South Staffs Water

Statement of Response

to representations on our Draft Water Resources Management Plan 2019

South Staffs region

making water count

August 2018

1. Introduction

This is our, South Staffs Water's, Statement of Response (SoR) to the representations we received following publication on our draft Water Resources Management Plan (dWRMP) for our South Staffs region. We published our dWRMP for twelve weeks' public consultation from 2 March 2018 to 28 May 2018. We thank the nine organisations that contacted us with comments, suggested changes and questions about various aspects of our plan.

This SoR shows what these organisations asked us and how we have responded. In many cases we have responded to the point entirely within this document but, in other cases, we have addressed the point or made the suggested change in our revised draft Water Resources Management Plan (rdWRMP). We have published this rdWRMP alongside our SoR. In addition, we have:

- Updated other sections in the rdWRMP that we said we would update in our draft WRMP. For example, section 5.2 of our dWRMP was entitled 'Further engagement opportunities to follow'. We have replaced this with a description of the work that we have now completed
- Made changes to our plan based on customer and stakeholder preferences. For example, we have increased our ambition on leakage reduction. We are now targeting a 25**%** reduction, instead of a 17% reduction, in the South Staffs region
- Given the meaning of any acronym not previously defined and corrected spelling or grammatical errors as appropriate.

Where we have addressed the point or made a change in our rdWRMP we have referred to this in our SoR and signposted where in the rdWRMP we have made the appropriate changes. Note that we do not consider our rdWRMP to be our final 2019 WRMP. It is an update to our dWRMP but we have some steps to take before we are ready to finalise our WRMP for the period 2020-2045. For example, we have yet to complete the updates to our headroom modelling and to our WRMP tables that require this updated headroom information. In addition, we have updated appendices such as our Strategic Environmental Assessment (SEA) but we would not class this as complete until we have the appropriate agreement from our regulators. Subject to this regulatory agreement we expect to finalise our WRMP by December 2018.

During August 2018 our Board of Directors have reviewed and endorsed our proposed Statement of Response and rdWRMP. We have revised our Board assurance statement accordingly and published it on our website alongside our SoR and rdWRMP.

2. Consultation responses

The following organisations responded to our consultation:

Organisation	**Type of Stakeholder**
Cannock District Council	Local authority
Canal and River Trust (CRT)	Charitable organisation
Consumer Council for Water (CCWater)	Statutory consultee
Defra	Statutory consultee
Environment Agency (EA)	Statutory consultee
Historic England (HE)	Non departmental public body
Natural England (NE)	Statutory consultee
National Farmers Union (NFU)	Customer group
Ofwat (Water Services Regulation Authority)	Statutory consultee

3. SUMMARY OF REPRESENTATIONS AND OUR RESPONSE

The following tables show the consultation responses from each of these organisations and how we have responded.

Consultee	Comment	Our response	How have we addressed and where is our response?
Cannock District Council (CDC)	**Cannock Chase Policy Background** CDC provided background information on their policy and advised us of the location of key reference material. For example, it advised us that "the Cannock Chase Local Plan (Part 1) 2014 was adopted on 11/06/2014 and contains the strategic policies and growth strategy for the District including that **5,300 dwellings will be completed in the plan period 2006-2028."**	We welcome this useful information and note that our demand forecasts are based upon the latest projections of population and properties. We will take the information provided here into account when we finalise our WRMP for the period 2020-2045.	We have responded in this SoR.
Cannock District Council (CDC)	**South Staffs Water – Draft Water Resources Management Plan specific comments** "P10 The work to make the best use of water resources and reduce the impact of activities on the environment is supported. The Cannock Chase Local Plan (Part 1) 2014 policies also aim to make the best use of sustainable resources and reduce environmental impacts. P12 The inclusion of Cannock and Rugeley on the map of the South Staffs Water area, which includes Cannock Chase Council area, is noted." CDC also note and support other specific sections of our plan contained in pages 17, 18-19, 22, 25, 26, 27, 28 & 61….	We welcome the support of Cannock District Council in relation to these specific sections of our dWRMP. We will continue to work with CDC in a collaborative and positive way.	We have responded in this SoR.
Canal and River Trust (CRT)	CRT provided some background information about their organisation and the significant role that they play in the water sector. In addition they provided the following specific comments: **South Staffs Water Approach to WRMP19** "During the development of their dWRMP19, South Staffs Water have positively engaged with stakeholders…. South Staffs Water have not included any social and environmental costs or benefits associated with any of the supply-demand option assessments, to inform their preferred plan. We feel that by not including social and environmental monetised assessments, the proposed canal schemes are potentially disadvantaged. It is widely	We thank CRT for saying that we have positively engaged with stakeholders. We agree with the comment that we have not included monetised environmental and social costs but we do not think this decision disadvantages canal schemes. The WRMP guidelines state that we should either provide a monetised assessment or a non-monetised assessment of these costs. We have chosen the latter approach. Our decision making framework (DMF) approach used extensive qualitative information and did not require monetised	We have responded both in this SoR and also in section 10.7.1.4 of our rdWRMP.

Consultee	Comment	Our response	How have we addressed and where is our response?
	recognised that vibrant waterways significantly contribute to economic development, social welfare, wellbeing, environmental enhancement and community benefit. By excluding these positive impacts in their assessments, South Staffs Water are not reflecting the full value of canal transfers in their draft plan. The Trust have just embarked on a three-year programme to better define and value the positive impacts that are delivered from our waterways. We would welcome the opportunity to discuss these findings further with South Staffs Water so that the social and environmental benefits can be factored into their options assessments.	costs for these factors. We also note that our dWRMP selected programme was not a least cost programme. We have now included a figure in section 10.7.1.4 of our rdWRMP which shows that our preferred programme delivers greater resilience, environmental sustainability and better meets customer preferences than a least cost plan would have done. We would also welcome discussions with CRT when it has completed its three-year programme to define and value the positive impacts delivered by waterways. We will then be able to incorporate these into our 2024 WRMP decision making process.	
CRT	**Canal Scheme Appraisal** Following positive engagement with South Staffs Water, the Trust developed and proposed two canal transfer schemes: - Transfer 15 Ml/d from the Wolverhampton levels with abstraction from the Trent and Mersey Canal near Blithfield reservoir (ref 7.1.2.1); and - Transfer 3 Ml/d from Chasewater reservoir via Wryley & Essington Canal to augment Crane Brook, thereby allowing further catchment utilisation for South Staffs Water. We were pleased to see that both schemes were deemed technically and environmentally feasible by South Staffs Water, but disappointed that neither were taken into their preferred plan. When analysing the detail within the plan, the following questions are raised: - What assumptions were made on the yield assessments for both schemes?	We would like to work with the CRT to further understand the detail and potential sub options associated with these canal transfer options. In answer to the first CRT question about what assumptions we made, we have now added a third party option log in our rdWRMP. This helps clarify our approach to options of this sort. In addition we have also described our yield assumptions below in response to CRT's queries on '*Yield Assessments'.* In answer to the second question, the reason why we have assessed the critical period benefit as 0 Ml/d in our Market Information tables is that the constraint on our ability to supply is available treatment capacity. This means that the additional	We have responded both in this SoR and also in section 10.7.1.4 of our rdWRMP.

<table>
<tr><th>Consultee</th><th>Comment</th><th>Our response</th><th>How have we addressed and where is our response?</th></tr>
<tr><td></td><td>- Why the 15 Ml/d scheme is assessed as 0 Ml/d benefit in the published Market Information tables?</td><td>15 Ml/d of raw water in this scenario does not increase the volume of water we can put into supply.</td><td></td></tr>
<tr><td>CRT</td><td>1. Yield Assessments
Table 1 below is an extract from Section 10.5.3.3 with the South Staffs Water published draft plan:
<table><tr><th>Option</th><th>NYAA Yield (Ml/d)</th><th>DYAA Yield (Ml/d)</th><th>CP Yield (Ml/d)</th><th>Major Investment Requirements</th></tr><tr><td>CRT – Chase Water (2Ml/d) in conjunction with an option to reinstate an existing source at SAPW (5Ml/d)</td><td>2</td><td>2</td><td>2</td><td>Release of compensation flow from Chase Water to augment Crane Brook would offset need to use PWS water for this purpose</td></tr><tr><td>CRT – from canals to Blithfield</td><td>0</td><td>5</td><td>0</td><td>Raw water option to transfer water from the canal network to support Blithfield levels</td></tr></table>(Table 36, Section 10.5.3.3)

It is not clear within the South Staffs Water published plan why they have assumed different yield availability from those proposed by the Trust.
The Trust would like greater transparency on how these schemes have been assessed to ensure that the optimum supply solutions are developed for South Staffs Waters customers.</td><td>There are several reasons why our yield/ DO assumptions and those of CRT differ. One reason is that, when the scope of the CRT option only includes their assets, it does not give us any DO/ yield benefit. For us to get a benefit the options have to include the raw water delivered via the CRT assets and then treatment and distribution via our assets. As described above, there are scenarios when additional raw water does not provide us with any benefit if we have no treatment capacity available. When we assessed the Crane Brook, SAPW option CRT told us that between 2 and 5 Ml/d would be available but this was subject to hydrological modelling. We have assumed that the lower end of this range (2 Ml/d) would be available from this option. We discuss the ‘canals to Blithfield’ option below and provide more transparency about our options appraisal process in section 10.4 of our rdWRMP. We not that the SAPW option was not in our preferred dWRMP because it had less customer / stakeholder support than the demand management options and was less deliverable than the SOPW and SHPW options.</td><td>We have responded both in this SoR and also in section 10.4 of our rdWRMP.</td></tr>
</table>

Consultee	Comment	Our response	How have we addressed and where is our response?
CRT	**2. Option Benefit** The proposed transfer scheme to Blithfield (ref 7.1.2.1) is the only one of the two feasible canal schemes detailed in one the South Staffs Water published Market Information tables (sst-cp-water-resources-market-information-V1). In Table 8 of this document, the canal scheme is shown to have a 0 Ml/d option benefit in the assessment and therefore, South Staffs Water are unable to show a calculated AIC or AISC for this scheme. The Trust completed recent hydrological modelling which demonstrated that there is likely to be a 15 Ml/d surplus available from this source as a baseline scheme. Yield of surplus from the Wolverhampton levels can be achieved by maximising use of Bradley and Perry Well groundwater licences prior to use of Chasewater reservoir. It is unclear why South Staffs Water have assessed this scheme with a 0 Ml/d option benefit. The Trust would like to understand the reasoning behind these assumptions so that we are assured that the canal schemes proposed have been evaluated fairly and consistently.	In response to the query as to why we have assessed this scheme as having a 0 Ml/d benefit, we have explained above why there is no benefit in the critical period (insufficient treatment capacity). In addition, we do not assume any yield benefit from this scheme in a normal year because reservoir levels do not constrain our treatment work output in this scenario. As the reservoir spills in most winters, some of the additional raw water could even be lost as spill. However, we assumed that there will be a benefit of 5 Ml/d in a DYAA scenario. This is less than 15 Ml/d because there is not a one to one relationship between an inflow to a reservoir and the DO/ yield of a WRZ as a whole. We have treated CRT options fairly and, as our third party option log shows, we did not select the Blithfield option due to water quality/ WFD/ INNS concerns.	We have responded both in this SoR and also in section 10.4 of our rdWRMP.
CRT	**Conclusion** It is the Trust's opinion that South Staffs Water have produced a comprehensive draft plan that highlights the issues they face and how they plan to address them. Whilst we don't necessarily agree with all their findings, we've been supportive of their inclusive approach. The Trust would like South Staffs Water to consider the following summarised key points in preparation of their revised draft and final plans: - Inclusion of quantified social and environmental costs and benefits	We are glad that the CRT thinks we have an inclusive approach and that our dWRMP is comprehensive. On the key points: - As described earlier, we have not included monetised environmental and social costs for any feasible option regardless of who proposes it. This aligns with guidance and is part of our qualitative, non-monetised assessment of all PR19 options	We have responded both in this SoR and also in section 10.4 of our rdWRMP.

Consultee	Comment	Our response	How have we addressed and where is our response?
	for all feasible schemes; - Provide greater transparency on the yield assessment of canal schemes and the assumptions made, ensuring that the optimum supply solutions are developed for South Staffs Water's customers; and - Ensure the full utilisation of the option benefit is used in the scheme evaluation. We look forward to continuing to develop these options further with South Staffs Water.	- We have added a third party option log to our rdWRMP in response to CRT's request for more transparency - In our DMF modelling we base the likely costs and benefits on the normal year scenario as this is the most likely one to properly show utilisation i.e. how much we will use different assets. We have also ensured that we include the proper utilisation of options in our dry year and critical period scenarios. We also look forward to continuing to develop and refine options with CRT in the future.	
CCWater	3.1 We welcome the summary document which clearly explains customers' priorities, the challenges faced by the company, and its proposed plan of works to deliver what it believes to be the best options for water supply and demand balance, which was helped to be shaped by customers through the company's engagement.	We note this but do not propose making any changes to our WRMP as a result of these specific comments.	We have responded in this SoR.
CCWater	3.2 Whilst the main document is detailed, there is an element of repetition which could be streamlined for ease of readability.	We note this and have reviewed our dWRMP. We have removed any unnecessary repetition where appropriate. However, there are legitimate reasons why some sections of text are repeated in the 'overview' boxes at the start of each chapter.	We have removed a repetitious paragraph from section 8.
CCWater	3.3 The main focus of the dWRMP is for the period up to 2045, and often the report looks at the short-term up to 2025. We are aware of other companies who have given a bigger picture of future challenges. We would like South Staffs Water to consider the impact	Although the main focus of our dWRMP is indeed for the period up to 2045 we have carried out some detailed analysis over a longer time period. As CCWater has said our climate change work looked	We have responded in this SoR.

Consultee	Comment	Our response	How have we addressed and where is our response?
	of climate change, population growth, and supply-demand balance up to and beyond 2045. We have seen evidence of longer-term planning for climate change where the company has set out the impact to peak demand up to 2080. However, it would be valuable to have some indication of the company's view on the full extent of the time horizon covered by the Water UK sponsored study of long-term water balance.	forwards to the 2080s. In addition, we ran our decision making framework (DMF) and appraised options over an 80 year horizon. However, we constrained it by setting the latest start date as 2045 to align with the standard 25 year WRMP period. We continue to review our WRMPs annually and fully update them every five years. Our view on the time horizon, covered by the Water UK-sponsored study, is that it is appropriate for an indicative and high-level study.	
CCWater	Point 3.4 of CCWater's response states what the main challenges are for us over the next 25 years….	This is a good summary of the main challenges in our dWRMP. We do not propose making any changes to our WRMP as a result of these specific comments.	We have responded in this SoR.
CCWater	3.5 The dWRMP makes clear the intention to make a transformational 17% reduction in leakage by 2024-25, going beyond Ofwat's requirement on companies in its PR19 methodology. Given that leakage is a priority area for customers, we would like to see detailed evidence of the company's plans beyond this period. As leakage reduction is a key element in supply and demand balance, and is currently proving a challenge for the company, we also seek assurance that this target is realistic and achievable.	Our target of a 17% leakage reduction in the period 2020-25 (AMP7) was ambitious and did go beyond Ofwat's 15% expectation. However, we have listened our customers and stakeholders and we now intend to reduce leakage by 25% over AMP7. In addition, we are now targeting a continued reduction in leakage in the 20 years after 2025. The result of all of this leakage reduction is equivalent to a decrease of more than 40% over the planning period. We are confident that these targets are realistic and that we can deliver the reductions in AMP7 and over the entire planning period. We will embrace new technology wherever possible to help us to deliver this reduction in leakage.	We have responded in this SoR.

Consultee	Comment	Our response	How have we addressed and where is our response?
CCWater	3.6 We also note the ambitious plan to reduce demand by increasing the number of customers that choose to have a meter fitted by 50% by 2045. We would like to understand how South Staffs Water intends to increase meter take-up to this extend over this period. For example, how it will encourage customer take-up and what communication strategy will be used.	We intend to increase meter take up by using several approaches. One of these is called progressive metering – there are two ways of doing this. The first way is to look at our records for customers (such as those who live in houses with a high rateable value) who we think are likely to save money if they opt for a meter and then contact those specific segments of our customer base. The other way to achieve this is that, when we carry our main rehabilitation on a street, we install meters on every supply pipe but not charge on this basis. We can then contact the customer and say that if you had been on a meter over the last period of time you would have saved £x on your bill. In addition, we are using our community hub in Wednesbury to promote metering and we are promoting meters at other events where we engage with our customers. We are also streamlining our process to ensure that it is more straightforward and quicker for our customers to switch.	We have responded in this SoR.
CCWater	3.7 It is stated that under the continuation of existing policies, the baseline supply and demand balance shows that the region would not have enough water to meet demand plus target headroom in 2025 under average conditions, and by 2024 under peak conditions. We seek assurance that the company's approach to address supply and demand balance in the WRMP is based on robust modelling that has been assured and is realistically deliverable. South Staffs Water need to clearly explain why it believes it is doing enough to address this critical issue and that it is not putting customers' water supplies	We assure CCWater that our approach to supply demand is based on robust modelling and uses an industry standard tool (Aquator). We have used expert consultants from Mott MacDonald to model different extreme drought and climate change scenarios as well as running our headroom and outage models. We note that we deliberately employed the same consultants as Severn Trent Water to ensure regional consistency for our	We have responded here and in section 3.11 of our dWRMP.

Consultee	Comment	Our response	How have we addressed and where is our response?
	further at risk.	extreme drought and climate change analysis. As we described in section 3.11 of our dWRMP, we have used external assurance partners (Jacobs) to assure our WRMP19. We agree that the issue of whether this plan is "*realistically deliverable*" is a critical one. We are confident in the modelling we have done for WRMP19 and we are confident that we can deliver the demand and supply side schemes in our plan. The fact that we review our WRMPs annually means that we are able to track progress against our targets. We also monitor and annually report against performance commitments such as leakage and per capita consumption (PCC).	
CCWater	3.8 From our discussions with the company and from the dWRMP, we are aware that the next 25 years and beyond will prove a challenge for the company to achieve supply and demand balance. This will require close monitoring of the key elements of its WRMP; which include reduced leakage, increased metering, greater water efficiency to reduce baseline PCC, and operating existing water sources in the most efficient way. We question why the company has not already put in place policies to help elevate these issues in the current AMP period.	We agree with the point about our needing to monitor the key elements of our supply demand balance closely. As mentioned above, we already have processes in place to closely monitor changes in both the supply and demand we actually experience. As we are proposing performance commitments (PCs) in AMP7 for both leakage and per capita consumption, we will also monitor performance for that purpose. We are elevating these issues within AMP6 as far as possible so that we are in a favourable position before the 2020-25 period begins.	We have responded in this SoR.

Consultee	Comment	Our response	How have we addressed and where is our response?
CCWater	3.9 Increasing resilience, specifically relating to drought, is a priority area for customers and, therefore, CCWater. The dWRMP gives assurance that the company's analysis shows supplies are resilient to a range of droughts across the 25 year planning period, which we welcome.	We have noted this point.	We have responded in this SoR.
CCWater	3.10 We are pleased with the scope and level of customer engagement that the company has carried out. This has revealed customers priorities which are clearly set out in the summary and main dWRMP document, and has helped to shape the company's focus for the next five to 10 years and beyond.	We have noted this point.	We have responded in this SoR.
CCWater	3.11 Whilst we are aware that the views of future bill payers have been sought by the company, we would like to see more in the final WRMP about intergenerational issues and how the proposals deliver a fair and balanced plan for current and future customers.	As part of the extensive customer engagement we have described in section 5 of our rdWRMP and in appendix F, we have considered future bill payers and the associated intergenerational issues. This latest customer research was not available when we published out draft WRMP. This research included WRMP workshops and engagement events, at which 'future customers' were one of the particular demographic groups whose priorities were sought.	We have responded here and in section 5 of our rdWRMP and the updated appendix F we will publish with our final WRMP.
CCWater	3.12 We are pleased to see that the company has approach retailers to discuss their plans to promote water efficiency with non-household customers in the open market; although it would appear customer uptake has not yet been established. We would like to understand if this position has moved forward in the final WRMP and how South Staffs Water plans to take this forward with retailers.	We have updated section 3.9 of our rdWRMP to show the current position in relation to retailers, ourselves and water efficiency.	We have updated section 3.9 of our rdWRMP.

Consultee	Comment	Our response	How have we addressed and where is our response?
CCWater	3.13 We are aware that South Staffs Water exports a small number of bulk supplies to Severn Trent Water and receives some bulk imports. We would like to see further evidence about these arrangements and clarity that there is consistency across each of the company's WRMPs.	We note that Severn Trent (SVT) does not include transfers less than 1Ml/d in its WRMP as they are not material. We have spoken to SVT to align what we report for imports/ exports. We have included 1 Ml/d of '*minor exports'* for the potable transfer to the SVT Staffs WRZ. We have also reported the larger export to their Wolverhampton WRZ and spoken to SVT to align the wording in our WRMP narratives. We take this opportunity to clarify that there is consistency across both companies' WRMPs.	We have responded here and in section 7.7.2 of rdWRMP.
CCWater	3.14 We welcome the joint discussions between Severn Trent Water and South Staffs Water that are taking place about the River Severn works abstraction licence entitlement, about which South Staffs Water has taken into account in its testing of robustness of the dWRMP to future changes. We would like to see further detail about this in the final WRMP.	We continue to discuss water resource and resilience issues with STWL and we have adapted the text in section 7.7.2 of our rdWRMP to reflect the current position.	We have responded here and in section 7.7.2 of rdWRMP.
Defra	Letter dated 23 March 2018 from Dr Therese Coffey to our Managing Director noted that: • "*customers and government expect increasing resilience to drought and extreme weather*" • They are pleased that we are "*planning to be among the best performers in per capita consumption and would like you to consider with your customers how to lead the way in reducing consumption further*" • They noted that we "*responded positively to Ofwat's leakage challenge*" • They would like to understand how our plan "*will help to deliver the government's 25 year plan for the environment, in particular how it will deliver net environmental gain"*	We agree that increasing resilience is extremely important. We have learned from the 'Beat from the East' and the hot, dry weather in 2018 how best to keep our supply on during peak demands. We have set out our proposed investment in our PR19 plans and a key part of this involves increasing resilience at our two largest works. We welcome the comment on PCC and we expect that our water efficiency commitment and our plans to promote more meter optants should bring about future reductions in consumption. As well as responding positively to Ofwat's leakage challenge we are now proposing even more ambitious leakage reduction plans than	We have responded in this SoR, by increasing our leakage ambition in our rdWRMP and in the resilience sections of our PR19 plans.

Consultee	Comment	Our response	How have we addressed and where is our response?
	• "*Consideration should be given to increasing tree cover in your area to assist in water management*".	we had set out in our dWRMP. In order to deliver environmental net gain we have proposed an environmental/ biodiversity PC for AMP7. We are also expanding our catchment management programme. We note that some of the grants we award encourage wildlife. In response to the final bullet point, we are exploring whether we have opportunities to increase tree cover for water management purposes.	
Defra	This letter also set out expectations in relation to drought preparedness, namely: • "*you need to demonstrate that you have effective plans in place, that you are checking that your plans are delivering and that you are thinking about what action you may want to take now for the longer term"* • *You should demonstrate how you have stepped up your preparations for drought. For example, by highlighting the infrastructure that you have invested in to improve supply, how you are tackling leakage, and how you are helping households and businesses to be 'water wise'. Water companies should be making it easier for people and businesses to make water smart choices by providing advice, technology and tools* "	We have effective plans in place to ensure drought preparedness. For example, we publish revised drought plans on a 5 yearly cycle. We have stepped up our drought preparedness and provided details of this in the drought plans we submitted to Defra in November 2017. We expect to finalise these drought plans later in 2018. In addition, we annually review our WRMPs and send these annual reviews to Defra and the EA. One of the things we report on in our annual reviews is where we have invested to reduce demand and/ or increase supply. We actively engage with Waterwise to share best practice and encourage water efficiency. We provided detail on our ongoing and innovative demand management activity in the WRMP annual review that we submitted in June 2018. As described in section 10 of our dWRMP, we used a 'resilience lens' when selecting options for our PR19 plans. This helps us to ensure that our assets provide benefits in the short and the longer term.	We have responded in this SoR, in our drought plan and in section 10 of our rdWRMP.

Consultee	Comment	Our response	How have we addressed and where is our response?
Environment Agency (EA)	R1.1 The Water Resources Management Plan (WRMP) does not provide the annual risk of temporary use restrictions, ordinary drought orders and emergency drought orders and how this changes over the planning period - *The company must provide detail of the annual percentage risk of temporary use restrictions, ordinary drought orders and emergency drought orders and how the annual risk of temporary use restrictions, ordinary drought orders and emergency drought orders changes over the planning period. The company should also provide details of how it expects the annual risk to change from implementing its preferred plan.*	We have added text and tables to section 7.1.4 of our revised dWRMP. These show the annual percentage risk of restrictions based on (a) there being no change to our planned levels of service, we estimate a 2.5% risk in each year of a TUB (i.e. a 1 in 40) and a 1.25% risk of a NEUB (1 in 80) and, for emergency drought orders, we do not anticipate these / <0.5% annual risk. (b) In addition, we have shown the annual % risks of restrictions derived via use of our Aquator model.	We have responded here and in section 7.1.4 of our rdWRMP.
EA	R 1.2 WRMP does not provide the assumptions used to estimate the risk of temporary use restrictions, ordinary drought orders and emergency drought orders - *The company must provide the methodology and assumptions it has used to calculate the annual probability of temporary water use restrictions, ordinary drought orders and emergency drought orders. The company must include assumptions about the severity of drought it has used and the methodology must refer to both the annual percentage of risk over the 25 years and the changes over the 25 year period.*	We have added some explanatory text / tables in section 7.1.4 of our rdWRMP19 to describe our methodology. For example, we used Aquator to model how the risk of TUBs and NEUBs could change over the 25-year period. This showed that we would not have required emergency drought orders within the historic record we modelled. We have also described the assumptions we used to produce annual per cent risk of restrictions based on meeting our planned levels of service across the planning period.	We have responded in section 7.1.4 of our rdWRMP.
EA	R1.3 No numerical data on greenhouse gas emissions - *The company must provide in numerical format how much greenhouse gas it estimates it will emit for each measure in its current and future operations or signpost where this information can be found outside of the WRMP.*	We have added a table and some text in section 7.6.5 in our rdWRMP to cover compliance with direction 3(d) and 3(e). The table provides numerical data on greenhouse gases from our current and future operations as well as the assumptions we made to produce these values. We also signpost the fact that we annually report greenhouse gas	We have addressed this in section 7.6.5 of our rdWRMP.

Consultee	Comment	Our response	How have we addressed and where is our response?
		emissions, as the South Staffs Group, to the EA as part of the CRC (Carbon Reduction Commitment) scheme.	
EA	R1.4 limited data on the climate change impacts on current and future operations - *The company must provide a quantification of the impact of climate change on supply and demand for each measure in its future operations.*	We have added a table and some text in the new section 7.6.5 in our rdWRMP on compliance with direction 3(d) and 3(e). This shows how we adjusted the DO from our selected options. We have also incorporated the impact of climate change on demand within our demand forecasts, as we described in section 6.6 of our dWRMP.	We have addressed this in sections 6.6 and 7.6.5 of our rdWRMP.
EA	I1.1 WINEP - sustainability reductions - The company should provide a clear description of how it generated the three WINEP scenarios in Table 29. This should include: - an explanation of how the volumes have been calculated and any assumptions that have been made - breaking the information down into catchments and clarifying which sources are included in each - an explanation of which type of schemes (green, amber, red) have been included in each scenario - a commitment to work with the Environment Agency Area teams to agree the three scenarios	We have sent the EA information on 20th August 2018 that includes our WINEP assumptions and workings. This is an update to the information we provided the EA in autumn 2017. It explains the individual site DO values we used for our dWRMP and the impact of potential licence changes in a normal year and dry year. In summary: We originally based the WINEP scenarios summarised in Table 29 of our dWRMP on the EA WINEP 2 release in October 2017. We have further evaluated these scenarios against the WINEP3 release in March 2018. This contains 71 schemes, which we have discussed in outline with the EA over the period of the development of our plan. All of these schemes were assessed by the EA as green or amber and therefore considered cost beneficial and either affordable or likely to be affordable. 23 schemes have a non-water resources driver (i.e.	We have addressed this here and via the information we have shared with the EA separately via email.

Consultee	Comment	Our response	How have we addressed and where is our response?
		fisheries, biodiversity or water quality) and we assessed them as not affecting source yields. There are no red schemes within WINEP3. The 48 water resources schemes can be subdivided as follows: • 8 sustainability change schemes with amber status all relating to AMP6 NEP study areas • 1 land management improvement scheme with amber status relating to AMP6 NEP but with no yield implications • 20 no deterioration risk investigations with green status relating to the same AMP6 NEP study areas • 17 non-deterioration risk investigations with green status relating to the groundwater body status of catchments not studied in AMP6 • 2 non-deterioration risk investigations with green status relating to the surface water flow status of catchments not studied in AMP6. We based our yield scenarios in the first instance are based on the catchments listed under the sustainability change schemes (including relevant no deterioration investigations) and secondly on new catchments affected by investigations. We have considered the nature of likely interventions and then the impact on the baseline DO values in WRMP Table 1. BL Licences. In all scenarios we assumed	

Consultee	Comment	Our response	How have we addressed and where is our response?
		abstraction was capped in normal years to prevent deterioration but that existing dry year and average yields can be sustainably maintained unless there is local evidence to the contrary. Accordingly, we designed the scenarios to test that demands in normal years could be met by conjunctive use of surface water and groundwater as well as meeting elevated demand under average and peak conditions in a dry year. We updated the spreadsheet used to produce the WINEP scenarios by: • Adding WINEP3 codes for all schemes • Including the AMP7 schemes under capital maintenance and supply demand within the baseline (2017) for transparency • Showing the Blithfield/Nethertown schemes too for completeness. We are committed to working with the EA to agree these scenarios.	
EA	I1.2 Nethertown pump back time limited licence (TLL) - *The company should consider including scenarios in its plan to test part renewal or changes to the licence. The company should hold discussions with the Environment Agency Area team and agree scenarios to use within its plan. This should be included in the revised draft WRMP.*	We have discussed Nethertown and Blithfield compensation regime with the EA and we have modelled several scenarios in our Aquator model. We have described this in section 7.9.1.2 of our rdWRMP.	We have addressed this in 7.9.1.2 of our rdWRMP.
EA	I2.1 Actual outage experienced - *The company should review the outage allowances (for both the Dry Year Annual Average and Dry Year Critical Period scenarios) included in the draft WRMP19 in light of recent outage experienced then either:*	We think that the levels of outage we included in our dWRMP are appropriate because we have used a robust method to produce these values and there are several legitimate reasons why recent outage	We have responded in this SoR.

Consultee	Comment	Our response	How have we addressed and where is our response?
	• *Present clear evidence about why the low levels of outage allowance (compared to recent outage experienced) in the draft WRMP19 are appropriate, or* • *Review upwards the outage allowances to be more in line with recent outage experienced, and to include these revised outage allowances in the revised draft and final WRMP19*	experienced is higher than the allowances we have in our WRMP. As figure 9 in the dWRMP shows we can vary the amount of planned outage significantly from year to year. In a dry year or a critical period scenario we would review and postpone any non-essential outages. One reason for the high volume of outage over recent years is that we have installed UV at several of our sites. One of these sites was our second largest works which will have increased that component of outage. Although carrying out works like this, in the short term, increase outage, we expect their long term impact will be to bring water quality-related outages down.	
EA	I3.1 Option 1.4.1 reinstate SOPW and SHPW - *The company should provide additional details in the revised draft WRMP including:* *- the DO for the SOPW source* *- the DO for the SHPW source* *The company should also amend the option information to include the correct GWMU details.* *The company should engage with the Environment Agency Area team to discuss this option.* *Without this detail the option may not be available. The plan should demonstrate the option is sustainable otherwise it should be removed from the plan.*	We have already engaged with the EA area team to discuss this option and clarify that we are seeking to restore abstraction to recent actual rather than to increase it above that rate. We are preparing further documents that will provide additional information, highlight any investigations, pumping tests or trials that would be needed before we begin installation of new treatment or start any capital works. We thank the EA for the information about the GWMU details and we will use this in the work mentioned above. We appreciate that there is a potential risk of this scheme not providing the expected yield from SOPW so we have made the appropriate allowance in our revised headroom calculations. We note that we still use SHPW for resilience purposes and it proved valuable during the March 2018 ‘Beast from	We have responded here, via ongoing liaison with the EA and we will cover it in our updated SEA.

Consultee	Comment	Our response	How have we addressed and where is our response?
		the East' event as well as during the 2018 hot, dry summer. We initially screened this option out of our WFD assessment on the basis that it is designed to use existing infrastructure and not increase abstraction above recent actual levels. We reflected this in the SEA for our draft WRMP19. However, we have reviewed this assessment and have clarified the potential for effects (or absence of) on groundwater in the SEA matrix and reflected this in the summary commentary in our main SEA environmental report.	
EA	I3.2 Option COPW - *The company should provide the options detail for COPW including the DO.* *Without this detail the option may not be available. The plan should demonstrate the option is sustainable, otherwise it should be removed from the plan.*	We take this opportunity to confirm that COPW refers to a source that forms part of our baseline DO. It is not a new supply scheme. The new schemes that we have assessed have numeric references. Appendix M lists existing groundwater sites and DOs – the COPW DO is 18 Ml/d in that and in our dWRMP19 table 1.	We have responded in this SoR.
EA	I3.3 Option MAPW1 - *The company should provide the options detail for MAPW1 including the DO and whether the proposed abstraction would be above recent actual abstraction rates.* *Without this detail the option may not be available. The plan should demonstrate the option is sustainable, otherwise it should be removed from the plan.*	We take this opportunity to confirm that MAPW1 refers to an existing site not a scheme. The new supply schemes have numeric references.	We have responded in this SoR.
EA	I3.4 Option KIPW - *The company should clarify the DO for this option and how this might vary under peak and average conditions. It should also clarity whether the proposed abstraction would be above recent actual abstraction rates.*	KIPW refers to an existing site not a scheme. Our new supply schemes have numeric references. Baseline DO for KIPW is 9 Ml/d and it is constrained by recent increases to NO3 levels, therefore	We have responded in this SoR.

Consultee	Comment	Our response	How have we addressed and where is our response?
	Without this detail the option may not be available. The plan should demonstrate the option is sustainable, otherwise it should be removed from the plan.	mandated treatment investment (not required for consultation via WRMP process) to restore output to pre-2017 levels is sustainable. Scheme 1.1.1 to increase peak output is peak only, therefore we retained it as a feasible scheme after discussions with EA however we did not select this in our preferred plan.	
EA	I3.5 Options ASPW - *The company should provide the options detail for ASPW including the DO and whether the proposed abstraction would be above recent actual abstraction rates.* *Without this detail the option may not be available. The plan should demonstrate the option is sustainable, otherwise it should be removed from the plan.*	We confirm that ASPW refers to a source that forms part of our baseline DO. Although we mention the need for capital maintenance at ASPW this is not a supply option.	We have responded in this SoR.
EA	I3.6 Perry Barr trade - *The company should continue to work closely with Severn Trent Water and provide plans that are joined up. The company should also propose a suitable timetable to get the relevant agreement in place for this option.*	We met with Severn Trent (SVT) to discuss common assumptions between the companies. We have clarified that the proposed Perry Bar to Barr Beacon transfer is for resilience and planned maintenance use only. So, we will no longer include this scheme in our WRMP tables. We agreed this position at a meeting on the 8th June 2018. We suggested that Severn Trent align with the 40.6 Ml/d assumption that we use in a DYAA scenario to give consistency. Following guidance from the EA we are no longer putting any uncertainty over the export from our Severn works to Severn Trent. We assume an export of 48 Ml/d in our critical period (CP). As SVT doesn't have a CP there is no need for alignment on this assumption. In response to the request for a	We have responded in this SoR.

Consultee	Comment	Our response	How have we addressed and where is our response?
		suitable timetable for this resilience option we expect to have it in place by the start of AMP7 but, because this is subject to commercial negotiations, this is subject to change.	
EA	I4.1 unmeasured consumption falls below measured consumption - *The company should provide in its revised draft WRMP a clear justification as to why unmeasured PCC falls below measured PCC.*	We have identified the reason why this happened and we have discussed it with the EA. We have asked our consultants, Artesia, to correct this in their revised demand forecast modelling. We will ensure that our final WRMP will not have unmeasured PCC falling below measured PCC.	We will address this in our updated WRMP tables and appendix H.
EA	I5.1 Option 1.4.1 - *The SEA should consider, in relation to option 1.4.1, the impact on groundwater.*	We note that option 1.4.1 does not propose any increase in Teddesley GWMU above recent actual (RA). We have commissioned our consultants, Ricardo/ Atkins, to update our SEA to accompany our final WRMP19. This updated SEA will consider option 1.4.1.	We will address this in our updated SEA.
EA	I5.2 Current state of the environment - *The company should ensure that clear conclusions are made within Appendix C of the Environmental Report in relation to the future baseline, and that key points are drawn through into the Environmental Report.*	We will address this in our updated Environmental Report. As discussed with the EA on 25th July, we will make the links better between appendix C and the Environmental Report itself. We will also signpost any key differences between the baseline and how the future will be with our WRMP in place. Appendix C of our Environment Report does state that an essential part of the SEA process is to identify the current baseline conditions and their likely evolution in the absence of the 2019 WRMP. It also notes that the future baseline is not a 'do nothing' option with respect to water resources	We have commented here and will address this in our updated SEA Environ-mental Report.

Consultee	Comment	Our response	How have we addressed and where is our response?
		planning. Each SEA topic in Appendix C of the SEA includes a section on the future baseline. We have reviewed this text and made clear conclusions in Appendix C of our updated Environment Report. We have also included the key points from the updated SEA Appendix C in our Environmental Report.	
EA	I5.3 Influenced the development of the plan - *The company should provide detail on how the environmental assessment was taken into account and influenced option development after the lowest cost options had been identified and amended. This could include providing some examples of where options were changed or refined as a result.*	As mentioned in section 2.7.1 of our dWRMP, we used our strategic environmental assessment (SEA) to develop our preferred plan. In section 10.4 of our dWRMP we stated how we developed options using a dual streamed process from unconstrained through to constrained. We used it to screen out options but, as our preferred plan includes such a high volume of leakage reduction and demand side schemes, its impact is less obvious than would have been the case, if we had a plan with a large number of supply side schemes in our preferred plan. Section 5 of our SEA Environmental Report describes how we took the environmental assessment into account. It shows how it influenced option development and selection regarding moving from the unconstrained option set to the constrained list and moving from the constrained list to the feasible list (refer to Figure 1.2). This includes examples of the options we removed from the final lists (unconstrained/constrained) for our dWRMP19. Section 7 of the Environmental Report describes how the SEA influenced the development of our plan in terms of programme appraisal. We have provided	We have commented here and will also address this in our updated SEA.

Consultee	Comment	Our response	How have we addressed and where is our response?
		further detail especially to Section 7 to provide a better narrative and more clearly highlight how the SEA has influenced and improved the environmental performance of our WRMP19.	
EA	I5.4 Cumulative effects - *The SEA should state clearly how cumulative effects are considered or discounted. A table would be useful to show the interactions and show visually where these cumulative effects occur.* *The company should in its SEA assessment review the cumulative impacts of its actions with neighbouring water companies and show this has been used to inform its plan.*	We agree that the SEA that accompanies our final WRMP should fully and clearly account for any cumulative effects. We are updating the cumulative assessment approach (detailed in Section 4 of the Environmental Report) to make better reference to the methodology adopted in final WRMP19. We will update sections 6, 7 and 8 to state clearly how we considered cumulative effects in our updated Environmental Report. We developed a matrix for inclusion to show the interactions between each option on the feasible list, this helped demonstrate the conclusions made in our Environmental Report. Now that there is a greater level of information available regarding neighbouring water companies plans our SEA includes a review of the cumulative effects of our actions and those of neighbouring water companies. We used the most up to date information available to inform our SEA. We reviewed other local plans and projects to ensure updates have been captured in our updated Environmental Report.	We will address this in our updated SEA which will accompany our final WRMP.
EA	I5.5 Selecting alternatives - *The plan should provide reasons for selecting the alternatives dealt with, and why others were discounted.*	Figure 24 of our dWRMP shows how we selected different alternatives. The SEA process was integral to our selection and under pinned all of the steps we went through. Initially we characterised the problem	We have addressed this here, in section 10 of

Consultee	Comment	Our response	How have we addressed and where is our response?
		we faced, developed an unconstrained list of options (including demand reduction and supply side options), we screened these to define a list of feasible/ constrained options and we assessed the costs and benefits of these. We assessed the constrained options in multi criteria terms. This means that we didn't simply choose the least cost plan. In fact our preferred plan costs more than a purely 'least cost' WRMP. This was because the environmental impact, customer views, resilience and deliverability of the options affected our preferred portfolio of options. We describe this process in more detail in section 10 of our WRMP and in appendix S. We described how we took the environmental assessment into account in section 5 of our Environmental Report. This shows how our SEA influenced option development and selection regarding moving from unconstrained to constrained and from constrained to the feasible list (see SEA Figure 1.2). Our Environmental Report includes examples of options removed from the lists due to environmental screening. Section 7 of our Environmental Report describes how the SEA influenced the development of our plan in terms of programme appraisal. We have provided further detail in Section 7 to highlight how we amended the lowest cost options to take account of the environmental constraints to give a balance between low cost and good environmental options for our	our rdWRMP and in appendix S.

Consultee	Comment	Our response	How have we addressed and where is our response?
		preferred WRMP programme.	
EA	I 5.6 Monitoring plan - *The SEA should state clearly the ownership of the monitoring plan and provide general targets to be achieved, for the preferred option route. In addition to the information currently presented it would also be beneficial to note sources of data to be used.* *The company should ensure monitoring of the aquatic environment is sufficient to detect impact on biodiversity, WFD status and to provide a suitable baseline.* *The company should engage with the Environment Agency Area teams to discuss its proposed monitoring.*	We have a monitoring plan that relies in part on monitoring that we pay for and also draw on monitoring that the EA funds. We regularly engage with the EA areas to discuss current and future monitoring to ensure that we do not duplicate each other. We are committed to engaging with the EA to ensure that, between us, there is sufficient monitoring to establish a baseline and to detect any potential changes to that. We have improved the monitoring section (Section 10) to better describe the process in our Environmental Report. This includes targets where appropriate, stating clearly the ownership of the monitoring and what steps will be taken if remedial action should be required during the implementation of WRMP19. We will share our updated SEA with the EA and, when it is agreed we will publish the final version alongside our final WRMP.	We have addressed this here and also in our updated, final SEA.
EA	I6.1 Groundwater resilience - *The plan should provide an assessment of the likelihood of a third dry or very dry winter.* *South Staffs Water should work with the Environment Agency West Midlands Area team to assess the likelihood of such an event occurring and what the potential impact could be for the company's sources of supply.* *This work may highlight the need that for further future assessment of the effects of climate change and droughts on groundwater*	We have provided our assessment of the likelihood of a '*third dry*' or '*very dry'* winter in section 7.4.7 of our rdWRMP. We thank the EA West Midlands area for sharing an ESI report called 'Drought Scenario Modelling (Midlands Region)' with us. This study shows that there can be impacts from a third dry or extremely dry winter scenarios. However, for context, where this study suggests a 1 to 3m fall in groundwater levels we do not expect that this would have a large impact on our yield. We give more	We have discussed this in detail in section 7.4.7 of our rdWRMP.

Consultee	Comment	Our response	How have we addressed and where is our response?
	sources, which would feed into future WRMP's.	detail on groundwater resilience in section 7.4.7 of our rdWRMP.	
EA	I7.1 Choice of droughts included in dWRMP - *The company should provide further justification for the selection of droughts and why the system is most vulnerable to those chosen.* *-The company should assess the vulnerability to a short-term severe drought event (12 months or less in duration) as highlighted in section 7.4.3.* *-This should also be supported by a return period graph with the droughts used clearly presented.* *-The company should consider for its next plan exploring different methods for generating plausible drought scenarios.*	We have provided additional text and graphs in section 7.4 of our rdWRMP to justify our selection of droughts. In section 7.4.5 we have described our analysis of 6-month droughts to assess our vulnerability to short-term severe events. We have also included a table and graph that shows supporting return periods. We note that considering droughts that start in October makes sense statistically and also in terms of the system's behaviour, as October is usually the month where recovery begins in Blithfield. When we prepare our next plan we will consider whether there are different ways to generate plausible droughts that we can refer to.	We have addressed this in Section 7.4 of our rdWRMP.
EA	I7.2 Extended flow series - *The company should provide details of the likelihood, frequency and duration of the 1896 drought used in the extended flow series.*	Within the revised section 7.4.5 we have provided details on the likelihood, frequency and duration of the 1896 drought used in our extended flow series. As we note in the rdWRMP though, assigning return periods to droughts can be complex and varies depending on which time period you select. This means that the same drought can have different return periods depending on which part of it you analyse.	We have addressed this in Section 7.4 of our rdWRMP.

Consultee	Comment	Our response	How have we addressed and where is our response?
EA	I7.3 Constraints on DO - *The company should provide a clear explanation of the overall constraint to DO of the system.*	We have several constraints on our system but ultimately it is the frequency of temporary use bans. The 4th time a temporary use ban (TUB) is called for within our 131-year record caused Aquator to halt. The drought that causes this 4th TUB is the 2011 drought. The three TUBs already triggered are in 1896, 1934 and 1976.	We have addressed this here and in section 7.4 of our rdWRMP.
EA	I7.4 DO presented in table 10 - *The company should either use DO (as per our guidance) or provide a clear explanation for why they have chosen to use a modified DO in table 10.*	We have not used DO in the table 10 of our dWRMP because of materiality of our major potable export. This makes it more logical and transparent for us to use the water available for our customers' use. Otherwise we would be applying the impacts of drought measures that we take to water that is being used in neighbouring company.	We have responded in this SoR
EA	I7.5 Historic drought DO - *The company should provide an explanation for why the two historic droughts of very different severity result in exactly the same DO.*	The reason why two historic droughts of different severities give the same DO is that our DO modelling includes both events. Column N of Table 10 has separate cells for the two historic drought events. However, there can only be one LoS DO. We derived this from the full simulation period and it does not relate to either of the specific historic droughts. We entered this value to each cell but it would be more appropriate to merge the cells and enter one value. The LoS DO is effectively determined by the 4th most severe event (2011) since it is that which breaches the LoS (3 events in 131 years being approximately 1-in-44 and hence acceptable; 4 events would be approximately 1-in-33 and hence unacceptable).	We have responded in this SoR as well as by adding extra text and graphs to section 7.4 of our rdWRMP.

Consultee	Comment	Our response	How have we addressed and where is our response?
EA	I7.6 Drought metric - *The company should correct the text in the summary box on table 10 to the metric used in Appendix N (namely cumulative flows).* *The company should provide justification for the chosen metric and the evidence to support the estimated drought probabilities (0.5% and 2%).*	We used reservoir volume in comparison with our drought trigger curve (4a) as the metric. We did not select based on accumulated flow. We used that metric only to select the synthetic droughts not the historical ones. This effectively incorporates conditions across the relevant parts of both the River Severn and River Trent catchments. It also takes account of the actual critical duration of each particular drought and is preferable to assessing rainfall and/or flow over predetermined durations, such as 18 months. The most severe droughts on this basis were those of 1976, 1896, 1934 and 2011. Extreme value analysis of the full series of annual minimum storage differences led to estimated annual exceedance percentages of about 0.5% for 1976, around 1% for both 1896 and 1934, and about 3% for 2011. For extra clarity on table 10 as a whole, we have added some text in section 7.4.1 of our rdWRMP to explain its purpose.	We have responded in this SoR as well as in the new drought sections of our rdWRMP. We do not need to correct the text in table 10 but we will make it clearer.
EA	I7.7 incomplete critical period planning table - *The company should complete table 10 for its critical period scenario.*	We will produce a table 10 for both scenarios when we finalise our WRMP.	We will publish this table 10 alongside our final WRMP19.
EA	I8.1 Double-counting savings - *The company should confirm it has taken into account in its expected water efficiency saving the impact of its current policy (to ensure that there is no double-counting of demand savings).*	We have been careful to ensure that there is no double counting in our revised demand forecast. We have included the 'baseline' water efficiency activities in the baseline forecast. This	We have responded here as well as

Consultee	Comment	Our response	How have we addressed and where is our response?
		accounts for 'baseline' activities and external influences such as new technology (white goods), changes in WC cistern flush volumes and behaviour change. The baseline activities are limited to customer communication and engagement, and providing access to free water saving devices. In developing demand management options we take account of the baseline activity to ensure no double counting. The example the EA referred to quotes the 'Household WEFF programme company-led plumber install'. This option cannot double count the savings for two main reasons: the baseline activity does not include plumber led water saving installations and during a plumber led installation only water devices that are relevant to the property are installed. For example, if a customer already has a save-a-flush installed, then a second save-a-flush will not be installed in the same cistern.	incorporating it in our new demand forecast and the associated WRMP tables.
EA	I9.1 Freeze-thaw and flooding resilience - *The plan should provide detail of the company's assessment of its resilience to events such as freeze-thaw and flooding, as outlined in Defra's guiding principles.* *The company could assess the impacts of past freeze-thaw events to test on it current system.* *Similarly, the company could assess its flood risk using the 'flood extent zones' published by the Environment Agency in 2016.*	We have assessed our resilience to events such as freeze-thaw and flooding and described this in detail within our revised dWRMP. We have learned from the March 2018 freeze-thaw event but note that when Ofwat publicly wrote to all water companies about the 'Beast from the East' it said that "Our overall analysis is that South Staffs Water performed well and largely met its customers' expectations…" We also note that our flood risk assessment used EA flood risk zones and resulted in AMP6 investment.	We have responded in this SoR as well as in section 11.4 of our rdWRMP

Consultee	Comment	Our response	How have we addressed and where is our response?
EA	I10.1 Leakage cost Option 73 – "*Company should review and update the cost information used in its leakage assessment for WRMP19."* In its Representation the EA said "The company has not consistently demonstrated that it has used the most up-to-date information on leakage management or leakage reporting". It also asked us to "explain why it has used cost estimates from 2014 relating to active leakage control despite improvements to leakage management approaches over recent years"	Although we mentioned an active leakage control (ALC) cost relationship from our WRMP14 in Appendix Q we used 2016-17 ALC costs to derive our SELL. We will clarify this in our updated appendix Q. However, as our leakage programme is driven by customer and stakeholder preference and is not part of a least cost portfolio, the ALC costs will not change our final WRMP.	We have responded here but will also clarify the text on page 99 of section 4.4.3 of appendix Q.
EA	I10.2 New leakage consistency methodology - *The company should provide a summary programme of work to align with the consistent leakage reporting methodology: what elements of the data need to be collected and when this will be achievable. The company should report on this in its revised WRMP and provide progress updates in it its WRMP annual review submissions.* *The company should also use scenarios, as detailed in the guidance, to assess impacts from the revised approach. For example the plan should provide more information on the likely impact of the leakage reassessment using the new methodology on final target leakage and how the outcome may affect the preferred plan.*	We have added text to section 11.1.1 of our rdWRMP to describe a summary programme of work to align with the leakage consistency methodology. We provide progress against this in our WRMP annual reviews. The new text in section 11.1.1 describes the minor impact that the methodology consistency has on our 2017-18 leakage value. The step up in our AMP7 leakage reduction ambition is much more significant than the impact of methodology consistency.	We have addressed this in section 11.1.1 of our rdWRMP
EA	I10.3 Leakage ambition - *The company should consider its long-term approach to leakage reduction and what it could do to reduce leakage by 40% by 2045.*	As mentioned in earlier responses to CCWater and EA comments we have increased our ambition in relation to leakage reduction. As well as targeting a 25% reduction by 2025 we are also planning to reduce leakage further from 2025 to 2045. Over the 25-year planning period we plan to reduce leakage by 43% from our current target level.	We have responded here and also updated sections of our rdWRMP.

Consultee	Comment	Our response	How have we addressed and where is our response?
EA	I11.1 Willingness to pay - *The company should compete its willingness to pay survey in time to inform its revised draft WRMP. This should also allow the company to complete table 5 in the water resource planning tables with this information.*	We have completed two waves of willingness to pay (WTP). We have described this in section 5 of our rdWRMP and in more detail within our updated appendix F. We describe all of the customer engagement work we have done and not just the WTP work. Table 8 in the updated section 5 of our rdWRMP shows our WTP values. Whilst we have WTP values, we are not able to enter them in WRMP table 5 on an option by option basis. This is because we asked our customers about their willingness to pay for outcomes and not specific options. We described how our multi criteria approach (MCA) moves away from using only monetised values and trying to find a least cost plan in section 10 of our dWRMP. So, all of the quantitative and qualitative customer engagement work tells us, for example, how customers value a change in the frequency of drought restrictions but not the monetary value they assign to any specific option. One of many improvements to our engagement was that, for this plan, we asked customers to critique our definitions before giving their WTP values.	We have responded here, within the updated section 5 of rdWRMP and in appendix F.
EA	I12.1 difference in climate change headroom component - *The company should review its climate change target headroom component in comparison to its neighbouring water company and the wider water industry.*	We have reviewed the climate change component of headroom we have used in comparison with all other water companies. We do not think that our assessment is incorrect but we acknowledge that a comparison of this element of target headroom as a % of DI shows that our values are low nationally for	We have responded here and also within the updated WRMP

Consultee	Comment	Our response	How have we addressed and where is our response?
		both regions. We are confident that our approach is robust and we note that it is inevitable that comparisons of this sort will highlight some differences in approach. Because we are now re-running our headroom model, to account for the revised uncertainty associated with our demand forecast and other components, the headroom that we use in our final plan may be more similar to neighbouring companies but this remains to be seen. Regardless of what this company comparison shows we will happily address any queries that the EA has as part of our ongoing WRMP dialogue.	tables we will produce to accompany our final WRMP19.
EA	I13.1 Type of Option - *The company should complete Type of Option for all options in the plan.*	We will provide this information in our final WRMP tables.	We will do this in the tables that accompany our final WRMP19.
EA	I13.2 Adjustments to final plan Total Water Available for Use (WAFU) - *The company should update the planning table formula in accordance with the guidance provided.*	We are currently updating the latest version of the EA WRMP tables (named fWRMP Tables 180621 (June 2018). These latest tables have the correct formulae in them. Should the EA publish any revisions to these tables before we finalise our WRMP19 we will use those tables.	We will do this in the tables that accompany our final WRMP19.

Consultee	Comment	Our response	How have we addressed and where is our response?
EA	I13.3 Underground Supply Pipe Leakage (USPL) Option Table error - *The company should update the tables for the final plan so that USPL options are incorporated into the final supply demand balance. The company should ensure that associated parts of the tables (for example, Final Plan PCC) are correctly updated also.*	As mentioned earlier, we have commissioned consultants, Artesia, to produce a revised demand forecast (rebased on 2017-18) for our final plan. When this and our headroom modelling are complete we will populate the latest version of the EA tables. As we do, so we will audit the data and ensure that all parts of the tables are updated correctly. Section 3.11 of our dWRMP describes our WRMP governance and assurance.	We will do this in the tables that accompany our final WRMP19.
EA	I13.4 More than 3% difference than sum of the micro-components and reported PCC values - *South Staffs Water should review the micro-component values to bring the difference down to below 3% for those values affected.*	We thank the EA for this comment and, when we have fully updated table 8 of our WRMP tables, we will check to see if there are differences of this magnitude.	We will do this in the tables that accompany our final WRMP19.
EA	I14.1 Raw water losses, treatment works losses and operational use as a % of WAFU - *The company should provide more details to justify its high raw water losses, treatment works losses and operational use. The company should also consider options to reduce these. From our analysis, a reduction to 2% of total WAFU could save the company 12 Ml/d.*	We consider that the primary reason for our raw water losses, treatment works losses and operational use appearing high as a % of WAFU is that our two largest works are in need of major refurbishment and, between them, they make up a large portion of our supply capability. We have proposed significant investment at these two works in AMP7 but before this investment occurs the proportion of loss is likely to remain high. Another reason why this component seems higher for us is that, at our major works, we measure the treatment works losses. It is possible that comparing our measured values against generic estimates (which others may use) is not a valid comparison. We are	We have discussed operational losses in as well as within section 7.8 of our dWRMP, we have responded here but also we welcome continued liaison with the EA on

Consultee	Comment	Our response	How have we addressed and where is our response?
		committed to using the water we abstract as efficiently as possible and we welcome further discussions about our options to reduce these losses with the EA.	this topic.
EA	Separately to its main response the EA provided us with several comments in what it described as its 'minor issues report'.	We thank the EA for these and we have addressed them as necessary in our final WRMP.	We have responded here and in the relevant section of our rdWRMP.
Historic England (HE)	In February 2017 Historic England provided us with information as part of our WRMP pre-consultation. This include some general information which included key principles such as · The historic environment should be protected, conserved and where possible, enhanced. We would welcome information about where potential enhancements may be possible for the historic environment…. · It is important for the Water Resources Plan and subsequent SEA to recognise a broad definition of the historic environment and not limit it to only designated assets. There may be a large number of undesignated assets that could be affected, particularly unknown archaeology. Buried archaeology is particularly vulnerable to this type of Plan. · Where location specific schemes are developed Historic England would need to be consulted and historic environment assessments would be required in order for us to assess any potential harm and ensure that the Plan has adequately appraised the historic	We thank Historic England for these comments. We have noted them and, where appropriate, incorporated them in our WRMP and/ or SEA. We are committed to consulting Historic England whenever our work on location-specific schemes requires it.	We have responded here and in the relevant sections of our rdWRMP and/ or SEA.

Consultee	Comment	Our response	How have we addressed and where is our response?
	environment. · Abstraction can cause particular issues for the historic environment, specifically buried archaeological remains. We would require prior consultation where abstraction is considered. · In South Staffordshire the Council is currently producing their Local Plan, nearing a conclusion. It is important to consider how new development will have an impact on the water resources network and how this additional pressure may also have an impact on the historic environment. It is important to consult the Historic Environment Record and work with local historic environment staff…. · We always recommend working with local authority historic environment staff who have locally specific knowledge and a good understanding of the Historic Environment Record. In addition, HE also provided detailed information for us to consider when finalising our SEA		
Historic England	We note that limited mention is made of the historic environment within the draft plan, which could be improved upon in this respect. However, on the basis of the information provided, it is our understanding that the proposed works in the plan focus primarily on improving upon existing sites and functions rather than seeking new sources. As a result, the heritage impacts in this particular Management Plan are less impactful than possible future works. The principal exception to this is scheme 1.4.1 'to improve and enhance SOPW/SHPW outputs' including a new nitrate removal plant with associated mains. While the location of the proposed plant and its potential historic environment impacts are not clear, the Strategic Environmental Assessment states that, 'The proposed nitrate effluent main crosses Chillington Registered Park & Garden. Therefore pipeline rerouting or specific mitigation measures would be	We acknowledge that our dWRMP only specifically mentioned the historic environment in section 2.3 but we note that our SEA considers this topic further. The SEA that will accompany our final WRMP19 will incorporate the points Historic England has made. On the specific point about SOPW/SHPW we confirm that the chosen scheme SOPW/SHPW does not include a route for the proposed nitrate effluent main which crosses Chillington Registered Park and Garden (RPG). The proposed nitrate effluent main had been drawn from the wrong location for the option. We have updated our assessment of the SOPW and SHPW option. Using the correct route, the nitrate effluent main would not come in proximity	We have responded here but also in the relevant sections of our revised SEA that will accompany our final WRMP19.

Consultee	Comment	Our response	How have we addressed and where is our response?
	required…'. Chillington Registered Park and Garden is a highly designated (Grade II*) heritage asset, and as such requires particular care to be given to proposals affecting its significance (I refer to paragraphs 132, 133 and 134 of the NPPF in particular). From a national perspective we would raise serious concern over any proposal which harmed this significance, including through alteration of its setting. This concern was raised with … (South Staffordshire Water PLC) ahead of this formal response and it was confirmed that the proposed nitrate effluent main would not be routed through Chillington. I would also be grateful for confirmation that proposal reference 6.1.3 (which would involve a route through two Scheduled Monuments) is not being taken forward."	to Chillington Registered Park and Garden. We note that our SEA highlighted the need for heritage impacts be fully understood and proposals amended to avoid or minimise harm in heritage terms (e.g. Section 9.2.3 states: "*Construction in proximity to Chillington Registered Park & Garden also resulted in moderate adverse effects being identified with respect to archaeology and cultural heritage. Further investigation and liaison with Historic England would be required as well as appropriate mitigation measures such as amendment of pipeline routes and routing pipelines to follow existing roads wherever possible*)." We confirm that we did not select feasible option 6.1.3 in our preferred plan and it will not be in our final WRMP19. We welcome the observation that the route of mains passes through two Scheduled Monuments.	
Natural England (NE)	**1: Habitats Regulations Assessment** NE provide useful information such as that "*Regulation 9 of the Conservation of Habitats and Species Regulations 2017 (S.I. 2017/1012) requires every competent authority, in the exercise of any of its functions, to have regard to the requirements of the Habitats Directive*"…. "*We note that the assessment has concluded no Likely Significant effect both alone and in combination with other plans. The company should reconsider this conclusion once they have been able to take account of the plans of neighbouring water companies and those that take water from similar sources*."	We have updated the in-combination assessment in our HRA and reviewed it regarding any updates since we produced our draft WRMP19 HRA. We have taken account of the effects of our plan 'in combination' with the plans of neighbouring water companies now that there is greater level of information available regarding those plans. In summary, we have revised the relevant sections of our HRA report and will subsequently publish this updated version with our final WRMP19.	We will respond in the relevant sections of the revised HRA that will accompany our final WRMP19.

Consultee	Comment	Our response	How have we addressed and where is our response?
Natural England	**2.0 SEA** …. The SEA has taken a logical approach to the consideration of impacts although it is not clear how this has effected choices of schemes. The plan does include a scheme where potential impacts on biodiversity has been identified (SOPW/SHPW). There are some general statements about how this impact could be avoided/minimised through design but the company should make a commitment to avoid impact where at all possible and compensate where impact is unavoidable. It should be noted that through-out the SEA impacts appear to be restricted to considerations of national designations (SSSI and ancient woodland). Biodiversity is not restricted to these areas and the plan should be seeking to ensure that it the impact on areas of local biodiversity importance is considered and avoided. The plan should be seeking to ensure that the company achieves a net biodiversity gain over the entire plan programme. It is encouraging to see the company referring to its own Biodiversity Action Plan but we are yet to see this document and are therefore unable to understand how the proposals in the WRMP will contribute to its delivery.	As figure 24 in our dWRMP shows, SEA runs throughout our options appraisal process. What this means in practice is that if, at any stage in the process, the SEA flags that an option may "breach any statutory &/or regulatory constraints" or not be "environmentally and socially sustainable" then we reject it. Specifically, in relation to SOPW/SHPW we commit to delivering this option in a way that avoids impact and compensates where the impact is unavoidable. We note that our bespoke AMP7 performance commitment (PC) for an "area of land that we actively manage to protect wildlife, plants, habitats and catchments" will help us to achieve a net gain on biodiversity. We note that our biodiversity action plan has now been superseded by our biodiversity strategy. The PC mentioned above builds on this strategy as it also brings in the benefits of our catchment and WINEP work. Section 7 of the Environmental Report describes how the SEA influenced the development of our plan in terms of programme appraisal. We have provided further detail in Section 7 to highlight how the SEA influenced and improved environmental performance via our WRMP. We have updated our Environmental Report with respect to avoidance/minimisation of biodiversity impacts identified for the SOPW/SHPW option. We disagree with the comment stating that throughout the SEA impacts appear to be restricted to considerations of national designations. We	We have responded here and in the relevant sections of our SEA.

Consultee	Comment	Our response	How have we addressed and where is our response?
		present evidence in the baseline and the commentary of the assessments presented in Appendix D of our SEA showing that we also considered sub-national and non-designated effects. We acknowledge that the high-level nature of SEA means that designations, such as SNCIs (sites of nature conservation interest), were not included. In the commentary of the first assessment matrix in Appendix D we noted that: "*Construction of the main would generate dust emissions and noise disturbance with potential adverse effects on sensitive environmental receptors. At this distance and with a minor road in-between the construction site and the woodland no effects are anticipated. The construction work associated with the Option could cause a temporary, medium to long-term (3 years) effect on a moderate area (22ha) of non-designated habitats with associated with temporary fragmentation effects caused by the proposed pipeline works. Construction work in proximity to the River Stour at the KIPW1 BH presents potential for adverse impacts to riparian habitat. These effects would be mitigated as far as possible by use of directional drilling under the river*."	
Natural England	**2.1 SSSIs** …. The Water Industry Strategic Environmental Requirements (WISER, page 29) sets out the expectations for delivery of these obligations. Companies are expected "to contribute to maintaining or achieving SSSI favourable condition both on [companies'] own land and in the	We wrote to the EA on 14 August 2018 clarifying what we plan to do in relation to our WISER obligations. Our WRMP includes measures implemented through the WINEP to ensure that our operations and abstractions do not impact on SSSIs	We have responded here and in section 10.3.1.7 of

Consultee	Comment	Our response	How have we addressed and where is our response?
	catchments [companies] manage or impact on". The rate of improvement going forwards is set out in the Defra 25 Year Environment Plan which aims to restore "75% of our one million hectares of terrestrial and freshwater protected sites to favourable condition, securing their wildlife value for the long-term". The company should include within its PR19 plan a commitment to move its SSSI into favourable condition, as these include important water resources assets, such as Blithfield reservoir, this should also be referenced in the WRMP.	in our area. Our proposed environmental Performance Commitment (PC) will allow for further improvements and enhancements to be made to biodiversity and SSSIs in our area of supply. For example, our environmental AMP7 performance commitment, which includes future catchment management work, will benefit the Blithfield SSSI. We have referenced this performance commitment in section 10.3.1.7 of our rdWRMP.	our rdWRMP.
Natural England	**2.2 Impacts on the landscape**…. Protected landscapes are central to the delivery of aspirations in the Defra 25 Year Environment Plan to enhance the beauty, heritage and engagement with the natural environment. Your operations include a large part of the Cannock Chase AONB which does not appear to be considered in the plan. The Sea only considers new sources of supply/additional demand side options. There may be potential for existing water resource assets to be improved to reduce their impact on the landscape.	Natural England is correct that the Cannock Chase AONB is within our Staffs operating region. It is also true that we have not explicitly mentioned it in our dWRMP, however we referred to it several times in our SEA. We have now included additional information in the Environmental Baseline regarding Cannock Chase AONB. We have updated our Environmental Report with reference to Defra 25-Year Environment Plan. We note that our SEA only considers new sources of supply/additional demand side options. We will consider if there is anything we should do in relation to the impact of our existing water resources assets on the landscape.	We have responded here and in our revised SEA.
Natural England	**2.3 Biodiversity** …. The company is in the process of developing its own Biodiversity Action Plan and this should be seeking to deliver Net Gain given the above government targets and Wiser obligations. There are several partners the company should be seeking to work with to develop landscape scale options such as Local Wildlife and River Trusts,	We agree that we should work with several partners to deliver biodiversity and catchment benefits. We are already working with a range of partners (Natural England included) as part of our AMP6 catchment and biodiversity work and we will continue to take a collaborative approach. We will update section 7 of	We have responded here and will update our SEA accordingly.

Consultee	Comment	Our response	How have we addressed and where is our response?
	RSPB, the Cannock Chase AONB and the National Forest, Local Environment Partnerships (LEPs) and Catchment partnerships.	our SEA Environmental Report to present strategic opportunities for Net Gain of biodiversity for the options selected in our preferred plan.	
Natural England	**2.4 Protected Species** Natural England Standing Advice for Protected Species is available on our website to help local planning authorities and others including water companies better understand the impact of development on protected or BAP species should they be identified as an issue at particular developments or plans. This also sets out when, following receipt of survey information, the authority (or the undertaker in regards of the exercise of permitted development rights) should undertake further consultation with Natural England.	We thank Natural England for this information and we have noted it for future reference.	We have responded here.
Natural England	**2.5 WFD** NE provided information on the Water Framework Directive. This included the fact that it "*sets specific objectives for the protection of the water environment which include for surface water bodies the prevention of deterioration and achievement of good ecological status/potential. For groundwater bodies the objectives are to prevent deterioration and achieve good chemical and quantitative status*."….	We thank Natural England for this information and we note that the need to comply with the Water Framework Directive is one of the largest challenges that we address in this WRMP.	We have responded here.
Natural England	**2.6 Adaptation to Climate Change** In addition to improving the natural capital including enhancing biodiversity (covered in the SEA and HRA above) the Defra 25 Year Environment Plan aspires to "*take all possible action to mitigate climate change, while adapting to reduce its impact".* WISER (page 54) *states "a priority for all should be to work together to build an evidence-based understanding of the likely effects of climate change and identifying and implementing low carbon solutions that address any negative environmental impacts that may arise".*	We thank Natural England for this information and we agree that understanding climate change is vital. In section 3.5 of our dWRMP we described how we have assessed the potential impact of climate change. As part of our wider PR19 plans we are exploring how we can operate in a way that minimises our carbon footprint.	We have responded here.

Consultee	Comment	Our response	How have we addressed and where is our response?
Natural England	**4.1 Putting People at the Heart of Decision Making** **4.1.1 Demand management**…. Section 82 of the Water Act 2003 places an environmental duty on the water undertakers 'to further water conservation', in addition to duties in the Water Industry Act (section 3(2)(a) 1991) to promote efficient use of water by its customers. The plan demonstrates evidence that this duty has been taken into account and that this has been pursued as far as possible through demand management within the plan rather than increasing supply. We strongly support the following demand management options in the dWRMP, leakage reduction of 17% and the increase in speed of metering, we feel the company may want to consider further work on promoting more efficient water use but note its intention to roll out Further we support the aspiration to reduce per capita consumption by 1l over the plan period, we would suggest that this should be a minimum target and the company should, through its PR19 submission seek to out-perform this. This is an area where the company's proposal to develop an environmental 'tailored service package' could be used to deliver environmental gains led by its customers. **4.1.2 Shared Plans for Places** Water companies should ensure that the WRMP is used to influence options in the relevant local plans including those on the quantum of growth and its location. Paragraph 109 of the National Planning Policy Framework (which local plans must be consistent with) requires that local plans should contribute to and enhance the natural environment….The company should seek opportunities to help in delivery of this agenda especially in the AONB and the National forest.	We welcome Natural England's support for our proposals to reduce leakage and we hope that our decision to reduce it even further than we stated in our dWRMP also meets with NE's approval. We also welcome NE's support for our planned increase of meter optants and our 1 l/p/d consumption target. We think that our environmentally 'tailored service package' could indeed deliver customer-led environmental gains. We note that our current biodiversity outcome delivery incentive (ODI) and the performance commitment we have made for 2020-25 will help us to deliver environmental enhancements. On the specific point about our WRMP influencing options in local plans, we note that these plans account for many factors when making decisions on growth. One of these factors is water but there are many other considerations too. We will consider what impact our assets have on the AONB in our region. We will consider what opportunities exist for us to partner organisations to deliver natural environmental enhancements in the AONB and the National Forest.	We have responded here.

Consultee	Comment	Our response	How have we addressed and where is our response?
Natural England	**4.2 Resilient Landscapes and Seas** **4.2.1 Natural Capital and Ecosystem services** *Conservation 21: Natural England's conservation strategy for the 21st century* and Defra's 25 Year Environment Plan encourage growth in natural capital and measurement of ecosystem services. WISER recommends that companies consider how natural capital accounting can inform water industry planning. WISER recommends that companies trial natural capital asset accounts (including quantity and condition) and ecosystem service assessments (including qualitative and quantitative assessments) to help companies better understand the flow of benefits **4.2.2 Enhancing Resilience** *Conservation 21: Natural England's conservation strategy for the 21st century* focuses on the importance of natural processes to build long term resilience in our wildlife, landscapes and seas…. Ofwat also stresses the importance of improving environmental resilience in its methodology guidance to companies for PR19[1] …. **By Catchment schemes** WISER advises companies that they should "*consider whether [their] abstractions are truly sustainable, looking across a catchment as a whole and consider investment in integrated catchment schemes to improve drought resilience and water quality*". Natural England encourages the water company to consider further catchment schemes which may contribute not only to improving water quality at its sources by reducing diffuse pollution, but could also improve the resilience of surface and groundwater sources by storing and	We thank Natural England for this information and we agree that natural capital and ecosystem services could potentially be of benefit. The decision making framework (DMF) that we described in section 10 of our dWRMP includes an environmental sustainability objective. The DMF we used is an enhancement on the tool we used for WRMP14. We expect that the tool we use for WRMP24 will be improved again and, if applicable, we will incorporate natural capital in that. We agree that environmental resilience is vital to a healthy environment, for our customers and for a properly functioning water industry. Our 2015-20 biodiversity ODI and our 2020-25 biodiversity/ catchment PC will help to deliver this. We welcome NE's encouragement to consider further catchment schemes. We have done this and our 2020-25 catchment management programme will be significantly more extensive than our 2015-20 catchment work. Our current and future catchment work includes the creation of habitats. For example, one of our grants funded the creation of a wildlife pond. We have also funded wildflower planting in the Blithe catchment and are actively working with and	We have responded here.

[1] Delivering Water 2020: Our final methodology for the 2019 price review. Ofwat 2017.

Consultee	Comment	Our response	How have we addressed and where is our response?
	retaining water and improving groundwater infiltration rates. Such schemes could include the creation and restoration of wetland habitats, appropriate woodland planting and sustainable drainage systems within a wider catchment…. **By Habitat Creation** Consider the contribution that the creation and restoration of wetland habitats, appropriate woodland planting and the rewetting of upland peatlands within a wider catchment would make on reducing diffuse pollution, thereby contributing to water purification and also on storing and retaining water, reducing peak floods further downstream in the catchment. Local Nature Partnerships (LNP) and Biodiversity Action Plan (BAP) Partnerships will be able to give advice on which Priority Habitat creation and restoration would be appropriate in which location **4.2.3 Climate Change** The Climate Change Act 2008 sets the legal framework for adaptation policy in the UK, preparing for the likely impacts of climate change….	financially contributing to the valuable work of a local Natural England employee. We also note that we wrote to the EA in 2018 setting out how we plan to meet and/ or exceed our obligations under WISER. We have provided details on what we have done in response to climate change in our answer to NE's point 2.6.	
National Farmers' Union (NFU)	"The NFU is a professional body which represents the interests of approximately 75% of all farmers and growers and has 5400 members in the West Midlands….The NFU has been engaged with South Staffs Water on catchment management initiatives for a number of years and we are keen to build on the positive work that been achieved so far in order to safeguard supplies and improve water quality.…	We are also keen to build on the positive work achieved so far between ourselves, the NFU and its members.	We have responded here.
NFU	While water companies have an absolute duty to supply domestic customers with water, we recognise that this absolute duty does not extend to commercial customers. However we would like to see South Staffs Water outline the steps that they are taking to safeguard	The NFU is correct that the absolute duty to supply does not extend to commercial customers and we are sympathetic to the problems this could cause rural businesses. We note that contacting local MPs	We have responded here.

Consultee	Comment	Our response	How have we addressed and where is our response?
	levels of service in water supply to rural businesses. Water supply will be critical for securing growth in the rural economy and we would like to see a focus on rural resilience in South Staffs long term plans, particularly where they are working with the farming community on wider objectives. This is a particularly important point for livestock businesses who can be at the end of long supply pipes and where 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. We would urge you to consider this issue and potential emergency responses as it can be devastating for affected businesses One of Staffordshire's success stories is its thriving soft fruit and vegetable sectors, these growers would also be quickly affected by reduced water availability in summer months. Soft fruit crops in particular would die in a matter of hours without access to water. And therefore any proposals to alter river flow or that would impact upon summer abstractors would have a direct impact on these businesses. 'Temporary use bans' were a feature during the 2010-12 drought and may have had an impact on the amenity horticulture sector (such as pot plant and turf growers). It would be helpful for South Staffs to outline the steps taken to address the service levels for their customers in the amenity horticulture sector.	and/ or lobbying Government may help to bring about legislative change in this area. We agree that if businesses are at the end of a long pipeline this increases the likelihood of low pressure. Unfortunately, we can't guarantee an emergency response to livestock or soft fruit crops but we urge our customers to contact us as soon as they are aware of any issues. We respond to leaks on our network as fast as we can. For example, during the 'beast from the East' freeze thaw event in March 2018 we reacted quickly to an increase in demand of 35%. We did this by repairing all leaks we could and by turning off supplies if we saw leaks in vacant (void) commercial premises. We encourage landowners who know of leaks on their property to repair these as quickly as possible. Our responses to interruptions in the 2015-20 period has been in the upper quartile of the industry and we plan to continue this in the future. As we treat all of our customers fairly, we are not planning any preferential focus on resilience to help rural customers in preference to non-rural customers. TUBs were not a feature in 2011-12 in our region. We have not had restrictions on use since 1976 in the South Staffs region. The service levels that we offer to the amenity horticulture are in line with those we offer to all commercial customers in that we plan not to impose a non-essential use of water ban more than once every 80 years.	

Consultee	Comment	Our response	How have we addressed and where is our response?
NFU	The recent opening of the retail market for business customers has made the water resources and supply picture more complex for agricultural and rural businesses. With several water retailers operating in the market there is a risk that farming customers will face additional barriers when trying to communicate about supply issues. We are very concerned about this situation and are working hard to build new relationships with the new retailers. Therefore we are very glad that South Staffs have recognised the importance of working with retailers on water resources issues.	We acknowledge that this is an important issue. As described in response to the CCWater point 3.12, we have updated section 3.9 of our rdWRMP to describe the work we are doing with retailers.	We have responded here and by editing section 3.9 of our rdWRMP.
NFU	We continue to believe that there could be significant opportunities to develop water storage features by working with farmers. We would like to see South Staffs 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.	We are open to multi-sector and multi-use storage solutions. For example, we actively engage with groups such as Water Resources in the East (WRE) as well as groups looking to make the best use of water resources in the River Severn and the River Trent.	We have responded here.
NFU	In our view it should be of the highest priority for South Staffs Water to meet its responsibilities under Water Framework Directive. We would like to see continued activity on protecting the water environment. Our members are very aware of the impacts of the water industries activities on the water environment. Farmers are continually asked to improve and change practices in order to improve their environmental performance and reduce water impacts. Smaller rural systems must not be forgotten and we must all continue to work together at the catchment level to deliver continual improvements together. It is also important that these joint improvements are communicated to local communities. We have been very supportive of the catchment management initiatives established by South Staffs Water. The Blithfield	We agree WFD is a high priority and we are glad that the NFU and it members support our Blithfield work.	We have responded here.

Consultee	Comment	Our response	How have we addressed and where is our response?
	catchment work has seen some innovative approaches and demonstrates the value of a farm infrastructure offer teamed with farm advice from a trusted and established advisor. The offer so far has proved popular with farmers and the next stage will be to work together to communicate the outcomes of these measures and therefore the benefits of involvement. South Staffs Water have also invited NFU groups into water treatment works and these have always proved popular and thought provoking visits.		
Ofwat	The main body of Ofwat's letter focused on two key points: a) Our ambition on long term demand management b) How we can maintain our leading position in terms of PCC	We have given a full detailed response to both of these points in answer to Ofwat's point 7 but we note that we have brought forward our 'live network' scheme to reduce leakage as suggested by Ofwat.	We have responded within this SoR.
Ofwat	<u>1. Plan building blocks</u> South Staffs Water has generally used methods and data appropriate to the scale and complexity of the problem that it needs to address. However, there is limited evidence of non-drought resilience to the full range of potential hazards and threats, like flood risk or freeze-thaw events, being considered. Figure 18 titled 'Resilience lens segments' which is intended to provide further insight into this is not readable and should be amended in the final plan.	We welcome the fact that Ofwat thinks our methods and data are appropriate. We provided more evidence of the non-drought resilience work we have done in response to the EA point I9.1. This covered flood risk and freeze-thaw events. Regarding figure 18, we have emailed Ofwat with a copy of this figure at a higher resolution and are exploring ways of making it more easily readable in our fWRMP.	We have responded here and via an email sent to Ofwat on 12 July 2018.
Ofwat	<u>2. Customer participation</u> South Staffs Water has carried out a wide ranging approach to customer participation. The use of innovative approaches such as immersive, role-playing research techniques demonstrates good practice in this area. However, there appears to be limited engagement on willingness to pay and the bill impacts of the programme. We would expect to see further clarity on this and potentially further work reflected in the final plan. Further specific	We agree that we have carried out wide ranging customer engagement. On the point about "limited engagement on willingness to pay" (wtp), this is a fair comment for our dWRMP but, as we described in response to the EA point I11.1, we have added more information on wtp and views on bill impacts in section 5 of our rdWRMP and in the updated appendix F. We agree with Ofwat's comment about	We have responded here, within section 5 of our rdWRMP and in the updated appendix F.

Consultee	Comment	Our response	How have we addressed and where is our response?
	comments: - The draft plan includes an accessible executive summary detailing the company's proposals across key elements of the plan. The plan is generally easy to navigate and accessible, with an overview provided at the introduction of each section and this is complemented by a non-technical summary document. - The research suggests customers are satisfied with the current levels of service for drought restrictions, however, the engagement appears to focus upon temporary use and non-essential use bans. South Staffs Water should clarify whether there have been discussions with customers regarding more severe restrictions, such as standpipes, as this frequency was not defined in the previous plan. The company should also confirm whether relative drought resilience levels to other companies was discussed. - Customers' high level priorities are reported in the plan but apart from requesting further assistance to help them manage water use there is limited evidence relating to their preferences for specific option types. The company intends to complete its willingness to pay research prior to the final plan. We expect the outcomes of this to be included in the final plan with a clear explanation of how this has influenced the selection of preferred options. - The company should indicate in the final plan if the customer engagement activities included presentation of the bill impact of the options presented in the preferred plan. - South Staffs Water has engaged with its Customer Challenge Group (CCG) although it is not clear how this engagement has shaped the draft plan and this should be clarified in the final plan.	the accessibility of our WRMP. Ofwat is correct that our customers are generally satisfied with the current frequency of temporary use/ non-essential use bans. We can confirm that we also asked (as a worst case scenario) their views on more severe restrictions such as standpipes. Our customers considered these measures to be unacceptable. We provided customers with comparative information so they could see how our levels of drought resilience sit in comparison to those offered by other water companies. We also provided this information to our customers for the other questions, where directly comparable data exists. We have responded to Ofwat's request for the outcome of our engagement to be in our final plan by updating section 5 of the rdWRMP and appendix F. We note that the diagram we have added into section 10.7.1.4 helps to show how customer preference influenced our preferred portfolio. As we have confirmed in section 5 of our rdWRMP, our customer engagement activities included material that showed bill impacts. On Ofwat's observation about our CCG, we can confirm that the CCG has influenced our plan strongly. We have clarified this by adding text to section 5.1 to our rdWRMP. Our CCG will provide their views on our approach to PR19 in the report it submits to Ofwat on 3rd September 2018.	

Consultee	Comment	Our response	How have we addressed and where is our response?
Ofwat	3. Demand forecast The draft plan appears to have followed the relevant guidance and assessed demand through consideration of appropriate components. The main driver for increasing demand is population growth. We have concerns around the clarity of PCC estimates and engagement on non-household demand. Further specific comments: - South Staffs Water have followed the guidelines through development of a population forecast based on local authority plan projections. - The company needs to provide further explanation of the baseline and preferred plan PCC trends. We are unsure of the reasons for the observed small increase in measured PCC, and corresponding decrease in unmeasured PCC, across the planning period in both the baseline and preferred plan. It also appears that by 2040 measured PCC is higher than unmeasured PCC. - Non-household demand is forecast based on statistical analysis of past trends and will remain broadly flat across the planning period. The draft plan does present evidence that South Staffs Water has attempted to engage with retailers but the information available from them was limited. The company should consider how to engage more effectively with large users and retailers to enhance and validate this forecast.	We agree with Ofwat's assessment that our demand forecast has followed relevant guidance. To respond to Ofwat's concern about our PCC estimates and engagement on non-household demand we have responded to each specific comment here. - Ofwat is right to say that we have used local authority plan projections - Ofwat is also correct to point out that our dWRMP tables showed unmeasured PCC being lower than measured PCC. As we noted in response to the EA point I4.1, we have identified the cause of this and will rectify this in our final WRMP tables. - We acknowledge that engaging with retailers is important. As described in response to the CCWater point 3.12, we have updated section 3.9 of our rdWRMP to give more detail on the work we are doing with retailers.	We have responded here, within section 3.9 of our rdWRMP and in the updated tables that we will publish alongside our final WRMP.
Ofwat	4. Supply forecast The draft plan follows the relevant supply forecasting guidance and the outputs appear reasonable. The differences with the previous plan have also been presented which is an example of good practice. We have concerns around discrepancies between the narrative and planning tables and would want greater clarity to be provided on operational losses and outage. In particular:	- We do not think there are discrepancies between our supply forecast (Deployable Output) for our assessed levels of service, which has been reported as 338Ml/d in Table 19 of our dWRMP and the different value in Table 2 of our WRMP tables. Table 2 states a Deployable Output of 398.1Ml/d, but that is not including any reductions. These are related to	We have responded here and in sections 7.4.1, 7.8 and 10.5.2 of our rdWRMP.

Consultee	Comment	Our response	How have we addressed and where is our response?
	- There are discrepancies between the plan narrative and planning tables with regards to the supply forecast (deployable output) for the company's assessed levels of service. For example, greater clarity is required on the links between the figures presented in Table 19 of the plan narrative and Table 2 of the planning tables. Consideration of the benefits of drought permits and drought demand measures on supply, are not clearly presented in the draft plan. Further explanation on these points is required in the final plan. - Operational losses (sum of raw water transport and process losses) are 5% of supply and this is above the industry average of 1.6%. This has also increased since the previous plan where it was 3%. In the final plan we expect South Staffs Water to provide greater clarity on its approach to operational losses and consider steps it could take to reduce them. - South Staffs Water's outage is 3%, which is below the industry average of 5%, however, it is not clear whether the level of outage is consistent with the challenges set out in the plan. Further considerations: - The company identifies the need for potentially significant expenditure at its two strategic surface water works as well as noting that maximum supply from these works is necessary to maintain the supply-demand balance. – In the final plan we expect South Staffs Water to provide greater clarity on how it intends to maintain an appropriate level of resilience while it addresses this challenge and how this will influence outage levels throughout the planning period.	losses at WTWs, which should not be considered in the DO, estimated as 18.6 in the same table. Likewise, potable water exports to other companies, established as 41.6Ml/d, must also be removed from the DO. Therefore, the DO can be calculated as 398.1 - 18.6 - 41.6 = 337.9Ml/d. - We described our approach to operational losses in response to the EA point I14.1 as well as within section 7.8 of our dWRMP. - As we described in response CCWater point 3.7 and the EA point I2.1, our outage modelling is robust. We discuss the point about our outage allowance being consistent with the challenges in our plan below. - We will maintain appropriate levels of resilience whilst we carry out the major improvements to our largest works by planning the work so that it is an 'off-line' build. This means the work will not reduce output from our surface water works for any significant period, i.e. not more than hours. This means the impact on outage is minimal. During these short periods we will use resilience options, such as the Perry Barr transfer, if required. When the work is complete and has installed dual streaming of flows it will reduce any single points of failure. We describe this and the impact on outage in section 10.5.2 of our rdWRMP.	
Ofwat	<u>5. Forecast uncertainty</u> South Staffs Water appear to have adopted an appropriate approach	No action needed but we note that are rerunning our headroom model and will use this headroom in our	We have responded

Consultee	Comment	Our response	How have we addressed and where is our response?
	to determining target headroom, which is slightly below the industry average and not a significant driver of the plan.	final WRMP.	here.
Ofwat	6. Supply-demand balance The supply-demand balance profile presented is in line with the assumptions of the individual supply and demand components and appears to be consistent with the guidance.	We thank Ofwat for this comment.	We have responded here.
Ofwat	7. Options South Staffs Water has considered a range of supply and demand options. The company also proposes to identify any further options for trading, or provision of alternative demand management options, during the public consultation. Option screening appears to have been carried out in line with the guidance, but it is not entirely clear from the feasible options list how options perform against each other. Further specific comments: - The screening criteria used to develop the feasible list of options appears to be appropriate, however, an unconstrained options list and rejections log was not provided and should be included for the final plan. The draft plan includes the consideration of third party provision of supply options, from the Canal & River Trust and the Coal Authority, though there is a lack of clarity as to what steps were taken to promote these options: - Three third party options were deemed feasible, however, none are included in the preferred plan. In the final plan the company should provide further details regarding the consideration of these options and the rejection of third party options prior to the feasible list. - The narrative notes the company intends to identify any further options for trading, or provision of alternative demand management options, during the public consultation for the draft plan. We expect the results of this exercise with third parties to be reported in the final	The majority of our selected options (leakage reduction by 25% and increased meter optants with a more targeted water efficiency programme) have been driven by the customer and stakeholder engagement. As a result, we only required a modest number of other options to make up the residual supply demand deficit. We have added a plot showing our preferred and alternative portfolios to section 10.7.1.4 of our rdWRMP to give more clarity on our option appraisal. In addition, we have included a log in section 10.4 that describes how third party options perform against alternative options. This log shows our reasons for not selecting these options in our preferred plan. We will include an unconstrained list in our final WRMP appendix S. - Our response to CRT earlier in this document provided more clarity on their options. The log referred to above shows why we did not select CRT or other feasible third party options. - Since we published our dWRMP we have continued to talk to Severn Trent Water about trading as well as entering into discussions with other organisations who we had not contacted when	We have responded in this SoR and in the revised dWRMP. For example, we have added a log to show how we assessed third party options in section 10.4. We have also edited section 7.7 and updated our rdWRMP to include our more ambitious AMP7 leakage

Consultee	Comment	Our response	How have we addressed and where is our response?
	plan. - Water trading with other water companies features in South Staffs Water's draft plan. We welcome the fact that the company has held discussions, and provided information on potential trades, with United Utilities Water and Severn Trent Water and that it expects to include water trading options in its final plan. Further considerations: - The company intend to identify further trading opportunities during the consultation period of the draft plan. We would expect detail of this process and the impact on the preferred options to be included in the final plan. - A potable water transfer of 20Ml/d from Severn Trent Water at Perry Barr is included in the plan. Compared with the option to import from United Utilities Water via the River Severn, this has a relatively high cost and, while it appears it can provide specific resilience to enable the refurbishment of the company's water treatment works, it is unclear if other options could also provide similar resilience. This should be clarified in the final plan. - South Staffs Water propose to reduce leakage by 17% by 2025 which shows a good level of ambition and appears aligned with customer preferences. After 2025 it proposes further reductions to leakage of 26% by 2045. Further considerations: - The company should clarify why it has decided to maintain leakage at a constant level in during 2025-40 before achieving further reductions. - Linked to the above point leakage reductions after 2040 appear to rely on South Staffs Water's development of an innovative 'live network' option. Although the option is likely to require considerable development, we would expect consideration of earlier delivery and include trials to ensure the option is deliverable.	we produced our dWRMP. We have edited section 7.7 of our rdWRMP to reflect the latest position with Severn Trent and we discuss this more below. We will continue to explore all trading and multi-regional solutions, for example as part of the Severn and Trent working groups – as mentioned in section 4.3.6 of our dWRMP. - The primary impact of these discussions on our preferred options relates to the 20 Ml/d potable transfer from Perry Barr. We want to clarify that this is only a resilience option and not one that will provide any additional resource in a DYAA or DYCP scenario. During our discussion with Severn Trent it has become clear that this supply could assist with managing planned outages. As it is a potable import and a resilience only option, it is very different to the UU River Severn import. In addition, individually the UU option does not include any capex associated with upsizing our Severn WTW and the distribution network. So, it is not appropriate to directly compare their respective costs. The information in the third party option log in section 10.4 of our rdWRMP clarifies our plans in relation to potential new imports/ exports. Ofwat is correct that our dWRMP showed a 26% reduction in leakage by 2045 from 70.5 Ml/d. Ofwat is also right to say that we had initially assumed leakage would remain constant in 2025-40 but we have now revised our leakage projections to include a reduction in every year	reduction (which is now 25% rather than 17%).

Consultee	Comment	Our response	How have we addressed and where is our response?
	- Metering is forecast to increase by 8% by 2025 as a result of using optant strategies and will reach 75% by 2045. It is stated in the narrative the company is considering introducing smart meters and greater detail on potential trials of this should be provided in the final plan. - We welcome the wide range of water efficiency options in the draft plan, such as enhanced engagement, home visits and engaging with developers. However, further detail as to how savings are derived from these should be provided in the final plan. We note that South Staffs Water's relative PCC position is also forecast to fall from amongst the lowest to near average PCC by 2045. We therefore expect the company to consider the potential for more ambitious PCC reductions. - The company considered a range of supply options within the draft plan, which include additional supply options at two existing treatment works and a groundwater source. There also appears to be a further groundwater option selected for local resilience (MAPW1) but it is not included within the planning tables, this needs to be addressed for the final plan.	between now and 2045. We are now targeting a leakage reduction of over 40% over the 25-year period. In addition, one of ways in which we aim to reduce leakage by 25% in AMP7 is to accelerate trials of our 'live network' option. We have described all of the metering, and other demand management, options in Appendix T, which we only provided to the EA. We will send this to Ofwat, if requested. If we have any more detail on smart meter trials than this we will provide it in our final WRMP. Appendix T also gives more details about our water efficiency bundles too, for example, it provides estimated AISCs and Ml/d values. In response to the point about how our PCC changes over the 25 years we refer to our response to the EA point I4.1. This describes work we are doing between draft and final WRMP to refine our demand forecasts. We did not include MAPW1 in our dWRMP tables because we selected it just for resilience. It will not provide a DYAA or DYCP supply demand benefit.	
Ofwat	<u>8. Decision making</u> An economics of balancing supply and demand (EBSD) approach to decision making adapted to include multi-criteria analysis has been adopted. This is appropriate to the scale and complexity of the problem and has been complemented by appropriate assurance. However, greater clarity is required in the final plan on aspects of the decision making process. Further specific comments: - It is unclear how the multi-criteria analysis has influenced the plan and South Staffs Water should provide further quantification of the	We welcome the fact that Ofwat thinks our approach to decision making and assurance is appropriate. As described in response to point 7 we selected Perry Barr on resilience grounds not because of it being a low cost supply option. Ofwat is correct to say that we plan to invest at our two surface treatment works to provide resilience benefits. However, both of these works are vital parts of our baseline DO. This is very different to the Perry Barr resilience option,	We have responded here and in section 10.7.1.4 of our rdWRMP.

Consultee	Comment	Our response	How have we addressed and where is our response?
	results and summarise its impact. The Perry Barr option has been included in the preferred plan but the planning tables indicate a number of supply options with lower costs and the company should further explain the decision making process in this context. - It appears that options selected for resilience in the preferred plan, like the two treatment work options are in fact necessary for retaining the supply- demand balance. This needs to be clarified in the final plan. - The draft plan does not explain how a least cost plan compares with the preferred plan. Greater clarity on this would increase the transparency of factors driving the preferred plan and how different options contribute to resolving the deficit in the scenarios considered. - There is no summary in the plan that provides a concise and transparent overview of the decision making process. In the final plan, for clarity, we would expect to see a clear summary that concisely explains how and by whom the preferred portfolio was decided on.	which is not part of our baseline DO but is a 'new' resilience option. We note that the plot showing our preferred and alternative portfolios in section 10.7.1.4 helps to show how customer preference influenced our preferred portfolio decision. Figure 34 in our rdWRMP provides a high level overview of our decision making. We also refer Ofwat to figure 1 in appendix S and the plot mentioned earlier for useful overviews of our decision making process. We also note that our response to the EA point I5.5 covers similar points to those raised here by Ofwat. Ultimately, as described in section 3.12 of our rdWRMP, our Board sign off our WRMP and wider PR19 preferred portfolio.	
Ofwat	- There is evidence of independent assurance of the draft plan and of engagement with the South Staffs Water executive team and the Board during the plan development and its approval.	We have noted this comment.	We have responded in this SoR.
Ofwat	<u>9. National and regional considerations</u> South Staffs Water are members of both the River Trent and River Severn working groups, which consider the needs of different sectors and regions from these catchments, but are not part of any regional water planning groups. We expect the company to continue to work with these groups and neighbouring companies to consider options that could have the potential to reduce costs and improve resilience. The company should also clarify how the Water UK national project has informed the development of its plan.	We will continue to be active members of the River Severn and the River Trent groups. We are surprised that Ofwat states that we are "*not part of any regional planning groups*". We are members of the Water Resources East (WRE) group. We are part of WRE not just because of our Cambridge region but also because we have an abstraction on the River Trent. We mentioned the Water UK national project in response to CCWater's point 3.3	We have responded in this SoR.

Consultee	Comment	Our response	How have we addressed and where is our response?
		about the 80-year timeline. In response to Ofwat's request for clarity on how it has informed our plan we note that the project gives a useful, high level and indicative view of the national direction of travel. However, we do not consider that it was detailed enough to directly drive investments (nor was it intended to do so). So, we have base our WRMP on our detailed, assured and robust, company specific analysis.	

(Where we have excluded sections of the comments in the interests of making this document more concise, we have indicated this with four full stops.)