Drought Plan 2022
Annex 1: Pre-consultation

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from Southern Water

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Abbreviations

CCW	Consumer Council for Water
EA	Environment Agency
EAR	Environmental Assessment Report
NE	Natural England
NEUB	Non-essential Use Ban
RSPB	Royal Society for the Protection of Birds
TUB	Temporary Use Ban
WRZ	Water Resource Zone
WRSE	Water Resources South East

Important note: This document does not include information on the statutory public consultation for the draft Drought Plan which was undertaken during an eight-week period between 7 June and 2 August, 2021. The public consultation supersedes the pre-consultation. Further information on this consultation is available online on our website at https://www.southernwater.co.uk/droughtplan.

1. Introduction

This annex sets out the pre-consultation and engagement we carried out and reviewed to help inform our draft Drought Plan 2022. This is based on both business-as-usual engagement with regulators, customers and stakeholders, as well as specific activities undertaken to inform updates to our draft plan. All of the work described here was undertaken before the statutory public consultation.

We have engaged with regulators, in particular the Environment Agency (EA) and Natural England (NE), environmental and trade organisations, retailers and domestic and business customers.

We have also worked with neighbouring water companies, regional organisations such as Water Resources South East (WRSE) group and Water UK to inform our planning and help develop consistent approaches across the UK, to provide clearer messages and actions for customers.

This regional collaboration is set to continue through the Drought Group formed as part of WRSE to carry out a joint insight exercise during the statutory consultation period on the draft plans.

We have also incorporated a number of strands of customer insight work carried out as part of business-as-usual activities during recent years. These have considered the value of water, success of messages, heatwaves and water scarcity, attitudes towards restrictions and, in particular, emergency restrictions. This research covers bill-payers, young people, customers in our Western area affected by a higher likelihood of restrictions, vulnerable customers and businesses.

2. Regulators and stakeholders

Under Section 39B (7) of the Water Industry Act 1991, prior to preparing its Drought Plan, each water company must consult the EA, the Water Services Regulation Authority (Ofwat), the Secretary of State (Defra) and any licensed water supplier which supplies water to premises in the undertaker's area via the undertaker's supply system.

We wrote to the following organisations inviting their comments:

- Statutory consultees: EA, Defra, Ofwat and NE.
- Water suppliers: Thames Water, Wessex Water, South East Water, Affinity Water, SES Water, Portsmouth Water, South West Water, Leep Utilities, Cholderton and District Water, Independent Water Networks Limited and Icosa Water Services Limited.
- Customer organisation: Consumer Council for Water (CCW).
- Critical industry: British Gypsum.

A copy of the letter is attached as Appendix A.

Responses to the pre-consultation letter were received from the EA and South East Water.

South East Water said it welcomed dialogue to support continued regional co-operation, including and in addition to confirmation of bulk supply arrangements during drought conditions.

The EA response highlighted areas to address in the draft plan (Appendix B). A summary of our responses to the points raised by the EA is included as Appendix C.

In our responses to consultation letters from Affinity Water, Portsmouth Water and Wessex Water, we have reiterated our intention to be engaged in the process with them and to ensure our plans are consistent in areas where our services overlap. We also expressed a desire for consistent messaging to customers and stakeholders, particularly through the WRSE group in the South East of England.

2.1 Ongoing engagement

Since publishing our 2019 Drought Plan, we have continued to work with the EA and NE, in particular, to improve our environmental assessments and ensure we have an agreed set of baseline monitoring and mitigation plans for our drought permit and order options. This process is ongoing and further details are provided in section 7 of the main Drought Plan document and Annex 7, the Environmental Monitoring Plan.

Our engagement with NE since the last plan was published has been focused on discussing environmental baseline monitoring packages for drought permit and order options on the Isle of Wight and in Sussex Hastings Water Resource Zones (WRZs) which have the potential to impact designated sites. In preparation for this updated Drought Plan we met NE in October 2020 to review the status of their feedback on the 2019 Drought Plan, their outstanding concerns and the drought permit and order options would be a priority for them to review as part of this drought plan process. In early February 2021 we provided NE an update on the approach we are taking to updating the Environmental Assessment Reports and the changes we are making to drought permit and order options. We also raised some specific queries about the environmental assessment of the Pulborough drought permit options in relation to nearby designated sites.

Our liaison with the Environment Agency since the 2019 Drought Plan was published has focused on agreeing environmental baseline packages and undertaking walkovers of catchments potentially affected by drought permit and order options to improve understanding of potential impacts and identify opportunities for mitigation. We held meetings with the Environment Agency in December 2020 to discuss our review of drought permit and order options, in particular the surface water options in East Sussex and Kent, and in January 2021 where we discussed our approach to updating environmental assessments in line with latest guidance and where new information was available. We also provided an update on the environmental monitoring and mitigation programmes of work.

During the pre-consultation process we have refined our list of proposed drought permit and order options through internal discussions and following feedback from EA and NE as mentioned above; the Powdermill reservoir, Darwell reservoir (spring), Test Valley (groundwater), Stourmouth and Shalcombe options have all been removed from our Drought Plan, in part, owing to downstream environmental impacts. Furthermore, the Weir Wood reservoir option and Bewl Water reservoir / River Medway Scheme - Stage 4 have been adjusted to reduce downstream environmental impacts. In addition we have removed the emergency desalination options in light of the concerns raised by Natural England in response to our 2019 Drought Plan.

A key area of our 2019 Drought Plan which we have reviewed and updated is the drought monitoring triggers in light of new sources of data, a review of available techniques and a need to incorporate more action based

triggers linked to surface water drought permit and order options. We provided an update to the Environment Agency on this work in March 2021 to allow them to understand the nature of the changes and ask questions in advance of the draft plan consultation process. Further information on our updates set of drought triggers is provided in Annex 4.

2.2 Strategic Environmental Assessment scoping consultation

We are undertaking a Strategic Environmental Assessment (SEA) of the Drought Plan and wrote to the statutory consultees, the EA, NE and Historic England (HE) as part of the formal Scoping stage. The consultation period for responses was from 4 February to 11 March 2021. The responses received and how they have been taken into account are set out in Annex 12: SEA Environmental Report Appendix A. The consultation satisfies the requirements of Regulation 12 (5) of the Environmental Assessment of Plans and Programmes Regulations 2004, to consult with the consultation bodies on the scope of the SEA. The statutory bodies, public and wider stakeholders will also have an opportunity to comment on the Environmental Report that will be published alongside the Draft Drought Plan.

2.3 Drought permit/order workshops

In our Drought Plan 2019 we introduced drought permit/order options for our River Test and Itchen surface water abstractions in order to maintain supplies to customers following the changes made to the River Test and Lower Itchen abstraction licences in 2019 as part of the agreement with the EA under Section 20 of the Water Resources Act 1991 (s20 agreement), established at the 2018 Hampshire Abstraction Licences Public Inquiry. Given these are new drought permit/order options in environmentally sensitive catchments, and due to the requirements of the s20 agreement, we have been working to ensure application readiness for these options. A mock permit exercise was undertaken for the River Test Drought Permit in the autumn of 2018 and a workshop to test implementation of the Lower Itchen Drought Order is planned for spring 2021 during the consultation period for this Drought Plan. This will enable us to test the application readiness for this option in case it is needed over the duration of the s20 agreement.

3. Wider stakeholders

In November 2020, we presented early thinking around our draft Drought Plan and timeline of activities and engagement to a regulator meeting of the Western Area Stakeholder Group.

We shared information on our plans to remove the Test Valley Drought Order and Shalcombe Drought Permit, incorporating lessons learnt from the River Test Drought Permit application process, including review of Temporary Use Ban (TUB) efficacy and application readiness and updates to drought triggers, including for the rivers Test and Itchen.

Attendees included representatives from the EA, NE, CCW, WRSE, Portsmouth Water, New Forest National Park Authority, Hampshire and Isle of Wight Wildlife Trust, Wessex Rivers Trust, Campaign to Protect Rural England, Salmon and Trout Conservation, Test and Itchen Association, Royal Society for the Protection of Birds (RSPB), Winchester City Council, fisheries, Broadlands Estate and Barings Estate.

4. Customer engagement

4.1 Our Approach to Customer Engagement

At Southern Water our approach to customer engagement is driven by 12 participation principles – providing the guidelines we follow. For the Drought Plan 2022 this means we triangulate views from:

- The wealth of existing insight (e.g. WRMP19, DP19, PR19)
- BAU research which looks at attitudes and behaviours in the moment (e.g. during the heatwave of 2018 or August 2020)
- Fresh insight using industry best practice[1] running specific engagement through deliberative panels with a range of customer segments (e.g. Customer Action Group for Water for Life – Hampshire)
- Collaboration with the industry (e.g. joint engagement with WRSE on regional planning for water resources)

Figure 1: Customer Participation Principles

Succeeding Together

- **Shared planning** – through our BAU insight programme we have run engagement with customers when water shortages are most relevant to them, such as when resources are scarce in the summer during heatwaves or during loss of supply incidents.

[1] *https://www.ccwater.org.uk/research/improving-customer-engagement-for-pr24/*

- **Collaboration** – Southern Water has been a central part of the joint regional research run across the South East with WRSE.
- **Two-way dialogue** – our insight approaches ensure an ongoing dialogue with customers through deliberative techniques and the use of pre / post tasks.
- **Partnering** – as well as joint work with our water neighbours we've built strong relationships with insight partners who bring additional expertise from outside the industry.

Always Improving

- **Innovate approaches** – we continually test new ideas for engagement through our Customer Action Group approach, as well as through tasks such as 'audience journalism' where participants share messages with friends / family outside the research and feedback these fresh views.
- **Iteration by design –** we always build flexibility into our approach and review not only the key insight, but lessons learnt, feeding into the next wave or research project.
- **Open to Challenge** – by working more closely with customers through deliberative dialogue our plans are able to be challenged more constructively to improve.
- **Comparative learning** – we look to best practice from across the industry such as with CC Water, Ofwat and other water companies. We also use our research partners to help bring in expertise from other markets and industries.

Doing the right thing

- **Integration** – through this annex we have drawn together the story from the customers' perspective, ensuring it is customer first.
- **One voice** – we have qualitatively triangulated views to show where similarities and differences lie across multiple sources.
- **Participation First** – our insight puts the customer at the centre ensuring all activities are deliberative and engaging to maximise participation.
- **Inclusion** – we have reached out across different audiences to ensure we are able to better reflect the voices from all our customers.

Title	Project Overview	Purpose for DP 2022
Drought Plan 2019	Qualitative research with 3 extended focus groups in 2018 on the proposed drought plan for submission in 2019	To ensure new engagement builds on the lessons learnt from the past.
PR19 Engagement / WRMP 2019	Summary of over 42,000 direct interviews through a range of approaches and customer & stakeholder audiences.	To focus new engagement on the solid foundations from our WRMP and Business Plan work.
Water Semiotics 2020	Review of thousands of different materials (including websites, social listening, media, advertising, brands, film, product design trade magazines, entertainment etc.) to unpick consumer language, associations, interaction with water and study the cues within culture and society that are driving or reinforcing these perceptions and beliefs.	To identify the range of perceptions and beliefs towards water so that we can have a deeper understanding of customer attitudes and behaviours – to develop programmes (e.g. an approach to drought) that will have greater resonance with consumers.
WRSE Regional Planning Research (2020)	Triangulation and summary of research on water resources (supply and demand options) from all WRSE companies, fresh qualitative research across the region (through deliberative focus groups – 84 customers in total) and a quantitative online survey (2,000 customers) to provide robust preferences across options.	Deliberative research shared mixed views on the acceptability of restrictions, which were framed in the light of personal experiences – whether of recent COVID-19 restrictions, or of times abroad, or childhood memories.
Customer Action Group Panel (2020)	Deliberative customer panel run since Nov '19 with primary focus on Water Resources planning. c35 members active at any one time. Main engagement is through an online community and in-home tasks.	In April 2020 there was a deep dive into the perceived impact of restrictions, behaviour change and review of EA traffic light system.

Water Scarcity / Heatwave Research (2018)	Week video log (vlog) panel of 20 consumers from across England during the heatwave of 2018. It also included follow up interviews and an online survey of 522 Southern Water customers.	To understand customer attitudes towards drought during extreme weather events, their changes in behaviour and how best to engage with them on potential restrictions.
Heatwave Communication Research (2020)	Use of our Customer Action Group Panel (33 members used) to help qualitatively review content and a telephone survey with 200 customers – to help in assessing the impact of high demand SMS and emails sent to customers encouraging them to use less water because their local reserves were running low.	To explore the impact of messaging, focused on a local and urgent call to action, on customer attitudes and behaviours.
Future Options for Managing Customer Demand for Water	Using work carried out by London Economics for Yorkshire Water and published in 2019. It summarised research, data and analytics from across the UK and the world on the impact of interventions on customer's usage of water. In particular it explored the role of TUBs in 2006 and 2012.	To ensure we applied industry-wide lessons learnt.
Other elements	In addition to the sources of insight mentioned above, there are other resources we have used – particularly in understanding best practice around communication. These include our continued water efficiency work, such as a panel running through a summer of messaging in 2019, and a joint behaviour change project with South East Water and the Behavioural Insight Team run in Spring 2020.	

Figure 2: Primary sources of customer insight

Overall Summary of Findings

- Customer knowledge of drought in the UK is fairly limited, therefore early engagement would be needed to ensure better understanding of the need for emergency measures.
- Customers feel they would struggle with serve restrictions so acceptability is generally low for measures that would have a high perceived impact on their daily lives.
- Demonstrating the link between changes in personal usage behaviours and the impact on droughts is important to help those who currently feel they are already sensible enough, to see what else they could do.
- Temporary Use Bans could reduce water use at peak times by c5-10%, but there are multiple and complex conditions that would need to align.
- The seriousness of the situation must be communicated clearly and with credibility. Focusing on locality can help to bring personal relevance to the customers impacted.
- A clear framework will help ensure consistency of communication – focusing on 3 key areas; 1 – engage the customer, 2 – educate on the situation, 3 – provide practical help.
- Advance warning of emergency measures is needed to help customers prepare – with clear 'assist' elements, so they have practical support as how best to manage.
- An integrated communication plan needs to use multiple channels, build up the relevant messages over time and vary the approach to have the greatest cut through.
- Vulnerable audiences require a higher level of service during severe restrictions, with other household customers supporting their prioritisation.
- Business customers impacted by water scarcity need help to explore ways in which they can become more resilient and to raise awareness of how they may be affected by restrictions.
- For future customers it is important for the company to emphasise how it is working to play its part and engaging with business and agriculture to do their part so the changes seem fair.

4.2 Contextual Issues

Primary Sources of Customer Insight:
- Drought Plan 2019 Research
- Water Semiotics 2020
- PR19 Customer Engagement

Perceptions of Water[2][3]

Water is simultaneously valued and taken for granted. The way consumers interact with water in the home is through instant access (e.g. showering drinking, toilets, cooking) and these activities are habitual with generally low consideration of the water they use. Most customers have limited experiences of restrictions and hot summers (such as the heatwave of 2018). A perception of a continuous and plentiful supply as well as a general feeling of water being affordable, leads consumers to believe that water in the UK is abundant. Abundance perceptions run extremely deep and are continually reinforced by a huge variety of cues all around us that will continue to undermine efforts to educate and inform.

From our research, specifically on the Drought Plan 2019 and PR19, we see additional broader considerations which help to frame the context in which we need to apply our customer engagement to future plans:

Understanding of Drought[4]

- Drought is associated with countries in the developing world so does not feel immediate or urgent in the South East of the UK
- Consultation documents should:
  - Be short, less technical with down to earth language and with a lighter scope for customers. We need to use summaries, bullets and make it clear who it's for and why it's relevant to them.
  - Include a sense of storytelling and inform customers about their role and cover the stages of drought early on and use maps to show local areas
  - Show what the problem is early on and why we have shortage issues
  - Information on where water comes from is helpful and informative
  - The environmental implications engage people – especially relevant for future generations
  - Explain more about the reality of some restrictions – such as standpipes and rota cuts.

Customer Behaviour[5]

Water is more top of mind during the summer. However, customers claimed this is also the case in the more extreme winter temperatures we now face with the knock-on effects on the network (e.g. frozen pipes). Most customers think they only use the water they need. They often acknowledge that water is not something they consciously think about much and that they could be more efficient. Importantly, customers do have an

2 PR19 Customer Engagement

3 Water Semiotics 2020

4 Drought Plan 2019 Research

5 Drought Plan 2019 Research

increasing appetite to engage and believe droughts may become more of an issue in the future due to climate change and increasing populations.

Key Insight

Customer knowledge of drought in the UK is fairly limited, therefore early engagement would be needed to ensure better understanding of the need for emergency measures.

4.3 Customer Understanding and Acceptability of Restrictions

Primary Sources of Customer Insight:
- WRSE Regional Planning Research (2020)
- Customer Action Group Panel (2020)
- Water Scarcity / Heatwave Research (2018)
- Future Options for Managing Customer Demand for Water (2019)

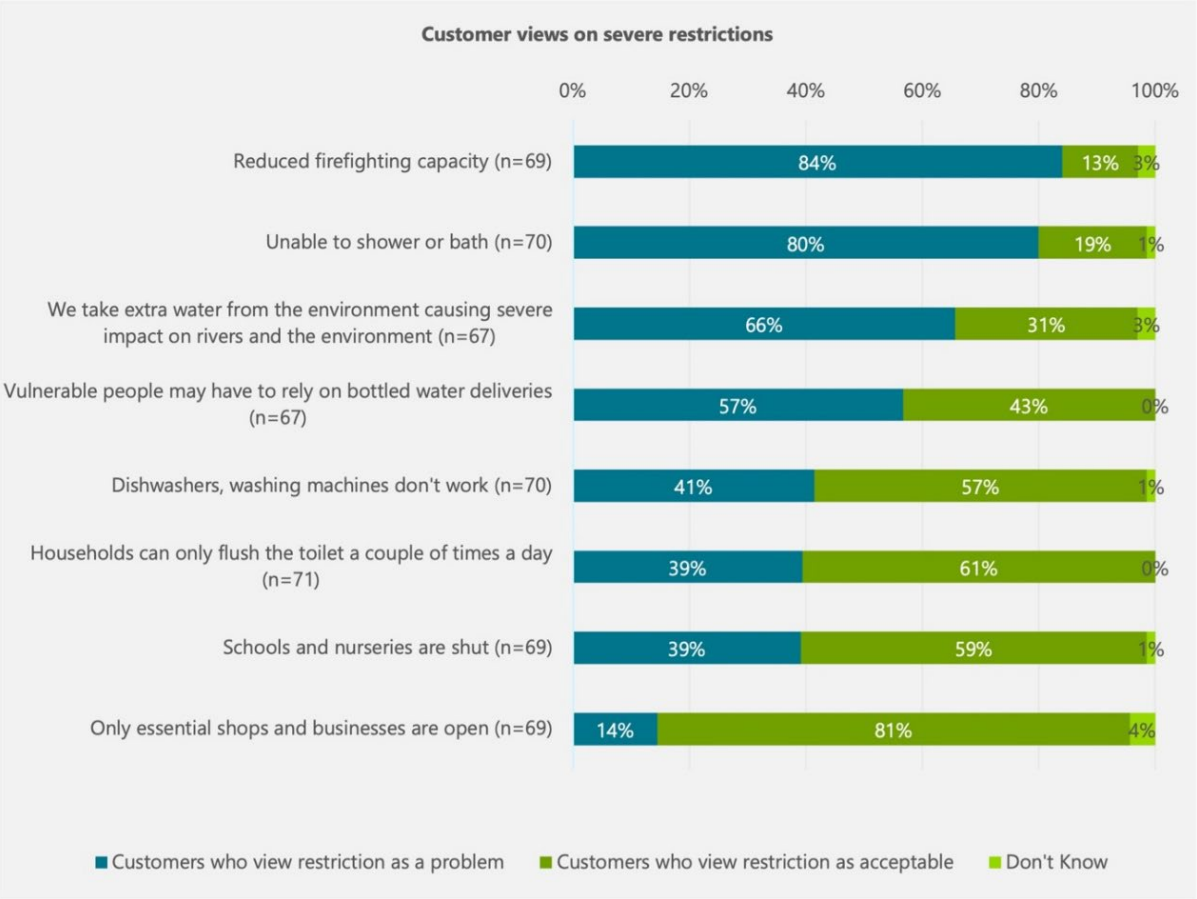
Acceptability of restrictions

Customers feel that the more severe restrictions would be particularly difficult to cope with. Only aspects such as flushing the toilet just once or twice a day or reducing the use of dishwashers were seen to be manageable. Otherwise, the overall limitations associated with severe water restrictions such as rota cuts and standpipes are viewed as unacceptable. The recent COVID-19 restrictions gave many participants confidence they could cope with some prolonged water use restrictions, like TUBs (hosepipe) and Non-Essential-Use Bans.

Key Insight

Customers feel they would struggle with severe restrictions so acceptability is generally low for measures that would have a high perceived impact on their daily lives.

Figure 3: Customer views on acceptability of severe restrictions[6]



Perception of restrictions on behaviour change[7]

Those who already feel they are taking actions to minimise water usage, while appreciating the need for change, can fail to see what more they could do. These customers are still prepared to make further compromises if possible, however, they feel unsure that this would actually have a benefit to the drought situation and as such, may be less likely to change behaviours. Greater links between actions taken and the impact they have in saving water is needed.

When reducing water consumption, customers claim to be more likely to 'cut back' by showering instead of bathing; reducing toilet flushing; washing cars less and watering the garden, as these were felt to be the easiest to achieve.

6 WRSE Regional Planning Research (2020)

7 Customer Action Group Panel (2020)

Our insight showed claimed water conservation measures within the home are usually fairly basic, e.g. not leaving taps running, only using washing machine and dishwasher for full loads, and it is still only the minority who are employing more considered and serious restriction measures. The figure below shows those areas where customers find it easier and are more willing to save water when asked to do so, helping to shape activities to target in drought messaging.

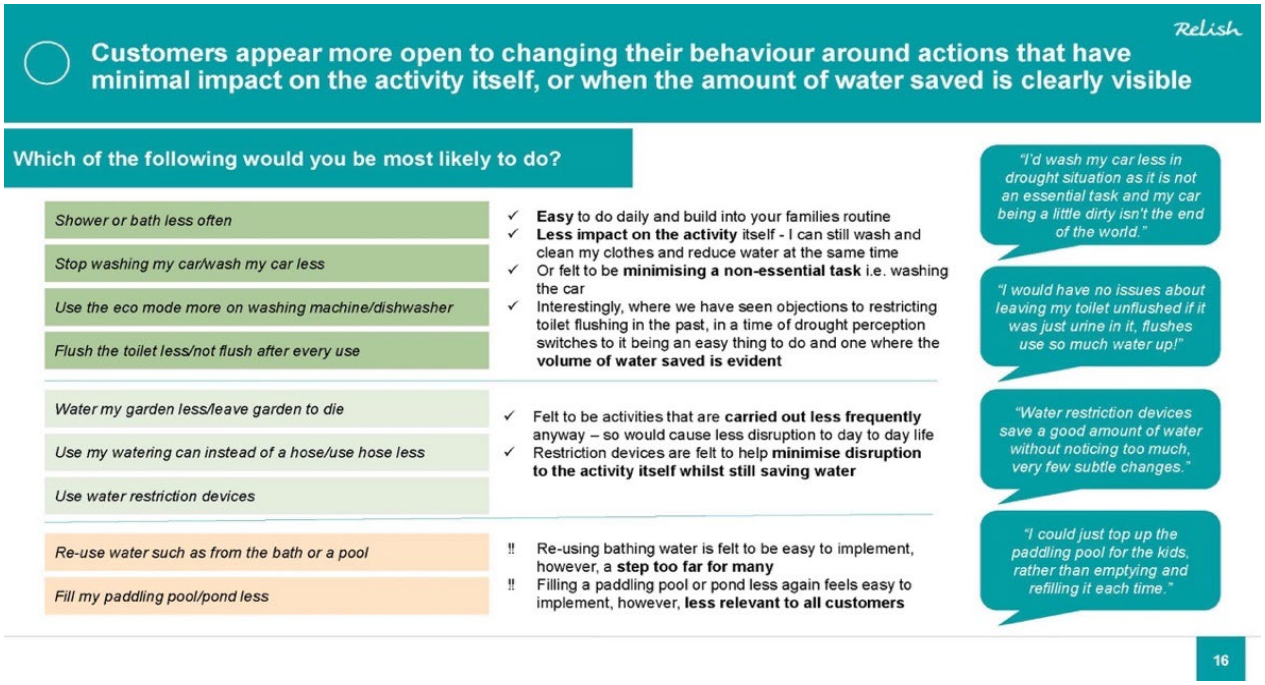


Figure 4: Activities customer felt were easier to achieve to save water

Key Insight

Demonstrating the link between changes in personal usage behaviours and the impact on droughts is important to help those who currently feel they are already sensible enough, to see what else they could do.

Impact of Temporary Use Bans (TUBs)[8]

Customers widely misunderstand TUBs and are unable to pinpoint what type of actions are restricted. This misunderstanding can quickly create a negative reception to them. Providing generic water management evidence to customers will weaken support for TUBs.

Customer acceptability of TUBs is driven by:

8 Future Options for Managing Customer Demand for Water (2019)

- Seriousness of the situation - are there severe weather conditions?
- Belief that the water provider is managing the supply well – have critical levels fallen due to mismanagement or other avoidable causes?

This means in severe weather conditions and when the water provider is seen to be doing 'their bit' (e.g. leakage, engaging customers, managing resources), customers are broadly accepting of TUBs. They prefer TUBs to price increases and volatility.

The strongest driver for customers to comply with the restriction is the perception of their capacity and ability to comply, which can greatly vary across customer segments. Claimed behaviour is far higher than the actual data suggests.

Key Insight

Temporary Use Bans could reduce water use at peak times by c5-10%, but there are multiple and complex conditions that would need to align.

There is limited reliable data for TUBs in the UK (2006 and 2012), because the behaviour change is complex, difficult to measure and is impacted by a number of different components. For example, in 2006 there was a significant impact, but in 2012 there was no measurable impact due to heavy rain at the time – reducing the need to use hosepipes and eroding the customer perception of 'severe weather / drought'. There is evidence to suggest that TUBs might work effectively in stopping additional use, rather than decreasing (i.e. stop customers turning to hosepipes to water their gardens in summer).

The data is also unable to pull out the difference between the messaging and the TUB itself, so the communication of a water shortage is playing a key role in the behaviour change.

Outside of the UK (Australia and USA), voluntary restrictions are deemed unlikely to be effective, however, if they are made mandatory the impact can vary massively from 4-23%. Combining with financial penalties would greatly increase the impact.

Helping customers to understand the seriousness of the situation[9]

During intense periods of hot weather, customers had widespread expectations of "hosepipe bans" being introduced and most customers suggested they would accept bans if required and expressed little concern.

When customers looked at restrictions and considered the effectiveness of the different drought levels – their responses illustrated that the traffic light system of levels resonates well:

- The traffic light system in place adds urgency in itself, it was compared to similar systems for terrorist attacks and other threats
- Having a measured and staged plan reassures customers that action will not be left until the last minute
- The plans help customers see that action is needed at each point – even when the threat of drought feels less imminent (this is key to engaging customers in longer-term behaviour change)
- The plan adds credibility to the actions being communicated by Southern Water, it provides the rationale behind these and shows customers they are part of a bigger plan, for the greater good.

9 Customer Action Group Panel (2020)

Below are some direct quotes from customers to help represent their views:

"It simplifies the process, I can see that there is a need for action and I am reassured that a plan is in place. I also like the last line about lessons learnt and reviewing actions."

"The traffic light system helped me understand outcomes are planned to ensure that customers are not without water should a drought situation arise."

Key Insight

The seriousness of the situation must be communicated clearly and with credibility. Focusing on locality can help to bring personal relevance to the customers impacted.

4.4 Communication

Primary Sources of Customer Insight:
- Customer Action Group Panel (2020)
- Water Scarcity / Heatwave Research (2018)
- Heatwave Communication Research (2020)
- Future Options for Managing Customer Demand for Water (2019)

Helping to ensure communication is clear and consistent[10]

Throughout all our engagement on drought, clear communication is a key theme that emerges. When reviewing the various options, messages, styles and approaches that have been used around water, a common framework should help apply best practice to communication.

10 Water Scarcity / Heatwave Research (2018)

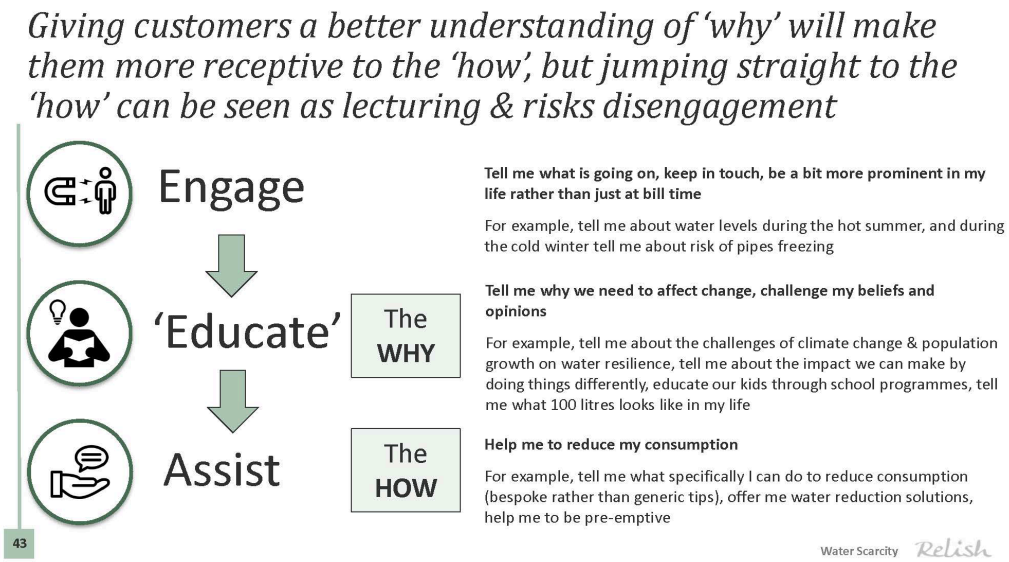


Figure 5: Stages of communication to bring customers on board with messages

Key Insight

A clear framework will help ensure consistency of communication – focusing areas:

1 – Engage the customer, 2 – Educate on the situation, 3 – Provide practical assistance.

A key insight on communicating during a drought is the requirement for early warning, clear calls to action, information on what the company is doing and the need to support customers with discounted or free devices. These are all already areas of focus in our current Drought Communications Plan.

Figure 6: Customers stated preferences for communication messages during a drought[11]

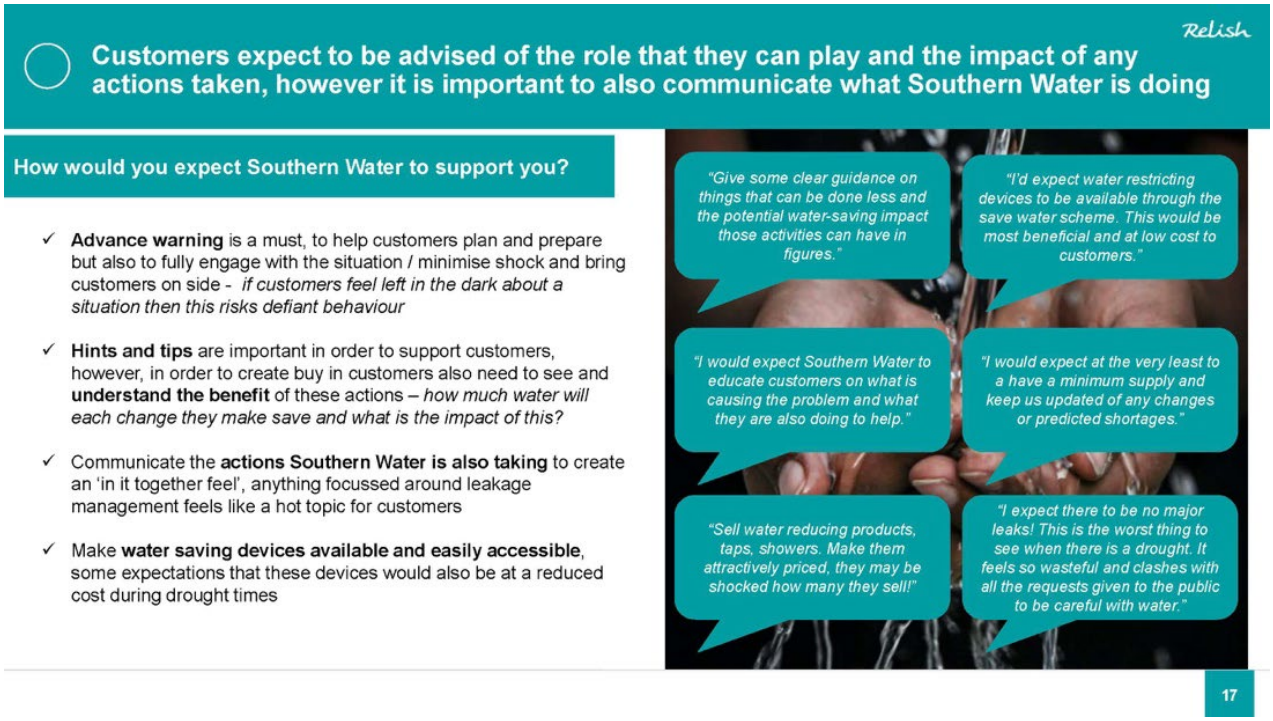


Figure 6: Customers stated preferences for communication messages during a drought[12]

Key Insight

Advance warning of emergency measures is needed to help customers prepare – with clear 'assist' elements, so they have practical support as how best to manage.

Communication during a hot weather[13]

During August 2020 water levels in parts of North Sussex and South Hampshire were under stress, so direct communication (via email, SMS and door drops) was sent to 139,560 households. It highlighted the increased levels of demand in their area and encouraged customers to think about their usage. As well as the hot weather, at the time 33% of customers felt they were using more water than they normally would as a result of being at home during the pandemic.

- [11] Customer Action Group Panel (2020)
- [12] Customer Action Group Panel (2020)

[13] *Heatwave Communication Research (2020)*

Figure 7: An example communication in August 2020[14]

Feedback from customers in the targeted areas revealed that email is an expected method of communication which should be used to provide early warning. Door drops generated a sense of urgency and need for action and are more likely to impact behaviour when issues start to arise.

SMS is the preferred channel for live updates and to create an 'urgent cut through' once customers are already aware of a situation. Of those who saw the communications, 69% felt encouraged to seriously think about their water use; 72% felt advertising is important and 52% of customers felt the hints and tips helped and were good ideas.

Feedback on the messages supported the use of colour to grab attention and reinforce the call to action with clear language required to generate a sense of urgency. Asking for help created a buy-in with customers more likely to do their bit. Customers stressed a need to use a variety of channels and methods to build up urgency and awareness.

One customer quoted:

"If I received several of the same leaflet, email or texts, the message would become annoying. It would need to differ each time."

14 Heatwave Communication Research (2020)

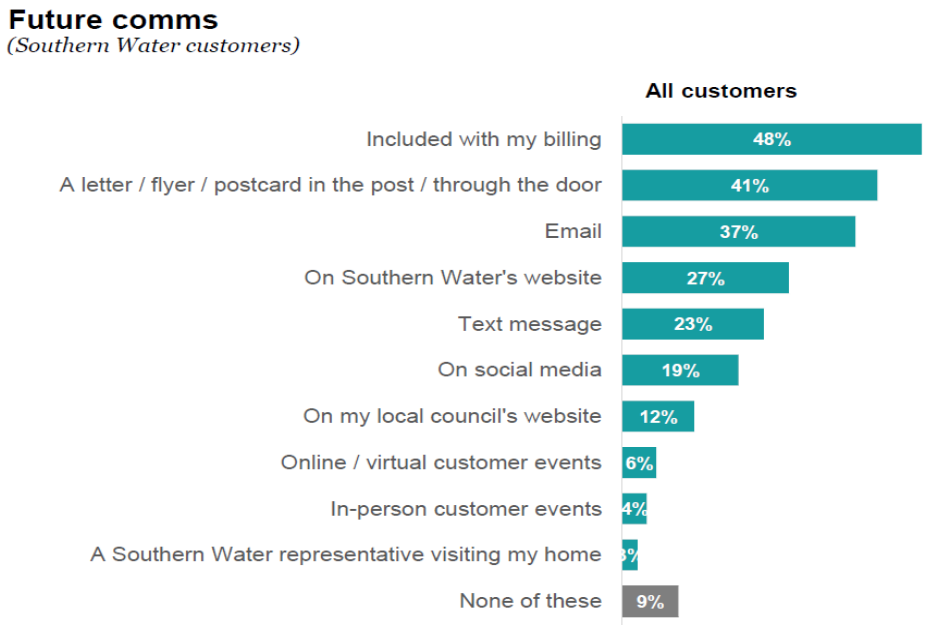


Figure 8: Customer preferences for communication channels in heatwave

The research gives useful insight into the effectiveness of channels and messages and the use of multiple touchpoints to generate awareness and action during water stress situations, which will be incorporated into future campaigns.

Key Action

An integrated communication plan needs to use multiple channels, build up the relevant messages over time and vary the approach to have the greatest cut through.

4.5 Different Audiences

Primary Sources of Customer Insight:
- Water Scarcity / Heatwave Research (2018)
- WRSE Regional Planning Research (2020)
- Water Futures 2050 Pilot Summary (2021)

Understanding the different audiences and their ability or desire to act during restrictions is critical in delivering the Drought Communication Plan. The majority of customers see the importance and their personal responsibility to act, but they need Southern Water to provide materials in an engaging and relevant way for them to change their behaviour during drought.

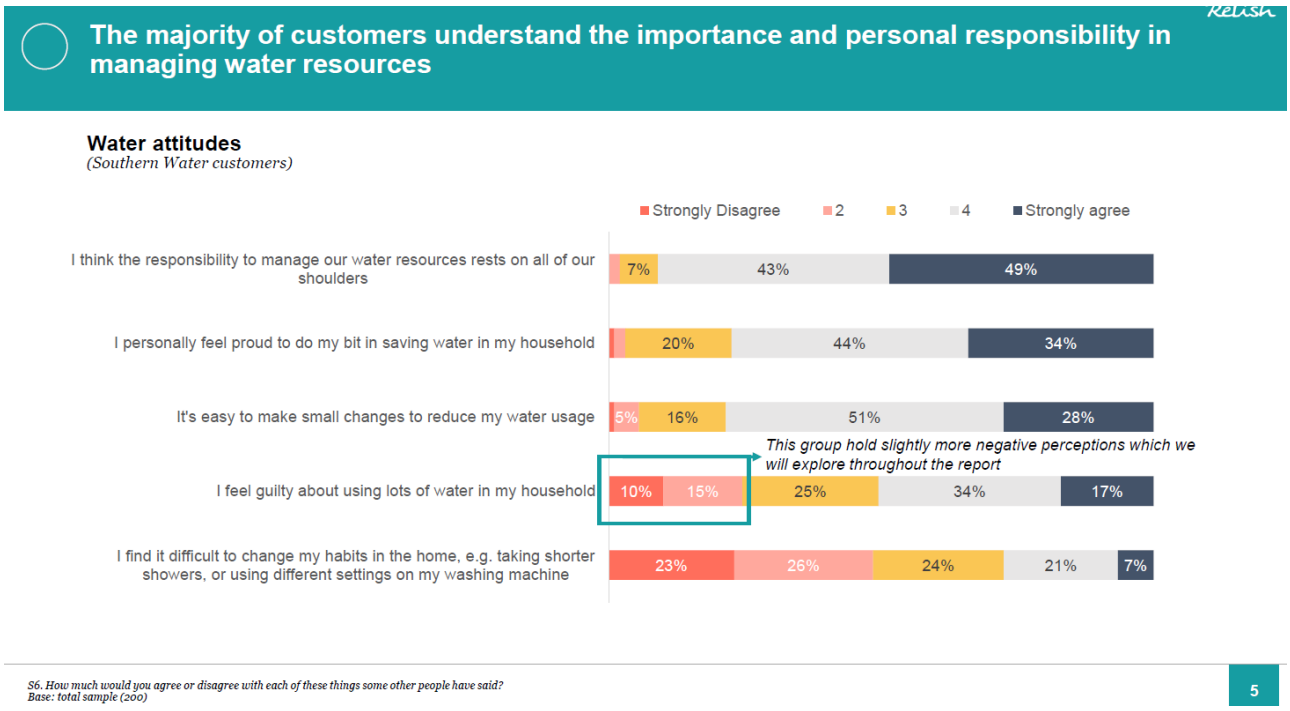


Figure 9: Customer support in taking responsibility to act[15]

Vulnerable customers[16]

Again in line with research outlined earlier in this annex, customers were accepting of Temporary Use Bans at their current level (once every 10 years) but they do expect the company to predict and mitigate the risks related to standpipes and rota cuts. While in extreme unavoidable circumstances which are hard to predict, they would tolerate them for a short time, they would expect vulnerable customers to be prioritised.

Vulnerable customers taking part in the research expressed an expectation for a higher level of service from Southern Water than either business or household customers in severe restrictions – with 81% describing as essential the need for water to be available to customers for three hours per day to ensure enough water for essential use.

Key Insight

Vulnerable audiences require a higher level of service during severe restrictions, with other household customers supporting their prioritisation.

15 Heatwave Communication Research (2020)

16 WRSE Regional Planning Research (2020)

Business Customers[17]

Through our Heatwave research in 2018 we ran a series of in-depth interviews with six representatives of business – two farmers, a representative for the National Farmers Union (NFU), a golf club manager, a representative of Golf England and the deputy head teacher of a primary school. At the same time the NFU shared information from a survey it had recently undertaken with more than 600 of its members on the impact of the hot and dry summer on farming.

Key learnings specific to these audiences include:

Farmers:

- Often have own reservoir but tend to supplement with mains water
- A sense from the NFU that more measures could be in place to encourage farmers to be more water resilient and less reliant on mains water
- Since water providers no longer have direct relationship with business customers, there is not felt to be anyone bridging this gap.

Golf England:

- Supplies of water to golf courses are very variable between mains and private
- All are heavily reliant upon rain and suffer in dry weather
- Some have their own boreholes which help during times of water scarcity – but if consumption is too great they go onto mains water
- Some are entirely dependent upon mains water so are driven by a cost perspective
- Golf courses have an assumption that “hosepipe bans” will not affect them
- There is a clear role for water companies to engage more with golf clubs about water use, particularly in droughts and restrictions
- More clubs are considering biodiversity and their role in protecting the environment so this is a key area to engage on.

Schools:

- Water is not seen as something that can be restricted and there is a sense that it would be inappropriate to do so as it would impact on health and learning (for kitchen, toilets, water fountains etc)
- Less monetary value is placed on saving water as it “must” be provided
- No perceivable impact from restrictions at schools.

Key Insight

Business customers impacted by water scarcity need help to explore ways in which they can become more resilient and to raise awareness of how they may be affected by restrictions.

Household Customers[18]

[17] Water Scarcity / Heatwave Research (2018)

[18] Water Scarcity / Heatwave Research (2018)

We have discussed how different audiences will respond to restrictions in various ways depending on their perceived ability to make an impact. However, we also see a distinct difference in the attitude of a customer's desire to drive change.

The largest segment, and therefore the most relevant for behaviour change, are those with a 'pricked conscience' – where they know there is probably more that can be done, but education and assistance is needed to help them achieve that.

We also see some segments where they believe water is their right, as they pay for the service and should be able to use what they want to. These groups tend to be in the minority, although should be considered when creating communications around restrictions. Their belief could make them vocal in certain channels (such as social media) and add to customer confusion through mixed messages.

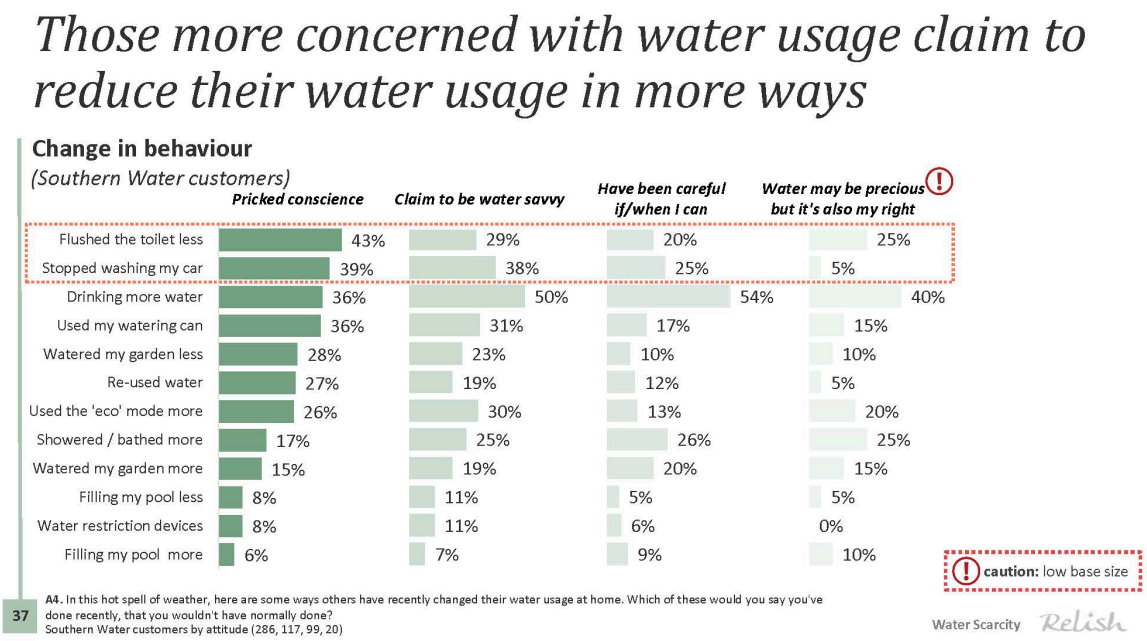


Figure 10: Areas where varying segments of customers are more likely to save water or not

Future Customers[19]

The insight revealed 74% of this audience agree (strongly or slightly) that they are worried about climate change making droughts in the South more likely and there is an appetite among young people to engage more with the water industry on their own terms. They support demand-side interventions and are willing to do their part.

They are therefore a target audience during droughts and have expressed a preference for communication through catchy social media content, which gives key information about what's going on and advice on simple, clear ways they can take action.

Information should be delivered in bite-sized chunks of engaging content with clear messages, potentially involving celebrity endorsement. Social media was identified as the key communication channel for young people (Instagram, TikTok and YouTube) although communications via schools and even the radio were also deemed potential routes.

Key Insight

For future customers it is important for the company to emphasise how it is working to play its part and engaging with business and agriculture to do their part so the changes seem fair.

19 Water Futures 2050 Pilot Summary (2021)

Appendix A: Pre-consultation letter sent by Southern Water

Dear Stakeholder,

Drought Management Plan: Pre-consultation

Southern Water provides drinking water to two and a half million people across a water stressed region. We keep taps flowing for a growing population and support the economy whilst tackling a changing climate. Droughts are predicted to become more common in the future, so we need to be prepared for them to reduce the impact upon customers and the environment.

Much like the changing climate, we must constantly adapt and evolve to tackle new challenges. Our drought plan updates allow us to do this, with a new iteration produced at least every five years to ensure that we are prepared for drought events. Our last plan was published in July 2019 and can be found here - https://www.southernwater.co.uk/our-story/water-resources-planning/our-drought-plan

We would like to invite your comments on our proposed approach to preparing a new draft drought plan. Any feedback you may have regarding our planning for drought will be most welcome. What are your views, your priorities and what improvements would you like to see in the plan?

We intend to submit our new draft drought plan to the secretary of state by the 31 March 2021 in line with the Drought Plan Direction 2020. We then expect to undertake a public consultation on the draft plan shortly afterwards.
We would like to receive all comments by 5pm, Friday 9 October 2020. Please send your comments to wrmp@southernwater.co.uk with the subject line: Drought plan 2021 pre-consultation.

What do we plan to update

The dry winters and multiple heatwaves experienced since the last drought in 2013 have provided important insight which will be used in developing our plan. Furthermore the abstraction licence changes on the rivers Test and Itchen that were implemented in 2019 have improved our drought preparedness in Hampshire. This has highlighted once again the importance of seeking feedback from our customers, stakeholders and regulators. We would like to involve you on the journey moving forwards.

We have included with this letter a summary of the reviews, updates and changes that we plan to make to our current drought plan. If there is anything you feel is missing please let us know.

Our Drought Plan review

To ensure alignment with the Environment Agency drought planning guidelines published in April 2020, we are carrying out a review of our current 2019 Drought Plan. We would like to hear from you on how we can improve our current Drought Plan. The actions we are planning to take are stated in the sections below.

Alongside the Drought Plan we also have a Water Resources Management Plan (WRMP) which sets out our strategy for maintaining supplies to customers. We will review and amend the Drought Plan to ensure consistency and integration with our latest WRMP published in December 2019. In line with guidance, we will remove much of the technical methods and scenario testing to assess the vulnerability of our water resources to dry weather and droughts, from the drought plan, and instead will reference where it can be found within the WRMP. The technical work carried out for the WRMP19 will form the basis of the new Drought Plan, with WRMP24 developments being aligned where possible as they emerge.

As such the new drought plan will be more of an operational tactical manual that will detail the actions we will take should a drought occur during the timeframe that the plan covers (up to five years). It will be clear and easy to follow so that you, our customers and stakeholders, can understand the decisions we make in a drought.

Drought triggers

As part of our update we will carry out a review of the hydrogeological, surface water, bulk supply, rainfall, soil moisture deficit and demand management monitoring and drought triggers that are used to inform what actions we need to take. Our trigger levels will be adapted to align with the Environment Agency drought plan guidance to show how they link with levels 1 to 4 of water use restrictions.

We will draft an implementation timetable which will show the time from trigger to implementation and the duration of the actions suggested at each trigger.

Drought actions

We will update what we will do to reduce the demand for water during a drought and review our supply side options. We plan to implement our demand saving actions first and prioritise the use of our least environmentally damaging supply actions if they are needed. This means we will take actions to reduce leakage, outage and customer demand before taking more water from the environment.

We will categorise our drought plan actions into levels 1 to 4 as defined by the Environment Agency's drought plan guidance. This tiered approach will help make our drought actions clearer as well as moving towards a consistent language across the water companies.

We will ensure that our most relevant drought permits and orders are application ready and have a clear view of what stage less relevant drought permits and orders should be at in terms of being permit ready. By taking these proactive steps we will help the regulators

understand what evidence will be expected when making an application and what environmental mitigation measures we will implement.

Extreme drought measures

Our plan will include extreme drought management options. These are options that we could implement to delay or remove the need for level 4 severe water use restrictions. Following the Environment Agency drought plan guidelines we refer to level 4 restrictions as emergency drought orders that authorize stand pipes or water tanks. This is a scenario we do not want to subject you to, so we constantly review our drought management actions, their effect on the environment and benefit to you.

Communication

As part of our drought planning we will consider the potential for cross sector and regional communication and collaboration. We will look at the wider role we can play during a drought in securing water supplies across the region.

We will continue to engage widely with customers and stakeholders as we have in previous plans to understand what is important to you so that we can produce an agreed plan that is effective and deliverable. We will improve upon the information that we share with customers and stakeholders before, during and after a drought.

We will look into how targeted communications could be used and how best to communicate with you. We will review how we can assist our more vulnerable customers during drought and understand how we can collaborate with stakeholders and partners to deliver drought messaging to all water users within our region.

We will pursue opportunities for greater collaboration with neighboring companies, looking at region-wide responses, supply actions and communication efforts. We will liaise with stakeholders across the water sector to mitigate the effects of droughts.

We will update our management action plan and communication action plan to take account of new data, our current management structure as well as changes in roles and responsibilities.

Environment

An important part of drought planning is to minimise the impact of any drought actions on the environment. We will assess all our drought management options in terms of their environmental impact and our plan will then set out how we propose to minimise and mitigate, where possible, the effects. This means we need to be pro-active in implementing drought actions and consider the use of environmental triggers and actions. We will ensure that our Environmental Monitoring Plan reflects our current activities.
We will include our environmental assessments (including mitigation measures) and monitoring plans as technical appendices, only including a high level summary in our main drought plan.

We look forward to receiving any feedback that you might have.

Yours sincerely

Appendix B: Response by the EA to the pre-consultation letter

Response to drought plan pre-consultation request for information for Southern Water.

Thank you for consulting us for information and advice in preparation of your draft drought plan. This letter is our formal response to your pre-consultation request for information. We will be pleased to continue discussions on your draft drought plan as you continue to develop it.

In the sections below we set out the issues that you should address that are specific to Southern Water, together with wider issues that we are asking all water companies to consider.

1. Specific areas to address in your drought plan

There are a number of significant issues with drought permits that you should resolve when preparing your draft drought plan:

1.1 Outstanding EARs and baseline monitoring and mitigation from the last published drought plan

Defra wrote to the company on 2nd September 2019 and requested that several elements be completed following the publication of the last drought plan. Baseline monitoring and mitigation and EARs for all drought permit/order options must be completed and incorporated or referred to in the draft drought plan submission in March 2021. The impact of missing baseline monitoring and mitigating measures is that drought permits such as Pulborough are not application ready, yet they may have been required if conditions had been drier this year.

Your pre-consultation letter states that environmental assessments will be included as technical appendices, we're willing to review these prior to March as long as there is plenty of notice of upcoming work. Defra referenced the Itchen and Candover compensation packages and mitigation; elements of these have been subject to delays or are still outstanding. You need to continue to work with the EA and Natural England to ensure the compensation packages and measures are progressed and completed. We also look forward to seeing the results of the walkovers in October this year and being kept informed of any further liaison you require on these matters.

1.2 River Test Drought permit application ready and lessons learnt

We were disappointed that you were not application ready for the Test drought permit this year. After an internal review of the pre-application documentation we gave feedback that the documents submitted were inconsistent and incomplete, and that we would be unable to validate many parts of the application as it was. Future applications must be consistent with your drought plan. It was expected that work undertaken in 2018 and 2019 should

have led to a better quality submission. A further lessons learnt session for the Test drought permit is due to take place between the EA and Southern Water staff in November, you will need to incorporate these findings into the process to ensure drought permits and orders are application ready in your next drought plan and any subsequent applications for the Test permit.

1.3 Understanding the prioritisation of drought permits and orders and ensuring permit application readiness

You should justify how you will select which permits are "most relevant", as described in your pre-consultation letter.

We'd like a greater understanding of which permits will be application ready in your next plan and the process used for selecting, prioritising and sequencing what you call the 'most relevant' as there is concern that some permits aren't application ready when they should already be as detailed in items 1.1 and 1.2 above. Please explain the criteria/ process used, either at a drought plan liaison meeting and/or including an explanation within the Drought plan itself.

There are also a number of other issues that you should resolve when preparing your draft drought plan:

1.4 Extreme Drought measures

Your last drought plan included drought measures that we would not be able to support (eg at River Medway and Darwell) as they were too severe and the impact on the environment would be too great. We are pleased to hear you will not be including these in your next drought plan.

We are keen to work with you as you consider and develop actions that you could take in an extreme drought. The guidelines say 'You should include information in your drought plan on actions that you could implement in the event of an extreme drought, and just after your level 3 restrictions. These are actions you could take to delay or remove the need for level 4 emergency restrictions, as stated in the guidelines'.

1.5 **Bulk supplies**

You should confirm if your bulk supply arrangements change in drought conditions and ensure that there is a common understanding of their operation particularly any 'pain share' arrangements in both companies' drought plans.

1.6 **TUBs efficacy on River Test – update drought plan**

Atkins have recently updated a paper on the efficacy of TUBs on the Test. This information along with lessons identified with recent dry weather should be incorporated into your new drought plan to ensure you are bringing TUBs on in a timely and effective manner.

1.7 **Environmental Triggers**

Your letter states that you will consider the use of environmental triggers – we welcome this approach and urge you to continue to plan to minimise and mitigate against environmental damage. We'd like further information regarding your approach to assessing and setting your environmental triggers and what actions you will take at those triggers and to understand the detail behind this, as it develops.

1.8 **Stourmouth**

As discussed during the development of your most recent drought plan, we do not consider Stourmouth to be a viable drought permit option let alone 'Drought Permit Ready'. It is not currently operational and it is our understanding that it would require significant infrastructure investment to bring it online and therefore the associated long lead in time would make it inappropriate for this next version of your drought plan. This position is supported and confirmed in SWS's latest Water Resources Regulation report to the EA. We understand you have been reviewing your plans for Stourmouth and are keen to hear your confirmed decision imminently.

1.9 **Severe drought scenarios**

In your letter it states: *"As such the new drought plan will be more of an operational tactical manual that will detail the actions we will take should a drought occur during the timeframe that the plan covers (up to five years)."* We think we understand what is meant here, but we need further clarification that you'll be planning for severe droughts, which may be more extreme than scenarios which are likely to occur within the next 5 years, to ensure the plan is robust enough to cover these types of drought.

1.10 **Experiences and lessons learnt from prolonged dry weather**

The prolonged dry weather experienced during 2018 and 2019 has highlighted the importance of drought planning to minimise the risk to public water supplies and the environment. You should ensure that you review and incorporate any lessons learnt from operational experiences and the prolonged dry weather into your drought plan.

We're aware that there were several occasions when the hot, dry weather and the change in use due to the Covid-19 pandemic caused exceptionally high demand for a number of days. This, combined with outages lead to water shortages and the need for you to tanker water to meet demand. This incident demonstrated how extreme a situation can become without a drought event. A scenario, using evidence from this year so far and uncertainty around water use pattern being altered by home-working and so putting additional strain on the system, should be considered for future spells of hot, dry weather, including the efficacy of TUBs and other demand management measures in these situations.

2. Wider issues to consider

Water companies should follow the water company drought plan guideline (April 2020) when preparing their draft drought plans. This is available, along with any supporting guidance documents on the Defra Huddle: https://www.huddle.com/ and also on request

from our mailbox Water-Company-Plan@environment-agency.gov.uk. For login details for the huddle or any problems with access, please contact Defra directly at water.resources@defra.gsi.gov.uk.

We would also expect you to consider all relevant statutory requirements including the new Drought Plan (England) Direction 2020 and the government's expectations for drought planning, as detailed in its letter of 6 April 2020.

You should consider any lessons learned from any recent experience of dry weather.

3. Customer and third party involvement

We welcome your proposals outlined in your pre-consultation letter to consult with a range of statutory and non-statutory stakeholders, including your customers, neighbouring water companies and regional planning groups. In line with latest version of Government expectations, we expect you to show in your plan how you will work with key stakeholders across the water sector. You should include details of collaboration with your regional groups, especially on joint communications and timing of actions.

We look forward to working together with you as you develop your new drought plan. It would benefit us if you could provide us with a project plan with milestones for engagement to ensure we are aware and can be available to input to the process.

Appendix C: Our response to specific EA pre-consultation advice

1.1 Outstanding EARs and baseline monitoring and mitigation from the last published drought plan

Since publishing the 2019 Drought Plan we have commenced a baseline monitoring programme for all our drought permit and order options, undertaken walkovers of impacted reaches and developed our mitigation plans. Further details are provided in Annex 7.

Environmental assessment reports for each drought permit and order have been updated and will be provided as supporting technical documents to the Drought Plan.

1.2 River Test Drought permit application ready and lessons learnt

Following 'wash-up' discussions with the EA after the recent drought the EA acknowledged that the full application was submitted for their review at the start of 2020. The EA went on to highlight that their greatest concern was that the water quality monitoring and associated triggers for mitigation actions were not agreed with them.

During 2020 we developed further a draft Monitoring and Mitigation Plan which we believe represents the EA's view of Water quality triggers relevant to fish health in the Test. We also revisited our contracts with suppliers for the water quality monitoring stations in line with comments from the EA.

Baseline environmental monitoring data and information gathered during the drought in 2018 and 2019 (and post drought in 2020) has been input to the EAR relevant to the River Test drought permit as part of the 2020 draft drought permit material. All new baseline information is being fed into updates of EARs for the new drought plan.

1.3 Understanding the prioritisation of drought permits and orders and ensuring permit application readiness

We have undertaken a review of all our drought permit and order options which has resulted in the removal of some options and the amendment of others to take into account feedback from Drought Plan 2019 and our latest understanding of environmental impact and need. Further details are provided in section 2.1 of this annex. This review has also informed our proposed sequencing of implementing drought permits and orders within each water resource zone and further information is provided in section 4.4.9 and table 4.11 of the main Drought Plan document. Section 4.4.10 and table 4.12 then set out the overall prioritisation of ensuring application readiness for all the drought permit and order options across the whole supply area taking into account the likelihood of an application, environmental sensitivity and monitoring requirements.

1.4 Extreme Drought measures

We have included a section in our drought plan detailing our "more before 4" actions. These are the actions that we would consider taking once we have taken our level 3 actions but before we apply level 4 restrictions. These actions are in varying stages of development and we would welcome feedback and suggestions regarding these actions. We have discussed some of these actions as part of the Water Resources South East group and have approached the development of the actions as a collaborative body.

1.5 Bulk supplies

We have reviewed our bulk supply arrangements and how they would be managed in drought conditions and liaised with our neighbouring water companies so this is consistently represented in our respective water company drought plans. Further details are provided in section 4.2.2 of the main Drought Plan document.

1.6 TUBs efficacy on River Test – update drought plan

We have acknowledged the paper on the efficacy of TUBs within our drought plan on the Test and once it is finalised we will append to Annex 5. This update also covers the TUBs and NEUBs benefit expected in the Central and Eastern areas. The conclusion was that the modelling used in the Drought Plan 2019 is still valid. We have also added the engagement that we carried out for the 2019 river Test drought permit application in section 6 of the main document.

1.7 Environmental Triggers

For environmental triggers to be meaningful they must be measurable in near real time and provide an indication of Environmental Stress. We are presently engaged in many environmental studies through our AMP7 WINEP programme that we hope will provide robust datasets to derive bespoke environmental triggers for a given water body.

In the interim, we believe that flow data provides the best real time indication of potential environmental stress in a drought. We have therefore proposed a suite of interim environmental triggers based on Q95 Environment Flow Indicator Flows for water bodies where real time flow monitoring is available (e.g. through existing telemetry or APIs) that can be readily compared to EFI Targets.

We have proposed actions that we will take if the triggers are reached to reduce pressure on affected water bodies during drought, for example by relocating abstraction away from headwater catchments to downstream sites.

1.8 Stourmouth

We have removed the Stourmouth Drought Permit option which was contained in Drought Plan 2019 following further review of its feasibility as a drought option. This concluded there were too many barriers and too long a lead in time to be able to utilise the site to provide additional supplies in drought events. We are now looking very closely at the long term viability of the site as a surface water abstraction source and expect to make a final decision on that in the next few months.

1.9 Severe drought scenarios

Our drought plan has been developed to be consistent with our 2019 Water Resource Management Plan. As required by the guidance, we have tested our drought plan and interventions against the same drought severity, i.e. droughts equivalent to our 1 in 200 year baseline WRMP planning scenario. In addition, we have also examined the effectiveness of the plan against plausible more extreme 1 in 500 year drought events. Whilst the probability of a severe or extreme drought occurring within the five year lifetime of the plan is small, around 2%, we recognise the importance of planning appropriately for them.

1.10 Experiences and lessons learnt from prolonged dry weather

The response to this point is linked with point 1.2 on the Test, the main action from discussions with the EA was to continue the already ongoing dialogue about water quality monitoring station installations, upgrading them to include monitoring ammonia, data continuity improvement and, to pre-agree the water quality triggers and related mitigation actions in the River Test drought permit monitoring and mitigation plan before a 2021 drought permit is required. Also, ideally, we will trial deployment of an aerator in the river Test in the vicinity of the abstraction location.

Our recent (2020) review of the potential effects of restrictions for suppressing demand predated the COVID-19 pandemic The current social and economic restrictions due to the COVID-19 pandemic have affected household demand, but are transient and cannot meaningfully be incorporated into the assessment of the benefits of future demand restrictions, unless there is a long term change in customer behaviour (e.g. as a result of home working). This would need to be included in the model once the new pseudo steady state response is known.

In testing our plan, we have considered a high demand scenario based on the maximum 7 day average demands we experienced in 2020 where demand was elevated above normal summer peaks in some, but not all, water resource zones. This was driven by a combination of increased household demand during the COVID-19 pandemic due to stay at home messaging and some extended periods of dry and warm weather in May and August. In general, whilst COVID-19 has driven up average demand the greatest peaks were still associated with warm and dry weather, particularly in August. The August 2020 Heatwave was record breaking across South East England with sustained temperatures above 32^{o}C for more than six consecutive days. Over and above this demand we have also considered the effects of severe drought yields and the additional effects of outage and target headroom as a conservative stress test of our drought measures.