South Staffs Water

South Staffs Water drought plan

April 2022

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Executive summary

This drought plan, which covers our South Staffs Water area of operation, describes how we will "…continue, during a period of drought, to discharge our duties to supply adequate quantities of wholesome water, with as little recourse as possible to drought orders or drought permits".

We published our last statutory drought plan in 2019. We are now updating it, in line with the latest guidance and to account for any other changes since we published the last plan. We have revised the plan's structure and layout according to the latest Environment Agency guidelines and requirements.

Our drought plan describes how we will manage the effects of a drought. However, because droughts are naturally occurring events, it does not reduce the risk of droughts occurring. This drought plan complements our water resources management plan (WRMP) as well as the regional plan that we are producing with others as a member of Water Resources West (WRW). While WRMPs take a longer term view of how we plan to meet future demands and become more resilient to drought in the future, our drought plans set out the operational steps and management framework that we can apply to maintain customer supplies according to our current levels of service through droughts of different length and severity.

This plan sets out the measures and actions we will take before, during and after a drought to provide a secure water supply to customers, while minimising our impact on the environment. We have introduced additional environmental indicators that trigger demand saving measures earlier in a drought and moved towards a more consistent language to improve customers' understanding of drought actions. We have also prioritised demand saving measures over those that would take more water from the environment in a drought.

This revised plan includes the hot, dry summer of 2018 in our analysis. We have also included sections on environmental assessment, monitoring and mitigation. We have presented the supply and the demand options we have available to us during a drought.

We have tested our plans against a range of possible drought scenarios to make sure the measures we propose are sufficient to ensure continued water supplies and minimise the environmental impact of these actions. Our drought management includes the communication actions that would be triggered in the event of a drought.

1. Introduction

1.1 Overview of the process

A drought is a naturally occurring event resulting from less than expected rainfall over a prolonged period of time, and every drought is different. Droughts can impact the environment, business and water supplies. This drought plan sets out the actions we will take before, during and after periods of extended dry weather. It describes how we will monitor and manage both supply- and demand-side options to maintain water supplies. We have tested this plan against droughts of different duration and severity, as set out in appendix C.

We published our last drought plan in 2019, in accordance with the latest published guidance from the Environment Agency and the 2020 Drought Direction. As required, we will share this plan with the Secretary of State for Environment, Food and Rural Affairs before 1 April 2021.

In preparing this drought plan, we have consulted with regulators, local stakeholders and neighbouring water companies, as well as with the Environment Agency.

When publishing our drought plan, we are required to exclude any matters of commercial confidentiality and any material that is contrary to interests of national security. We confirm this plan does not contain any commercially confidential information.

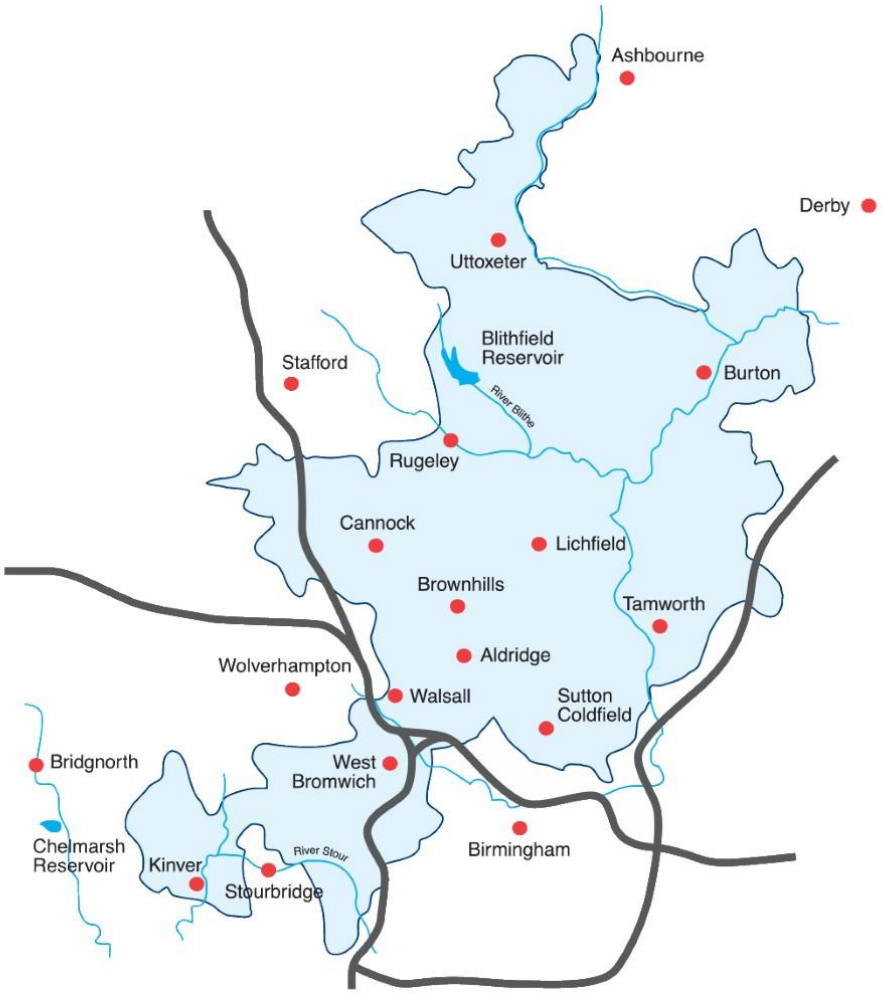
1.2 About the South Staffs Water supply area

We have produced separate plans for our South Staffs Water and Cambridge Water regions. This is because of the geographically separate nature of our supply areas.

In the South Staffs region, we supply wholesome potable water to a population of 1,377,000 in the West Midlands, the Black Country and parts of Staffordshire. The supply area is shown in figure 1 below.

We have a well-integrated water supply network and can move water all around our area of supply. In a dry year our water resources are supplied approximately equally from surface water and groundwater sources linked by an extensive strategic mains network. We operate two surface water works and 26 groundwater sources. One of our surface water works provides a major bulk supply to Wolverhampton (Severn Trent Water) and there are also a number of other small bulk imports and exports with Severn Trent Water, which have been in operation for a number of years at the periphery of the our supply area.

Figure 1 Souths Staffs region area of supply



1.3 Links to regional plans and the WRMP

Our current water resources management plan (WRMP), which is available on our website[1] sets out how we will manage the supply/demand balance under normal conditions and climatic fluctuations over a 25-year timeframe. We are also a core member of Water Resources West (WRW), which has been set up to facilitate the creation of a regional water resources plan. We have produced this drought plan with both regional planning and our own WRMP in mind.

While we have aimed for consistency across our own and the regional plans – for example, with our assumptions on bulk supply – in areas such as communications, stakeholder engagement and in the wording of customer restrictions, we align with the other companies

[1] 'South Staffs Water – Water Resources Management Plan 2019', December 2019 (updated October 2020). www.south-staffs-water.co.uk/about-us/our-strategies-and-plans/our-water-resources-management-plan

in WRW. Although future droughts will inevitably affect different WRW members in different ways, and we will not necessarily all impose the same drought measures at the same time, we are as consistent as we can be. In appendix D, for example, we have included a temporary use ban (TUB) notice, which has been shared to all core WRW members. This demonstrates that if any customer in the region has a TUB imposed on them, then the messaging and words used will be consistent. In addition, in appendix E, there is a statement from WRW that details areas of further alignment between the member companies.

1.4 Consultation on our draft drought plan

We are committed to engaging with stakeholders who have an interest in this plan. Following publication in June 2021 there followed an eight-week consultation period for key stakeholders to make their representations. Where appropriate we have revised our plan to incorporate representations made, and published a Statement of Response to all representations received alongside our draft plan.

1.5 Pre-consultation

In accordance with the Environment Agency's drought plan guidance we consulted with our statutory consultees before producing this draft plan to identify any issues of importance and for any comments that we should consider. Our pre-consultation ran from 15 May to 12 June 2020. A list of the stakeholders invited to comment are set out in appendix A.

Under the Environment Agency's guidance we are also required to consult with any licensed water supplier that supplies water to premises in our area of operations through our supply system. We are aware that Icosa Water has been granted a licence to supply water to customers in our supply area and will include them in our drought plan consultation. Comments received during the pre-consultation are also set out in appendix A.

2. Drought triggers

The aim of this plan is to demonstrate how we would manage resources and demands through a number of variable but plausible drought sequences, by implementing a range of management actions available to us. It presents a framework and timetable of actions to be considered through the most likely drought sequences we might expect. This allows operational managers to make informed decisions and develop action plans in an effective manner.

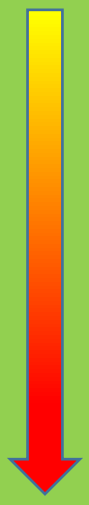
2.1 Vulnerability to drought

We have assessed the vulnerability of our supply system to different types of drought events, the likely frequency of drought and the scale of the impact of drought events in our WRMP. This includes our resilience to 1 in 200-year drought events (which will be revised to include an assessment of resilience to 1 in 500-year events in our next WRMP). We have used this to review and validate the drought triggers and actions in this plan.

2.2 Drought severity and drought triggers

We have followed Environment Agency guidance and adopted a level-based system that identifies the severity of a drought. The levels align with the control curves we use to manage a drought situation at Blithfield Reservoir. These control curves define the drought triggers and actions that can be taken as the severity of the drought increases. The levels also align with our communications plan. In table 1 below, we illustrate the alignment of the levels and the drought triggers. We describe the actions in response to those triggers in chapter 3.

Table 1 Drought triggers and actions

Severity of the drought	Blithfield Trigger Level	Demand Side Actions	Supply Side Actions
	Above level 1	Business as usual	Business as usual
	Level 1	Awareness raising, (internally and with EA), increased monitoring	Optimise sources, review outage
		Comms and first increase in demand management	Conserve Blithfield, Consider Nethertown/Brindley Bank, Review bulk supply with SvT
	Level 2	Appeal for restraint/Ramped up demand management. Prepare for TUBs	Prepare for Potable infusion/ permits.
		TUBs	Actions with minor environmental impact
	Level 3	NEUBs	Moderate impact drought permit/order
		All possible actions to avoid emergency drought orders	All possible actions to avoid major environmental impacts e.g. try to operate Blithfield at low level and using emergency/ drought sources

	Level 4	Operate Blithfield within emergency storage and impose emergency drought order

Source: Environment Agency.

Our most drought sensitive resources are the River Severn and Blithfield Reservoir, as our groundwater sources are largely unaffected by drought. The Environment Agency is responsible for managing the River Severn, and it has developed a set of trigger curves at Clywedog Reservoir to enable it to manage the river during a drought.

We have developed drought trigger curves for Blithfield Reservoir (see section 2.2.1 and figure 2). In addition to these control rules, we will also give due regard to a number of other factors when considering whether to implement our drought management actions. These include:

- the demand for water;
- sources which may be out of supply;
- the medium-term weather forecast;
- the soil moisture deficit;
- the time of year; and
- whether the level in Blithfield Reservoir is rising or falling.

Table 2 below details how some of these additional triggers are reviewed and the corresponding trigger levels they may generate.

Table 2 Drought triggers

Trigger Level	**Triggers**
Above Level 1 (BAU)	River flows normal or above average Groundwater levels normal or high Soil Moisture Deficit (SMD) normal or low Rainfall above the long term average Long term forecast indicates wet weather Average demand is low or normal
Level 1	River flows below normal Groundwater levels below normal Soil Moisture Deficity (SMD) above normal Rainfall below long term average Long term forecast indicates dryer weather Average demand is above normal

Level 2	River flows are low Soil Mosture Deficit (SMD) is high Rainfall is below long term average Long term forecast indicates dry weather Average demand is above normal and sustained
Level 3	River flows are notably low Groundwater levels are notably low Soil Moisture Deficit (SMD) is notably high Rainfall is notably below long term average Long term forecast indicates dry weather Average demand notably above normal and sustained
Level 4	River flows are exceptionally low Groundwater levels are exceptionally low Soil Moisture Deficit (SMD) is exceptionally high Rainfall is exceptionally below long term average Long term forecast indicates sustained dry weather Average demand is high and sustained

We describe how we have tested our drought triggers in appendix C. The scenarios presented include droughts of a similar severity as those included in our WRMP planning assumptions, as well as more severe droughts. This appendix demonstrates that our drought triggers for managing resources and demands are robust across several plausible drought scenarios.

We will only implement certain actions if they are in the best interests of customers and the environment at that time. As we describe in chapter 5, we will engage regularly with key stakeholders, such as the Environment Agency, during a drought to ensure we take the right action at the right time.

Our trigger to mark the end of drought conditions is when storage at Blithfield Reservoir storage is above drought Level 1 (although we also consider other parameters such as river flows and groundwater levels). We describe the end of drought in more detail in chapter 7.

2.2.1 Blithfield Reservoir triggers

The drought trigger curves for Blithfield Reservoir are shown in Figure 2 below. In Figures 4, 5 and 6 we provide annotated versions of the trigger curves which indicate when we could deploy our drought options. These curves are based on those used in our 2018 drought plan, although we have reviewed them more recently through a project with Mott McDonald. This project identified that any changes to the existing curves would not yield any additional

benefit, and so they have remained the same, although we have updated the names of each trigger to align with drought levels 1-4 as set out in table 1. However, the exact timing and sequence of implementation will depend on the prevailing circumstances at the time.

Figure 2 Control curves for Blithfield Reservoir

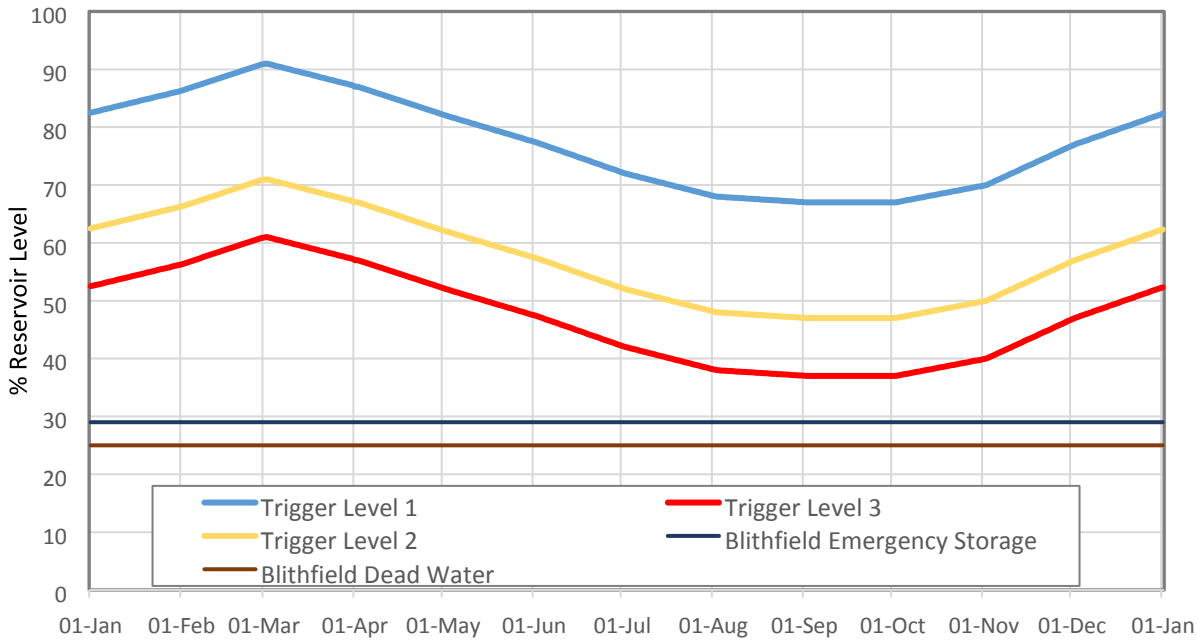
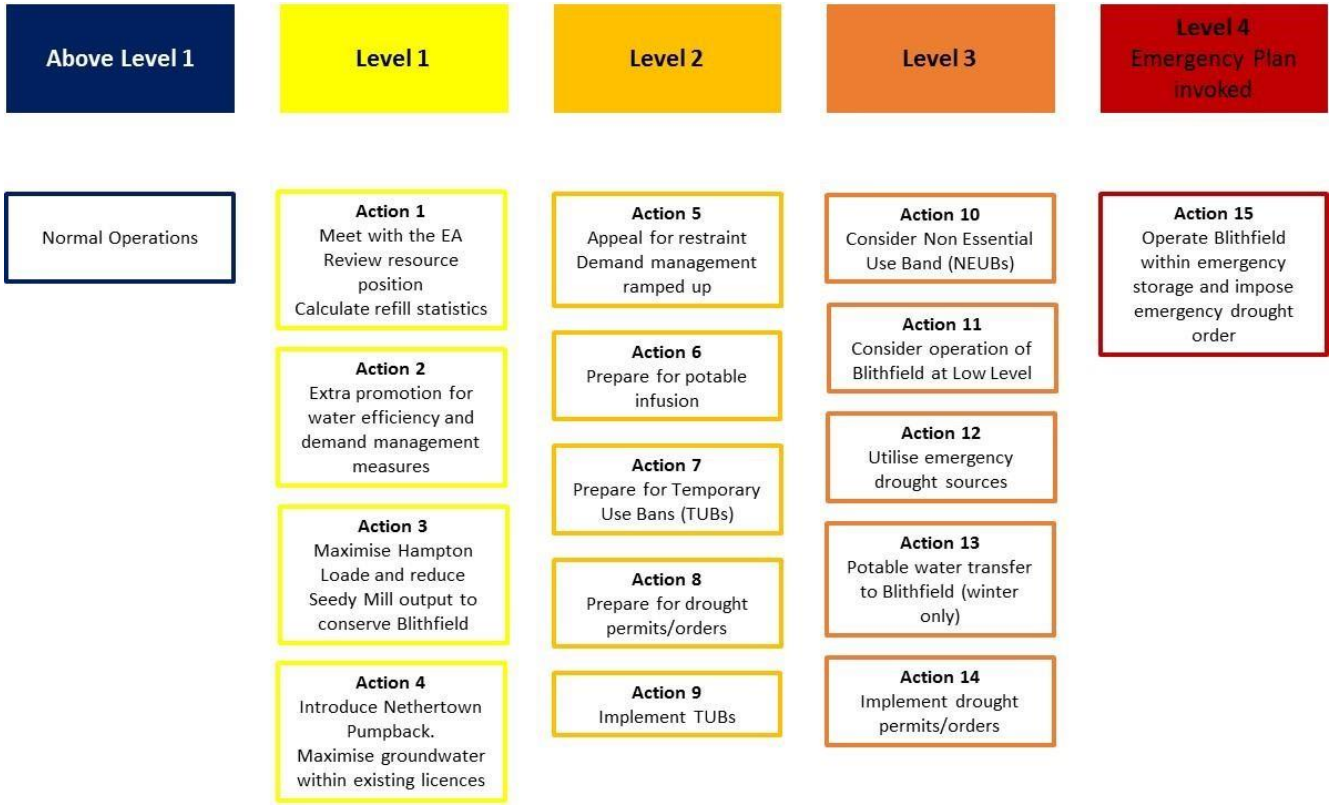


Figure 3 Blithfield Reservoir Drought control rules and actions



When Blithfield Reservoir storage is above drought Level 1 we operate in a 'normal' or 'business as usual' (BAU) way. The output from our Central Works is only restricted by the capacity of the works or by the abstraction licence.

When we enter Level 1 (dry weather), we start to implement the actions shown in table 1 – for example, we begin to raise awareness with our customers and move to a mode that conserves the resource at Blithfield. We describe the actions in more detail in chapter 3.

As a drought progresses and we monitor the situation more closely we also start forecasting what we think storage is likely to be. We use these forecasts to decide what other actions we need to take or to start preparation for.

When we cross into Level 2 we will begin the process of applying a temporary use ban (TUB). We describe this is more detail in chapter 3.

Whilst we anticipate the actions will take place in the order defined above due to the order of priority, we reserve the right to undertake a flexible approach if the situation requires it. This is because all droughts are different and this allows us to deal with any developments or changes that occur, in order to ensure the most appropriate action and the best outcome.

It will also allow us to adapt to any additional resource constraints, particularly unforeseen ones that we may be dealing with at the time. An example could be where we have a borehole site out of operation, perhaps for water quality or operational reasons, and this may mean we need to implement our actions (detailed in later chapters) sooner due to loss of available water from that particular source. Here we would look to increase our customer engagement in the local supply area sooner than the overall region, to look to reduce demand on the supply zone. We would also look at prioritising pressure management and leakage detection work in this area and instigating it earlier than for the remaining region.

In chapter 3 we detail the actions we would take to minimise any of these additional constraints, and we would always implement demand management options before supply options, as well as prioritising those options with the lowest environmental impact.

2.2.2 River Severn triggers

The River Severn is a regulated river that is managed by the Environment Agency. Releases from Lake Vyrnwy and Clywedog Reservoir, and abstraction from the Shropshire Groundwater Scheme, are used to maintain the flows in the river. Under the current control rules the Environment Agency is required to maintain a flow at Bewdley of at least 850 million litres of water a day – Ml/d (as a five-day average), with a minimum daily flow of 650Ml/d.

We have no control on the use of the river's regulated sources, but we help the Environment Agency to manage river flows.

2.2.3 Triggers for groundwater sources

Our primary drought triggers are for Blithfield Reservoir as shown in section 2.2.1 above. Despite this, we monitor regional groundwater levels, river flows, rainfall and other information. Whilst some of our groundwater sources display some very localised responses to drought, they are of a magnitude and influence to not materially impact output from those sources or our ability to supply customers. Accordingly they are not appropriate to act as triggers for drought management. We do however, every month, refer to the Environment Agency's water situation reports and communicate this internally. This type of information can trigger raised awareness within the company, but we do not have formal groundwater specific triggers at any of our sites. We remain committed to trialling GW triggers during dry weather events however recent operational experience indicates that we have had no recent dry weather sequence of sufficient severity or duration to materially impact our groundwater sources. Should such a sequence present itself we will trial actions as appropriate.

2.3 Potential timescale and lead in times for drought action

Decisions on any drought action and the timescales are made by our drought management team (see chapter 8.1 below). Critical actions such as TUBs or drought permits/orders are likely to require Board approval. In table 3a below, we set out an example timeline to illustrate the possible sequence of events. But as we mentioned earlier, we may accelerate or delay this process if we considered this was in the best interests of customers or the environment.

Table 3a Example timeline for imposing a TUB

Timeline	Action
Day 1	Pre-consultation on TUB
Day 14	Advertise TUB, giving two weeks' notice
Day 28	Consider representations
Day 35	Implement TUB

Table 3b Example timeline for imposing an ordinary drought order/non-essential use ban (NEUB)

Timeline	Action
Day 1	Advertise ordinary drought order/NEUB, giving seven days' notice and submit application to Defra
Day 35	Implement ordinary drought order/NEUB (Defra has 28 days to determine the application

Note: Pre-consultation on imposing an ordinary drought order would immediately follow the application for a drought permit (if the situation has not improved)

Throughout this process we will liaise with the Environment Agency, Severn Trent Water, CCW (the consumer watchdog) and other key stakeholders. In particular, discussions will take place with our neighbour Severn Trent Water and CCW around the implementing of any TUB to ensure that the information to customers is clear and there is little potential for confusion. The control rules are set to align with our stated level of service of only having temporary use bans in genuinely exceptional circumstances (once every 40 years, on average). We describe our communication with customers and other stakeholders in more detail in chapter 5. We describe all of our supply and demand actions that may take place as each trigger line is crossed in chapter 3.

3. Drought management actions

3.1 Overview

Drought management seeks to balance the needs of customers against the needs of the environment by considering and implementing a range of demand- and supply-side measures, maximising demand-side measures as a priority before resorting to supply side options that may impact on the environment. We implement all our drought actions at the WRZ level as a minimum – for example, some measures may extend beyond our supply area as a combined action with other water companies or regional groups. With the exception of drought orders, any of the measures described in this chapter may be considered during the range of droughts for which we have planned, based on our historic record. We expect drought orders will only be needed under unprecedented conditions.

We will implement the actions described in this plan according to the triggers detailed in chapter 2. Although these triggers are not prescriptive, they provide a framework and timetable of actions through the most likely drought sequences we might expect to see. We have developed these actions using the experiences of historical droughts, together with the predicted impact of more severe droughts using statistical methodologies.

The management actions included in this plan would allow us to manage a drought sequence, similar to those historically experienced as it progresses in severity, and beyond to even more extreme droughts. Unprecedented and very extreme drought beyond our known vulnerability leading to sever water shortages would be covered by measures set out within our emergency plans and actions under the Civil Contingencies Act.

A key part of our drought management strategy is effective engagement with stakeholders, regulators, and household and non-household customers. Our communications approach is described in more detail in appendix B.

3.2 Demand-side actions

The drought options set out in table 4 include demand-side options that we may use during a drought. We have derived the volumes of water we expect to save from experience gained during previous droughts, together with an understanding of demand patterns – notably, the causes of fluctuations in demand, and the sensitivity of demand to different types of fluctuation. Where applicable, these have also been cross-referenced with the expected savings set out in UKWIR's code of practice and guidance on water use restrictions[2]. The volumes saved do not represent year-round reductions; they are likely to be seasonal reductions only, curbing peak demands and maintaining a closer to average demand throughout the year. The assumed reductions take account of the demand data we have available, although they do not explicitly account for the impact of COVID-19 and the effect this has had on consumption.

3.2.1 Enhanced communications and extra promotion of water efficiency and demand management

We have an ongoing demand management programme to promote water efficiency and to encourage customers to switch to measured (metered) bills, including incentives for them to change their water use behaviours. Key early drought actions in this plan include a progressive increase in communication and messaging around water efficiency, as described in our communications plan in chapter 5. We would also look to increase our messaging around water resource availability and raise awareness with our customers of the impact of weather on our current resource levels.

The levels of service published on our WRMP include the need for a major publicity campaign requesting voluntary water saving not more than once in ten years. We call this action 'appeals for restraint'; it involves intensive messaging and awareness raising, most likely in the context of a regional situation and associated campaigns and is described in

[2] Managing through drought: Code of practice and guidance for Water companies on water use restrictions – UKWIR Report 09/WR/33/2 (2009), amended by UKWIR 11/WR/33/3 (2011) and UKWIR14/WR/33/6 (2013). UKWIR is the water sector's research body

more detail later on in this chapter. We would expect to increase communications to a lesser degree more regularly; this is usually associated with high summer demands or other drivers.

3.2.2 Leakage reduction

Our business plan for 2020 to 2025 includes an ambitious leakage reduction programme built into our business as usual activities. In the event of a single season drought, we will review the current leakage position and circumstances at the time to give full consideration to implementing additional leakage detection and repair activities.

The benefits of demonstrating to customers our commitment to making the best use of resources, especially in times of drought, will form part of the process of consideration. We recognise that to encourage positive action from customers in response to awareness campaigns and calls for restraint, we will need to demonstrate that we are doing all we can to manage demand through leakage management.

3.2.3 Enhanced pressure management

We are already making more use of new pressure reducing valves (PRVs) to maximise leakage reduction benefits, while maintaining the required level of customer service for mains pressure. However, the extent of further pressure reduction is significantly influenced by the number of shared customer connections within the area, as these need higher network pressures compared with single connection properties.

Further savings may be achievable, but we need to consider this alongside any potential for increased supply interruptions, customer contact and pressure failures.

3.2.4 Appeals for restraint

Appeals for restraint is a significant uplift to our communications activity. It aims to express the seriousness of an emerging drought before we implement temporary use restrictions. We would make more use of additional communication channels and modify the tone of messages. We expect a lead time of one to two weeks to implement appeals for restraint, and our communications would include regular updates about the effect of customers' efforts has on reducing demand. See appendix B for more details.

3.2.5 Temporary use bans

A temporary use ban (TUB), previously known as a hosepipe ban (redefined under the terms of the Flood and Water Management Act 2010[3]), allows us to make temporary water use restrictions that we can implement without applying to the Secretary of State.

In our South Staffs region, our published level of service is to introduce a temporary use ban or TUB on water use on average not more than once in 40 years. We can apply restrictions to all or part of our operating area, although we would normally apply them to our entire supply area and in alignment with other companies in the region, where possible. Together with the standard exemptions included in the legislation and described later, we can also apply discretionary concessions, and make exemptions for certain water use activities. We have standardised these with other companies in the region for the sake of clarity for all customers.

The range of savings as estimated by UKWIR research[4] is between 5% and 9.5% of household demands. We will review the Distribution Input before and after implementation of a TUB to assess and quantify the impact.

3.2.6 Implementing restrictions

When considering a TUB we will follow the requirements laid down in the relevant legislation and UKWIR's code of practice. In particular, we will have regard to the following when implementing a TUB.

- A consistent and transparent approach.
- That water use restrictions are proportionate.
- Clear communications with customers and the wider public/users.
- Consideration of representations in a fair way.

We have adopted a form of notice for TUBs consistent with other WRW member companies in the region (see appendix D). This includes the standard exemptions and concessions that would be allowed, which are also consistent within the region.

We would normally only implement TUBs during periods when they will reduce demand – for example, in the spring and summer. But this may vary as a drought becomes more serious. We would always implement a TUB before introducing supply measures and drought permits.

[3] The introduction of the Flood and Water Management Act (FWMA) 2010 effectively superseded water companies' powers to ban hosepipe usage as set out in the Water Industry Act 1991, section 76 by allowing them a wider range of temporary water use restrictions that can be implemented without recourse to a drought order.
[4] Drought and Demand: Modelling the impact of Restrictions on Demand during Drought, UKWIR 07/WR/02/3.

Our approach is to apply restrictions across our whole supply area. As our water supply network is highly integrated, and demand profiles similar across the area, there is no benefit to be gained from a more localised approach.

3.2.6.1 Timing and approach to implementation

Once the triggers to consider a TUB are reached, we allow two weeks for internal communication and governance, and for external communication with the Environment Agency, regional groups, and neighbouring water companies, before publishing the TUB notice. We then allow a further 21 days for comments. This will include at least 14 days for representations to be made. The drought management team will consider representations from individuals or groups in a fair and even-handed manner, and any decisions made communicated to both the individual or group and the public.

3.2.6.2 Communicating restrictions

We will make any decision to introduce temporary restrictions with the Environment Agency and neighbouring water companies. This is to ensure a consistent approach across the region. As a drought situation develops, the frequency of these meetings and communications will be increased, and joint communications and press releases will be issued, where appropriate for the situation. Our website includes a drought status statement; this highlights the current groundwater situation and how this relates to any potential drought plan actions.

While the emerging drought situation may differ for each water company in a particular region, and the timings for implementation of restrictions will depend on the local situation, we will endeavour as far as is practicable, to provide a consistent message to customers. We would expect a national drought management team to be convened for any regionally significant drought and for this to be a primary forum for the alignment of communications and activity by those companies involved.

We will follow the principles laid down in UKWIR's code of practice when considering how to implement temporary use restrictions. This is to ensure our proposals are consistent, proportionate and clearly communicated, and that representations are considered fairly. Any proposal to introduce a temporary restriction will be advertised on our website (www.south-staffs-water.co.uk) and in at least two local newspapers, as set out in legislation. We will make use of additional communication channels, both directly with stakeholders and more generally to customers, such as through social media. A variation, or subsequent lifting, of the restrictions will be similarly advertised. We will align the timing for implementing and lifting restrictions with neighbouring companies wherever possible.

To provide an audit trail, we will record all actions taken during the process of implementing restrictions. We will deal with any complaints through our normal complaint handling procedure. See appendix B for more detail about our communications plan.

3.2.6.3 Activities covered by restrictions

The range of water use activities that we can control under a TUB, together with supporting definitions is set out in the notice for TUBs - see appendix D, and summarised below;

1. Potable* water supplied throughout the area of [Company name] Utilities Limited must NOT be used for the following purposes:
2. watering a 'garden' using a hosepipe;
3. cleaning a private motor-vehicle using a hosepipe;
4. watering plants on domestic or other non-commercial premises using a hosepipe;
5. cleaning a private leisure boat using a hosepipe;
6. filling or maintaining a domestic swimming or paddling pool (except when using hand held containers filled directly from a tap);
7. drawing water, using a hosepipe, for domestic recreational use;
8. filling or maintaining a domestic pond (excluding fish ponds) using a hosepipe;
9. filling or maintaining an ornamental fountain;
10. cleaning walls, or windows, of domestic premises using a hosepipe;
11. cleaning paths or patios using a hosepipe;
12. cleaning other artificial outdoor surfaces using a hosepipe.

As set out in UKWIR's code of practice, the notice includes a list of standard exemptions. The following have been exempted from restrictions;

- using a hosepipe in a garden or for cleaning walls or windows of domestic premises, paths or patios, a private leisure boat or an artificial outdoor surface, where such use is necessary for health and safety reasons.
- people with severe mobility problems who hold a current Blue Badge as issued by their local authority will not be prohibited from using a hosepipe to water a garden attached to a domestic dwelling, plants on domestic premises, or allotments where the Blue Badge holder is the tenant.
- using a hosepipe to clean a private motor vehicle, walls and windows of domestic premises, or paths, patios and other outdoor surfaces where this is done as a service to customers during a business.
- using a hosepipe to water an area of grass or artificial outdoor surfaces used for sport or recreation, where this is required in connection with a national or international sports event. A list of qualifying events will be published on South Staffs Water's website and updated as and when required.
- drip or trickle irrigation watering systems, fitted with a pressure reducing valve and a timer, that are not handheld, that place water drip by drip directly onto the soil surface or beneath the soil surface, without any surface run off or dispersion of water through the air using a jet or mist

We will also consider concessions for the following activities, where representations are made and these are agreed;

- Use of a hosepipe for customers on the company's Vulnerable Customers List who have mobility issues but are not in possession of a Blue Badge for watering a garden, domestic plants or cleaning a private motor vehicle.
- Use of a hosepipe to water newly laid turf on domestic or non-commercial premises for first 28 days.

3.2.7 Ordinary drought orders – non-essential use bans

In our South Staffs region, our published level of service is to introduce non-essential use bans (NEUBs) not more than once in every 80 years. Ordinary drought orders allow us to further restrict non-essential water use at commercial and institutional premises. They are more wide-ranging than those included in TUB. The provision for drought orders is laid down in sections 73 and 74 of the Water Resources Act 1991. It requires application to and approval from the Secretary of State, who must be satisfied that a "serious deficiency of supplies in an area" exists, by "reason of an exceptional shortage of rain".

The range of purposes to which drought orders apply are as follows.

- Watering outdoor plants on commercial premises.
- Filling or maintaining a non-domestic swimming pool or paddling pool.
- Filling or maintaining a pond for ornamental use.
- Operating a mechanical vehicle washer.
- Cleaning any vehicle boat aircraft or railway rolling stock.
- Cleaning non domestic premises.
- Cleaning a window of a non-domestic building.
- Cleaning industrial plant.
- Supressing dust.
- Operating automatic cisterns in unoccupied or closed buildings.

If we need to impose restrictions like TUBs or NEUBs, customers can contact us to ask for exemptions or for more information. After we receive these representations, we will consider these and whether it is appropriate for us to vary our policy to discretionary exceptions. If we impose restrictions and we become aware that some customers are not complying, we will try to work with them to understand why this is. We aim to work with our customers, through our ongoing education and customer engagement programmes, to create a sense of community and the feeling that we must all do our part in the preservation of water. This means we must focus our efforts into elements such as leakage reduction to ensure customers feel that we are doing everything we can, and thus encourage them to support.

Our levels of service mean that we would look to apply at TUB at level 2 and that we would not look to implement these restrictions more than once in every 40 years. For NEUBs, we would not expect to initiate this level in restriction more than once in every 80 years. This means that we will not impose a NEUB unless we have already imposed a TUB.

Before embarking on the process to extend restrictions to non-household customers, we would make sure that TUBs are being as effective as possible. In light of the timescales involved in preparing an application and granting an order (around three to six months) the timeliness of the application is paramount. So, we would consider the need for a drought order ahead of a third dry winter, for example, in readiness for the requirement should conditions continue to deteriorate. The drought triggers reflect the time required for preparatory work to make an application.

The stages required to implement a drought order are as follows:

1 **Preparing and lodging an application.** This includes publishing adverts in the press, followed by an application to the Secretary of State, including reasons for requiring the drought order, supporting evidence and information. There is a seven-day period for objections to be made.
2 **Hearings or inquiries.** If any objections are received, the Secretary of State will hold an inquiry or hearing. A seven day period is required to advertise the hearing.
3 **Implementation.** Once approved, the water company must again advertise the implementation of the granted drought order.

It is not possible to be any more specific here on exemptions and concessions, as the range of drought order restrictions will vary according to the specific circumstances of a particular drought. However, we will follow the requirements of the relevant legislation and guidance. This includes Defra's guidance on drought permits and drought orders[5] and the principles laid down in UKWIR's code of practice. This is to ensure that our proposals are consistent, proportionate and clearly communicated, and that any objections are considered fairly.

[5] Drought permits and drought orders, Defra, May 2011, www.gov.uk.

Table 4 Demand-side options

Options	Trigger level	Impact – peak demand Ml/d	Implementation and duration	Permissions and constraints	Risks and uncertainties
Enhanced communications	Level 1	-1.5	1-2 weeks lead time. In place throughout	None	Limited scope for savings, less effective for extreme summer weather
Additional promotion of water efficiency	Level 1	-3.0	1-2 weeks lead time. In place throughout	None	Limited scope for savings depending on antecedent conditions. Maintaining savings over longer term
Enhanced leakage reductions	Level 1	-1.5 – 5.0	1-2 weeks lead time. In place whilst at Level 1 minimum and until policy minimum plus 1Ml/d leakage achieved.	Exec approval; resource/ skills availability	Uncertain savings, diminishing returns, weather related effects
Enhanced pressure management	Level 1	-1.5 – 3.0	1 week lead time. In place throughout.	Exec approval	Risk of low pressure issues on network as a result

Appeals for restraint	Level 2	-9.0	1-2weeks lead time. Regular messaging whilst at Level 2	Exec Approval; media coverage/ available slots	Most effective spring through to autumn. Maintaining savings over long term, customer fatigue
Implementation of temporary use bans (TUBs)	Level 2	-15.0 – 28.5	2 weeks lead time prior to publication of notice of prohibition. 21 days from notice of prohibition to implementation, to allow for a minimum of 14 days to make and consider representations Continues whilst in Trigger Level 2, reviewed at Level 1.	Board Approval; stakeholder consultation, consideration of and response to representations	Most effective spring through to autumn. Increased PR and press coverage
Ordinary Drought Order – non-essential use bans (NEUB)	Level 3	-15.0	2 weeks lead time prior to application for drought ordinary drought order. 28 days for Secretary of State to determine application. Up to 3 months from trigger to implementation Duration up to 6 months with 6 monthly extensions available.	Board Approval; application to Secretary of State, approval from Defra, stakeholder consultation, consideration of and response to representations	Economic impacts Applications for compensation Increased PR and press coverage

3.3 Supply-side actions

Since publishing our last drought plan in 2018 we have reviewed our supply options, taking into account operational changes, maintenance work and environmental agreements with the Environment Agency. We have added clarity where required and considered further measures in the event of an extreme drought, in line with the guidance.

We are currently in the process of reviewing our WRMP ahead of publishing a draft plan in 2022 and working with WRW on the regional plan. As part of this, we are screening further options to maintain future security of supply. We may propose some of these options as future drought options if they are deemed necessary to maintain sufficient headroom in deployable output, or as drought permits. The need for drought permits and for considering additional drought options will depend on the review of deployable output, and reductions to this, as a result of licence changes arising from future Water Industry Natural Environment Programme (WINEP) requirements.

Table 8 below provides a summary of our supply side drought options described and also provides a hierarchy for deployment of each option should the need arise. Whilst all our options have been assessed to have negligible or minor impacts on key environmental receptors we have developed the hierarchy to ensure the least environmentally damaging options are deployed first, and the options are listed in the table in this order. Furthermore we provide in figures 4, 5 and 6 an annotated representation of our control curves that gives an indication of when we would deploy our drought options as drought progresses for different scenarios. Whilst the control curves in Blithfield reservoir are our main tool for deciding our drought management strategy we also use a combination of environmental factors to assist as show previously in table 2.

3.3.1 Reviewing planned outage and ensuring existing sources are fully operational

All available plant will be commissioned and operational. Where operationally possible, we will halt planned maintenance works requiring outage once the Blithfield Reservoir drought trigger curve has been crossed. We will use our proactive asset management maintenance programme to keep unplanned outage to a minimum, and raise our operational response priorities. We will only permit planned outages where absolutely necessary to maintain the quality or volume of the water supplied to customers, and only at periods of lowest expected demand.

These actions do not deliver additional savings; the objective is to ensure our full deployable output under dry year conditions is available, if required, by balancing average and peak licences.

3.3.2 Conserving Blithfield Reservoir

In normal years when storage levels are high, we use Blithfield Reservoir preferentially to supply local demand over our more distant works on the River Severn.

Once the drought trigger curve has been crossed at Blithfield Reservoir, we aim to reduce the abstraction to our Central Works to conserve storage at Blithfield Reservoir. The reduction in abstraction to our Central Works will increase in stages as the severity of the drought increases, and storage continues to fall at Blithfield Reservoir. The reductions in abstraction to our Central Works will be offset by an increase in abstraction from the River Severn Works, and by the other resource options.

3.3.3 Operating River Blithe pump back and using Brindley Bank

The abstraction licence at River Blithe pump back allows water to be pumped from the River Blithe downstream of Blithfield Reservoir back to refill the reservoir. A second abstraction licence on the River Trent, just upstream of the confluence with the Blithe, enables water to be pumped back to the intake to maintain flows for the passage of migratory fish.

The option to introduce the pump back scheme will be considered once the Level 1 curve has been crossed at Blithfield Reservoir, and the Trent recirculation will be used when the residual flow at the site needs topping up.

In addition, consideration will also be given to the use of the River Blithe pump back to top up Blithfield if reservoir levels are above the Level 1 trigger, but storage at Clywedog is below the Environment Agency's drought alert trigger.

We modelled the availability of the scheme both under normal conditions and under a drought permit using AQUATOR as part of our WRMP19 preparation. This showed that the Nethertown pump back scheme is only available for limited periods. Our experience of operating under these licence restrictions in dry periods such as 2018 has confirmed this. Accordingly, we propose to prioritise the use of the River Blithe pump back as early in the drought process as possible while water is available. We are also able to transfer raw water from Brindley Bank borehole into Blithfield Reservoir during droughts to assist with refill. This can provide 1-2Ml/d, but the duration of this it limited by the abstraction licence group limits.

3.3.4 Reviewing the potential for bulk supplies and transfers with Severn Trent Water

We currently supply and receive small volumes of water to and from Severn Trent Water at the edges of our distribution system. These routine supplies are defined by bulk supply agreements between the two companies. There is little scope for optimising these small

volumes in drought conditions, particularly as Severn Trent Water will also be affected by the conditions in a similar way.

The largest transfer between us and Severn Trent is as part of a joint abstraction licence and supplies water from the River Severn Works to Wolverhampton in Severn Trent's supply area. In the event of a drought, we will liaise with Severn Trent to ensure licence compliance and to optimise available resources.

There are also a number of other bulk supply agreements between the two companies that allow water to be transferred in emergencies or for planned maintenance during periods of low customer demand. These comprise export agreements to Severn Trent at the south-east and north-west boundaries of our supply area, and various small import agreements from Severn Trent. However, it is very unlikely that these bulk supplies will be available to either company in a drought other than under very restricted and short-term conditions.

The table below shows the detail around our transfers with Severn Trent Water.

Table 5 Bulk transfer locations

Site Name	Donor Company	Total Volume received
The Lenmores, Alverley	Severn Trent	Up to 5Ml/d (Peak Week figure)
Dunsley Road	Severn Trent	
Shut Mill Lane, Romsey	Severn Trent	
Greatgates	Severn Trent	
Hollington Rd, Hollington	Severn Trent	
Causey Farm Rd - Hayley Green	Severn Trent	
Warley Tower	Severn Trent	
The Northway	Severn Trent	
Stone Heath	Severn Trent	
Clent Hills Booster	Severn Trent	
Heath Street, Smethwick	Severn Trent	

Holyhead Rd/Park Lane, West Brom	Severn Trent	
Vicarage Rd	Severn Trent	
Perry Barr	South Staffs	<20 Ml/d
Brindley Bank	South Staffs	<4 Ml/d

In addition, we have a joint licence at our Hampton Loade water treatment works, where we export treated River Severn water to Severn Trent Water at their Wolverhampton WRZ. This export is up to a peak daily rate of 48 Ml/d. The River Severn is a regulated river and the shared asset abstraction can be limited by specific low flows and licence conditions and the terms of operating agreements.

3.3.5 Drought permits and orders

Drought permits and orders are drought management actions that can give us more flexibility to manage water resources and the effects of drought on public water supply and the environment – for example, by changing abstraction licence conditions.

We have identified two sites where applications for drought permits or orders may be appropriate.

Table 6 Potential sites for drought permit & order applications

Potential South Staffs Water site	Environment Agency area	Trigger	Option Type
River Blithe Pumpback and River Trent	West Midlands area	Level 2	Drought permit
River Severn at the River Severn Works	West Midlands area	Level 3	Drought order

Each site requires an environmental assessment report (EAR), which assesses the potential impacts on the water environment from implementing the proposed drought permit or order. The EAR identifies appropriate mitigation measures and sets out an Environmental Monitoring Plan (EMP) to determine the effect of the operation of the drought permit or order. The environmental assessment reports completed for the sites listed above are available upon request.

The application for a drought order also needs to satisfy the Secretary of State that, by reason of an exceptional shortage of rain, a serious deficiency of water supplies in any area

exists or is threatened. The evidence for this is site specific and analysis of the monitoring data is used to demonstrate that the dry weather requiring an application is unusual within the historic record.

In order to apply for a drought permit or order, there is a clearly defined process we must follow contained in Schedule 8 of the Water Resources Act 1991:

Table 7 Drought permit application process

Stage	Description	Timescales	Who Involved
Drought permit application preparation	Detailing the proposal and articulating the need. This pre-application will include comprehensive details on the actions taken already (particularly focusing on demand-side options) and how successful these measures have been and the savings identified as a result.	Start upon hitting level 2 trigger. 7 days to complete	EA Other key stakeholders
Application Submission	Involves sending the formal application to the EA, as well as serving notice on any specified bodies. At this stage the notice will also be published, which could lead to a hearing if objections are received.	1 day	EA Statutory consultees e.g. Natural England
Determination of application	EA will determine whether the application is to be granted	12 days – however Natural England have up to 28 days if the application has the potential to damage features of a statutory designated site under the Habitats Regulation or Wildlife and Countryside Act	EA

Resulting actions	If drought permit is approved, then the necessary actions can be put into place to progress If drought permit is refused, assess alternative options	2 days	

In order to ensure this process can progress as quickly and efficiently as possible, we will undertake a range of activities to ensure we are drought permit application ready. The drought permit and drought order detailed in table 6 above shows the trigger levels to apply for these; however, the preparation for these would start whilst we are at the previous trigger level. This will ensure that the permit application is ready for submission as soon as the trigger level is breached, to ensure the timeliest process. We anticipate that pre-application will take approximately 1 week. The following steps will be undertaken as part of the pre-application process:

- Completion of permit application form WR80
- Development of supporting information e.g. justification of need, review of current actions taken, implications on public water supply, locations
- Ensure Environment Assessment Report up to date
- Develop public and formal notices
- Ensure all key stakeholders are identified and contact details available

3.3.5.1 River Blithe pump back and River Trent

The permit would allow abstraction from the Blithe and Trent to support reservoir storage at Blithfield, at times when the existing abstraction licences would normally be restricted. The current hands off flow is set at 2,650Ml/d on the River Trent at North Muskham (near Newark) and effectively means that during drought periods the abstractions cannot be used for large parts of the year.

Once Level 2 trigger curve has been crossed at Blithfield Reservoir, we will consider applying for a drought permit to allow the Blithe and Trent abstractions to continue regardless of the flow at North Muskham. As with all drought permits, we will need to demonstrate that this is required in response to a period of exceptionally low rainfall, when compared with the available historic data.

We will also consider applying for a drought permit on the Blithe and Trent should storage at Clywedog fall below the Level 1 trigger. However, this assessment will take account of storage at Blithfield Reservoir and it is unlikely we would take action immediately after the Level 1 trigger was crossed. Under these circumstances, it is likely that we would defer a

drought permit application until Blithfield Reservoir storage was closer to the corresponding Blithfield trigger, but we would look to prepare the pre-application at this stage to ensure swift application if required.

3.3.5.2 River Severn at the River Severn works

The abstraction licence at the River Severn Works is restricted when the River Severn is under River Regulation (when water is being released to support the river), and when the Environment Agency has implemented its own drought order on the River Severn (this requires a 5% reduction in abstraction licences on the river).

We have included two options for a drought order at the River Severn Works in this plan. An application for a drought order at the River Severn Works would only be considered as a last resort, once all other drought permits had been implemented, and would be in response to genuinely extreme conditions. The need for a drought order at the River Severn Works could occur if:

- the storage level at Blithfield Reservoir was below the Level 3 trigger;
- the Environment Agency has implemented its drought order on the River Severn; or
- maximum river regulation has been in force and the abstraction licence capacity at the River Severn Works is restricted to 192Ml/d. A period of at least six weeks maximum regulation has been identified as a trigger criterion.

Under the first option we would consider applying for a drought order which would enable a 5% increase in abstraction licence (that is, to restore the level of abstraction permitted before the Environment Agency drought order). This would restore the output of the River Severn Works to 192Ml/d.

Under the second option we would consider applying for a drought order to increase the level of abstraction of raw river water up to 216Ml/d. This would enable us to conserve bankside storage reservoir levels, and allow full use of maximum treatment capacity at the River Severn Works during the critical drought period. It is also possible that the second option may be required during implementation of an Environment Agency drought order and this has been used to define the maximum environmental impact case.

A drought order is required, rather than a drought permit, because of the environmental sensitivity of the river, the likely conflict of interest on behalf of the Environment Agency as a drought order applicant, and because of the large number of stakeholders that could be affected. A drought order application would be determined by the Secretary of State or Welsh Ministers.

We would bring in this option in at Level 3 as we consider it to be a drought permit with moderate environmental impact based on the environmental assessment completed.

Table 8 Supply-side options

Blithfield trigger	Option	Estimated yield – Ml/d	Implementation/ Duration	Description and comments	Permissions & constraints	Risks & Environmental Impacts
Level 1	Review outage programme and ensure all existing sources are fully operational	0	Immediate	Increase output from available sources. Postpone planned outages. **This option maximises available DO**	None	No environmental impacts. Planned outages to be rescheduled post event
Level 1	Conserve Blithfield Reservoir	0	Immediate implementation. Blithfield conservation meetings to be held weekly and to continue until reservoir profile moves back above drought monitoring curve. Decision to cease meetings by agreement of Drought Management Team	Increase abstraction from the River Severn Works and reduce abstraction from the Central Works. The reservoir control rules will be used as a guide to reducing the output from the Central Works, and the substitution of replacement resource (implemented in stages over the period of the drought). **This option maximises available DO**	None required. Initiated by Head of Water Strategy.	None

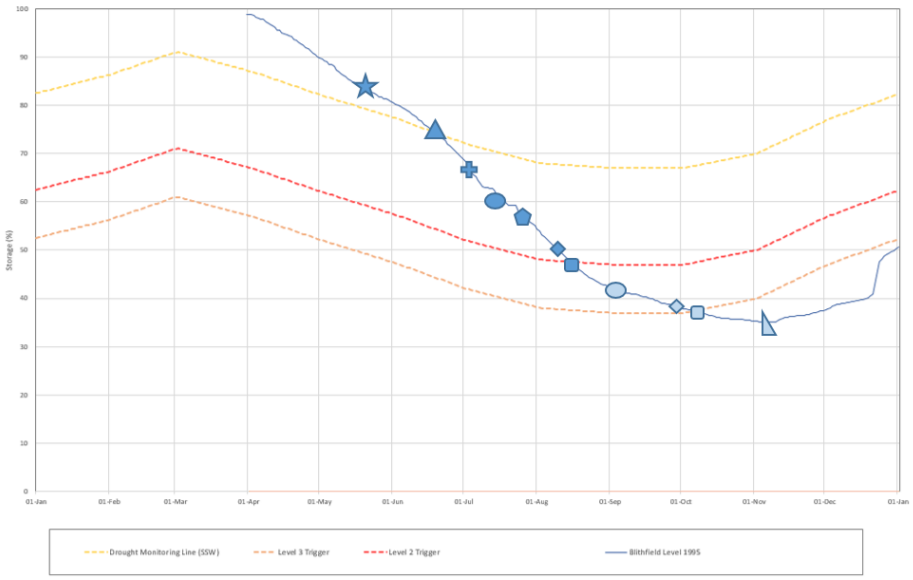
Level 1	Operation of River Blithe Pumpback	0	1 day	The River Blithe / Trent abstractions at River Blithe are only available when flow on the Trent at North Muskham is > 2,650Ml/d. **This option maximises available DO**	Agreed in weekly Blithfield Conservation meetings. Notification to EA must be given	Trent water used to ensure fish passage in Blithe, minimal risk due to mixing of water from different rivers
Level 2	Review the potential for bulk supplies between Severn Trent and South Staffs.	Up to 5Ml/d	2 weeks	This option is only viable if there is no River Severn drought and Severn Trent has available water resources. Deployable output gain is a peak week figure.	Agreed in weekly Blithfield Conservation meetings. Head of Production to liaise with Severn Trent. Potential constraint depending on SVT requirement and needs	No environmental impact
Level 2	Drought permit on the River Blithe/Trent	Up to 23Ml/d	1 week for pre-application, then 12 days for EA review	This will allow abstraction from the River Blithe when River Trent flows at North Muskham are below 2,650Ml/d. Volume based on available water in Blithe and assumes that an equivalent volume can be safely abstracted from Blithfield Reservoir.	All permits require EA approval – risk these will not be approved	Minor/negligible env impacts as per EAR. Mitigation & monitoring measures proposed in EAR would be adopted

Level 2	Prepare pre-application for drought order on River Severn	9.6 to 24Ml/d	1 week for pre-application	See below	See below	None
Level 3	Implement drought order at the River Severn Works	9.6 to 24Ml/d	28 days for Secretary of State to review	Option 1 is based on rescinding Environment Agency drought order imposing 5% abstraction reduction (equivalent to 9.6Ml/d). Option 2 is based on an increase from the restricted rate to works capacity.	Order required approval from Secretary of State – risk this will not be approved	Minor negative impact as per EAR. Potential minor negative impact of increased prevalence on Himalayan balsam and Japanese knotweed along the river banks if flow-related disturbance is reduced and there may be in-combination impacts on the upper Severn Estuary under specific tidal conditions, leading to a temporary reduction of freshwater flow into the estuary.

Level 4	Operation of Blithfield Reservoir at Low Levels	6 to 30Ml/d	1 week – drought management team to approve this option	This option can be implemented with present infrastructure but is of uncertain reliability owing to poor water quality at low reservoir levels.	Water quality risk at lower levels. Impact of sedimentation on water quality, pumps & infrastructure, and treatment process	Negligible environmental risk associated with lower reservoir levels.
Level 4	Extreme options	Various yields	Various	Refer to chapter 4.		Varying impacts with potential for higher environmental impacts

Figures 4, 5 and 6 below are annotated drought trigger curves for Blithfield reservoir, showing the timing of our current drought action plan as applied to historic drought scenarios.

Figure 4 Drought action implementation based on 1995 profile



Start enhanced media campaign for water efficiency measures

Initiate level 1 actions:
- Start Blithfield Conservation meetings
- Review outage programme and ensure all sources fully operational
- Increase abstraction at Hampton Loade and reduce abstraction to Central Works
- Commence operation of river Blithe pumpback scheme

- Demand management ramped up
- Appeal for restraint

Draft pre-application for TUB and commence process detailed in table 3a

Review bulk supply agreements

Pre-application for drought permit

- Implement TUB
- Apply for drought permit

Advertise NEUB, giving seven days' notice and submit application to Defra

Pre-application for drought order

- Implement NEUB
- Apply for drought order

Implement drought order

Figure 5 Drought action implementation based on 1996 profile

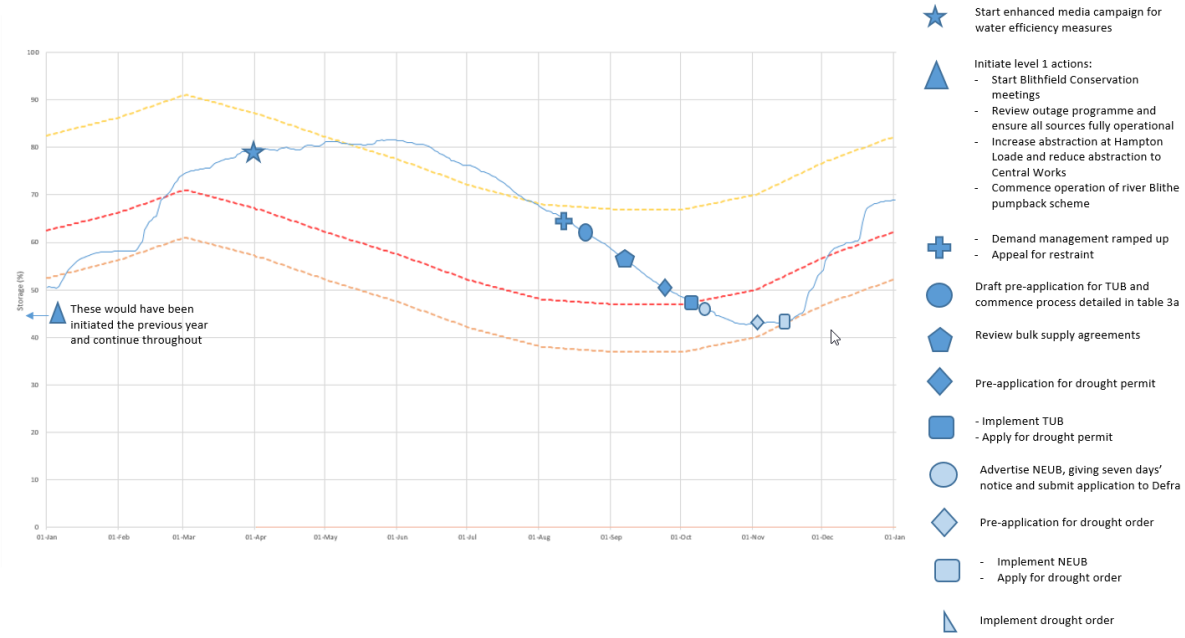
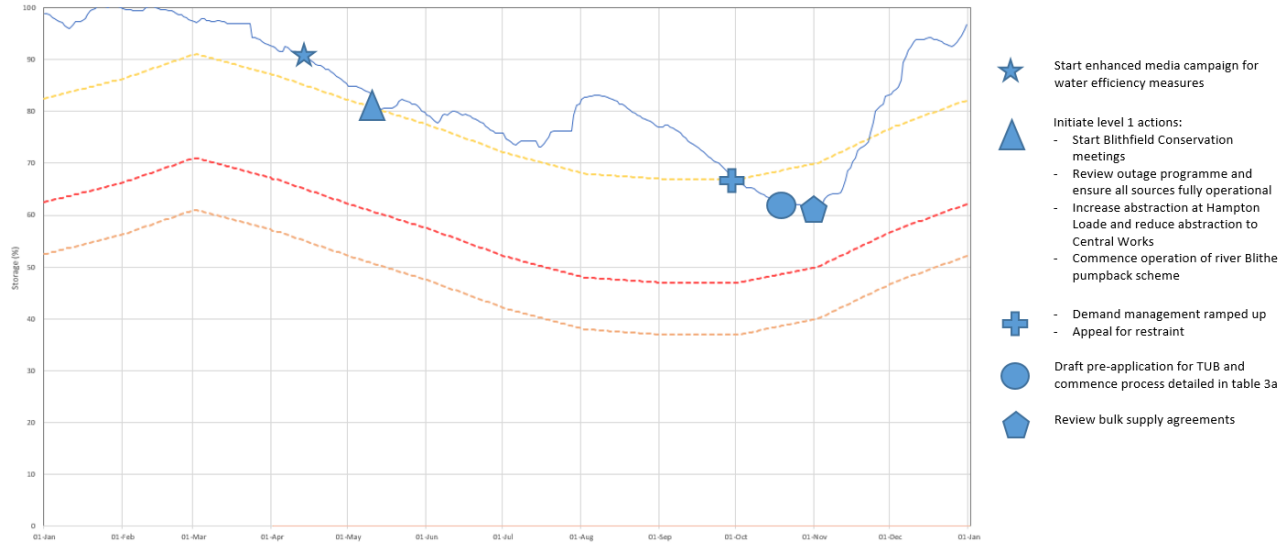


Figure 6 Drought action implementation based on 2010 profile



4. Extreme drought measures

The management actions identified for this plan would allow us to manage a progressive drought sequence similar to those historically experienced, and beyond into a more severe three-dry winter drought. We have identified several further actions that would be available to us, which are technically and practically feasible, but which would be temporary and not constitute a permanent increase to supply or deployable output. These would only be considered for use where we have implemented all of our previously detailed actions, yet the severity of the drought is progressing.

For example, in addition to the drought permits and orders described in chapter 3, we would also explore the full range of actions included within the ordinary drought order legislation (section 74(2) of the Water Resources Act 1991). These include applying to:

- take water from any source specified, subject to conditions;
- prohibit or limit the use of water for any purpose specified;
- discharge water to any place specified subject to restrictions;
- prohibit or limit taking of water by an appropriate agency; and
- suspend or modify restrictions relating to abstraction, discharge, supply, filtration of water.

4.1 Demand-side options

4.1.1 Drought orders to restrict water users

We do not believe that restricting other abstractors would provide any water resources benefit. There are relatively few large-scale consumptive abstractions upstream of Bewdley on the River Severn. Restricting these abstractions will not have any material effect on the licence condition at the River Severn Works. Similarly, restricting the abstractions downstream of Bewdley will not impact on the Works (given that Bewdley is the licence control point).

There are no other significant direct consumptive abstractions associated with the Blithe or Blithfield reservoir, which could be reduced to improve our resource position.

There are some large non-consumptive abstractions along the major rivers from which we abstract. These are used for purposes associated with the conventional generation of electricity from coal and gas. As a major electricity user in the treatment and distribution of potable water, it would serve no useful purpose to us if these generators were affected by drought orders.

The majority of our groundwater abstractions are not constrained by pumping water levels, so there is no scope for reductions in third party abstraction to improve groundwater deployable output (even if there were abstractions nearby).

In addition, we are conscious of people, businesses and farms that rely on their own water sources for essential use such as drinking and watering livestock. Should their own supplies fail, we would support on a best endeavours basis, but our public water supply customers will be prioritised.

4.1.2 Other extreme demand-side drought options

We would also consider the following options.

Table 9 Extreme demand-side drought options

Option	Summary	Estimated savings Ml/D	Risks and barriers
Removal of exemptions	Removing exemptions from TUBs/NEUBs	0.6-1.5	Negative PR from restricting use from disabled and/or vulnerable customers. Disproportionate impact for savings. Health and safety concerns
Tariff changes	Higher tariffs for use over an allowed threshold. Reward or incentive schemes for reducing PCC	1.5-3.0	Customer acceptability. Financial regulatory approval required. Voluntary only and therefore negligible savings over communications and awareness campaigns
Media and communications	Hard hitting messages. Social unacceptability of excessive water use, prosecutions for breach of TuB or NEUB restrictions. Day Zero language	1.5-3.0	Water efficiency messaging fatigue. Unpopular messages, negative feedback backlash, Unwillingness to change

Relocation of water users	Relocate certain commercial large users such as farm stock or other businesses to area without drought impact	>20	Feasibility on engaging with other sectors (farming, manufacturing). Scale of compensation. Feasibility of relocating. Availability of water resources elsewhere
Shut down of manufacturing/large users	Appeals for commercial large users to cease water using activities	>10.0	Feasibility on engaging with other sectors (farming,manufacturing). Scale of compensation.
Non potable use	Capture of water for re-use at scale or in domestic setting. Rainwater capture systems to prevent losses	1.5-3.0	Volume for re-use. Purposes appropriate for non-potable use; water quality concerns and health concerns. Resources and assets to deploy and effectively use. Meteorological reliance

4.2 Supply-side options

4.2.1 Groundwater drought permits

Increasing groundwater output over the full drought period (peak season) cannot be achieved within existing abstraction licences as these are largely fully utilised. As a result, we would consider options for operating some existing sites under groundwater drought permits, which would allow a temporary increase of annual groundwater abstraction licence volumes for the duration of the permit. Where ten year rolling groundwater licences are also in place these conditions would still be adhered to. This would mean we would reduce the groundwater abstraction in subsequent years to 'claw back' the temporary over-use of the licence.

The situation with groundwater abstraction licensing is currently uncertain as we are working with the Environment Agency to investigate our sources in the context of not causing deterioration as defined by the Water Framework Directive (WFD). As a result, we are not in a position to include firm proposals for groundwater drought permits within this plan.

4.2.2 Operating Blithfield Reservoir at low levels

While we have previously assumed that Blithfield Reservoir cannot be drawn down below 25% storage because of the position of the highest intake for the take-off for our Central Works we have re-evaluated this. We have established that the reservoir can be safely drawn down below this level but at the expense of a reduced summer peak abstraction rate and increased outage risk to the treatment process. Because of this, we would only consider using this option in extreme droughts when various demand restriction measures are already in place.

The emergency storage curve is 4% above the dead storage curve. This water will only to be used as a last resort and is a buffer before dead storage is reached. Dead storage (25%) represents the level of storage below which it is difficult to abstract water because of the hydraulics of the system and the quality of the water would decline to such an extent that treatment may have to be curtailed at times.

4.2.3 Drought permits/orders (more extreme permits)

We consider the potential drought order on the River Severn as an option of last resort, and falls into the category of a more extreme permit.

4.2.4 Transferring potable water to Blithfield Reservoir

During periods of low customer demand during the winter there may be a surplus of supply capacity at the River Severn source. This can be used to provide additional water from the potable mains network to Blithfield Reservoir to maintain storage levels during a dry winter when it has not refilled. We last deployed this option in 2011/12 and provided up to 18Ml/d to the reservoir. This option is dependent on a number of other options already being in place, including reducing maintenance activity, leakage reduction and maximising all enhanced treatment processes at sites so that water is not required elsewhere on the network; and conserving our Central Works so that some raw water mains capacity can be used for this option. In addition, it relies on there being a surplus of supply capacity at the River Severn source; we deem this to rarely be the case when we are experiencing drought conditions across our region. Therefore the potential likelihood of us being able to utilise this option is very low. Accordingly, it would only be appraised at a late stage in a drought.

We are currently working with the Environment Agency to determine the appropriate way of permitting or licensing this option. One possibility is for us to apply for an environmental permit to discharge de-chlorinated treated water into the reservoir. However, this could be too time consuming to be available in time so we are exploring what modelling work we can do so that this option is available to us when we need it, while ensuring the appropriate environmental protection is in place.

4.2.5 Emergency drought sources

We would also explore bringing back sources which we have not used for several years. These 'mothballed' sites include:

- Sandhills;
- Shenstone; and
- Hulme Springs.

Because these sources are still included in our abstraction licences we would not need drought permits. However, to use these sources we would have to ensure that the infrastructure and site was safe for our staff and that the sources would provide wholesome water. In addition, we would need to assure ourselves and the Environment Agency that using these infrequently as an extreme drought measure would not represent a sustained increase in abstraction and would have no adverse impacts on the environment. The long lead in time to makes these sources available for use means they would only get used if there was both an extreme drought and one that persisted for a long period, certainly longer than 12 months.

4.2.6 Other extreme supply-side drought options

We would also consider the following options.

Table 10 Extreme supply-side drought options

Option	Summary	Estimated Savings Ml/d	Risks and Barriers
Tankering	Moving water from areas with surplus and injecting into networks or storage	0.5-1.0 (per location depending on capacity	Water availability, road tanker Availability, sea tankering arrangements, transportation and resourcing issues. Water quality concerns, limited localised benefits
Supply schemes	Fast tracking WRMP or WRW schemes	5	Significant infrastructure lead times, planning

Effluent re-use	Redirecting discharges to supply for potable or non-potable use	3	Infrastructure requirements, liaison with WWTW operators, water quality, perception, treatment requirements.
New trades and transfers	Short term transfers or trades with neighbouring companies or other sectors	0	Transfers with other companies would already be explored to capacity if resource available. Other sectors would require infrastructure and treatment, unlikely to be from a more drought resilient or secure resources, Water availability
Network changes	Overland or temporary pipelines for new supplies	<1.0	Resource availability, water quality and treatment requirements.

4.3 Emergency drought orders and emergency plans

An emergency drought order would allow us to restrict water use through rota cuts, and to supply water by means of stand pipes or water tanks for a period of up to three months. It is clear from Defra guidance and customer research that this level of water restrictions would be unacceptable. So, we will do everything we can to avoid the use of rota cuts or stand pipes.

We have included this option only to recognise that circumstances beyond our control could possibly lead to a threat to supplies during an extreme drought. In practice, if we had to resort to these measures, we would have implemented our emergency plan and would seek additional support under the Civil Contingencies Act to avoid rota cuts and stand pipes being required. Events of this nature are usually handled by a Gold Command, which will involve working with external parties such as the emergency services. Our emergency plan is not in public domain because of the sensitivity of its contents. But, it is crucial that we stress that the probability of a drought causing such plans to be implemented is extremely low.

5. Customer communications

5.1 Overview

Effective communication is an essential part of drought management, and we recognise the importance of keeping stakeholders and customers informed – before, during and after a drought. Our communications plan aims to ensure all stakeholders and customers are aware of the drought situation, our plans and actions throughout a drought, and to maximise the demand management savings that can be achieved by doing so.

A key message that we are committed to conveying at all times is the need to use water wisely and efficiently, and this message will be communicated throughout, with increased engagement with stakeholders and customers as a drought progresses. We will use a variety of methods to communicate messages as deemed appropriate by the drought management team.

The objectives of the communications plan are to:

- make the public aware of a developing drought situation and keep them informed of the measures that we are planning, explaining the need to save water and our efforts to encourage customers to help;
- provide information on and promote escalated water efficiency messages to mitigate the need for restrictions, and reduce demand, lessening the likelihood of further restrictions;
- inform customers of any restrictions that we may deem necessary to implement during a drought situation, and the impact of their efforts;
- manage the timing and targeting of communications as stages of a drought progress; and
- provide a concise and consistent message relating to drought for all water consumers in the affected area, by working with neighbouring water companies, and regional and national groups.

Our detailed communications plan is set out in appendix B. It describes the key stakeholders and audiences. It is not meant to be prescriptive; rather, it is an adaptable and agile framework.

For a drought with more widespread impacts, the Environment Agency, National Drought Group, WRE and others will co-ordinate communications at a national and regional level.

5.2 Communications plan triggers

The activities described in our communications plan are linked to the drought triggers set out in table 12 below. The actual messages and channels we will use are flexible and we take an agile approach to those that are most appropriate at each stage of a drought.

Table 12 Communication plan triggers

Trigger Level	Demand Side Actions	Communications messaging
Above level 1	Business as usual	BAU proactive water efficiency awareness and education. Use water wisely, Water efficiency information, benefits of switching to a meter, on website, in usual publications. Ad hoc campaigns.
Level 1	Enhanced Communications with stakeholders and internally	Updates on resources situation. Internal awareness briefings. EA and stakeholder meeting updates, situation assessment and status updates. Liaison with neighbouring water companies
	Demand management: Additional promotion of water efficiency	Proactive water efficiency awareness and education campaigns.- switching to a meter, water use information Specific campaigns for water saving devices, Pledge 15 Raise awareness of PSR Direct customer contact for those on PSR
	Demand management: Enhanced leakage reduction	Updates on resources, what we're doing, how customers can help
Level 2	Further Communications: Appeals for restraint	Appeals to reduce demand, updates on environmental status, warning of potential restrictions Increased messaging campaign and channels – advertising, radio, newspaper adverts
	Prepare to implement TUB	Situation assessment and status updates. Informing of imminent restrictions Consultation regarding application for TUB Notification of application for TUB
	Implement TUB	Explanation of restriction, concession and exemptions Updates on resources, what we're doing and environmental status Continued contact with PSR to ensure needs met
Level 3	Prepare for Restrictions on non-essential use (Ordinary Drought Order) NEUB application	Appeal to reduce demand to Commercial customers and Retailers, updates on environmental status, warning of potential further restrictions Liaison with regulators, Defra

Trigger Level	Demand Side Actions	Communications messaging
	Apply for NEUB	Situation assessment and status updates. Consultation regarding application. Notification of application
	Implement NEUB	Explanation of restrictions for Retailers and commercial customers. Exemption details Clear information for commercial customers, close liaison with Retailers Updates on resources, what we're doing and environmental status
	All possible actions to avoid emergency drought orders	Continued high levels of communications, regular updates National campaigns in place. Serious tone to messaging - Day Zero language
Cessation of drought	Gradual toning down of message	Updates on improving situation. Thanking customers for their efforts Updates on environment

Source: Environment Agency

6. Environmental assessment

6.1 Overview

To ensure minimum environmental impact from our drought management actions, we monitor and assess the impact of some of these activities. The Environment Agency provides guidance on the recommended approach[6], which we have applied to our plan. We consider that the environmental assessment primarily applies to supply-side options as demand-side measures are thought to have a beneficial or negligible environmental impact.

We have assessed the likely impacts on the environment of implementing the actions within this drought plan in consultation with the appropriate competent authorities where required. This includes details of any likely changes as a result of our actions to water flows and levels, WFD ecological status, designated sites, priority habitats and other protected areas. Designated sites include Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs), and Local Nature Reserves (LNRs), which are set out in figure 7, showing proximity to our abstractions. WFD water bodies and assessment points are shown in figure 8.

This drought plan includes an assessment of:

- the likely impact of implementing supply-side options;
- the likely impact from the increased use of existing licences;
- details of permits required to implement any options;
- the risks of implementing any supply-side options; and
- monitoring and mitigation actions required for any drought management action.

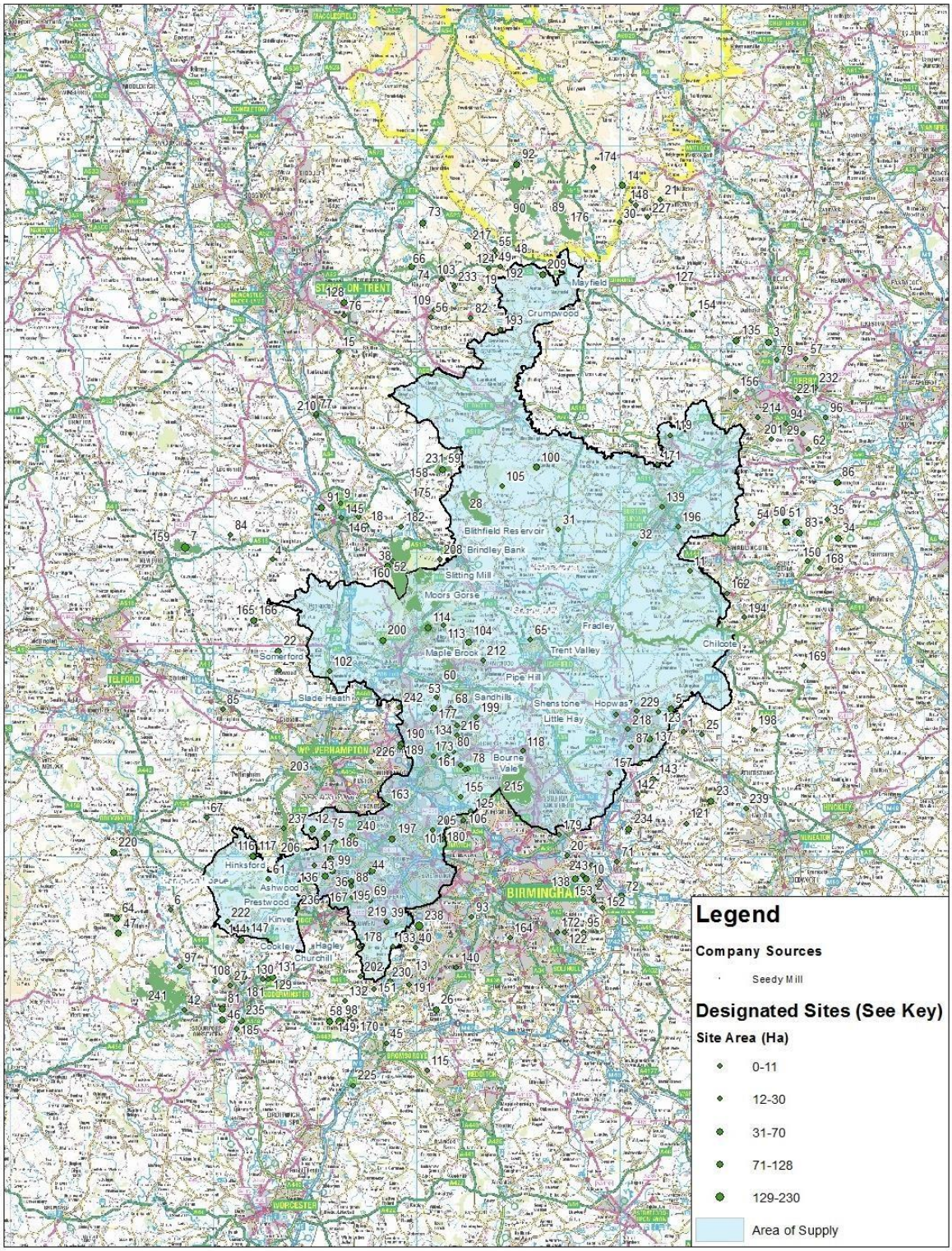
We do not consider that our actions in this plan would impact on cultural or heritage sites, the spread of non-native species, water quality or biodiversity under the Natural Environment and Rural Communities Act 2006.

In the sections that follow, we summarise our updated understanding of environmental and water quality receptors. We reviewed the impact on the historic environment (cultural or heritage sites) and our assessment of no impact (Enviros, 2008) remains the case.

We have considered the likelihood and frequency of drought management actions occurring, together with the level of environmental impact they may cause by assessing the available data and taking account of the sensitivity of receptors, such as designated or protected sites and features.

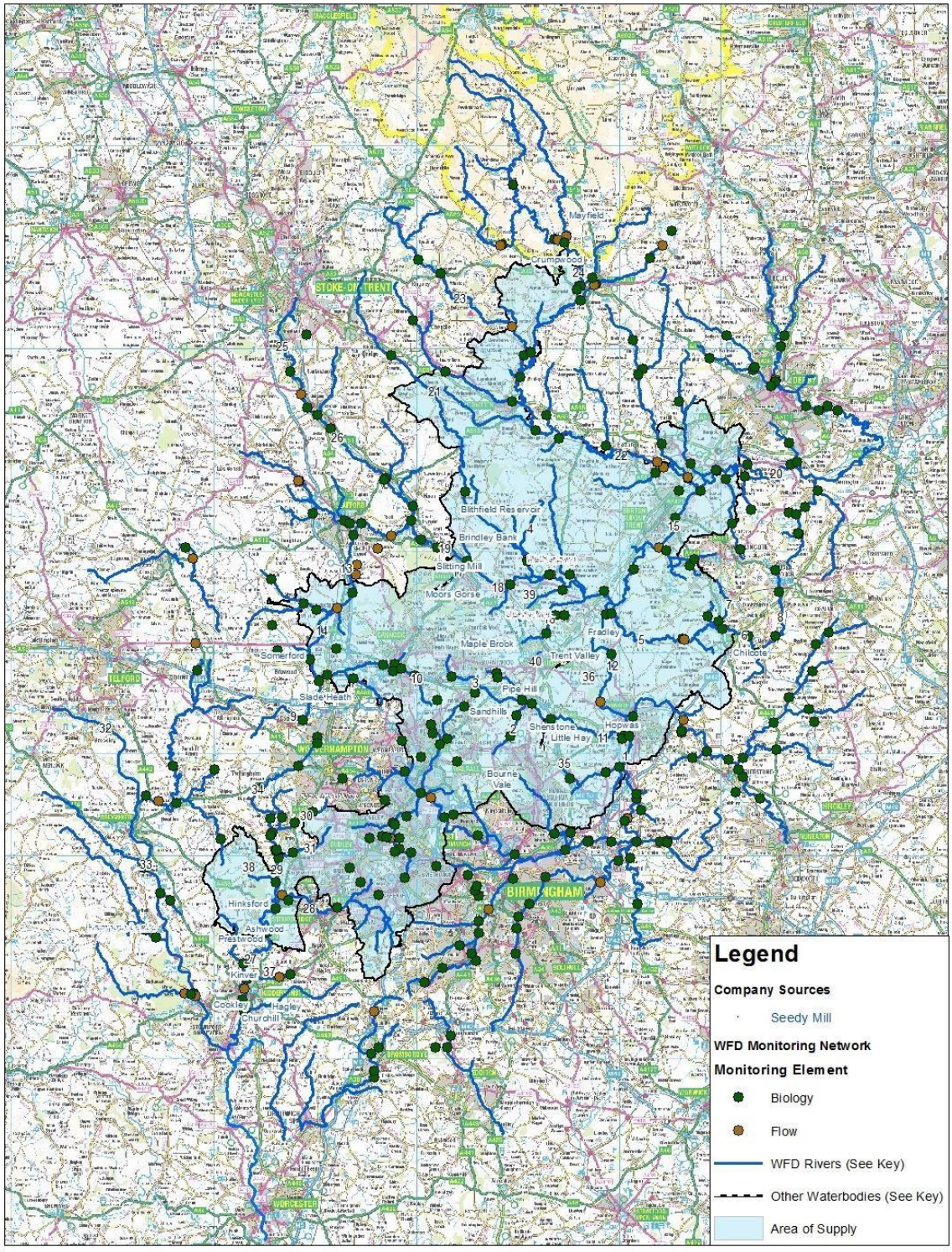
[6] 'Environmental Assessment for water company drought planning – supplementary guidance', Environment Agency, September 2019.

Figure 7 South Staffs Water area of supply showing sources and statutory environmental designations



Note: this map will be redacted upon publication

Figure 8 South Staffs Water area of supply showing sources and WFD rivers and monitoring framework

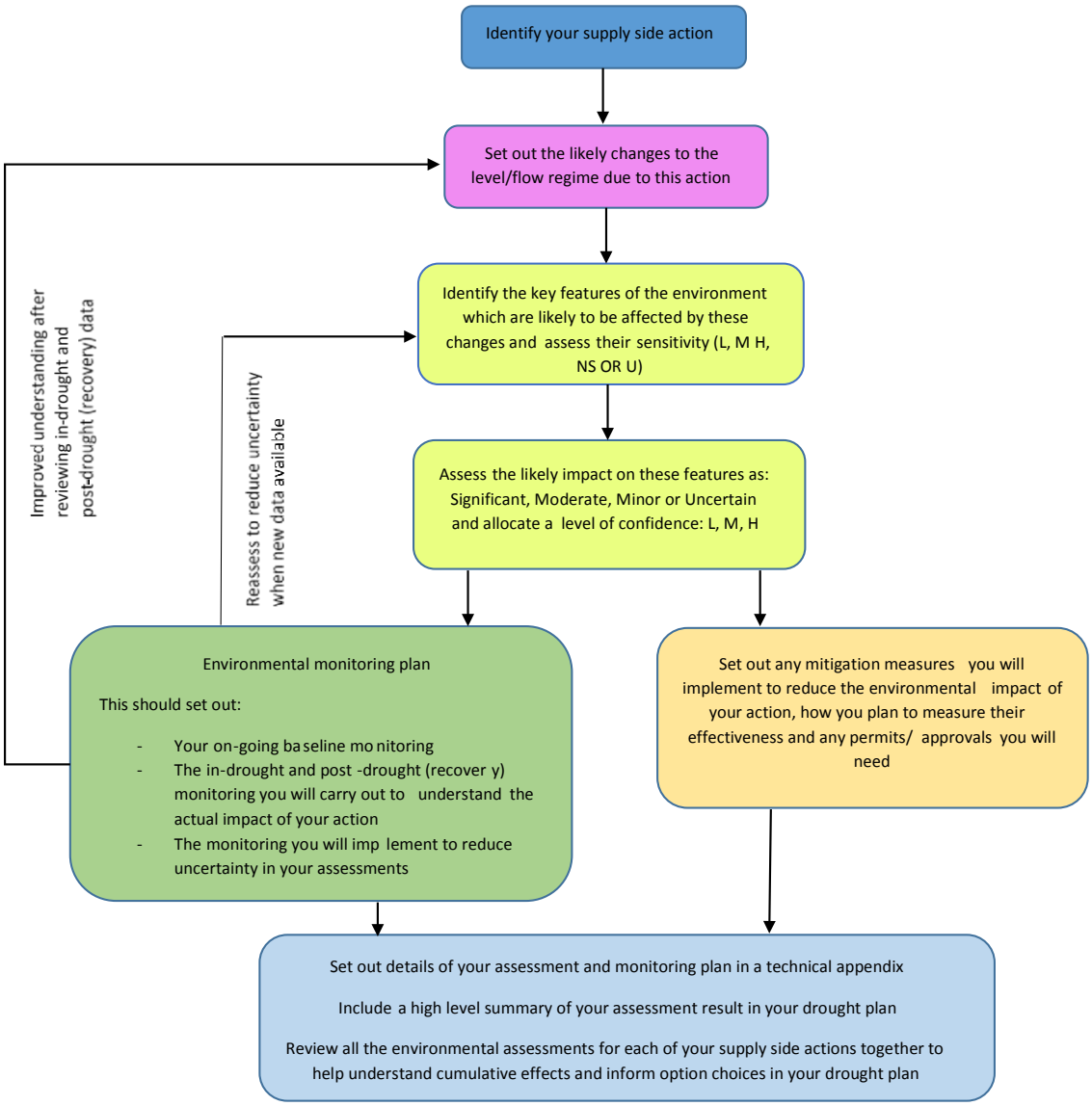


Note: this map will be redacted upon publication

6.2 Supply-side options assessment

We have assessed the likely impact of each supply-side option according to the risk matrix set out below. These assessments, together with any associated environmental monitoring or surveys, are summarised in Environmental Assessment forms in appendix F.

Figure 9 Assessing risk level of drought management options



Source: Environmental assessment for water company drought planning – supplementary guidance, Environment Agency, September 2019.

6.3 Statutory designated sites

We have considered the environmental effects of this plan on designated sites, to which the following legislation applies.

- Conservation of Habitats and Species Regulations 2010 – Habitats Directive.
- Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000).
- Habitats Regulations Assessment (HRA) and Strategic Environmental Assessment Directive (SEA).
- WFD, River Basin management Plans and UK Biodiversity Action Plan.
- Other protected areas under international agreements such as Ramsar sites and non-statutory sites, such as local wildlife sites and reserves.

We have assessed the sensitivity of sites to abstraction under the Restoration of Sustainable Abstraction Programme (RSA) in conjunction with the Environment Agency under the National Environmental Programme, (NEP) and will continue to be assessed as part of WINEP.

We discuss the sensitivity of Habitats Directive sites in section 6.4 below.

The details of our assessment of environmental impacts arising from implementing the River Severn Works and Rivers Blithe and Trent Pump back drought schemes are summarised below.

6.4 Habitats Regulations Assessment

The EU Habitats Directive, which seeks to safeguard Europe's natural heritage, was transposed into UK law by the Habitats Regulations 1994. The Regulations require a Habitats Regulations Assessment (HRA) to be undertaken to determine whether plans are likely to have a significant effect on European Sites, including Special Areas for Conservation (SACs), candidate SACS (cSACs), Special Protection Areas (SPAs) and Ramsar sites (Wetlands of international importance).

We carried out an HRA to fulfil our Habitats Regulations obligations for our 2018 drought plan and we consider that this remains relevant to this plan. In 2021 commissioned a further independent HRA screen exercise which has expanded the level of assessment.

In 2021 we have updated our stage one HRA screening assessment to include stage 2 appropriate assessment. The results of the appropriate assessment indicates that with avoidance and mitigation measures in place no adverse impacts would be observed either alone or in combination with other plans or projects. We recognise that given the complexity of the abstractions on the River Severn, and need for several drought permits/

orders to operate in an extreme drought event, updated hydrological modelling would be required to support the drought permits/ orders HRA's if this scenario were to occur, taking account of the immediate preceding baseline conditions, to fully assess whether adverse effects would arise. Sufficient time however would be available to complete this work, given the preceding drought actions to be taken and drought triggers to be met, to instigate the drought permit.

Our study of the River Mease in AMP4 (2005 to 2010)[7] considered the potential impacts of groundwater abstraction on this SAC at Chilcote. We concluded that there is no evidence to suggest that abstraction at current rates is causing a significant detrimental impact on the river flow. Given the semi confined nature of the aquifer and the slow response rate of surface water to changes in abstraction, we assessed it very unlikely that short periods of abstraction at the higher, peak licence rate will be translated into impacts on the river low flows as long as annual abstraction remains the same.

In addition to Habitats Directive sites within or immediately adjacent to our supply area, we have reviewed downstream sites that may be affected by its activities. The result was that the Severn Estuary Special Area of Conservation (SAC) and Ramsar site were assessed within the HRA of the River Severn Drought Scheme (RSDO) environmental assessment work in 2012[8]. The report concluded that no significant effects are likely as a result of the River Severn Works drought plan proposals 'alone'; however, it is not possible to conclude no adverse effect 'in combination' with other drought schemes operated by Severn Trent Water and the Environment Agency as a result of the Gloucester and Sharpness Canal abstraction operated by the Canal and River Trust (CRT) by the Severn Estuary. This issue is also reported as unresolved in the assessment by the Environment Agency (2013[9]). They however assessed that if the abstraction by the CRT to the Gloucester and Sharpness Canal could be limited to 300Ml/d there would be adequate mitigation against impact on the site and its designated species by the various drought measures in combination. If the Environment Agency cannot secure agreement with the CRT it has stated it would have proved grounds of Imperative Reasons of Overriding Public Interest under the Habitats Directive to allow it to impose the RSDO.

6.5 Strategic Environmental Assessment

European Directive 2001/42/EC, otherwise known as the Strategic Environmental Assessment or SEA Directive, requires the "assessment of the effects of certain plans and programmes on the environment". Water companies, as responsible authorities, must determine if their drought plans fall within the scope of the SEA Directive. Following the

[7] AMP4 Low Flow Investigation Sites Desk Study: River Mease, Report 6608R5, ESI June 2006.
[8] Review and Update of Drought Permit Environmental Assessment Report: River Severn at River Severn Works HRA. Report 60757 R1D2 Appendix B, ESI November 2012
[9] Habitats Regulations Assessment (River Severn Drought Order) EA Report Version 3 - December 2013

UKWIR guidance decision tree, and the Environment Agency's drought planning guideline we have arrived at an informed decision in this regard.

The revised HRA screen and appropriate assessment concluded that there are no likely significant effects from our plan, and therefore there is no requirement to further assess the plan through a SEA.

We are continuing to work with Natural England as they review our latest appropriate assessment and will take any necessary actions and revisions as a result. Until these discussions have completed and a satisfactory conclusion reached, we will not utilise our River Severn drought order.

6.6 Summary of environmental assessments

We have followed the Environment Agency's guidance on environmental assessments, identifying likely changes to flows and impacts from our supply-side actions on the environment and assessing the sensitivity any likely impact. We have also produced EASRs to accompany our 2018 drought plan for our River Severn drought order and our River Blithe drought permit. In 2021 we commissioned updates to these EARs and these will be published upon completion.

We will continue to work with Natural England on these and the recent screening reports undertaken, and commit to undertaking any additional updates and reviews of the drought plan in accordance with their feedback and advice.

We summarise the supply drought options not covered above in the table below:

Table 11 Other drought options considered

Drought option	Environmental risk	Monitoring required	Rationale/additional comments
Brindley Bank augmentation of Blithfield reservoir	Low	None/ low level monitoring	Relatively small volume of groundwater with WQ expected to be at least as good as the existing reservoir inflow.
Low impact extreme supply drought options described in chapter 4	Low	Potentially but only triggered if these options were ever used.	For example the 'catchment options' in table 10 may have no negative impact on the environmental and may in fact deliver a benefit

Other extreme supply drought options described in chapter4	Low/medium	Potentially for some options. Note that the 'fast tracking WRMP scheme' option may already have an environmental assessment to refer to.	Baseline monitoring not appropriate for options that may never be used. As discussed in section 4 the long lead in time for these options would allow monitoring to begin in the unlikely event that we started to seriously consider using them

6.7 Environmental monitoring

As a result of our assessments, we have produced several environmental monitoring plans to assess the impact of implementing our supply-side action of existing licence headroom, focused on surface water bodies identified through the WINEP review of our abstractions. We have assessed the environmental impact against the WFD requirements[10] by means of changes in flow regime that would impact ecological status. As this drought action will be in place only in exceptional circumstances – for example, an extreme drought not on historic record or if demand actions prove to be ineffective, any deterioration of groundwater body status is of a temporary nature. Any significant impact because of groundwater deterioration would be to the status class of the surface water bodies and ecology.

We carry out environmental monitoring and also refer to environmental or flow data held by other organisations such as the Environment Agency and Severn Trent Water. We do this so that should we need to implement certain drought actions we are able to compare the baseline data to any additional data collected 'in drought' or 'post drought'. We determine the frequency and type of our monitoring proportionately depending on environmental risk and factors such as how frequently we would expect a drought option might be used in the future.

6.8 Environmental mitigation

Should our monitoring show that there are any adverse impacts on the environment from any of the drought measures that we implement then we would consider what mitigation is appropriate. It is important to note that we would not put in mitigation to address adverse impacts caused by the drought but to address any impacts caused by our drought management actions. When considering mitigation we would also take into account whether the impacts were likely to be short or long term. This is because different environmental receptors can recover faster than others. We also note that because we aim

[10] Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (WFD Regulations), UK SI No. 407.

to bring in demand side measures before any supply side measure that could harm the environment, we are minimising the risk of ever needed to put in any mitigation.

Mitigation measures can include:

- active fish monitoring and/or transfer;
- aeration (for example, of discharges);
- reduction of other abstractions, if possible;
- freshet releases;
- other forms of flow augmentation (potentially from rarely used/emergency/resilience sources);
- increase the frequency/ coverage of monitoring – this constitutes 'in- drought' monitoring;
- ensure there is adequate 'post-drought monitoring'; and
- habitat restoration.

The list above is neither exhaustive nor prescriptive and we may not necessarily need all of these measures in every drought.

In the unlikely event that we need to use any of the actions described in Section 4 – Extreme Drought Measures - the long lead in time will allow time to carry out a hydrological and environmental assessment. We will consider what, if any, mitigation is necessary as part of these environmental assessments in conjunction with the EA.

7. The end of a drought

7.1 Identifying the end of a drought

The end of a drought can be defined as the period when the risk of impacts from drought is no greater than during a normal year, and where normal conditions have continued for a period of time. Each drought sequence is different, and to determine the end of a drought we will use the observations and data captured in our drought management tool to inform our decisions. We would normally expect a drought event to have ended when we are no longer in trigger Level 1, although some recovery activities may still be active. At this stage, we would expect any restrictions to be lifted, and the recovery of conditions such as environmental flows and a positive outlook forecast.

The drought management team will apply our indicators at Level 1 including:

- when storage levels in Blithfield Reservoir have returned to being above trigger Level 1 (determined by flows in the River Severn and River Blithe, soil moisture deficit); an

- cumulative rainfall and levels at our rain gauges (determined from our own observations and records at the Central Works).
- Groundwater levels have returned to the normal range
- River flows have returned to normal

Enough key indicators will need to be showing a trend approaching long-term average levels, supported by meteorological outlooks with some certainty attached. It is important in a prolonged drought to ensure sufficient sustained recovery in resources can be determined before the end of a drought is declared. The primary trigger of all of these is Blithfield reservoir storage.

We will not declare that a drought is over until we have consulted with the Environment Agency to confirm the latest water resources situation, and an agreed regional message can be communicated.

Ending drought management actions is likely to be made progressively, although we are committed to removing any restrictions on customer use through TUBs or ordinary drought orders as soon as is reasonably practical where the impacts on managing the drought would not be outweighed by those on our customers' activities.

We will ensure we communicate the end of a drought to our customers through the various channels described in our communications plan in appendix B, and ensure our website water resources position statement states this clearly.

7.2 Post-drought actions and review

Should a drought event occur, we will carry out a timely post-drought internal review, which will examine the effectiveness of its drought plan in specific areas, including the following.

- Environmental work during and after drought – was it appropriate and effective?
- Drought management actions – were they successful, and what was their quantifiable effect in reducing demand?
- Performance of sources – did deployable output and yields meet our expectations?
- Demand measures –was it possible to quantify their effect in reducing demand?
- Were any strategic investments made which might have a material effect on other plans (e.g. the WRMP)?
- What was the cost of implementing drought actions
- Effectiveness of key elements of our plan i.e. drought planning and management, communications (including the plan, the delivery of it and the messaging within in) and environmental management
- Impacts of implementation of demand measures used e.g. savings generated, impacts on vulnerable customers

- Impacts of implementation of any supply measures implemented e.g. environmental monitoring, operational issues
- Any updates required to plans as a result e.g. WRMP

If we applied level 4 actions, we will also identify any potential environmental monitoring required after hydrological triggers have recovered to understand how the environment is recovering. This will not be required for actions at level 3 and below in line with the results with our environmental assessments.

This internal review will involve staff from our drought management team (see chapter 8). In addition, we will work closely with the Environment Agency, WRW and with other key stakeholders to review how the drought evolved and whether there are any lessons that can be learned as a result.

We will work closely with the Environment Agency and with other key stakeholders to produce our review. We will carry out our review within three months after the end of a drought, and we will produce a 'lessons learned' report within three months after that. We will follow this, within a further 12 months, by a monitoring report on any actions identified and taken.

Under normal circumstances we will review our drought plan, whether or not a drought has occurred, on an annual basis. If there has been a material change of circumstances, or where experience during a drought event has revealed inaccuracies in our plan – or, in any event, as directed by the Secretary of State or within five years – we will revise our plan, in line with the process and timetable set out in legislation and other guidance.

8. Additional information

8.1 Drought management structure

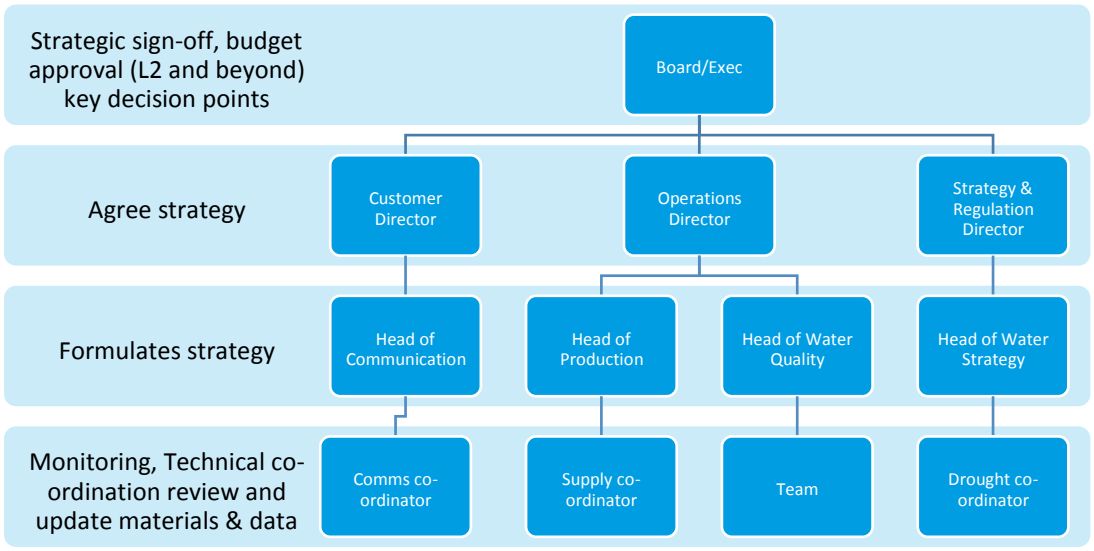
The drought management structure and governance for decision making during a drought is shown in figure 10 below. The drought management team may be convened before any formal drought proceedings, as deemed appropriate - for example, if the Environment Agency or other water companies in the region declare drought status – to provide a forum for drought related issues. The drought co-ordinator will convene a drought management team once a Level 1 trigger is passed, and this team will report into executive management until Level 2 when an executive level drought management team will also convene. In the event of any drought action being contemplated our drought management team and Executive Director will consult the Board for key decisions, such as implementing TUB or non-essential use ban (NEUB) restrictions and requirements for significant expenditure.

We will convene regular weekly meetings as the situation develops, and hold a final debriefing held when normal operations resume. The drought management team will use our drought triggers and indicators to decide:

- at what point the drought has receded sufficiently for any imposed drought measures to be relaxed; and
- the timing and content of communications to customers and other stakeholders, advising that the situation has returned to normal.

During drought conditions, it is expected that other groups such as regional drought groups, Water UKs National Drought Group and Environment Agency regional and national teams will meet. Appropriate members of the drought management team – in particular the drought manager and communications co-ordinator will represent us at these forums.

Figure 10 Drought management structure



8.1.1 Roles and Responsibilities

In broad terms, the roles and responsibilities of the Drought Management Team are indicated in table 13 below. The team will be expected to draw upon expertise elsewhere as required, and the designated Drought Manager will act as lead for coordination of drought communications.

Table 13 Roles and responsibilities of Drought Management Team

Role in Drought Management	Usual Job Role	Responsibilities
Head of Drought Management Team Board Liaison	Operations Director	Overall responsibility for management of drought Reporting to the board of Directors Approval of messages to the public
Drought Strategy Manager	Head of Water Strategy	Implementing and developing the drought strategy Ensuring consistency with drought plan External stakeholder management (regulatory)
Drought Supply Manager	Head of Operations (supported by Supply Manager)	Control of the supply network Implementation of Supply side drought measures Integration of drought management and daily activity
Drought Resources Manager	Water Resources Manager	Technical Specialist to drought strategy Providing and recording data, drought monitoring and assessment
Drought Communications Manager & Public Relations Lead	Head of Communications	Co-ordination of internal and external drought communications Liaison with internal & external stakeholders – customers, media, public relations management Implementing the drought communications strategy
Production Drought Manager	Head of Production (supported by Production Managers of Northern and Southern Units)	Implementation of drought strategies at production sites Management of Production resources Enhanced maintenance response

8.2 Links to regional plans, WRMP and Environment Agency drought publications

As described in section 1.4 we work with other water companies and relevant stakeholders as part of the WRW regional group. Appendix D shows the consistent WRW TUB notice we would use if we implemented a TUB. Section 1.4 also covers the links between this drought plan and our WRMP. We have also aligned this plan with the West Midlands EA drought

plan. In addition we also considered the National Drought Framework for England when developing this drought plan.

8.3 Agreements and arrangements

The EA maintains and reports on a comprehensive hydrometric and environmental monitoring network for the purposes of its duties to protect and improve the water environment. This information has been made available to water companies by the Agency. We have arrangements to exchange data at selected sites where the EA directly measure rainfall using tipping bucket rain gauges.

We have previously referenced how we will manage our bulk supplies with Severn Trent Water. We are also aware of Icosa Water who have been granted a licence to supply water within our region, and we will include them in the consultation of this drought plan. Our pre-consultation comments from all stakeholders are included in appendix A, and these comments were integral to our development of this drought plan.

8.4 Compensation arrangements

Unless it is judged unreasonable by virtue of exceptional circumstances, in the event that customers' supplies were to be interrupted or cut off under the authority of an ordinary drought order (non-essential use ban) or emergency drought order, we may consider that compensation would be payable (or credits made) to those affected. Customers may be able to claim compensation in the event of supplies being interrupted or cut off as a result of our mismanagement during a drought.

Abstractors or occupiers/owners of land who suffer adverse impacts, damages and losses through our drought management actions from a drought permit or order are entitled to claim for compensation under the Water Resources Act (WRA) 1991. These rules are set out under Schedule 9 of the WRA, where abstractors must submit a claim within six months of the expiry date of the permit or order. We would always follow the appropriate regulations and standards in relation to compensating customers or other organisations potentially affected by our actions.

Any compensation payments would be in accordance with our Code of Practice for domestic and business customers, and the Guaranteed Standards Scheme (GSS), available on our website.

Total payments will be capped at the average annual bill for the previous year. Our guarantees do not apply if we are prevented from meeting standards in exceptional circumstances or severe weather, including droughts.

We do not believe any of our supply options would give rise to the need for compensation; however, we are open to discussions on this topic during or after a drought because every drought is different, and we would want to account for the specific circumstances of each case. We will ensure that there is a clear link on the drought management page of our website for any customers or organisations to contact us in these situations.

8.5 Supporting Other Sectors

If alternative supplies are required by our customers during a drought situation, our priority is to look after our most vulnerable customers and priority sites (e.g. hospitals) in the first instance. We will then endeavour to support non-household customers wherever possible, within the constraints of capacity. We are aware that many businesses, especially those with livestock and in rural communities, have alternative supplies or contingency plans in place for these situations, which we are very supportive of. However, whilst we cannot offer any guarantee of being able to provide alternative supplies in an incident, we will work with Retailers to prioritise our available resources to support businesses where we can e.g. priority given to businesses which care for livestock or provide vital community support functions. Any of our business customers can contact us for advice during these situations.

We are also conscious that there are private water supplies within our region. If a drought adversely affects people with a private water supply, we encourage them to contact their Local Authority in the first instance. The Local Authority responsible will consider whether the circumstances pose a danger to life or human health. In such a case we may be required to supply water by means other than in pipes, if practicable, for a period of time. We will also consider how we can help without putting our own customers' supplies at risk. The needs of vulnerable people shall be taken into account and would be agreed with the Local Authority, accounting for the water companies capabilities at the time, and provided accordingly. It is expected that large domestic private water supplies (more than 10,000 litres a day) make their own arrangements for alternative supplies. In the event of widespread requests for support we would seek support and direction from the relevant industry regulators or government departments.

There are a small number of actions we take that could affect fire hydrants. The most obvious of these is if we lower pressure during a drought to reduce leakage. In these situations, it is important that we take every action to mitigate the impact on the fire service, and the below details our actions to deliver this:

- We will communicate with the fire service to keep them updated of our situations and any planned interventions. We have engagement meetings with the fire service as part of business as usual, and we will engage with these contacts through our drought management team.

- If appropriate, we advise them of alternative locations to take a supply from that have higher pressure/ flow. For example, we may suggest that they connect to a larger main or bypass anything (PRV) that is creating a head loss.

- If required, we will support on site by sending a South Staffs Water technician to the area to assist.