

DRAFT DROUGHT PLAN 2019

STATEMENT OF RESPONSE

Prepared by the Water Resources Strategy Team
Water Services Severn Trent Water Limited
August 2018

WONDERFUL ON TAP



Statement of Response

Introduction

We published our draft Drought Plan (2019-2024) and the accompanying SEA and HRA for consultation in June 2018. The consultation period ended on 8th August 2018. We were pleased to receive comments on our draft Drought Plan from seven different stakeholders.

We received representations from the following organisations:

Organisation	Abbreviation
Bristol Water	-
The Consumer Council for Water	CCWater
The Environment Agency	EA
National Farmers Union	NFU
Natural Resources Wales/Cyfoeth Naturiol Cymru	NRW
RWE Generation UK	-
Staffordshire Civil Contingencies Unit	Staffordshire CCU

All of the respondents gave us feedback on our draft Drought Plan document only, there was no separate feedback given on our SEA or HRA.

This is our Statement of Response (SoR) and it shows how we have addressed all of the comments and suggestions that we have received. In this document we list the comments that we received from each organisation, and in Chapter 2 we explain what we have done as a result. In some cases we have made changes to our draft Drought Plan, which will be reflected in the final version when it is published. In other cases, while we don't need to change our draft Drought Plan, we explain how we can address the comment separately.

Where we have revised our draft plan or the response requires further detail or evidence, we have provided this in Chapter 3 of this SoR document.

We will not update the HRA or SEA Environmental Reports that accompanied our draft Drought Plan as the changes in our final Drought Plan do not require us to update these.

1 Executive summary

We encouraged a wide range of stakeholders to respond to our draft Drought Plan. Our Drought Plan sets out how we will manage our resources and supply system in dry years, to maintain our service to customers.

In the consultation feedback there were some topics where stakeholders challenged us to do more or illustrate more evidence for our final Drought Plan. The key themes that emerged through the stakeholder feedback were:

- *Incident Management*
- *Drought Permits/Orders*
- *Drought Modelling and Triggers*
- *Restrictions on Use*
- *Retailers and Business Customers*
- *Leakage*
- *Water Efficiency*
- *Drought Resilience*
- *Stakeholder Engagement and Communication*
- *Environmental Mitigation*

There were a small number of issues raised that have resulted in us making changes to our draft Drought Plan. These were that we should:

- Update our drought response actions to reflect learning from the hot weather events of 2018.
- Clarify our plans to align the STWL and HD Drought Plans.
- Review our policy of using Temporary Use Bans (TUBs) at a sub-zone level.
- Review whether drought triggers are needed for zones not directly linked to strategic storage reservoirs.

We explain in Chapter 2 how these challenges will be addressed in our final Drought Plan.

2 Severn Trent Water 2018 draft drought plan statement of response		
Organisation (listed alphabetically)	Comment	Our Response
Bristol Water	<p><i>We note that Severn Trent Water may need to apply for a drought permit/order for its River Severn abstractions at "Site G" and/or may also need to apply for a drought order to over-ride the 5% reduction in its abstraction that would be included within an Environment Agency River Severn drought order. We also note the potential need to apply for a drought permit for the company's River Leam/River Avon sources.</i></p> <p><i>We fully understand the need for a range of measures to be included in the Severn Trent Water drought plan, but we would be grateful if Severn Trent Water could provide in its revised draft Drought Plan an assurance that such measures will not adversely affect flows in the River Severn such that it might have any effect on our strategic supply via the Canal & River Trust's abstraction from the lower River Severn into the Gloucester and Sharpness Canal.</i></p> <p><i>Our concerns would include but not be limited to the possibility of saline ingress to this abstraction during periods of low river flow, or any other issues that could compromise the volumes available or the quality of the resource. Bristol Water will continue to work collaboratively with Severn Trent Water, other relevant water companies and the Canal & River Trust through the River Severn Working Group to discuss these drought management issues.</i></p>	<p>We have produced Environmental Assessment Reports (EAR) for each of our proposed drought permit sites, using a combination of measured and modelled flow, water quality and ecological data to analyse the response of the water environment to drought and low flows under baseline and drought permit conditions. The hydrological modelling and analysis have been used to assess baseline data and predict potential impacts for the following receptors:</p> <ul style="list-style-type: none"> • Water Quality • River Habitats • Macroinvertebrates • Fish • Amenity, Recreation, Navigation, Archaeology & Heritage • Protected Rights <p>The EARs for the River Severn "Site G" and River Leam/River Avon drought permits also considered the potential impacts on the Severn Estuary.</p> <p>Our EARs showed that implementing a drought permit on the River Severn at 'Site G' would have no effect on the riverine reaches as any effects would be counterbalanced by additional regulation releases. The risk of reduced freshwater inflows to the Severn Estuary would be very small, of extremely short duration and very unlikely to occur. If the "Site G" drought order was implemented after the Environment Agency implemented the River Severn Drought Order, the "Site G" drought order would have a low to negligible impact on river flow and riverine habitats. The impact on downstream protected rights, including the Canal and River Trust abstraction, would be negligible. Similarly, the River Leam/River Avon drought permit impact assessment has shown that the impact on the Severn Estuary would be negligible.</p> <p>We have identified a number of potential mitigation measures which could be implemented should monitoring during a drought permit/order indicate that significant impacts are occurring. We would work closely with EA, Canal and River Trust, water companies and other stakeholders to ensure impacts downstream are minimised.</p>

CCWater	<p><i>The Executive Summary mainly discusses the changes in the document compared to the last Drought Plan. We would like to see it summarise the Drought Plan and in addition explain what feedback Severn Trent would like from the reader.</i></p> <p><i>We are pleased Severn Trent has produced a customer-friendly version of the Drought Plan. However, we believe this could be laid out better and be more informative. We are happy to discuss this further with Severn Trent.</i></p>	<p>Our Drought Plan is aimed to be accessible across all stakeholder groups. We are happy to liaise with CCWater to ensure the format and expression of our final Drought Plan is informative for all readers. Our draft Drought Plan executive summary was written to illustrate the differences between our current plan (2014 - 2019) and our new draft Drought Plan (2019 - 2024) to aid comparison between them by stakeholders. The final Severn Trent Drought Plan 2019 executive summary will be more focused; summarising the plan regarding key topics, strategy and incident management.</p>
CCWater	<p><i>We welcome the reference to PR19 customer insight in the plan, but we think it needs to be expanded and include the scale of the research Severn Trent refer to.</i></p>	<p>Please refer to section 3.1 in Chapter 3</p>
CCWater	<p><i>Severn Trent should use its PR19 customer research to explain whether customers accept the approach set out in the Drought Resilience Statement.</i></p>	<p>Please refer to section 3.1 in Chapter 3</p>
CCWater	<p><i>We welcome the reference to CCWater in the section on customer and stakeholder views, but Severn Trent should include a more extensive list of the stakeholders involved. Severn Trent should also consider how stakeholders can support the company's key messages in times of drought.</i></p>	<p>Please refer to section 3.2 in Chapter 3</p>
CCWater	<p><i>The approach of establishing drought scenarios and drought triggers using evidence from historic droughts, drought response surfaces, as well as stochastically-generated drought scenarios, seems sensible. However, Severn Trent may wish to provide a simple explanation of the Aquator modelling to improve understanding.</i></p>	<p>We will provide additional information in our final Drought Plan that is a simple explanation of our modelling using Aquator.</p>

<p>CCWater</p>	<p><i>We are very concerned about the lack of plans in relation to retailers and business customers. In the draft plan Severn Trent state ‘We are not currently delivering any non-household customers water efficiency activity but are reviewing our strategy to assess possible compliant options to work with retailers’. We ask the company to do this as a matter of urgency. Given that this is Severn Trent’s first Drought Plan since the opening of the retail market, we would like it to provide more detail of their activity with retailers, including explaining how Severn Trent will communicate with retailers and business customers in times of drought.</i></p>	<p>In line with the market code, delivery of non-household water efficiency activity sits with Water Retailers. In preparing our draft WRMP and PR19 plans, we consulted with all retailers to gain an understanding of their water efficiency plans and assess the potential for future activity. We have also undertaken research to assess retailer appetite for partnership working on water efficiency activity. In line with the market code, we will liaise with retailers on drought issues to ensure their customers are informed.</p>
<p>CCWater</p>	<p><i>There is also no mention of new appointees in the Severn Trent area. We would like to know how the company will communicate with these customers in times of drought.</i></p>	<p>Severn Trent have been granted new appointments or involved in appointment variations under Ofwat’s new appointments and variations (NAV) process since our current Drought Plan was published. For the final Drought Plan, section 5.2 will be updated to include the NAV under other relevant water undertakers in Table 17. If new appointees needed to be contacted throughout a drought period, we would use our Drought Action Team (DAT) to initiate communications.</p>
<p>CCWater</p>	<p><i>The draft plan refers to campaigns Severn Trent has run to promote water efficiency. It would be helpful if the report informed on the learnings and what difference the campaigns have actually made. We would like to know if Severn Trent plans to use behavioural economics to target different customer groups. Severn Trent needs to expand out on how it will communicate with customers, what are the possible problems it may encounter?</i></p>	<p>Our water efficiency programme continues to evolve as we gain greater insight into customer behaviours. We use a range of segmentation techniques to help target customers with messages, products and activities that are appropriate for them. For example, targeting homes with valve (dual flush toilets) with messages about potential leaking toilets, but older homes with syphon toilets with messages around free cistern displacement devices. We use a range of communication techniques including direct mail, social media, websites and direct face-to-face customer interaction to promote different programmes, recognising that different groups of customers have different motivators and respond to different messages.</p>

<p>CCWater</p>	<p><i>In the section ‘Reducing leakage on our network’, we would like the company to make customers views on leakage clearer. Severn Trent’s PR19 research has clearly shown that tackling leakage is a top priority for customers and a pre-requisite to asking them to reduce their consumption. We are also aware the company has set a new long-term leakage ambition and we would expect this to be part of the plan.</i></p>	<p>Please refer to section 3.1 in Chapter 3</p>
<p>CCWater</p>	<p><i>In the section on ‘Bulk imports and exports’, we would like to see more narrative explaining the significance of present transfers, the risks associated with them, the potential for future transfers and any consequences for consumers.</i></p>	<p>We will update our final drought plan with respect to imports and exports to provide more information around the risks associated with them, and signpost the mitigation actions that we can put into place for each of these risks. We have also signposted the larger section on imports and exports in our Water Resources Management Plan.</p>
<p>CCWater</p>	<p><i>In the section on ‘Drought Orders’, we would like to see more detail on stakeholders you will be contacting, when and what you will consult on.</i></p>	<p>In the event of a drought order being required, we would liaise with the regional Environment Agency team to ensure all the relevant stakeholders within the affected region were identified and informed.</p> <p>In section 5.2 of our draft Drought Plan we list the stakeholders we would contact during a drought. For a drought order we would use this list along with information from the EA on relevant stakeholders. Initial contact and liaison with the relevant stakeholders would be prior to submitting an application. We would expect further communication with our stakeholders throughout the drought order consolation period.</p>
<p>CCWater</p>	<p><i>Applying incident management principles to drought management is sensible. However, we ask that the company applies any lessons it has learned from recent incidents e.g. the 2018 Freeze / Thaw and response to the present hot weather, to the proposed drought response.</i></p>	<p>Please refer to section 3.3 in Chapter 3</p>

<p>CCWater</p>	<p><i>Plans on private supplies seems particularly weak, we would like to see this expanded.</i></p>	<p>Our Drought Plan is designed to ensure that a continuous supply of water is maintained to our customers during a drought. We appreciate that the adverse impacts of a drought will be felt by all abstractors, including those who are reliant on a private supply.</p> <p>We encourage those on private supply to contact us if needed, and we will endeavour to provide advice and support when possible, which may be variable depending on the circumstance of their situation and ours. Where the Local Authority can demonstrate that there is a threat to life or danger to human health and that the household cannot reasonably obtain supplies themselves we will provide an alternative for the Local Authority to distribute to householders as they see fit. We have a protocol in place that has been updated over the 2018 hot weather incident. We will aim to expand this section where possible for the final Drought Plan.</p>
<p>CCWater</p>	<p><i>The draft plan mentions vulnerable customers but this could be expanded on to show Severn Trent recognises the different needs of these customers.</i></p> <p><i>The draft plan could better reflect the views and needs of Severn Trent's customers, especially vulnerable customers and the business community.</i></p>	<p>We recognise that activities restricted by Temporary Use Bans (TUBs) and Non-Essential Use Bans (NUEBs) during a drought may put specific customer groups at greater risk than others. This is why during a TUB or NEUB we grant a larger number of discretionary exemptions than the industry standard to ensure an appropriate level of protection to both vulnerable and business customers. Discretionary exemptions for vulnerable and business customers have been determined from the development of the 2013 UKWIR 'Code of practice and guidance on water use restrictions (CoP)'.</p> <p>We have chosen not to include any further detail in the draft Drought Plan regarding customer research and engagement as it is intended as an operational manual. Information on how the needs of our customers is met is extensively covered in our Business Plan; providing detail of how we identify customers in vulnerable circumstances, including how we aim to meet their needs during an incident. You can find the PR19 plan published in the following location: https://www.stwater.co.uk/regulatory-library/2020-2025-submission-documents/</p>
<p>EA</p>	<p><i>The current prolonged dry weather has highlighted the importance of drought planning to minimise the risk to public water supplies and the environment. Severn Trent Water should ensure that it reviews and incorporates, where possible, any relevant lessons learnt from any operational experiences during the current prolonged dry weather into its final drought plan.</i></p>	<p>Please refer to section 3.3 in Chapter 3</p>

EA	<p><i>Change in supply area. The plan does not cover the new company operating boundaries which came into effect from the 1st July. Severn Trent Water recently bought Dee Valley Water and as from the 1st July 2018 the companies supply areas were split to reflect the Welsh/ English border. With Hafren Dyffryn Water operating wholly in Wales, which will include Powys and Severn Trent Water operating wholly in England, which will include Chester. This draft plan covers the 'original' Severn Trent Area which includes Mid Wales and not Chester. Ideally the plan should include information on the drought activities and triggers for the Chester zone of Dee Valley. The company plan to revise the drought plan to reflect the new company boundaries once the old Dee Valley plan is renewed in 2020. The plan, does not cover all the drought actions and triggers for the company's supply area. The statement of response and / or revised draft plan should include information on the drought activities and triggers for the new Chester zone. This will ensure that the drought plan is fit for purpose and covers the relevant supply area.</i></p>	<p>In our draft drought plan we described our plan to integrate our final Severn Trent Water (STWL) drought plan and the Dee Valley (DV) drought plan. Since the publication of the draft STWL drought plan, we have now created the new Hafren Dyfrdwy (HD) water company which will operate solely in Wales.</p> <p>The new HD draft drought plan will be published in March 2019 and will supersede the 2015 DV plan; the HD plan will include updates to triggers and actions for the River Dee which will effect both the Wrexham and Chester parts of the old DV drought plan. We propose to use these updates and include a section in the final STWL drought plan which shows the updated triggers and actions for the Chester zone.</p> <p>This update will also include information in the plan which will explain the governing effects of the Dee General Directions on the planning for drought in this area. The timings of the updates to the 2015 Dee Valley Plan and planned publication of the new HD drought plan mean that this will affect the timeline for the publication of the final STWL drought plan.</p> <p>We propose to align the date of publication of the final STWL drought plan to that of the final HD plan to ensure consistency across both plans in this area. We will work closely with DEFRA and the EA between now and the final plan publication to ensure that any changes to publication dates are agreed.</p> <p>To be clear, the Chester area will at all times have drought triggers and actions in place, until the publication of the final STWL plan and the draft HD plan we will continue to use the triggers and actions in the 2015 Dee Valley drought plan for this area.</p>
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<p>EA</p>	<p><i>"Issue 2.1 Frequency of TuBs. The plan refers to TuBs being last imposed in 1995-96 (p87) but Table 1: 'Modelled frequency of restrictions on customer use' only refers to TuBs required in 1976 & 1984 driven by Elan Valley storage. The plan needs to explain this discrepancy.</i></p> <p><i>Table 1, first row 'TuBs' under % frequency column the 3.3% would seem to be an error if only 2 TuBs were imposed in a 95 year record. It is not clear how frequent a customer restriction will be required. The plan should explain this discrepancy. "</i></p>	<p>The figure of 3.3% reported for the frequency of TUBs in our baseline scenario modelling was incorrect and will be updated for the final Drought Plan. Our stated Levels of Service is no more than three TUBs in 100-years as set out in our most recent and previous Water Resource Management Plans. In our baseline and scenario modelling, which informs both our WRMP and drought plan, we ensure that there are no more than 3 TUBs restrictions per each 95-year model run.</p> <p>Under our baseline scenario for the WRMP and Drought Plan Deployable Output is not constrained by our Levels of Service but by the failure to adequately supply a demand centre. It should also be noted that our last actual implementation of a TUBs during the 1995/96 drought has no impact on the modelled frequency of TUBs under our baseline scenario.</p>
<p>EA</p>	<p><i>Sub zonal customer restrictions. In the draft plan the company propose to implement TuBs at a sub zonal level in the Strategic Grid zone. The Strategic Grid zones covers 60% of Severn Trent supply area. In the draft plan, due to the scale of the zone it has been split into 3 'drought zones' for customer restrictions. By doing this the company believe it offers the following benefits: (p51)</i></p> <ul style="list-style-type: none"> <i>• It will ensure greater customer support and understanding</i> <i>• When communicating with our customers we want to use boundaries that our customers are familiar with</i> <i>• We can target restrictions whilst accounting for the latest information on demands, temporary engineering works, outages or other changes to our 'normal' production and distribution processes</i> <i>• It allows us to target the restrictions to where they are most needed given the prevailing information.</i> <i>• We keep any inconvenience to our customers to an absolute minimum</i> <p><i>We minimise the economic impacts of the restrictions. Customer within the same zone may not experience the same risk of supply failure and the same level of service for demand restrictions. Imposing restrictions at a zonal or company level facilitates a clear message customers. The company should impose customer restrictions company-wide or as a minimum at the water resource zone level.</i></p>	<p>Our draft Drought Plan and Water Resources Management Plan are based around our 15 water resources zones. In our draft Drought Plan we stated that, if the circumstances allowed, we may choose to implement TUBs at a smaller scale than at our full water resource zone.</p> <p>In their comments on our draft Drought Plan, the EA asked us to clarify our position on how TUBs would be implemented, and whether the use of sub-zonal restrictions means that customers in our water resource zones do not really have a shared risk of restrictions.</p> <p>For the final Drought Plan we have revised our position and we confirm that any use of TUBs would only be at either the company scale or the water resource zone scale.</p>

EA	<p><i>Frequency of drought permits. The plan does not clearly state how frequent a drought permit/ order will be implemented.</i></p> <p><i>This information was included in previous drought plans. Information on how frequently a permit will be required allows regulators and customers to put the action into context with regard to demand side restrictions and the long term impact on the environment.</i></p> <p><i>The company should include information on how frequently drought permits will be required.</i></p>	<p>We provided drought permit scenarios in our draft Drought Plan to understand likelihood of occurrence. We will provide modelled frequency of triggering Zone E/F actions in our final Drought Plan.</p>
EA	<p><i>Direction 3(b) The magnitude and duration of droughts for which the drought plan has been tested. The plan does not provide magnitude rainfall deficit data for each of the droughts for which it has tested its plan.</i></p> <p><i>Severn Trent Water has tested its drought plan against different drought scenarios using three different techniques; historic droughts extending the flow record to cover events in the late 19th century, drought response surfaces and stochastic generated drought events. The company has also presented the likely impacts on its strategic reservoirs storage for each approach. However the plan does not provide details of the duration and rainfall deficits of the scenarios used including the historic events that have been used to determine drought permit frequency and LoS. This information is also required to help define exceptional shortage of rain for each of the company's drought permit/order sites. Including sufficient information on the likely duration and rainfall deficits of the scenarios used will add transparency to the plan and will allow timely determination of drought orders and permits with regard to the case for exceptional shortage of rain. The company should include in the SoR and/ or the revised information on the likely rainfall deficits for each drought scenario which should include those used to determine drought permit/ order frequency.</i></p>	<p>Please refer to section 3.4 of Chapter 3</p>

<p>EA</p>	<p><i>Issue 1.1 Drought Triggers. The plan contains transparent drought triggers and actions for 85% of its supply area but the remaining 15% have very generic drought action triggers with no reference points.</i></p> <p><i>The draft plan has easy to understand and follow drought triggers linked to the storage levels in its strategic reservoirs, which accounts for 85% of the supply area and covers the strategic grid zone, Nottingham zone and North Staffordshire zones, (reservoirs p25, section 2.2.1).</i></p> <p><i>However for the remaining zones, which account for 15% of the supply area and are the more drought resilient groundwater sources (with exception of Forest & Stroud zone) have generic groundwater/ river triggers that refer to normal, below normal but no reference/ criteria for what water situation accounts for normal, below normal etc. The only reference is for groundwater is stage D 'drought bonding curve' and assuming stage D is the same as zone D trigger then this level seems to be set too low for just enhanced demand management (page 34).</i></p> <p><i>For the Forest & Stroud zone, which is mainly run of river abstraction, the triggers just refer to 'increasing drought severity' but again with no reference/ criteria to the water situation it relates to (Figure 13, page 30). It is not clear how frequent and when a drought action will be triggered in 15% of the company's supply area which includes customer restrictions. The company should provide more clarity on the reference points/ criteria that trigger actions for all its supply area.</i></p>	<p>As per our draft drought plan and our dWRMP we have found that our ground water only zones and combined run of river with groundwater zones are very resilient to drought. More information on the resilient nature of these zones can be found in our Water Resource Management Plan.</p> <p>For our groundwater only zones we do not consider individual groundwater levels to be a strategic trigger and therefore we would follow the more generic triggers in the diagram in section 2.2.2 of the drought plan. We feel that these triggers give us enough information to allow us to warn our drought action team of an approaching issue in these zones, without being so prescriptive as to require individual tables for each zone. Our groundwater only zones are all similar in nature, in that they are generally disconnected from other zones and are small with low demand. We believe that because of this the generic triggers are adequate for these zone. However we will continue to explore viable triggers to apply in our Groundwater only zones.</p> <p>For our zones which are wholly or mainly supplied by bulk supplies we also believe that the generic triggers are suitable and adequate to be used to warn our drought action team of an approaching issue.</p> <p>For our run of river with groundwater zones such as Forest and Stroud zone and Wolverhampton we acknowledge that additional individual triggers may be more suitable. For example the triggers could be based on a combinations of current demand in the zone, the River Wye level, the Elan Valley reservoir level, the status of specific spring sources in the zone and the availability of transfers from the Strategic Grid zone. There would be specific combinations of these which would trigger differing levels of drought actions.</p> <p>It has not been possible in this SOR to complete the update to the triggers for these zone, but we commit to working with the Environment Agency to agree suitable triggers to include in the final drought plan.</p>
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EA	<p><i>Review performance during and directly after a drought. The Plan lists the aspects to be reviewed but does not include:</i></p> <p><i>Details of how the water company will communicate the review information (e.g. lessons learnt) and what timetable they will follow for the review; List what the company will review and how; how this will be applied to update the water company's plans. The water company is committed to the review process but customers and partners have little information on how and when they may contribute to the process. To provide clarity for customers through more direct information on what the water company will consider and how it will review performance.</i></p>	<p>We are committed to the review process, and will be updating this section of our plan for the final version to include further detail.</p> <p>How we communicate our review of the 2018 dry weather event to stakeholders and customers is of significant importance. The process of how we communicate this later in the year will be assessed to ensure the final Drought Plan is reflective of our most up-to-date strategy.</p>
NFU	<p><i>The paper does not set out how business customers are affected by the levels of service. We would like to see Severn Trent outline the steps that they are taking to safeguard levels of service in water supply to rural businesses. This is a particularly important point for livestock businesses at the end of long supply pipes when low water pressure has sometimes been an issue. When water pipe connections are broken livestock farms will require quick action from water companies – livestock die quickly of thirst. Working with the NFU in the local area, we would like water companies to plan for and be prepared for such eventualities.</i></p>	<p>Please refer to section 3.5 of Chapter 3</p>
NFU	<p><i>Clearly restricting water to livestock by reducing pressure has an impact on animal welfare. Low pressure can mean that livestock drinkers do not work optimally leading to health and welfare concerns.</i></p>	<p>Please refer to section 3.5 of Chapter 3</p>

<p>NFU</p>	<p><i>2018 has highlighted the lack of a system for communicating between STW and farming customers (although this has been flagged as an issue previously). We urge Severn Trent to communicate clearly with their customers who have livestock about how their cases will be managed and what service they can expect as this has not been addressed by the drought draft plan.</i></p>	<p>Please refer to section 3.5 of Chapter 3</p>
<p>NFU</p>	<p><i>Severn Trent should continue to focus on customer services for their business customers. The recent opening of the retail market for water supply has resulted in confusion for many farming customers. Therefore the mechanism for reporting incidents and issues must be made clear to business customers who are too often bounced between the supplier and the retailer. Call handlers should be able to escalate an issue to the appropriate department quickly and should be aware that for some of your agricultural customer's, animal welfare can be impacted by water loss. Too often we hear of NFU members' frustrations at repeatedly dealing with your call centres. Please also bear in mind that online engagement and transactions may not be feasible for customers in rural areas without access to broadband.</i></p>	<p>Please refer to section 3.5 of Chapter 3</p>

<p>NFU</p>	<p><i>We think that the continued development of water storage (on farm or otherwise) is the single most important means to improving water security and resilience to climate change. We would like to see Severn Trent outline any steps that they are taking to work with farmers to identify opportunities for the construction of multi-use storage reservoirs or on rainwater harvesting projects. There may be opportunities to work together on these projects, particularly in locations where summer supplies and availability may be an issue.</i></p>	<p>Severn Trent encourage farmers to identify ways to improve their water security and resilience. Where we can, we have offered support to farmers through our Severn Trent Environmental Protection Scheme (STEPS) grants. For example, rainwater harvesting is available as a STEPS item and we have installed 207 rainwater-harvesting systems since STEPS started in 2015.</p> <p>During a drought incident, we will do our best to provide an alternative supply, however we cannot guarantee we will always be able to help. During drought incidents our messages to farmers are:</p> <ul style="list-style-type: none"> • Avoid unnecessary use of water where possible, particularly at the peak demand times during the day (morning and afternoon) • Use water storage facilities on site to even out the use of the main supply over the day. • Make good use of alternative supplies such as boreholes that businesses may have available.
<p>NFU</p>	<p><i>Farmers have demonstrated that they are willing to work with Severn Trent on catchment approaches to improvements in water quality for example in areas where pesticide residues are a concern. The STEPS Scheme shows what can be achieved by working together and we would welcome further initiatives. However, where changes to current land management practices that are beyond best practice are proposed, these will have to be fully costed and sources of appropriate funding identified. We would like to move towards a future where farmers have a market for providing ecosystems services such as clean water.</i></p>	<p>We have been exploring a market for providing ecosystem services such as clean water through our Farm to Tap scheme (previously known as Farmers as Producers of Clean Water). Through the scheme we pay farmers an incentive to produce clean run-off from their farm. To date we have signed up over 600 farmers and 36,000 ha of oilseed rape and winter wheat to the scheme. This has resulted in a ~50% reduction in metaldehyde levels across our priority catchments. We are now considering how we can use Farm to Tap to help us reduce other diffuse pollution parameters. You can find out more about Farm to Tap, along with farmer testimonials about the scheme here:</p> <p>https://www.stwater.co.uk/about-us/environment/farming-for-water/farm-to-tap/</p>

<p>NRW</p>	<p><i>Severn Trent Water should demonstrate how the drought plan in relation to the company's operations in Wales, contributes to objectives and goals of the Well-being of Future Generations (Wales) Act (2015) and Environment (Wales) Act 2016.</i></p>	<p>Since the publication of our STWL drought plan, we have now created the new Hafren Dyfrdwy (HD) water company which will operate solely in Wales.</p> <p>We recognise that we have the potential to have a significant impact on a wide range of ecosystems in Wales, particularly during periods of drought. Therefore, we will work closely with Natural Resources Wales and other key partners to ensure that we minimise the adverse impact of any drought actions on local ecosystems and implement mitigation and/or recovery actions at the earliest opportunity.</p> <p>We will also be reviewing our Welsh impoundment reservoirs, both to see what can be done at source to improve water quality, so reducing potential for taste and odour issues and reduce treatment costs, but also to assess potential for recreational use opportunities.</p> <p>Further detail will be available in the HD draft Drought Plan, due to be published in 2019.</p>
<p>NRW</p>	<p><i>If required we expect Severn Trent Water to jointly undertake with Dwr Cymru Welsh Water an in-combination environmental assessment of the impacts of drought measures for the River Wye.</i></p>	<p>Our 2017 Drought Order Environmental Assessment Report (EAR) for the River Wye considers the potential impacts of a scenario where STWL and Dwr Cymru Welsh Water (DCWW) drought permits/orders are both required at the same time on the River Wye. DCWW were consulted on our 2017 EAR and we aim to work with DCWW on our next update of our EAR (currently planned to commence in 2019).</p> <p>In our 2017 EAR we have developed a range of potential mitigations that we could undertake in this case. Our EAR also recommends that STWL and DCWW form a working group to manage drought actions in the event of drought permits/orders that affect the River Wye are required.</p> <p>We appreciate that if we need to apply for a drought order on the River Wye, we may need to update our 2017 EAR in-combination assessment to include the potential impact arising from specific conditions at the time. We will work with DCWW to carry out this update if it is required.</p>

<p>RWE Generation UK</p>	<p><i>Maintenance of public water supply to Staythorpe is vital since the site is dependent on PWS for domestic purposes (including health and safety related uses) and has no significant storage capacity on site for such water. We note that the resilience of this supply would be governed by the actions under the drought plan (along with wider WRMP actions). Should the risk of interruption of PWS to Staythorpe nonetheless occur we would look to STW to liaise with us at their earliest opportunity in order that the availability of Staythorpe power station, an important element of the nationally significant infrastructure contributing to the resilience of national power supply, should be maintained.</i></p>	<p>Our drought plan is used as a tool to enable us to keep supplies on throughout a severe drought. The actions in our drought plan are in place to ensure we can keep all customers on supply. Where supplies are restricted due to Temporary use bans or Non-essential use bans these would not affect essential business users such as Staythorpe power station. Our plan does not include rota cuts or other more strict restrictions. However in the unlikely event of a risk of interruptions to water supply, we would make sure we contacted our key resilience costumers to ensure supplies were maintained.</p>
<p>RWE Generation UK</p>	<p><i>RWE Generation UK (Staythorpe Power Station) should be on the list of specific STW drought stakeholders in order for us to obtain earliest possible indications of any relevant measures being considered by STW.</i></p>	<p>Severn Trent will formally recognise RWE Generation UK as a stakeholder in section 5.2.1 of the final Drought Plan</p>
<p>RWE Generation UK</p>	<p><i>RWE Generation UK (Staythorpe Power Station) is dependent on abstractions from the Trent for the critical operational purposes of cooling and steam-cycle make up and would therefore be concerned regarding any measures undertaken by STW as part of drought response which had the effect of triggering restrictions on power plant abstraction (eg as a result of a drought permit). Though none is evident from the detail in the plan provided with current power plant abstraction licensing, we note that STW may choose to seek drought orders and permits different to those listed in the plan (p64).</i></p>	<p>In response to extreme drought conditions, we may choose to apply for drought permits/orders at locations other than those listed within our plan.</p> <p>Initial contact and liaison with the relevant stakeholders would be prior to submitting an application.</p> <p>In the unlikely event that we require drought permit not listed in our plan, we would allow an extended application lead-time to facilitate collation of the required information and evidence. During this time we would work closely with organisations and stakeholders which may be potentially impacted and endeavour to minimise the effect of restrictions to those reliant on abstractions.</p>

<p>Staffordshire CCU</p>	<p><i>Thank you for the opportunity to comment on the draft Drought Plan. The only observation I would make it that in the event of the drought plan being activated, there should be close liaison with each Local Resilience Forum (LRF) that is affected and a senior manager from Severn Trent should be prepared to attend a Strategic Coordinating Group (SCG) if local responders consider it necessary. Additionally, the communications strategy should be a single joined up message with partners and again, coordinated through the relevant SCGs.</i></p>	<p>Please refer to section 3.2 of Chapter 3</p>
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3 Additional information

3.1 PR19 research that has informed our plan

Since our draft Drought Plan was published, we have continued our PR19 and Water Resources Management Plan (WRMP) customer research using face to face constructive, collaborative discussions with our customers about how we should approach delivering water supply and demand improvements. To ensure we gained appropriate understanding of our customer views we used a variety of different approaches, including deliberative research. One of the biggest advantages of using deliberative research is that it allows for in-depth discussion with customers not just about needs and outcomes, but also approach. Customers gained an understanding as our day-long workshops and sessions progressed. This enabled a more meaningful exploration of issues that could not be achieved using more traditional qualitative and quantitative approaches.

We have also used innovative techniques to gain insight from social media on customers' views and priorities. We also commissioned some additional customer research in response to the stakeholder responses to our draft WRMP. More detail on our wider PR19 customer engagement approach and what we have learned is provided in Appendix A1 of our recent Statement of Response to the draft WRMP consultation exercise, available here:

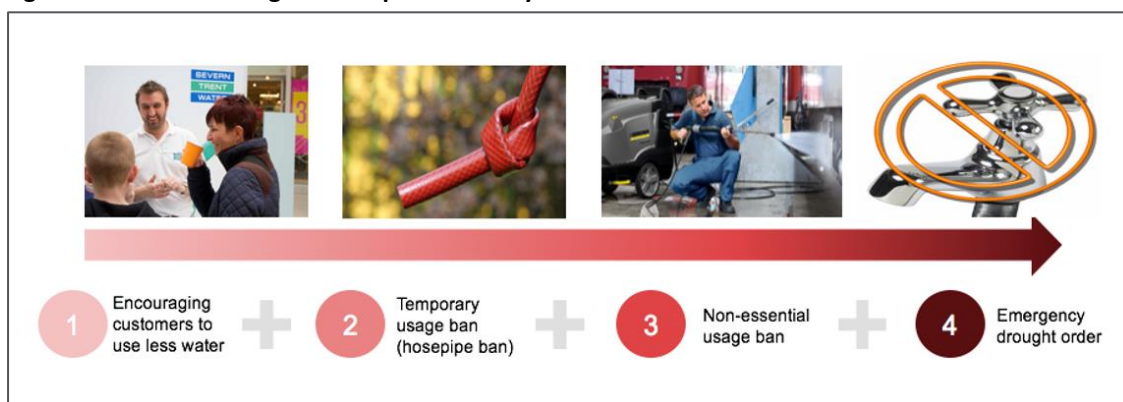
<https://www.severntrent.com/content/dam/stw-plc/water-management/ST-dWRMP-SOR-Appendix-A-Public.pdf>

Customer engagement and insight

Overall, customer awareness of drought and the water resources supply / demand challenge is very low. According to our customer tracker, only 7% of customers think that we won't have enough water in 10 years' time and 10% in 20 years' time. By inference, severe drought is therefore not something that customers anticipate will affect the UK.

As drought is not something most customers consciously consider, we used deliberative research to discuss and understand our customer's informed views (in line with our strategic research framework). We used a drought 'story board' to help customers imagine the development of a drought situation over time, with progressively more serious customer impact as outlined in Figure 1.

Figure 1 Outline of drought consequences 'story board'



Our customer engagement established that the occurrence of a drought would be seen as exceptional and outside of the water company's control. Climate change and changing weather patterns give rise to some concern that droughts could become more common in the UK, and a feeling that this would have a negative

impact on the water service. While 'hosepipe bans' were mentioned spontaneously, these are generally seen as quite common and linked to 'hot summers' and not 'droughts', which as a term is interpreted as an extreme scenario that is unlikely to occur. In the engagement quiz about Severn Trent Water that we ran on Tap Chat, and in our deliberative research, we found that most respondents mistakenly believed that there had been a hosepipe ban in the region since 1996.

Temporary Use Bans (TUBs) are considered acceptable in principle; customers describe them as a pragmatic approach in such circumstances, provided that we can demonstrate we are taking additional steps to limit own water loss. Some customers believed that they had experienced a TUB recently and were surprised to learn that it has been more than 20 years since one has been implemented in our region. Many customers noted that the likely impact on them from a temporary use ban was minimal.

Participants recognised that requiring the use of standpipes would only occur due to severe and exceptional weather conditions. Therefore they regard our response in those circumstances as proportionate to the seriousness of the situation. However, they are clear that support would need to be put in place for vulnerable customers. The predicted frequency of 1 in 200 years for these events is seen as acceptable by most customers. There was no willingness to accept a lower level of service in exchange for a bill reduction. Information on levels of drought resilience for other companies was discussed in the session and not found to influence our customers' view.

Overall, our deliberative research found little support for further investment for the purposes of reducing the risk of requiring TUBs from the current level. Likewise, there was no support to reduce the risk of requiring standpipes. Our willingness to pay research also showed that reducing the risk of needing to use standpipes is a very low priority for customers. As part of our valuation research programme, we did a survey which we have called the budget game. In the budget game we interviewed customers using a large "board game" to present them with different service levels (a current level and two improvement options). Each improvement option was costed in terms of a potential bill impact. Customers were able to select their preferred plan using tokens. The total 'cost' of the plan was then calculated and customers had the option of reviewing their choices. Using this approach we found that only 10% of customers selected an improved level of service for standpipe usage.

Our insight into customers' views on water supply and demand is now even richer than at the time of writing our draft plan, and comes from a number of sources. Issues such as leakage tend to be top of mind and our evidence sources include our analysis of customer contacts, social media scraping and numerous research projects. For other aspects such as metering and water efficiency, we have used co-creation to work with customers to understand how they can be part of the solution.

Since customers are not always aware of the future pressures on water availability we have used our deliberative research to explore perceptions of water stress and the best way we can meet these challenges. It is only when prompted that customers recognise the pressures of ensuring there is sufficient availability of water for future generations and understand that everyone has to play their part to make this happen.

Overall, there is a clear expectation from customers that we should have plans in place to ensure a continuous water supply, both now and in the future. As part of this, customers expect us to be prepared to address any long-term challenges which may affect water supply, such as climate change or population growth. Customers also expect us to meet our statutory obligations, including those related to restoring unsustainable abstraction and ensuring no environmental deterioration.

Leakage

Reducing leakage consistently emerges as customers' top priority for improvement, as it is seen as a pre-requisite to asking customers to reduce their consumption. Customers consider leakage reduction as non-negotiable and a moral responsibility for us, as the amount of water currently lost through leakage is perceived to be unacceptably high. Fixing leaks demonstrates a commitment to using our water resources responsibly. Analysis of social media also highlighted that leakage was a key metric dominating customer conversations. Primarily this was because most conversations relate to informing others about service issues experienced. Leakage also emerges as a key concern in discussions on Tap Chat.

The extent of leakage from customers' supply pipes shocked participants in our deliberative research. Many were unaware that these underground pipes (between their home and property boundary) are the customer's responsibility and there were concerns regarding the customers' ability to detect or be aware of any leak.

Both our WRMP and PR19 plans have been tested with customers at a regional level, rather than at the water resource zone or county level. Our research tells us that customers are not spontaneously aware of water resource zones and that specific zones face greater water scarcity issues than others. We find that our customers are altruistic – for example they support investment to reduce repeat sewer flooding incidents, or targeting investment in socially deprived regions particularly if we can deliver multiple benefits. Concern over which part of the region benefits from particular investment does not tend to emerge spontaneously in our research.

In our Choices research we found that our PR19 AMP7 15% leakage reduction target is seen as stretching, although some feel it should be more ambitious (without fully understanding the scale of the improvement proposed or required to provide further reductions). Customers across the region will also benefit from improvements in the speed of response to leakage. In response to feedback on our draft WRMP we are now proposing much more ambitious long term leakage reduction targets.

More information on our latest thinking on long-term leakage ambition can be found in our Statement of Response to the draft WRMP consultation available here:

<https://www.severntrent.com/content/dam/stw-plc/water-management/ST-dWRMP-SOR-Appendix-A-Public.pdf>.

3.2 Stakeholder Engagement and Communication

We will always co-ordinate our customer messaging with regulators and stakeholders as a drought event develops.

For example, during the recent 2018 hot, dry summer we worked closely with Water UK and other water companies, holding weekly conference calls to ensure consistent and coordinated messaging. We kept Defra, EA, DWI and Ofwat informed throughout the summer using weekly briefings, and we coordinated our communications with the EA.

We liaised closely with Local Authorities and Local Resilience Forum communications teams which resulted in local authorities demonstrating that they were reducing their discretionary water use, such as not watering plants etc. Local Authorities supported our messaging by publicly calling for people to use water wisely, for example Derbyshire County Council's weekly leader blog included messaging about water saving).

3.3 Incident Management – Lessons Learnt from 2018

We are committed to learning from all incidents and in particular reviewing the actions taken during the current dry period. Examples of actions that we have taken during this dry weather period which are not currently within our draft drought plan include two temporary licence changes, one to transfer licence between our sources on the river Severn and one to add an additional abstraction point within our current licenced volume at our Derwent Valley reservoirs.

For our final plan we will review these and any other new actions and decide if they should be included in the drought actions section of the plan.

As the dry period is continuing it is not possible in this statement of response to include the full review of the actions taken and decisions being made at present. We are meeting with the Environment Agency during winter 2018 to further review the hot weather event and the ongoing dry weather actions. In our final drought plan we commit to including a section with any information/knowledge we can take from this review and the dry weather period as a whole.

Based on the medium term weather forecasts, there is a potential for the current dry weather period to become a full drought and continue across the winter. In this case we may still be taking actions at the time of writing the final plan. We will work closely with the EA and DEFRA to decide on the best course of action with the final Drought Plan if this is the case.

We have taken the 2018 freeze thaw event into consideration in our PR19 plan, we will however consider the incident management strategy used during this in our review.

3.4 Drought Testing and Modelling

The three drought scenarios we have used to test our plan were selected to provide a range of drought characteristics- particularly drought duration. The table below provides both duration and deficit as percentage from the Long-Term Average based on the inflows into each of the reservoirs using the river flow data in our Aquator models. We have selected to present these deficits for river flow rather than rainfall to provide consistency between our drought response surfaces which are also included in our WRMP19 and draft Drought Plan. The use of flow deficits rather than rainfall deficits is also consistent with the drought scenario selection methodology used for all our stochastic drought scenario work used in the WRMP19 and the draft Drought Plan.

1995-96 18-m Drought		1887-89 24-m Drought		1 in 200 30-m Drought Scenario	
Reservoir	% LTA Flow	Reservoir	% LTA Flow	Reservoir	% LTA Flow
Elan Valley	61%	Elan Valley	80%	Elan Valley	69%
Derwent Valley	45%	Derwent Valley	67%	Derwent Valley	69%
Carsington & Ogston	70%	Carsington & Ogston	52%	Carsington & Ogston	63%
Tittesworth	45%	Tittesworth	53%	Tittesworth	68%

The three drought scenarios used to test our drought plan have been selected based on their duration ranging from 18-months up to 30-months. In both the 18-month and 24-months there is some variability in the observed flow deficits as a percentage of the long-term average flows which highlights the spatial variability of drought characteristics in our region. We are currently updating our drought EARs which consider drought permit/order

impacts and frequencies; these drought scenarios amongst others will be taken in consideration in the EAR update.

3.5 Retailers and Business Customers

In April 2017 the non-household water market was opened to competition, this means that business customers may now choose their water retailer. Severn Trent formed a Joint Venture with United Utilities called Water Plus. On the 1st of April 2018 Severn Trent transferred their business customers over to Water Plus. This means that business customers must now contact their retailer for any billing or metering issues, however they may still contact Severn Trent directly for network related issues.

Section 1.6.1 of our draft Drought Plan specifies the levels of service as a response to a drought. The final Drought Plan will be amended to clarify that these levels of service apply to all our household and non-household customers.

With regards to low water pressure, Severn Trent is responsible for providing 1.5 bar at the customer's property boundary. If rural businesses struggle with supply due to long service pipes or local topography, then it is their responsibility to rectify it using pumps and boosters. If a non-household customer's private set up is not capable of getting sufficient water to where it is needed then it is a private issue. Our rural business customers are able to contact us and we will offer advice when possible.

In an incident which affects water supply, not limited to drought circumstances, our first priority is to look after our most vulnerable customers and priority sites (e.g. hospitals), and to provide alternative supply to these customers. This may be in the form of tankers, where we typically inject the water directly into the network so that customers continue receive a water supply. Support for non-household customers through alternative supplies (tankers, bowsers and bottled water) depends on the nature of the incident and the resource capacity available (both human and physical). Where we do have capacity, any support we provide will be distributed in a fair and equitable way and priority will be given to hospitals, prisons and care-homes. We have developed a hierarchy of types of business customers (based on their nature) to prioritise the order in which we would offer support where available. We are currently reviewing this with respect to businesses which care for livestock (farms, vets, rescue centres etc.), however there is no guarantee that we will be able to provide alternative supplies during an incident. As a wholesaler we have no legal obligation to provide a certain amount of water to livestock in a certain amount of time, but we will provide support wherever possible..

Businesses must therefore look at what contingency they can put in place, many already have storage tanks and we know there are some who have private contracts for alternative supplies such as tankering etc. Some retailers are beginning to offer contingency supply support, however this is not a requirement on retailers and is therefore a business decision for them and any support is likely to come at a cost to the customer. We support Defra's advice on their website that any person that is responsible for any animal welfare must have their own 24 hour contingency plan.