West Hoathly and Selsfield areas, losing 500,000 litres of water per day.
- The Barcombe WTW was restarted later on Saturday 17 December at maximum output. However it took time to refill the extensive pipeline and drinking water storage network
- Manned bottled water stations were set up in East Grinstead, Crowborough and Pease Pottage as well as an unmanned station in Balcombe.

Sussex – affected areas



A number of clustered areas were affected at different times during the incident. These included the households in the following areas:

- Crowborough
- Balcombe
- Wadhurst, Best Beech, Tidebrook
- Cuckfield, Warringlid, Bolney, Ansty, Staplefield
- Selsfield, Ardingly, Crawley Down, Turners Hill, West Hoathly, Sharpthorne.

The Sussex network refills in 'series', meaning that service reservoirs refill in sequence and not simultaneously.

What we're doing as a result of this incident

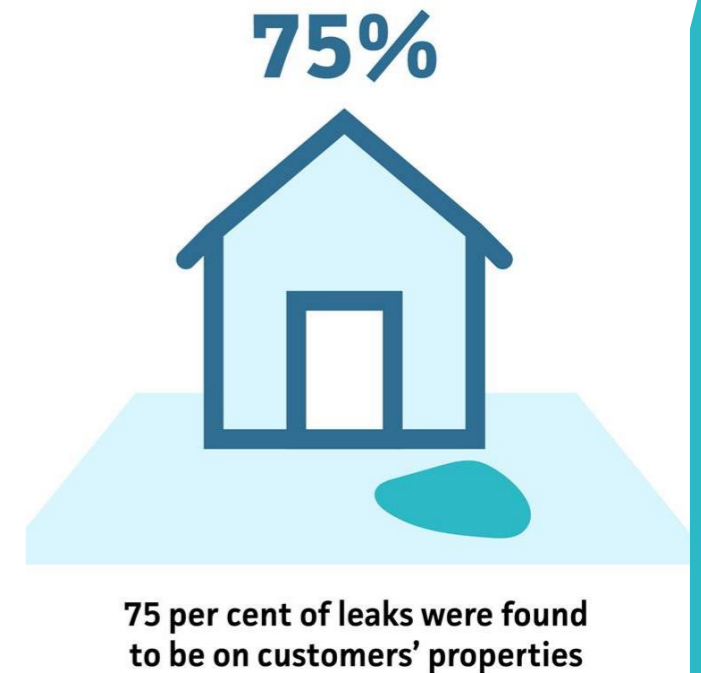
Some of the key things activities we are now working on include:

- Looking at accelerating schemes we already had planned in the areas impacted to make them more resilient to future climate change challenges
- A formal incident review will be undertaken by an independent organisation to make sure we identify and learn from the event. We have already identified improvements we can make from 'hot de-brief' sessions with the teams involved:
 - How can we reduce the impact of customer side leaks in future, through improvements to our "wrap up for winter" campaign and finding ways to identify leaks or high consumption more quickly?
 - How can we ensure more bottled water is available when there is a regional freeze/thaw and where can we locate bottled water distribution hubs to enable layouts to be pre-planned for quicker deployment.
 - How can we work with other agencies to improve our Priority Services Register?
 - How we can rapidly increase the level of resource available to communicate with customers, and develop new tools to make that communication more frequent, timely and relevant.
 - A dedicated feedback form has been opened to customers to give a simple and easy route to share their comments on the events

Our response in detail

Our response

- Throughout the period our focus was on finding and repairing leaks, both on our network and on customer properties.
- In total we fixed **473 leaks** in the week before Christmas. This is **three times** the amount of leaks that would be fixed in a typical week.
- Around **75%** of leaks found were at customers' properties, both residential and businesses. Although not our responsibility, we repaired many of these leaks free of charge.
- As an example, a disused meat processing plant was found to have a leak measuring **six litres per second**. That leak meant that over **500,000 litres of water per day** was running to waste.
- This is the equivalent **1,000 households** with four family members.



How were customers compensated?

- We abide by our **Customer Code of Practice** - further details can be found on our website
- This forms part of our **Guaranteed Standards of Service** (GSS) for household customers, and is based on the requirements of the Water Act.
- Under the terms of the Customer Code of Practice, we are not required to make payments under the GSS scheme where water supplies have been affected by circumstances out of our control, such as extreme weather or when the impact on water supply has resulted from the activity of a third party.
- However, we appreciate that the events following the **extreme temperatures changes were exceptional**.
- As a result we are applying a credit to **15,263** customers which will refund **£1.7m** to customer bills in the area.
- In addition a further **1,200** non-household customers are being refunded **£330,000** through their retailer.
- In addition a community fund of **£50k** has been set up to be distributed amongst charities in the Mid Sussex, Plawhatch, Cuckfield, West Hoathly and surrounding area. Details are currently being finalised.

Our response – prioritising the most vulnerable customers

- We make sure critical infrastructure sites like hospitals can be maintained. We used two water tankers to inject water directly into storage at two hospitals in Crowborough and Tunbridge Wells and kept these vehicles at the sites to maintain these supplies throughout the incident.
- We managed the water network and local storage to protect supplies to major hospitals at Pembury and Princess Royal in Haywards Heath.
- We delivered bottled water to vulnerable customers who were registered with us on our priority services register.
- We delivered bottled water to vulnerable customers who were not registered with us but contacted us to request this service, as well as delivering to **6,956** vulnerable customers on our priority services register
- We worked with Resilience forums to identify vulnerable customers within the areas impacted not registered.
 - A major incident was called in Tunbridge Wells to accelerate data sharing protocols
- We tried to support commercial premises with other vulnerable customer groups like care homes with large deliveries.



Supported hospitals
with water tankers

Our response – bottled water

- Bottled water stations were set up in **nine** locations during the incident in Tunbridge Wells, East Grinstead, Haywards Heath, Crowborough, Pease Pottage, Staplehurst and Challock.
- **Two stations** were open on Christmas Day as a precaution.
- **110 volunteers** from around the company attended the manned stations over a **10 day period**, whilst we also supported hospitals and other medical facilities in the areas affected with dedicated tanker deliveries.
- We made **6,956 deliveries to vulnerable customers** on the Priority Services register. We expanded the PSR list to include vulnerable customers provided from local councils, NHS and Social care
- **Two dedicated livestock hubs** were opened in Kent and Sussex, where farmers could hook up bowsers or tanks to collect water free of charge.

**500,000
litres**



**of bottled water
was distributed**

Our response – bottled water challenges

- The freeze thaw event wasn't restricted to South East Water. Water Direct, our alternate water supplier was also supporting **six other water companies** with critical issues.
- Supply chain issues meant that a round trip to restock a lorry – carrying **22 pallets of water** - could take up to **six hours**. At peak points, that water would be distributed in a period of **two hours**.
- HGV drivers were in short supply, and exacerbated by increased supply chain activity in Christmas week, making driver availability a further challenge. When driver hours were completed, drivers were unable to complete their journeys.
- We appealed to other water companies for mutual aid (bottled water, drivers and lorries), however due to the nationwide nature of the incident we could only source **90 pallets of water** from Thames Water.

Up to 6 hours



Could take up to six hours
to restock a lorry with
bottled water

Our response – stakeholder engagement

- We appreciate that keeping our stakeholders updated regularly is vitally important, and builds trust.
- Our CEO had daily calls with **Greg Clark, MP** for Tunbridge Wells, and other calls with **Mims Davies, MP** for Mid Sussex and **Nus Ghani, MP** for Wealden.
 - The communications team were speaking daily to the offices of **Greg Clark MP, Mims Davies MP, Jeremy Quin MP, Helen Grant MP**, and facilitated calls between those offices and the Ops Director where required.
- During the incident the communications team provided:
 - **35** calls to stakeholders (councillors/MP offices/MPs)
 - Issued **46** emails to stakeholders
- Our regulatory colleagues at **Ofwat, CCW, Defra, EA, Natural England & DWI** all received daily updates on the operational situation and additional phone briefings where required, up to & including Christmas Eve.

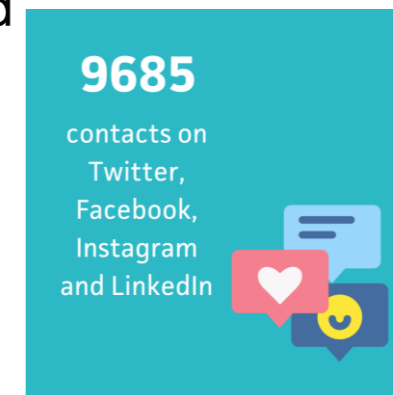
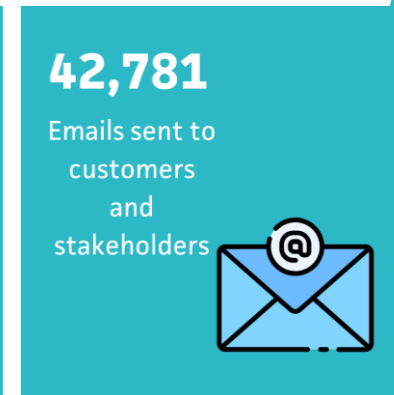
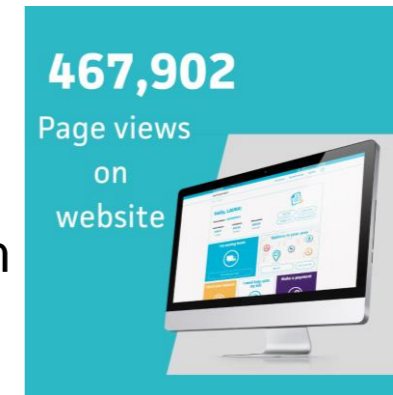
35 calls



35 calls to
MPs and councillors

Our response – communication

- The level of communication we undertook during the incident was **unprecedented**, due to the number of concurrent incidents and duration.
- Throughout the incident we used a number of channels to update our customers, including **website, social media, email, text message** and our **call centre**.
- Social media: **85** posts were sent out across Twitter, Facebook, Instagram and LinkedIn.
- We received **9,685** social media contacts from customers in total, and had an average response time of **3.5** hours. Typically we receive 3-400 social media contacts in a week.
- The website banner was updated **52** times with over **450k** page views of specific customer information
- **50** statements were issued to the press and **13** interviews took place on TV & radio.
- We sent out **10** different customer emails – and over **200k** digital communications to customers by email & text message.



Our response – customer care

- This incident broke all records for inbound phone calls from our customers. During 6 days we received **16,157** phone calls from customers across all contact areas. Despite the high level of call volume, **85%** of all calls were handled.
- The number of phone calls during the incident related to water supply increased by **102%** week on week. In total, we received **8,831** calls from customers regarding water supply.
- The call centre was opened from **6am to midnight** during the incident, with agents available on Christmas Day from 6am. On a normal day, the call centre is open from **8am to 7pm**
- Despite the high level of calls from customers about water supply we kept all other phone lines open, including the billing query line.
- When the incident was over we wrote to all customers impacted offering our apologies and providing compensation payments totalling **£4.26m**.
- We have undertaken research on the impact of the event with our customers, our staff and with the other parties we worked with and will be implementing the lessons learned.



**13 interviews given
on TV and radio**

The way in which customers are consuming water has changed since Covid-19 lockdowns

- When lockdown commenced we saw a changing way in which people led their lives. The biggest impact was that they were at home more often.
 - This specifically affected commuter areas; **Tunbridge Wells, Ashford & Haywards Heath**.
- During lockdown, we saw nearly a **20% increase** in household water consumption.
 - We have met that demand by increasing production and working our production assets harder. It also reduced the margins for error in our network, as there was less spare capacity.
 - Crucially this increased demand wasn't factored into our PR19 business plan, which inhibits investment in the short term
- The draft Water Resources Management Plan (dWRMP) addresses these challenges, improving network resilience and providing more water resources across the region.
 - New **reservoirs** in Broad Oak & Arlington, **water recycling schemes** and a **desalination plant** are all part of the proposed plan.
- The south east is also experiencing more frequent extreme weather.
 - 2022 saw red weather warnings for Storm Eunice and the summer heatwave
 - This impacts on the network – crucially the contracting and expanding ground affect on our pipe network that can increase the number of **burst mains** and **leaking pipes**.



20 per cent increase
in household
water demand

What next?

- We hope today's event is useful for you and local residents
- We have taken on board a number of issues raised already
- Now is the chance to give any further thoughts or raise issues before we finalise our action plan
- We hope we can also work together to think about how we can reduce the risk of frozen pipes on properties in future – and work together during emergencies
- We will be shortly opening to the public and all the team will be available for you to talk to and raise any questions

Thank you