

# Out in the cold

Water companies' response to the 'Beast from the East'

## About this document

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These are the findings of our review into the water supply issues that followed the 'Beast from the East' – the name given to the period of cold weather in late February and early March 2018.

In carrying out the review, we:

- asked each water company for a detailed explanation of what happened;
- worked closely with the Consumer Council for Water, who carried out research on customers' views of the incident;
- engaged with a broad range of stakeholders to understand their views and experiences; and
- asked customers for their stories to help us better understand the impact of the incident on them.

This report sets out:

- a summary of what happened;
- our key findings and lessons learned; and
- actions and recommendations for individual companies, the sector and us at Ofwat.

Alongside this report, we have also written individually to each company. These [letters](#) are available on our website.

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## Foreword

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Losing water supply can cause huge disruption to people's lives and livelihoods. Water provision is fundamental for everyday life. When that supply is cut off it is not long before the basics become difficult. You cannot flush the toilet, wash, clean clothes or have a drink. If you are sick, elderly or disabled this can affect your health and cause real distress and worry. Businesses cannot operate and people lose money. When that supply goes off for days, those impacts become exponentially worse.

The rapid thaw that followed the 'Beast from the East' in late February and early March this year caused significant disruption to a large number of water customers. The fast change in temperature led to many burst pipes with over 200,000 customers cut off from supply for more than four hours, with tens of thousands off for days.


As the regulator of water companies, we take those problems very seriously. We launched this review to get to the bottom of what

happened, to understand how water companies across the industry performed and, most importantly, to make sure lessons are learned and changes take place so that things are better for the future.

We examined what the companies did before, during and after the incident. We listened to residential customers, businesses, schools, councils and Members of Parliament to hear their stories and understand how they were affected.

With 17 different companies in England and Wales, the picture is varied. Some water companies performed well, while others did not provide the service that customers deserve. In all cases, the frontline staff of water companies worked extremely hard in challenging conditions to sort out problems, sometimes making personal sacrifices.

But our review has found that in many circumstances customers were badly let down



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by their company. We have heard stories of real disruption to people's lives: radio silence on what was happening, businesses shut down and customers forced to make long journeys to pick up bottled water. Many customers were effectively left to fend for themselves with local bodies and volunteers having to fill the gap. The situation would have been much worse if not for their efforts.

We are calling on those companies whose customers were badly impacted, and the sector as whole, to make sure there are real improvements in all areas of emergency planning, preparation, response, communication and payment of compensation. We expect to see concrete improvement plans from

companies – particularly those that had the most customers left without supply. If we are not satisfied we will take further action so that customers can be reassured that future supply problems will be minimised and when things go wrong their company will look after them properly.

The industry needs to get better at providing reliable resilient water supplies, whatever the weather. This review and our recommendations should help drive these improvements.

**Rachel Fletcher**  
**Chief Executive**



# 1. Executive summary

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The thaw that followed the ‘Beast from the East’ – the name given to the period of cold weather in late February and early March 2018 – left over 200,000 customers in England and Wales without water for more than four hours; and over 60,000 customers without supply for more than 12 hours. Some were without water for a week.

Staff in all companies worked hard in challenging circumstances to get customers reconnected. But there were real differences in the performance of water companies across England and Wales. Some companies did well to protect their customers from the impact of the weather. We also found significant problems and there are lessons to be learned for all companies – even those that performed well. These are the main findings of our review.

## Planning and preparation

**Companies’ performance was not directly linked to the severity of the weather.**

The previous freeze and thaw incident in 2010-11 was more severe for many companies. The impact on customers in this year’s incident depended to a large extent on factors within the companies’ control, such as the quality of their plans for handling major incidents.

**Some companies, such as Severn Trent Water and Thames Water, did not have appropriate plans in place for this type of incident.**

There were a large number of small bursts on customer premises (up to 70% to 85% of the total in extreme cases) that were not anticipated and showed the limits of companies’ plans for this type of incident. This dispersed pattern of small bursts, combined with a lack of additional production availability, created major supply problems that were not picked up early enough by some companies. This indicates that detailed real time data on issues within their networks is lacking. This also hampered the identification of problems, efficient response and effective escalation of the emerging impacts within companies. As these companies had to design and deliver a response as it happened, they were slower and less effective than companies

that already had robust plans in place and had better network data.

**Better performing companies, such as Northumbrian Water, United Utilities, Wessex Water and Yorkshire Water, used real time information and monitoring systems to identify and manage the issues.**

They demonstrated resilience in their systems to increase production and move water to where it was most needed. They had effective governance processes with clear escalation routes through the company and key external stakeholders.

## Incident response

Co-ordination between companies that were seriously impacted was poor.

For example, the provision of alternative supplies to customers, particularly bottled water, was hampered by multiple companies calling on the same suppliers at the same time, which then struggled to meet the large and sudden increase in demand. This was a particular problem for South East Water and Southern Water. Distribution points were limited and poorly planned – many customers, particularly those in vulnerable circumstances, did not receive support. As a result, councils and voluntary groups had to step in.

Some companies, such as South West Water, were more active in helping to address bursts on customer premises, enabling them to better manage supply across their networks.

## Communication with customers and key stakeholders

There were many examples of companies not communicating effectively with customers and stakeholders.

Research by the Consumer Council for Water (CCWater) in seven of the worst affected areas indicates that 40% of customers impacted received no communication from their water company during the incident. Communications were often not targeted, timely, clear or helpful, reflecting a lack of accurate customer data. Many customers could not get through to company call centres. Some companies had an overreliance on a few digital channels (such as Twitter) to provide updates, but these did not reach a large proportion of customers. Information online was often inaccurate or lacked detail about where problems were occurring and when they would be fixed. This appears to reflect a lack of accurate network data. Poor communication between wholesalers and retailers in the business market left some business customers confused about who they should talk to.

Where we saw better performance, companies communicated effectively with customers and key stakeholders, such as local resilience forums, councils and the emergency services, before, during and after the incident to ensure that they were able to prepare and to minimise the impact of disruption.

Companies that performed badly, such as Southern Water and Thames Water, did not proactively communicate with these key stakeholders in advance and as the impact on customers became apparent.

## Customers in vulnerable circumstances

There was an inconsistent approach to identifying and supporting customers in vulnerable circumstances.

Better performing companies, such as United Utilities, managed the needs of these customers well. Other companies, such as Thames Water, did not have accurate or up-to-date information and data on customers who needed priority help. This meant they could not get in touch or offer tailored support before, during or after the incident.

## Compensation

Some companies, such as South East Water and Thames Water, have proactively gone above statutory minimum payments to customers to reflect the level of disruption experienced and have paid out quickly.

However, there was a large variation between companies in the levels of compensation paid to their customers, and several companies had limited information about which of their customers were impacted. This reflected poor levels of customer and network data.



## The main actions from our review

### All companies must address the issues identified in our review, their company specific letter and their own internal reviews.

They must take action to ensure that their customers are better protected in the future. In doing this we expect the following:

We expect four companies – Severn Trent Water, South East Water, Southern Water and Thames Water – to publish, by 28 September 2018, an externally assured action plan setting out how they are addressing the issues identified.

We identified these companies as needing detailed scrutiny because we have substantial concerns with their handling of the incident and because of the volume of customers left without supply for more than four hours during the incident period. We expect these companies' Boards to be informed of and to support these plans and for them to be signed off by the

company's Chair and Executive. We will take further action if the issues identified are not addressed.

All other companies should publish a response to the relevant areas of concern highlighted in this review, their company specific letter and their own internal reviews by 28 September 2018. This response should be proportionate to the issues identified.

### We expect all companies to work together to improve co-ordination and share best practice in key areas highlighted in this review.

The water company industry body, Water UK, will co-ordinate work across the sector in key areas, including more effective planning for the sourcing and distribution of bottled water supplies and the sharing of best practice on emergency incident response. They have agreed to publish their findings and agreed actions by 28 September 2018.

We are concerned that the current compensation arrangements – the Guaranteed Standards Scheme (GSS) – are not reflective of the impact on customers of being without water for a prolonged period.

### We intend to launch a consultation by the end of July 2018 with a view to making proposals to revise the GSS.

Following company responses to this review, we will consider whether we need to make changes to regulations to strengthen or clarify companies' obligations to provide customers with resilient supplies.

## 2. Our review

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We initiated a review into the preparedness and performance of water companies in the lead up to, during and after the severe weather in late February and early March. The purpose of the review was to establish what happened during the period and set out clear actions and recommendations for improvement.

Our key focus areas, set out in our [terms of reference](#), have been as follows.

### Assessment

A thorough assessment of the issues or problems that arose, what caused them and their impact on customers.

### Planning and preparation

Did companies have advance knowledge or insight into problem areas in their networks that might be adversely impacted by the weather conditions experienced? What did companies do proactively in advance of the freeze and thaw to prepare themselves and customers and to mitigate risks? Were emergency plans in place and adequate to cope with the problems

and had lessons been learned from previous incidents? Were those emergency plans appropriately enacted?

### Handling of incidents

What did companies do to deploy resources to deal with problems? This includes distribution of bottled water, speed and effectiveness of repairs, management oversight and governance.

### Communication and support

How well companies communicated with customers and stakeholders during the

incidents and their identification of, and support for, vulnerable customers.

### Ongoing support

How customers are being looked after now, particularly whether companies have proactively provided fair and speedy compensation.

Our review reflects our:

- general duty under section 27 of the Water Industry Act 1991 to keep under review the way in which companies carry out their functions; and
- primary duties to further the consumer objective to protect the interests of consumers and the resilience objective to secure the long-term resilience of water companies' water supply and wastewater systems.

Our review aligns with these responsibilities and is consistent with both the UK Government's [strategic policy statement](#) and the Welsh Government's [strategic priorities and objectives statement](#).

To inform our analysis, we gathered information from a broad range of stakeholders. We requested information directly from water companies and held a workshop with

companies to get an initial understanding of the issues faced by companies and how they responded, as well as to start to facilitate the sharing of common lessons learned.

The Consumer Council for Water (CCWater) carried out bespoke qualitative and quantitative research of customers affected. The findings of this research have been published simultaneously on [CCWater's website](#). This research looks at how residential and business customers in seven of the worst affected areas, including those in vulnerable circumstances, felt companies managed the incident and whether or not they met their expectations. We are grateful to CCWater for commissioning this research and their collaborative working with us throughout the review.

Further to this research, we also encouraged residential and business customers to send their experiences directly to us through an online customer survey.

In addition to speaking to customers, we also engaged with a broad range of stakeholders and community representatives to gather information for the review and to get their perspectives and experiences of the incident.

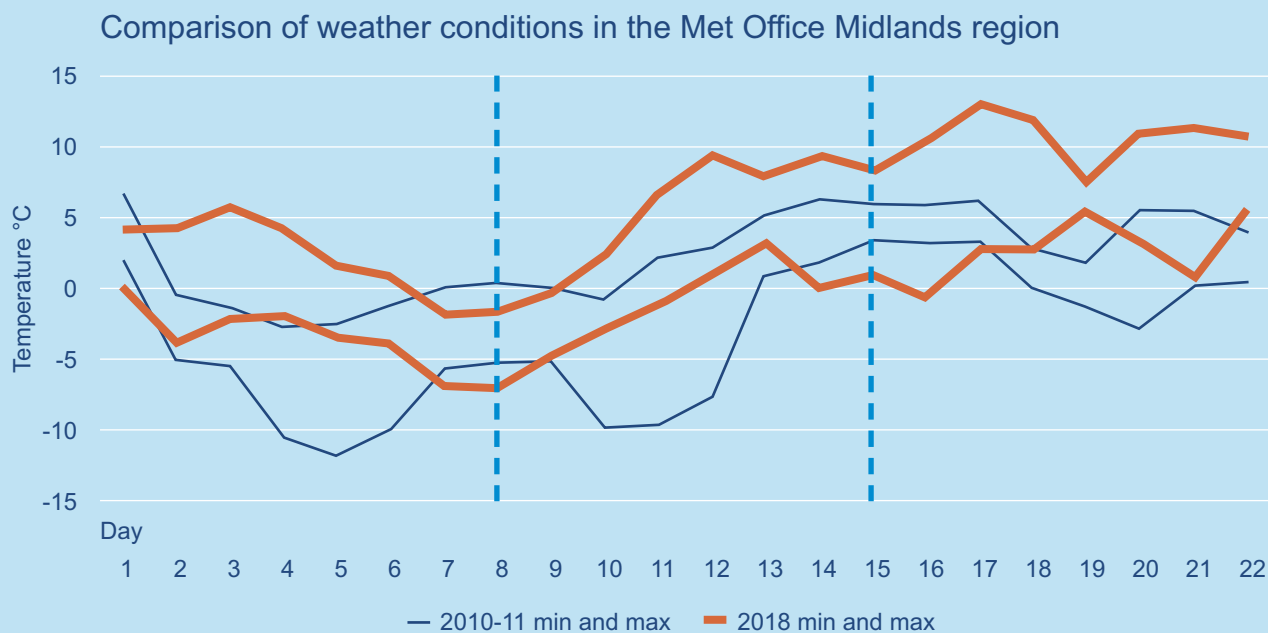
We would like to thank all stakeholders and customers who provided information in producing this report.

### 3. What happened

This section considers the weather conditions across England and Wales during this period and whether they were exceptional. It also explains why and how freezing weather followed by a quick thaw impacts customer and company pipes differently, and sets out the total number of customers impacted in each company's area.

#### Weather conditions

The weather conditions during the 2018 freeze and thaw were severe, but not unprecedented. In fact, as recently as 2010-11 there was a more severe freeze and thaw.



In February and March this year, the Met Office issued frequent weather warnings that were risk specific and regional.

- General warnings were given a week in advance.
- Specific warnings given around three days in advance.
- Further clarity was given 24 hours in advance of the severe weather hitting.

As the map on page 13 illustrates, the Met Office issued:

- Red weather warnings for both impact and likelihood for the South West and Wales;
- an Amber weather warning with Red likelihood for Sussex and Kent; and
- Amber weather warnings with Amber likelihood for all other areas of the country.

Southern and Central regions of England had a more severe thaw than Northern regions.

Our analysis has shown that the weather conditions experienced across the country were broadly in line with the predicted forecasts.





## Impact on services for customers

The impact of this freeze and thaw is that approximately 200,000 customers experienced a supply interruption of four hours or longer, and 60,000 customers experienced a supply interruption lasting 12 hours or longer. This information is detailed in the table on page 15, which shows customer supply interruptions.

While fewer than 3% of all customers were affected, in absolute terms there were a significant number of people impacted for a long period of time. Some interruptions spanned several days and many customers who did not lose supply experienced low water pressure for prolonged periods.

Supply interruptions were experienced in every region of the country, but customers in the

South East, the West Midlands and Wales were worst hit. As the table on page 15 sets out, the number of customers that experienced supply interruptions of greater than four hours and 12 hours varied between companies, even those that experienced similar weather conditions.

We appreciate that individual company circumstances (for example, the rural/urban divide of customers and topography) can impact this, but our analysis shows that there was a considerable variation in the quality of response from companies and this contributed significantly to the differences between these figures.

## Customer supply interruptions by company<sup>1</sup>

Water company	Total customer supply interruptions during the incident period <sup>2</sup> >4 hours (percentage of total customers)	Total customer supply interruptions during the incident period >12 hours (percentage of total customers)
Affinity Water	6,489 (~0.43%)	1,622 (~0.11%)
Anglian Water	1,714 (~0.08%)	163 (~0.008%)
Bristol Water	2,789 (~0.51%)	471 (~0.08%)
Dee Valley Water	164 (~0.13%)	0 (0%)
Northumbrian Water	571 (~0.05%)	24 (~0.002%)
Portsmouth Water	58 (~0.02%)	4 (~0.001%)
SES Water	4 (~0.001%)	4 (~0.001%)
Severn Trent Water <sup>4</sup>	56,767 (~1.27%)	13,586 (~0.30%)
South East Water	24,747 (~2.78%)	10,086 (~1.13%)
South Staffs Water	1,051 (~0.18%)	97 (~0.016%)
South West Water	14,626 (~1.40%)	9,683 (~0.92%)
Southern Water	7,700 (~0.72%)	2,246 (~0.21%)
Thames Water	56,972 (~1.51%)	11,157 (~0.30%)
United Utilities	2,191 (~0.07%)	142 (~0.005%)
Welsh Water (Dŵr Cymru)	20,951 (~1.42%)	11,566 (~0.78%)
Wessex Water	0 (0%) <sup>3</sup>	0 (0%)
Yorkshire Water	7,950 (~0.35%)	67 (~0.00003%)
Total	204,744	60,918

1. These figures are subject to revisions, up or down, as companies' complete their assessments of the total impact of the freeze and thaw on their customers.

2. Companies' incident periods varied in duration and date based on the situation in their area.

3. A 0% figure in the table does not mean that no customers in Wessex Water's area were impacted, only that no customers were reported to be without supply for more than four hours.

4. Severn Trent Water completed our request for information based on the maximum number of customers who could have been affected. They were unable to refine this number as temporary data loggers were not able to be deployed during the freeze and thaw period. The company suggests that the total number of customers impacted could be 30% to 50% lower than this stated figure.

In addition to supply interruptions and low pressure, customers experienced a range of other issues as a result of the incident. Other issues that customers reported once supplies returned included airlocks and water discolouration.

## Summary

The weather experienced across England and Wales as a result of the rapid thaw after the 'Beast from the East' was severe but not unprecedented.

Our analysis shows that in 2010-11 the cold was deeper and the thaw was more extreme.

Companies had advanced warning of this weather and had time to take specific measures to respond to its potential impact on their customers.

A large number of the leaks and bursts occurred on the customer side of the boundary as they are often more exposed to temperature extremes than companies' mains.

Customer supply interruption figures show some companies were able to better manage the impact on their customers, despite similar or tougher weather conditions, than others.

For example, Severn Trent and United Utilities share a border and faced similar weather conditions but their customers had extremely different experiences.

Most companies were able to restore supply to most customers within 12 hours – but over 60,000 customers were without supply for over 12 hours; over 36,000 of whom were impacted for more than 24 hours.

The longer people go without water, the more vulnerable they become. It is more serious to have a small number of people off supply for several days than a large number for a few minutes.

## 4. Key findings and lessons

This section considers the key findings and lessons we have identified through our analysis. We highlight specific examples of good practice as well as areas where we expect companies to improve in order to deliver resilient services for their customers. There are further examples detailed in the company-specific [letters](#) published alongside this report.

### 4.1 Planning and preparation

Planning and preparation is key to successfully managing the impact of severe weather incidents, and any shocks, on a company's service. Our review considered if companies had the right tools and processes in place to be able to respond to issues and ensure that there was minimal impact on customers.

Our analysis showed that some companies had appropriate plans in place, but others were poorly prepared and let their customers down.

**We found that poorer performing companies underestimated the impact of the severe weather.**

Companies needed to prepare for the impact of the snow, the impact of the thaw and how it would affect customers' needs.

The result of this underestimation is that some companies were reacting to incidents rather

than proactively managing them. Poorer performers had insufficient resources to make repairs, answer customer queries, engage with key stakeholders and deliver alternative supplies to those in need. Without proactive processes in place, their response was further hindered by the snow and ice that remained, which made accessing key sites and identifying leaks and bursts more difficult. This meant that some responses were highly unco-ordinated and the impact on customers was greater and more prolonged than it should have been.

**Some companies did not have appropriate plans in place to manage this type of incident.**

There are a large number of shocks that can impact a company's network (for example security threats, contamination and severe weather). When a specific incident is predicted, companies should then consider and implement

measures to manage the impact it will have on their customers, building on their emergency response plans.

All companies had warning that the 'Beast from the East' was going to bring cold temperatures followed by a quick thaw, but not all prepared sufficiently to mitigate risks and minimise the impact.

Poorer performing companies did not have sufficiently agile and robust plans to respond to a range of scenarios, including a freeze followed by a fast thaw, incorporating learnings from previous incidents that have affected the company or others.

**A number of company plans could not cope with a large number of bursts occurring on customer premises and they lacked network information to identify problems quickly.**

There were a large amount of small bursts on customer premises (up to 70% to 85% of the total in extreme cases), which were not anticipated and showed the limits of company plans for this type of incident. This dispersed pattern of small bursts, combined with a lack of additional production availability, created major supply problems that were not picked up early enough by some companies. This indicates that detailed real time data on issues within their networks is lacking. This also hampered the identification of problems, efficient response and effective escalation of the emerging impacts within companies. As these companies had to design and deliver a response as it happened, they were slower and less effective than companies that already had robust plans in place and had better network data.

**All companies increased water production in advance of the incident to prepare for the expected increase in demand.**

Some companies increased their distribution input – the volume of water entering the distribution system – by up to 30% to ensure that as few customers as possible were without supply.

But some companies were not able to manage the increase in water use because parts of their distribution networks were closed for planned maintenance or refurbishment works. This put greater pressure on supplies and led to a greater number of customers being without supply for a longer period. In some cases work was sped up or deferred so that the key operational assets, such as treatment works, came back online. But this was not always possible.

We appreciate that assets (such as treatment works or service reservoirs) need to be taken offline for periods for refurbishment, repairs and maintenance. We also note positive work from companies to expedite work to get key assets back online during the incident period. But it is important that companies consider when is best to schedule these works so that they are able

to maintain supply to customers in the event of severe weather.

**The extent to which companies learned from previous severe weather and emergency response incidents influenced how much disruption their customers experienced.**

It was clear that not all of the lessons from previous experiences had been fully translated into company plans and the ways in which these were put into effect.

The previous freeze and thaw incident in 2010-11 substantially impacted England and Wales. The same weather conditions also occurred in Northern Ireland and led to very severe disruption, with around a third of customers there experiencing a supply interruption<sup>5</sup>. These incidents, and the subsequent reviews by companies and the Utility Regulator for Northern Ireland (UREGNI) should have assisted companies in their preparation and planning for what happened in 2018.

5. See Utility Regulator's [report of the investigation into the freeze and thaw incident in 2010-11 in Northern Ireland](#)



## Examples of good practice and areas for improvement

### Examples of good practice

United Utilities involved their Executive early in the preparation for the freeze and thaw period and demonstrated how they had planned responses for both a rapid and gradual thaw.

Bristol Water and Wessex Water collaborated and were actively discussing bulk transfer of water arrangements and potential impacts prior to the incidents to ensure they were both prepared and could mitigate risks that materialised.

Yorkshire Water demonstrated that their plans for this incident were implemented early with extensive involvement of key personnel within the company and also through engagement and liaison with external stakeholders.

### Examples of areas for improvement

Anglian Water, South East Water, Southern Water and Thames Water noted the strong need to improve their forecasting modelling as they did not fully estimate the impact of the weather.

Multiple companies, including Severn Trent Water and Thames Water, did not have a plan in place with appropriate escalation triggers.

South East Water, Southern Water and Affinity Water had a number of assets offline for refurbishment when the incident arose. This reduced the companies' overall output and directly led to outages for customers.

## 4.2 Incident response

A key focus of our review was not only understanding if companies had plans in place, but how well companies put these plans into effect and responded to the incident.

**It was clear from our analysis that staff from all companies worked exceptionally hard during this period to go the extra mile for customers – often in very difficult conditions.**

We would like to thank them for all of their efforts to help customers and restore supply.

But it is clear that there is room for improvement in terms of responding to incidents, which could help customers and reduce the pressure on frontline staff.

**Emergency response governance processes for the worst performing companies were poor.**

In these cases, escalation processes did not work and Executives in these companies did not get involved in the response until incidents had already caused serious issues, leading to a slow and reactive response. Having appropriate, timely escalation processes for plans is vital. An Executive plays a pivotal role in co-ordinating a company's response, and identifying and mobilising resources to restore supplies as well as to communicate with customers and key stakeholders. It is certainly not appropriate for all issues to be escalated to this level, but it is important for an Executive to take an active, supportive role in ensuring that the response to incidents is proportionate and well co-ordinated.

Effective governance processes help companies to collaborate effectively internally between departments in emergency situations. Companies that performed well during this period demonstrated strong collaboration between their emergency response, strategic,

operations and communications teams. This allowed these companies to fully utilise all their expertise and respond to issues quickly and efficiently.

Some companies did not have appropriate triggers in place to flag when to engage with key stakeholders. Companies must consider how they decide to escalate issues and discuss this with relevant partners, such as local resilience forums and emergency services. Our analysis shows that some companies based their escalation on the total number of customers without supply, but the duration and profile of those affected are also key factors.

**The sourcing of alternative supplies, such as bottled water, was poorly co-ordinated.**


A number of companies simultaneously requested support from alternative water suppliers, but these suppliers struggled to meet the large and sudden increase in demand. Better performing companies were more self-sufficient and, where their own stocks did not go far enough, were proactive in requesting additional alternative supplies from third parties in advance.

As the 'Beast from the East' affected the whole country, companies could not always rely on mutual aid from neighbouring companies to help support their response. Under these arrangements, neighbouring companies, for example, could provide additional resource to address issues or transfer additional water to help with shortages in supply. But this support was not possible as each company was responding to issues within their own region.

The ability of companies to rely on mutual aid when issues impact multiple regions should be explored further.

**Also, some companies' approaches to distributing alternative supplies, particularly bottled water, were extremely poor.**

Bottled water sites were often located too far away from customers in need, logistically unsuitable for the distribution of large quantities of water bottles and run by staff who had not been trained to co-ordinate bottled water sites. The location of sites and delivery of bottled water directly was not communicated well to customers or stakeholders. We note that CCWater's research suggests 72% of surveyed residential customers received no alternative supply. In some cases, we were told about how volunteers and council officials had to step in to deliver bottled water to those in need, as the response from companies was poorly co-ordinated.



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Companies should re-evaluate their alternative supplies strategies, working closely with local partners and others in the sector.

**The better performing companies used processes and technology more effectively to understand how their network was being impacted and where the problems were.**

Better performers were collecting accurate real-time data and analysing it to identify where they should prioritise repairs and how they could manage network flows to maintain supply to customers. They also had strategies in place to manage their infrastructure and sites that might become inaccessible due to snowfall, such as making sure they were proactively manned or could be operated remotely.

Some companies were able to reduce the impact on their customers by moving water around their networks to where it was most needed. This network resilience allowed them to maintain supply to as many customers as possible while allowing for essential repairs to take place. Poorer performers were reactive

and not able to identify issues until they had already had a substantial impact on customers.

We note that some companies, such as South West Water, were more active in helping customers to address these issues, realising that by supporting them, they were able to better manage supply across their network.

Crucially, poorer performing companies lacked the real time network information about where problems were happening – particularly at a level sufficient to identify a large amount of small scale problems. Our analysis showed a sharp decline in demand for water after the weekend as businesses returned to work, founds leaks and turned their water off in order to make repairs. With more detailed and accurate information, companies would have been able to identify and isolate issues more proactively and support customers in addressing them quickly. This would have helped to have reduced the pressure on supply, and would have allowed these companies to provide customers and stakeholders with more accurate information about when supply was likely to return.



## Examples of good practice and areas for improvement

### Examples of good practice

Yorkshire Water alerted alternative suppliers well in advance to have bottled water stocks placed on standby in strategic locations, from where they could rapidly deploy them if needed.

Affinity Water, Northumbrian Water, South West Water and Yorkshire Water staffed key water treatment works 24 hours a day during the incident period to reduce the likelihood of loss of production.

Anglian Water intend to improve real-time modelling and make it easier for engineers to respond where intervention is needed. Although this shows there is room for improvement in these areas, they identified the issue and developed a plan soon after the incident.

Wessex Water used technology effectively during this incident to identify the sources of leaks and complete repairs quickly.

Thames Water was able to rapidly increase production in response to the increase in demand by approximately 400 megalitres during the incident period – this is about 15% of their total distribution input.

### Examples of areas for improvement

Service reservoirs running dry, also known as dewatering, caused further escalation of supply interruptions for Severn Trent Water, Southern Water, South East Water, Thames Water and Welsh Water (Dŵr Cymru).

Thames Water called for alternative water supplies later than they should have, their sites were poorly located and managed, and there was little co-ordination with key stakeholders.

We noted that the Executives of Severn Trent Water and Thames Water were involved in managing the response late in the process, once a large number of customers had already been impacted.



### 4.3 Communication with customers and key stakeholders

In responding to a major incident, good communications with customers and stakeholders is essential to effective preparation, response and recovery. Good communications should be accessible, two-way, helpful, meaningful, timely and targeted. It should be based on, and informed by good customer data, so it can be tailored. It needs to take account of the different needs of different customers before, during and after the incident. It should be subject to ongoing monitoring and evaluation to see what is working, allowing the company to adapt accordingly. And it should have a human, empathetic tone so customers can connect with it.

**Some companies did well and provided regular and timely information to customers before, during and after the incident using different communication channels.**

Some companies also gave customers advance warning of the risk of problems and identified steps to take to mitigate risks, such as lagging pipes.

We found too many companies did not deliver this good level of service. Some did nothing to communicate with customers until the problems with water supplies emerged. As a result, many were slow in responding to customer concerns, and did not have enough staff available to deal with the level of enquiries. Some customers were unable to get through on the phone while others waited hours for replies to online messages. This led to customers giving up or asking for help more than once, exacerbating delays and customer frustration.


Poor network data also meant that information provided to customers was often inaccurate or not up-to-date, and some customers were

incorrectly told they had supply back. Some customers did not receive advice whether or not the water was safe to drink straight away, for example because of discolouration, when supply was restored<sup>6</sup>.

All companies sent communications, but in many cases these were not getting through – CCWater’s research found that 40% of the customers surveyed in seven of the worst affected areas received no communication from their water company.

**Too often companies’ communications were not targeted, and did not involve co-ordinated multi-channel campaigns – instead relying on customers seeing social media posts or contacting the company directly.**

6. The Drinking Water Inspectorate has published a [report](#) about companies’ water quality during this period.



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It is important that companies use a complementary and diverse mix of channels – including traditional, digital, and face-to-face; capable of catering for all customers’ preferences and needs. They should gather evidence so they know and understand which channels work best for which customers.

**For those businesses in the competitive retail water market, there was confusion and poor information sharing between retailers and wholesalers.**

Wholesalers often failed to give retailers up-to-date information – or did not contact retailers at all. A number of customers reported being passed back and forth between the wholesaler and retailer when in trying to get information about the lack of water supply. There was also a particular issue with wholesalers unable to contact business customers out of working hours. This meant that in some cases, substantial leaks were not addressed until after

the weekend. Better sharing of contact information between wholesalers and retailers in emergency situations is necessary.

**Poor communications had a serious impact on business customers.**

For some business customers this incident led to significant disruption. We were told that in some cases there was only limited notice and explanation given to these customers, some significant water users, regarding the need to reduce their supply in order to replenish supplies to other customers.

**Perhaps most worrying were the shortcomings in the communication and liaison with emergency services, local authorities and local resilience forums (LRFs) – made up of public bodies, agencies and utilities which co-ordinate responses to emergencies.**

Some of these groups were not proactively told of the disruption to supply, and we heard examples of key bodies finding out about supply issues on the news, social media or customer contacts. Not only is this poor stakeholder engagement, but it also cuts out a number of organisations that might have been able to help customers had they been involved.

## Examples of good practice and areas for improvement

### Examples of good practice

Severn Trent Water contacted nearly 200,000 customers using SMS on both Sunday 4 March and Monday 5 March – providing over 100 updates. Yorkshire Water, South Staffs Water, Welsh Water (Dŵr Cymru) and United Utilities also made advance contact – the latter two of which each sent over 90,000 messages over email, SMS and/or voice blast. Yorkshire Water used customer segmentation data to target certain areas.

Welsh Water (Dŵr Cymru), Severn Trent Water, South West Water, Yorkshire Water and Anglian Water utilised paid social media promotion or geo-targeted posting to ensure they reached customers in certain areas or beyond their following. South East Water had a dedicated team to assist farmers.

South East Water sent out 50,000 letters for their advance winter campaign. Welsh Water (Dŵr Cymru) offered customers free 'lagging kits' to coincide with their annual Wrap up Wales campaign. SES Water included a communications strategy in their wider Winter Contingency Plan.

### Examples of areas for improvement

Thames Water and South East Water were over-reliant on social media, often at the expense of other channels. Thames Water, in particular, focused their efforts on Twitter – leading to a substantial number of customers expressing frustration that they were unable to get in touch.

South East Water did not contact customers with enough vigour – customers were not contacted in advance, and, in some cases, not at all. Thames Water required customers to contact them if they were vulnerable or requiring assistance.

South East Water were unable to handle the volume of customer contact they received – customers reported the phone system being unavailable due to demand. Thames Water were unable to respond to every contact in a timely way.

Thames Water, Southern Water, Welsh Water (Dŵr Cymru) and Severn Trent Water all communicated with Local Resilience Forums only when the incident was already fully underway.

## 4.4 Customers in vulnerable circumstances

### Many companies were not proactive in identifying or supporting customers in vulnerable circumstances.

The circumstances that make customers vulnerable are varied and can often be time limited. Vulnerability can be a transient state that affects people at different points in time, or it can have long-term effects. It may be triggered by events such as loss of a job, the onset of disability or becoming a carer. Someone with a permanent disability can be classed as vulnerable, but so can someone with a severe short-term illness.

Companies should be proactive in understanding the needs of customers in vulnerable circumstances on an ongoing basis and assessing the tailored support that they can offer to them during business as usual times and emergency situations. A number of companies did not demonstrate that they were doing this.

In several cases this was caused by companies having limited general information about their

customers. Without that, they cannot develop tailor-made approaches to meet their needs.

### In addition, a number of companies told us that their priority services registers (PSRs) were limited.

### We also found that some companies expect customers to identify themselves as being in vulnerable circumstances and to sign up for support.

This approach does not acknowledge that customers may not recognise themselves as vulnerable or understand the term, yet still need support.

### Several companies did not co-ordinate effectively with key stakeholders to identify and support customers in vulnerable circumstances.

Stakeholders noted that some companies were slow to engage with them to cross-check their vulnerability registers and identify customers in vulnerable circumstances. In some instances, due to this slow response, volunteers and council officials had to step in to support customers, including by delivering bottled water door-to-door. Companies should lead and be actively co-ordinating with local partners to consider where they can support their response.

### Some companies demonstrated good practice in working proactively with partners, such as charities and local councils to identify customers for support, and we encourage companies to adopt this as business as usual.

We also believe that water companies should work with energy companies to implement the changes recommended in the [2017 UK Regulators Network report](#) about making better use of data to identify customers in vulnerable circumstances.

## Examples of good practice and areas for improvement

### Examples of good practice

Affinity Water and South East Water had detailed information on the supply interruptions experienced by customers in vulnerable circumstances.

South West Water demonstrated good communication with wider stakeholders to respond to the needs of customers in vulnerable circumstances, including their customer service team receiving training from the charity MIND and the Red Cross supporting their efforts to distribute bottled water to customers. Precautionary tankers were provided to hospitals in the areas confirmed to be without 24 hour storage.

United Utilities have worked with Age UK to tailor their support to different types of vulnerability. Thames Water also worked with Wandsworth Age UK during the incident period to identify additional customers in vulnerable circumstances.

### Examples of areas for improvement

Nearly a third of customers on Thames Water's priority services register were not directly reached during the freeze and thaw period.

In Welsh Water (Dŵr Cymru) no one team had an overall view of how well they were meeting the needs of vulnerable groups.

Southern Water's analysis of vulnerable customers began only after the incident was underway.



## 4.5 Compensation

In this review we focused on understanding if impacted customers received compensation that was fair, fast and free from hassle. We worked closely with CCWater in our analysis of compensation and have considered the [customer research](#) they commissioned in our findings. Companies have reported paying around £7 million in compensation so far.

**84% of customers CCWater surveyed were generally satisfied with the way that they were compensated.**

### Compensation range (residential customers)

Interruption period	Compensation range
12 to 24 hours interruption	£20 to £75
24 to 48 hours interruption	£20 to £100
48 to 72 hours interruption	£30 to £150

**There was a large variation between companies in the compensation they paid to their customers, as set out in the table below.**

It is positive that in many cases companies made automatic payments to customers beyond the statutory minimum required and have attempted to reflect the level of disruption experienced by customers.

**Some companies moved quickly to compensate customers for the disruption they faced.**

In some cases they did this much faster than the statutory limit of 20 working days. Other companies were much slower. This was partially due to poor information regarding which customers were impacted.

## There were examples of best practice in offering additional ‘goodwill’ compensation and support to impacted customers and communities.

For example, multiple companies offered additional grants to schools and offered to give talks on Science, Technology, Engineering and Mathematics (STEM) subjects. Other companies were proactive in communicating to customers that they could claim for out-of-pocket expenses (for example bottled water or plumbing repairs).

## In contrast, we found that several companies had poor information about which customers were impacted, compromising how they dealt with compensation.

Some relied on customers identifying themselves as eligible. Others gave compensation to all customers in certain areas

where they knew some customers had been off supply. Both of these examples illustrate a lack of detailed information about customers’ experiences. CCWater’s research shows that of the affected customers they surveyed, over 60% have not received compensation. Not all of these customers may be eligible for compensation, but this figure is still concerning. Companies must take steps to improve the data and information they have in order to address this.

## Some companies demonstrated a strong working relationship with water retailers in offering and paying compensation to business customers.

Other companies did not make business customers aware of the processes for making claims. This is poor practice and should be rectified.

In carrying out this review, we have noted that the statutory compensation scheme for

customers of water companies – the guaranteed standards scheme (GSS) – has not been adjusted since 2001. We intend to launch a consultation by the end of July 2018 with a view to making proposals to revise the GSS. If appropriate, we will make recommendations to the UK and Welsh Governments to amend them in line with our findings and recommendations. We are concerned that the current compensation arrangements are not reflective of the impact on customers of being without water for a prolonged period.

These compensation payments are separate to the outcome delivery incentive (ODI) payments companies will also make to customers for missing the performance commitments they made on issues such as reducing supply interruptions. For example, Severn Trent Water reported in May that it will incur a penalty of £20 million for having more supply interruptions than it committed to in 2017-18.

## Examples of good practice and areas for improvement

### Examples of good practice

South East Water made compensation payments rapidly after the incident, with the majority occurring within five working days.

Thames Water's compensation package was generous in the levels it set. It clearly recognised the significant disruption its customers experienced.

Where customers contacted South East Water to say that they had not been without supply during the period, the company allowed customers to retain the payments and some customers gave this to charity.

Southern Water and Thames Water both provided grants to impacted schools of £2,000 and £2,500 respectively. Thames Water also offered schools the opportunity to take educational visits to sites and take part in a talk on STEM subjects.

### Examples of areas for improvement

Southern Water were late giving compensation to customers in the Isle of Wight. However, the company has since paid customers the late payment penalty required under the GSS.

We note that awareness of compensation was very low among Severn Trent Water customers surveyed in CCWater's customer research. The sample size for the survey was limited (131) but only 4% of these were aware of compensation being offered by the company.

## 5. Actions and recommendations

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The onus is on companies to manage severe weather incidents and make sure customers are protected. Customers expect water companies to prepare for and manage severe weather incidents to ensure that they experience minimal interruption to their service.

We set out the below package of actions and recommendations for companies, the sector and for us at Ofwat to consider and implement. The actions we have proposed need to be in addition to other work that companies identify as necessary.

Alongside this report we are publishing [letters](#) that we have sent to each water company setting out our view of their performance during the incident and identifying particular issues that each company needs to act on. These are available on our website alongside this report. Even if a company managed the incident well and had few customers impacted, they should consider how they can go further to improve their response and maintain the trust that customers place in their vital public service.

### 5.1 Companies

All companies must address the issues identified in this review, their company specific letter and their own internal reviews. They must take action to ensure that their customers are better protected in the future. In doing this:

**We expect four companies – Severn Trent Water, South East Water, Southern Water and Thames Water – to publish, by 28 September 2018, an externally assured action plan setting out how they are addressing the issues identified.**

We identified these companies as needing detailed scrutiny because we have substantial concerns with their handling of the incident and because of the volume of customers left without supply for more than four hours during the incident period. We expect these companies' Boards to be informed of, and to support, these plans and for them to be signed off by the company's Chair and Executive. They should also engage their customer challenge group (CCG) in this process, where appropriate. We

will take further action if the issues identified are not addressed.

On pages 33 and 34 we have set out broad areas of concern, which these companies should consider within their response. However, because of the variability in company performance, we encourage companies to concentrate on the areas that are of particular relevance to them.

These companies should do the following:

- a) Update their emergency response plans to take into account the lessons and key findings of this report. These plans should be developed and co-created, where appropriate, with relevant partners – including (but not limited to) local resilience forums, local councils, other water companies, large users and emergency services. Companies must ensure that these plans are regularly updated and tested, to consider a range of scenarios and severity of incidents impacting service for customers, as part of the Security and Emergency Measure Direction (SEMD) process.
- b) Develop or update their plans regarding the provision, deployment and delivery of alternative water supplies (for example bottled water or water bowsers) in light of the key findings of this report. Companies should develop these plans together with local partners and emergency services to ensure a co-ordinated approach.

- c) Improve the quality and provision of contact details that companies have for their customers. The onus is on companies as service providers to keep customers informed. The process of regularly updating and improving customer contact information will be enduring for companies, but we expect to see progress made and clear actions set out for how the company will continue to improve in response to this report.
- d) Improve their information regarding customers in vulnerable circumstances. Companies should work collaboratively with local partners to gather more information about which of their customers are in vulnerable circumstances, how this can vary over time and by incident and consider how best they can support them. Companies should consider the [vulnerability focus report](#) Ofwat published in 2016 and the 2017 UKRN [report on data sharing](#) in doing this.
- e) Develop or update a comprehensive crisis communications plan for how it will

communicate with customers, local partners, water retailers and its own employees before, during and after major incidents. Lessons and key findings from this report should also be incorporated into companies' ongoing customer and stakeholder communications.

- f) Consider their approach to proactively fixing customer side leaks, working with customers and the supply chain, where these leaks are threatening the supply integrity of the network.
- g) Improve the quality of data they have to be able to more quickly and accurately predict and identify network issues. This could involve reviewing ways to improve their forecasting models so that the company can better understand and estimate the impact of severe weather incidents, including understanding where and why recurrent supply problems are taking place. This should involve engaging with other water companies, the supply chain and different sectors (for example



energy) to learn and share best practice. This work should be underpinned by developing a data strategy and data owners.

- h) Update their governance processes to ensure that these are fit for purpose and function effectively. This should include considering whether the current triggers for escalation are appropriate. They should engage with other companies and key stakeholders as part of this process.

**All other companies should publish a response to the relevant areas of concern highlighted in this review, their company specific letter and their own internal reviews by 28 September 2018.**

This response should be proportionate to the issues identified.

All responses to this review will be shared with Defra and the Welsh Government to inform the SEMD process.

**All companies should consider the proposals they put forward in their business plans for the 2019 price review (PR19) on 3 September 2018, in light of the key findings and lessons from this report.**

These proposals should be ambitious and innovative in improving the company's resilience and/or customer service. As part of our initial assessment of company business plans, we will take into account a company's past performance including how it has managed their relationship with customers during major incidents, and the lessons that it has learned and the measures that it has put in place to address any issues.

## 5.2 Sector

A particular concern we have regarding the handling of this incident was that a number of companies appeared to act in isolation. There also does not appear to be a common industry approach to preparation, sharing of information and best practice in a number of key areas related to emergency response.

The following actions and recommendations set out ways in which all companies should look to work collaboratively to deliver greater resilience for customers in addition to the work they already do. All companies should also look beyond these actions and recommendations to consider other areas in which co-ordination with partners and innovation could improve the service they offer customers.

Water UK, the industry body for water companies, has agreed to co-ordinate work across the industry and report back to us by 28 September 2018, setting out the actions taken or planned in each of these areas.

### Water UK will co-ordinate work in the following areas.

- a) Establish a co-ordinated approach regarding the sourcing and delivery of bottled water and other alternative water supplies in emergency situations. The ability of companies to rely on mutual aid in these sort of circumstances should be explored further.
- b) Share best practice regarding communicating with customers and key local stakeholders (for example LRFs and councils) before, during and after incidents to ensure they are well informed and kept up-to-date, including how best to target communications and support to different types of customers, particularly those in vulnerable circumstances. This should include the consideration of whether a common emergency number to report water supply interruptions, such as is used in the energy sector, could be effective in providing great customer service in emergency circumstances.
- c) Share best practice between companies regarding emergency response. Better performing companies during this recent incident should share their experiences, data and key learnings to help others in the sector improve – for example, sharing technical data about asset performance and failure rates to enable companies to better plan asset maintenance and estimate asset life.
- d) Consider how to improve the co-ordination and the sharing of information between wholesalers, retailers and business customers in emergency situations.



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### 5.3 Ofwat

Alongside our consideration of companies' responses, we will use the tools at our disposal to further reinforce the actions and recommendations being undertaken by companies and the sector.

We intend to launch a consultation by the end of July 2018 with a view to making proposals to revise the GSS.

Following company responses to this review, we will consider whether we need to make changes to regulations to strengthen or clarify companies' obligations to provide customers with resilient supplies.

## 6. Next steps

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We have identified a number of key findings and lessons, and have set out a clear package of actions and recommendations that the sector must now act on. Some companies have more work ahead than others to meet the needs and expectations of customers, but all companies have areas for improvement.

To do this, companies will have to work together with the rest of the sector in order to truly deliver for customers. There is scope for considerable progress on many issues, including on better planning for incidents, co-ordinating alternative supplies and making better use of customer and technical data. This is an opportunity the sector must seize and companies must take ownership of this to ensure trust and confidence in our sector.

We will use all of the tools in our regulatory toolkit to continue to hold companies to account in delivering for their customers.

Some improvements will take time to complete, but steps must be taken now to ensure that customers are better protected next winter. Severe weather events are likely to become more common as the impacts of climate change are felt. Companies must continue to go further to ensure that the networks, processes and capabilities that they have will meet this challenge and ensure that customers are truly put at the heart of their businesses.

## Appendix 1: Stakeholders

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We thank each of the following stakeholders for providing information or meeting with us to help to inform our review. We also thank all of the customers who spoke to us – either on social media or in response to our customer survey.

- Castle Water
- Chuka Umunna MP
- Clear Business Water
- Consumer Council for Water (CCWater)
- Customer Challenge Group Chairs
- Department for Environment, Food and Rural Affairs (Defra)
- Derbyshire local resilience forum
- Drinking Water Inspectorate (DWI)
- Environment Agency (EA)
- Greater London Authority (GLA)
- Hampshire & Isle of Wight local resilience forum
- Helen Hayes MP
- Henry Cavendish Primary School Balham & Streatham
- Lambeth Council
- London Resilience Partnership
- Natural Resources Wales (NRW)
- National Farmers' Union (NFU)
- North Wales resilience forum
- Paques
- RSKW
- Sussex local resilience forum
- Utility Regulator for Northern Ireland (UREGNI)
- Water Direct
- Welsh Government
- Wincanton
- WRc



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