Final Draft Water Resources Management Plan 2024

Annex 6: Lessons learned from 2022 drought

May 2025

from Southern Water

Contents

List of Tables

List of Figures

Glossary

Acronym	Term
AIM	Abstraction Incentive Mechanism
CoP	Code of Practice
D	Draft
DMA	District Metered Areas (these are areas of our network divided and measured to estimate leakage)
dWRMP24	Draft Water Resources Management Plan
EA	Environment Agency
EAR	Environmental Assessment Report
ESOR	Exceptional Shortage of Rain
FAQ	Frequently Asked Questions
FD	Final Draft
HIWWT	Hampshire and Isle of Wight Wildlife Trust
HRA	Habitat Regulations Assessment
LEP	Local Enforcement Position
LRM	Little River Management
MRF	Minimum Required Flow
N/A	Not applicable
NE	Natural England
NEUB	Non Essential Use Ban
SE	South East
SPEI	Standardised Precipitation Evapotranspiration Index
SPI	Standard Precipitation Index
TUB	Temporary Use Ban
UKWIR	United Kingdom Water Industry Research
WFD	Water Framework Directive
WRMP	Water Resources Management Plan
WRZ	Water Resources Zone
WSW	Water Supply Works

1 The 2022 drought

1.1 Drought development and resource impact

The winter of 2021-22 was drier than average with only October 2021 being notably wetter than average. Five of the seven months that constitute the typical groundwater recharge season (October-April) were drier than average and therefore directly linked to low river flow and groundwater levels through 2022. November 2021 (18.1% of monthly average) and January 2022 (29.8% of monthly average) were significantly drier than average (Figure 1).

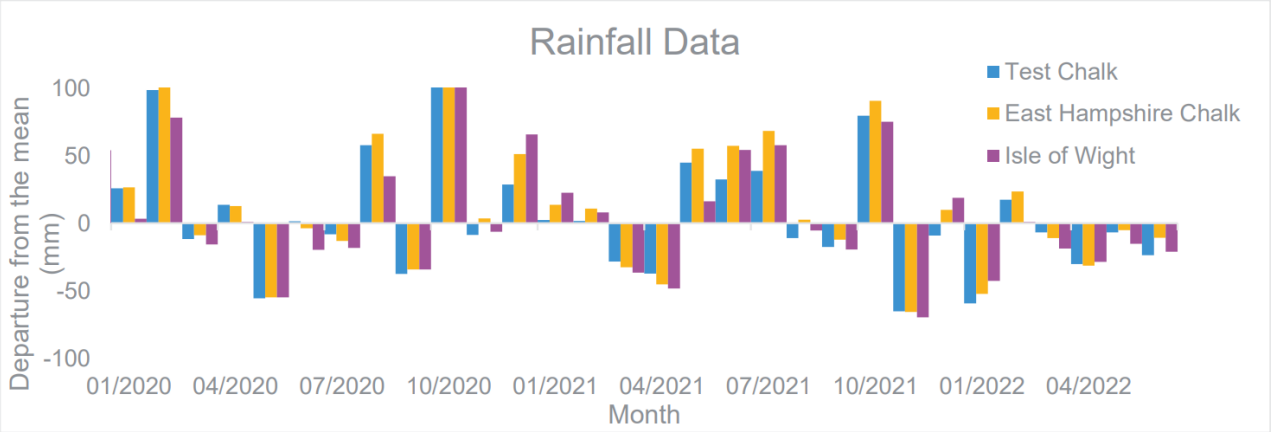

Figure 1: Timeseries of actual recent rainfall anomalies (compared to 1961-90 Long Term Average) in our Western area as recorded at the River Test and neighbouring catchments.

The groundwater recharge season in 2021-22 was the 30th driest out of 132 years of the historical record and, despite the wet 2021 October (205% of monthly average rainfall), had an overall rainfall deficit of around 85% of the long-term average across South East England. Total rainfall (433mm) was only slightly wetter than in 2005 (419mm) and 2006 (416mm) when we had a widespread drought with Temporary Use Bans (TUBs) imposed across much of Southeast England.

All our standard precipitation index (SPI) and standard precipitation and evaporation index (SPEI) metrics up to 12-month duration trended negative, indicating below average rainfall in the medium term. In June 2022, our Level 1 (1-in-5 year) 6- month SPEI trigger was crossed (which included 4 months of the groundwater recharge season) followed by our Level 2 (1-in-10 year) trigger for 12-month SPEI in July 2022.

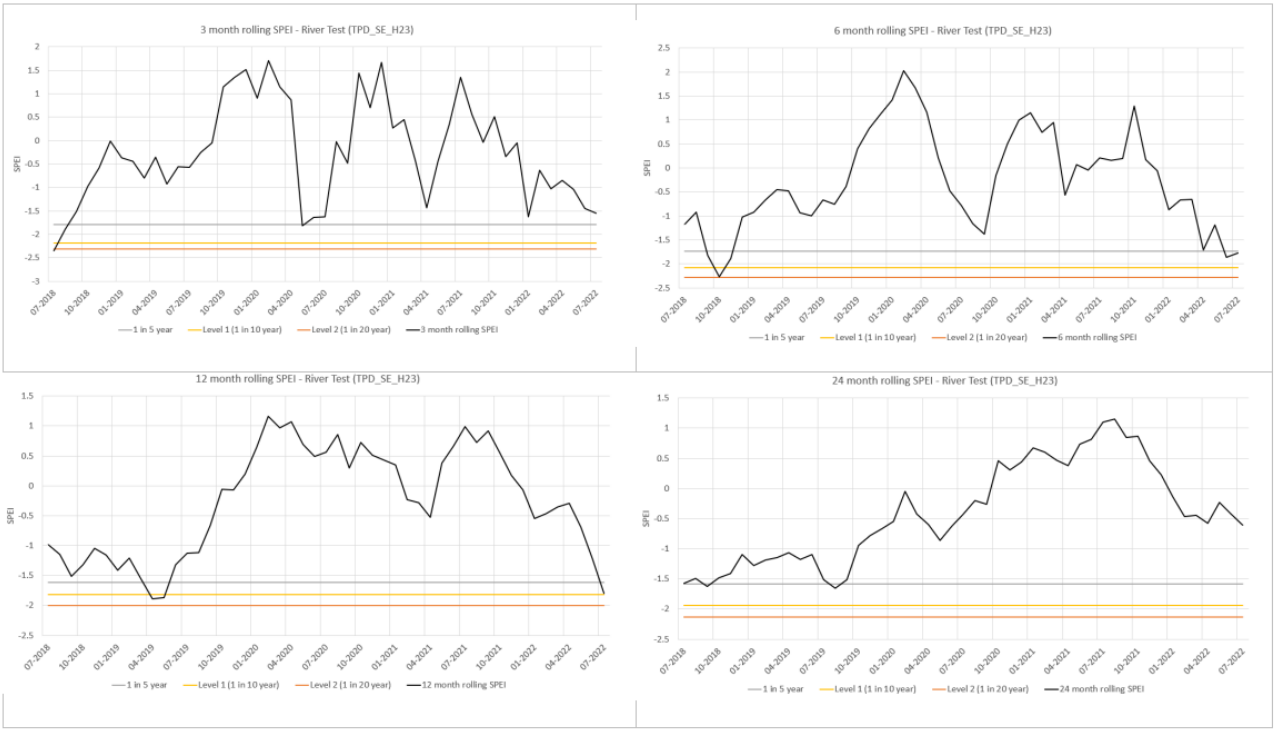

Figure 2: Summary of key SPEI indicators versus drought triggers.

1.1.1 River flows

Flows on the River Test initially dropped below our '60-day pre-application' trigger on 17 June 2022 and fluctuated around the trigger until 28 June 2022. We submitted a draft version of the drought permit application to the Environment Agency and Natural England on 24 June 2022. From 28 June, flows fell steadily until the 7 July, when there was a marked and sudden drop in flows which took flows rapidly below the 35-day application trigger for a River Test drought permit under the Section 20 Agreement on 10 July, after which flows continued falling at the previous steady rate. This decrease in flows was associated with a temporary increase in the rate of abstraction from our source on the River Test, which was associated with an increase in demand due to exceptionally hot weather.

Flows persisted below our 35-day application threshold for the River Test drought permit until mid-October 2022 after which, due to sustained rainfall throughout October 2022 (120% of long-term average monthly rainfall), flows recovered and any further risk of requiring the drought permit in 2022 was considered negligible. We formally withdrew our drought permit application and relaxed our TUBs restrictions on 4 November 2022.

1.1.2 Groundwater

Groundwater levels, particularly in the Hampshire and Sussex chalk were trending below normal throughout the summer of 2022 following the dry winter in 2021-22. The spring peak in April 2022 was much lower than in the past two years. Our Level 1 (1-in-5 year) groundwater trigger was breached in the Test chalk catchment in September 2022. In the Sussex chalk blocks, groundwater levels were close to below our Level 3 (1-in 20-year) trigger throughout the summer of 2022.

Groundwater levels in Kent remained above our drought triggers throughout 2021-22.

1.1.3 Reservoirs

Storage levels at Bewl Reservoir were below average throughout the summer of 2022, reaching a minimum of around 41% full in mid-October and crossing our Level 1 (1-in-5 year) drought trigger in late October.

Storage levels in Darwell Reservoir fell below our Level 1 (1-in-5 year) trigger in July 2022 and remained below the trigger until early November, reaching a minimum of 49% full. The Level 2 (1-in-10 year) trigger was not reached.

Storage levels in Powdermill Reservoir reached a minimum of 38% full in October 2022 but levels remained above our Level 1 (1-in-5 year) drought trigger.

Our combined Level 1 (1-in-5 year) triggers for the Eastern area reservoirs were reached in late October. We began preparing for the possibility of requiring a winter refill drought permit application for Bewl Reservoir in autumn of 2022; however, due to the above average autumn rainfall, reservoir storage recovered and no application was submitted.

Weir Wood Reservoir is currently out of service and we are rebuilding the treatment plant. As there was no active abstraction from the reservoir, levels remained above average throughout 2021-22. Given the flows in the River Rother remained above the minimum residual flow condition there was no additional supply risk to Sussex North during the summer of 2022 as a result of the drought.

1.1.4 Drought return period

The estimate of drought return period varies depending on the metrics upon which it is measured. For example, rainfall return periods vary depending on the cumulative duration over which they are assessed and because of the interaction with antecedent levels, storage and abstraction river, groundwater and reservoir storage, return period estimates will vary.

Based on our assessment across these different metrics, our estimate of the 2022 drought return period is shown in Table 1. Overall, across the different metrics the 2022 event appears to have been between a 1-in-10 year to 1-in-20 year event (around our Level 2 to Level 3) triggers.

Table 1: Return periods of various drought metrics.

Indicator	Western Area	Central Area	Eastern Area
Rainfall (Total Deficit)	1-in-26 peak deficit over 11 months to September 2022	1-in-15 peak deficit over 11 months to September 2022	1-in-44 peak deficit over 11 months to September 2022
Rainfall (Winter 2021/22)	1-in-12 6 month deficit to April 2022		1-in-22 7 month deficit to April 2022
Groundwater	1-in-10 to 1-in-20 Year	>1-in-20 Year	< than 1-in-5
River Flows	Below Level 2 Trigger (> 1-in-10)	1-in-3 to 1-in-4 (Rother)	N/A
Reservoir Storage	N/A	N/A	1-in-10 to 1-in-20
Overall	1-in-10 to 1-in-20	Around 1-in-20 Year	

2 2022 Drought actions

We experienced a dry winter in 2021-22. The October to March rainfall across Hampshire was around 10% less than average and through the summer of 2022 warm and dry conditions led to lower than average flows and groundwater levels. In August 2022, the Environment Agency declared that several of its areas were in drought, including the Solent and South Downs and Kent and south London areas. This led to the actions described above, including an application for a drought permit on the River Test.

This was the second time we have made a formal drought permit application for the River Test Drought Permit since entering into our agreement with the Environment Agency under Section 20 of the Water Resources Act 1991 (the Section 20 agreement) in 2018 which sets out the process by which we will apply for drought permits and orders for drought supply deficit in Hampshire. The agreement is due to expire in 2030. The previous instance was in 2019. This was the first time since 2019 that we have imposed Level 2 restrictions (TUBs). This performance is broadly in line with the forecast target level of service for Hampshire we presented in WRMP19 and summarised in Table 2.

Table 2: Comparison of target, forecast, historic and actual level of service for our Western area.

Level of service	WRMP19 Target Level of Service	WRMP19 Forecast 2020-2027	Historic Performance (1989-2018)	Actual Performance since 2019
Temporary Use Bans on different categories of water use	1-in-10 year probability	90% chance of occurring (1-in-4 year probability)	No events in period (better than 1-in-30 year probability)	Once (2022) in four years (1-in-4 year probability)
Drought Order (Non Essential Use Ban on different categories of water use)	1-in-20 year probability	34% chance of occurring (1-in-20 year probability)	No events in period (better than 1-in-30 year probability)	No events (better than 1-in-4 year probability)
Emergency Drought Order to restrict water use (rota cuts and standpipes)	1-in-500 year probability	2% chance of occurring (1-in-500 year probability)	No events in period (>1-in-30 year return period)	No events (better than 1-in-4 year probability)
Drought Permit/Order to increase supplies through relaxation of licence conditions.	1-in-20 year probability of application 1-in-200 year probability of implementation	Application – 90% chance of occurring (1-in-4 year probability) Implementation 34% chance of occurring (1-in-20 year probability)	No events in period (>1-in-30 year return period)	Applications (2019 and 2022) in period (1-in-2 year probability) No implementations in period (better than 1-in-4 year probability)

Despite lower than average rainfall across our other supply areas over the same period and the crossing of some of our Level 1 and Level 2 drought trigger thresholds, we did not need to implement any formal drought actions such as TUBs or drought permit or order applications in our Central and Eastern areas.

2.1 Review of drought restrictions

We worked with UKWIR and Artesia to undertake a review of the 2022 drought demand management measures applied by Southern Water and other companies, in particular focusing on the effectiveness of our TUBs[1].

This work estimated a 3% reduction in demand between August and October 2022 as a result of TUBs, compared to predicted demand without the ban. This is consistent with our previous assessments of the effectiveness of drought restrictions in the Western area, which found reductions of 5% in August, 3% in September, and 1% in October[2]. The previous assessments formed the basis for our assessment of the benefits of restrictions in our draft Water Resources Management Plan 2024 (dWRMP24). These assessments have been supported by recent observed data.

Artesia also identified smaller reductions in demand prior to the imposition of TUBs which were linked to our increased water efficiency campaigns earlier in the summer.

2.2 Lessons learned

We have undertaken an internal review of the 2022 drought. This included reviewing our general drought management and reporting activities, as well as the application for a River Test Drought Permit, our pre-application preparation for River Itchen Drought Order, including Non-Essential Use Ban (NEUB) Drought Order, and our preparation of a draft application for a Bewl Reservoir winter-refill Drought Permit.

We have identified several areas of improvements to our internal plans, procedures and preparations for the activities and communications conducted during onset and development of a drought. We have also embarked on a programme of work to improve our 'application readiness', with the production of draft environmental assessments and application documentation for all of our proposed drought permits and orders.

Some of the points that we have identified, and proposed actions will require dialogue with the Environment Agency. The points in relation to the rivers Test and Itchen include:

- Outcome of the revised River Test Drought Permit Habitats Regulations Assessment (HRA) and addressing comments by the Environment Agency and Natural England on the revised assessment.
- The timeline for drought permit application and determination as specified in the Section 20 agreement. A timeline of 35 days is set out in the Section 20 agreement. However, there was some discussion about how the Section 20 agreement timeline should be followed during the event. We would like to seek clarity and agreement on the overall timeline and milestones within it ahead of a drought event.
- We would like to agree a shortening of the 35-day determination period for the Test Drought Permit if possible. The Section 20 agreement timeline includes provision for a second hearing in relation to the Exceptional Shortage of Rain (ESOR) case. In practice, we have found that this provision tends to unnecessarily extend the timeline for determination and that we would expect the ESOR case to be settled at the time of the first hearing. We believe a shorter determination period will benefit all parties.

[1] Artesia, 2023 Review Of 2022 Drought Demand Management Measures
[2] Atkins, 2021, SWS Demand Analysis Update Effectiveness of drought restrictions: Technical report update 5200065/DG/001

- The river flow range over which we would be expected to minimise our abstraction from Test Water Supply Works (WSW).
- The pathway, if any, for advance preparation of material to aid Environment Agency determination of Candover and/or Lower Itchen drought orders, should applications for these become necessary, especially in relation to the conflict that could exist between abstracting more or less from the River Test or River Itchen. In our view, it should be possible to establish greater 'upfront' clarity of Environment Agency and Natural England positions on relative abstraction from each river should both be under drought permit or order. For example, we would like to receive feedback from the Environment Agency or Natural England on the scenario matrix we provided with Portsmouth Water during last year's pre-application dialogue.
- The option, if any, to progress and finalise the lease agreement for access to and operation of the Environment Agency Candover boreholes, in readiness for potential Candover Drought Order.

Other, more general points we would like to discuss include:

- The process and timelines expected for NEUBs in relation to anticipated supply-side drought order applications (e.g. for the River Itchen Drought Order).
- Our 'application readiness' for all our drought orders, and the work we have been doing to prepare application documents for all drought orders.
- Data sharing and communications refinements.

We have not identified any specific points in relation to the draft application for Bewl Reservoir, apart from the further development of the draft documents and the general improvements in processes noted above.

3 Action plan

To address the issues raised in our lessons learned review we have developed an Action Plan that sets out each of the improvement areas and the actions we will take to improve ahead of the next drought.

3.1 Drought permit and order application readiness

In their representation on our dWRMP24, the Environment Agency have raised concerns around the reliance on drought permits from the start of the planning period and drought orders which are not yet considered 'application ready', including the Pulborough Drought Permit.

We have a programme in place as part of our Action Plan to ensure that we have draft application readiness on all of our current drought permit and order options by the Autumn of 2023 (Table 3). This should ensure that all of our drought permit and order options are 'application ready' by the start of the planning period in 2025-26.

Table 3: Summary of drought permit and order application readiness (August 2023)

Drought permit / order - application readiness programme				Application documentation readiness															
				2023-2024															
				2023									2024						
	Source	Location	Env Sensitivity	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	Comments
1	Lukely Brook Groundwater source	Isle of Wight	Medium						D	EA/NE review	EA/NE review	EA/NE review	EA/NE review	EA/NE review	EA/NE review	EA/NE review	FD	FD	FD subject to EARs update planned for 2025
2	Caul Bourne Groundwater source	Isle of Wight	Medium						D	EA/NE review	EA/NE review	EA/NE review	EA/NE review	EA/NE review	EA/NE review	EA/NE review	FD	FD	FD subject to EARs update planned for 2025
3	Eastern Yar Augmentation Scheme Surface water source	Isle of Wight	Medium						D	EA/NE review	EA/NE review	EA/NE review	EA/NE review	EA/NE review	EA/NE review	EA/NE review	FD	FD	FD subject to EARs update planned for 2025
4	River Test Surface water source	Hants SW	High	SWS progressing further monitoring, assessment and mitigation commitments submitted with revised HRA, submitted December 2022.															FD subject to EARs update planned for 2025
5	Candover - River Itchen augmentation scheme	Hants SE	High			D	EA/NE review	EA/NE review	EA review	EA review	EA review	EA review	EA review	EA review	EA review	EA review	FD	FD	FD subject to EARs update planned for 2025
6	Reduce the flow condition controlling Portsmouth's abstraction	Hants SE	High			D	EA/NE review	EA/NE review	EA review	EA review	EA review	EA review	EA review	EA review	EA review	EA review	FD	FD	FD subject to EARs update planned for 2025
7	Reduce flow condition control of Itchen surface water and Twyford	Hants SE	High			D	EA/NE review	EA/NE review	EA review	EA review	EA review	EA review	EA review	EA review	EA review	EA review	FD	FD	FD subject to EARs update planned for 2025
8	Pulborough surface water - reduce Western Rother MRF	Sussex North	High			D	EA/NE review	EA/NE review	EA/NE review	EA review	EA review	EA review	EA review	EA review	EA review	EA review	FD	FD	FD subject to EARs update planned for 2025

9	East Worthing Groundwater - increase abstraction	Sussex Worthing	Low																Draft documents have been worked up
10	North Arundel Groundwater - increase abstraction	Sussex Worthing	Low																Draft documents have been worked up
11	Bewl Water reservoir / River Medway Stage 1 - Winter refill	Kent Medway West	Low	draft permit application submitted & reviewed in 2022/23															FD subject to EARs update planned for 2025
12	Bewl Water reservoir / River Medway Stage 2 - Winter refill	Kent Medway West	Low																
13	Bewl Water reservoir / River Medway Stage 3 - Spring - summer	Kent Medway West	Medium						D										Draft documents subject to SWS review and EARs update
14	Bewl Water reservoir / River Medway Stage 4 Spring - Summer	Kent Medway West	Low				D												Draft documents subject to SWS review and EARs update
15	Darwell - Reduce the MRF in the River Rother June to September	Sussex Hastings	Low											D					Draft documents subject to SWS review and EARs update
16	Darwell - Reduce the MRF in the River Rother March to May	Sussex Hastings	Medium											D					Draft documents subject to SWS review and EARs update

Documentation Draft (D) to Final Draft (FD) after EA & NE feedback

Formal Application submission – Draft (DA); Final (FA)

Earliest operational need (O)

WATER for LIFE from Southern Water

We have a thorough monitoring and mitigation plan ready for the Pulborough Surface Water Drought Permit/Order, identified via a recent licence variation application (for Borehole 10) and the River Arun licence renewal, with support of the Pulborough Basin Study. The River Arun licence renewal aspects of the overall monitoring and mitigation plan are especially relevant to the Pulborough Surface Water Drought Permit/Order. The monitoring and mitigation plan for the Pulborough Surface Water Drought Permit/Order has been available since 2021 and is ready to support a Pulborough Surface Water Drought Permit/Order application should we need to make one.

The Pulborough groundwater abstraction is excluded from the Drought Permit/Order and output will be zero under the surface water drought order regime. Therefore, the concerns about groundwater abstraction during drought are not applicable.

Table 4: Summary of lessons learned from the 2022 drought

Ref	Action	Issues addressed by action
1	**Undertake lessons learned review with the Environment Agency and Natural England** • Key issues to include are listed opposite but, fuller lessons learned progress with Environment Agency will include items flagged by the Environment Agency.	• Review Section 20 agreement timelines for Test surface WSW to confirm activity and timeframes in relation to the '35 days trigger'. • Review Natural England consultation feedback in relation to the Section 20 agreement timeline. • Review commitment to reduce Lower Test abstraction, in relation to flow triggers and application timeline. 1. Discuss possibility of local enforcement position (LEP) for greater flexibility around Lukely Brook/Newport monthly licence limits. • Pre-agree routine reporting of water quality data. • Joint Southern Water, Environment Agency and Natural England 'lessons learned' listing and meeting(s) to be progressed
2	**Confirm implementation plan for River Test Drought Permit HRA monitoring and mitigation measures.** • Seek Environment Agency/Natural England feedback on revised HRA. • Undertake further programme of monitoring and mitigation measures (additional to existing Section 20 agreement commitments) on River Test and River Itchen. • Use land access agreement on Lower Test to undertake agreed monitoring and mitigation measures (together with partners). • Ensure progress on monitoring and mitigation clearly set out in any drought permit application.	2. Addresses issues raised by Environment Agency and Natural England regarding HRA provided for 2022 River Test Drought Permit application. • Measures should reduce stakeholder objections to Drought Permit application. **Residual risks** • Despite updated HRA and monitoring and mitigation plan, there remains the possibility that the Environment Agency may object to or feel unable to grant a Drought Permit and prefer it to be a Drought Order instead (see item 4 below) • We need clarity from the Environment Agency on whether a drought permit would be acceptable in relation to submitted 'application ready' documents.
3	**Develop revised *internal* drought activity plan.** To include: • Drought governance. • Internal drought management processes and procedures in relation to relevant triggers. • Operational drought management processes and decision making. • Escalation process and decision making guidance (in relation to published Drought Plan) • Preparation needs for extra internal resourcing needs (including Operations, Communications, Customer services, Legal, etc.) • Preparation and procurement needs for additional consultancy and contractor services (environmental monitoring, document preparation, analysis and forecasting, etc.) Should not conflict with external drought plan nor duplicate it; aim is for practical internal guide on implementation.	• Timely appointment of drought manager. • Timely initiation of drought operational management activities including enhanced leakage and outage reduction, outage reductions and abstraction planning (e.g. minimisation of Lower Test abstraction; Lukely Brook /Newport licence limits (see also Item 1); requests for and management of Portsmouth Water bulk supply, etc.) • Linkage with Abstraction Incentive Mechanism (AIM) decision making. • Reporting formats and mechanisms. • Liaison with Executive team. • Release of budgets for drought measures • Rationalising the complexity of the external drought plan.
4	**Make preparations for Lower Test Drought Order** • Address risks that require a Drought Order instead of a Drought Permit. • TUB and NEUB required to be in place before Drought Order.	• Inform Executive team of risks. • Decision to be made about extent of preparation work required.
5	**Get all drought permits/orders 'application ready'**	• Gives Environment Agency and Natural England opportunity to view and comment on draft documents and environmental assessments.

Ref	Action	Issues addressed by action
	• Undertake programme of work to ensure application documents prepared in draft for all potential drought permits/orders. • Include preparation of HRAs and Water Framework Directive (WFD) compliance assessments as required for all drought permits/orders. • Need to account for greater stress of consecutive drought years.	• Early warning if drought permits may be refused and we may need drought orders instead. • Minimises lead-in times for drought permit/order applications. • Ensures monitoring and mitigation requirements have been identified and can be implemented at early stage. • Various consultants engaged to undertake programme of work to develop draft documents (ongoing).
6	**Finalise Environmental Assessment Reports and publish Drought Plan** • Updates of HRAs to inform any changes to Environmental Assessment Reports (EARs) included in the Drought Plan.	• Publishing 2022 drought plan will remove confusion about which drought plan is being followed.
7	**Develop communications activity plan** • To include customer, non-household and stakeholder communications and activities. • Scheduled and with timelines and activities undertaken according to forecasts, triggers and drought phasing. • To set out communications methods/technologies (shift to greater use of digital channels) • Update drought website pages. • Ensure that Environment Agency are given copies of communications in advance. • Liaise with neighbouring water companies to ensure alignment on messaging. 3. Focus on regional media where appropriate to do so. • Update stakeholders lists, and stakeholder engagement plan.	• Timing and timeliness of external communications. • Delays and costs associated with communications by letter (shift to greater focus on digital media). 4. Ensure stakeholders included in early messaging as appropriate (e.g. Hampshire and Isle of Wight Wildlife Trust (HIWWT) and Little River Management (LRM), etc.) • Include stakeholder messaging in the spring following drought prospects reports. • Ensure any national messaging is consistent and occurs early enough.
8	**Review / revise TUB & NEUB exemptions** 5. UKWIR reviewing/updating Code of Practice (CoP). • Review internal list of exemptions – align with UKWIR review. • Endure a definitive internal position on exemptions. • Have messaging/FAQs/website prepared in advance.	• Clarity on our position on exemptions and making it clearer for our customers. • Implement new national guidance when released. • Customer services and Wholesale Water services teams should feed into national project.
9	**Develop improved Postcode checker** • Establish best available relationship between postcodes boundaries and Water supply areas (DMAs to Water resources planning zones) • With best estimate approach to how to apportion post-codes that cross boundaries. • Update website postcode checker in conclusion	• Difficulties with matching postcodes to affected Water Resource Zones (WRZs). • Relationship to sewerage network. • Needs to be in place relative to household and non-household customer base.
10	**NEUB process** • Confirm process & timeline for NEUB in relation to drought order applications with the Environment Agency.	
11	**Develop better household and non-household water use information** • Establish household and non-household metering data by water supply area. • Especially for non-household customers, the information needs to be at customer/customer type level	• Poor records of non-household consumption data meant we had little data to analyse impacts and benefits of proposed NEUB.

Ref	Action	Issues addressed by action
	• Review non-household customer base information regarding Standard Industrial Classification (SIC) codes and other segmentation categorisation options. • Investigation increasing meter read frequency in relation to drought monitoring needs. • Establish greater clarity of information exchange with retailers. • Encourage national review of approach to cost-benefit assessment of TUBs and NEUBs.	
12	**Complete drought dashboard** • Complete development of drought dashboard based on 2022 drought triggers. • Consider how forecasts and (time-based) triggers interact; especially for River Test. i.e. '35-day' risks may be better characterised using forecast model rather than trigger lines.	• Visibility of water resources situation for all sources. • Draft version prepared; further work ongoing.
13	**Review approaches to drought forecasting modelling** • Investigate ways to improve tools and capability to streamline drought forecasting approaches; in particular using groundwater models. • Keep and continue to use Aquator for Kent reservoir modelling. • Ensure Catchmod flow forecasting models can be run by several people within the business. • Review how Catchmod forecasts capture and present percentile flows in relation to the weather forecast flows and ensure alignment. • Establish forecasting functionality in all groundwater models. • Establish resourcing of running models for forecasts (aim for routine monthly forecasting application of all models).	• Resource needs for drought prospects and ongoing regular needs for forecasts. • Consistent forecasting approaches to be used across our sources.
14	**Drought data reporting** • Review datasets required for drought monitoring and drought permit/order applications. • Ensure datasets are aligned and are readily available. • Ensure there are procedures for gathering, collating and presenting data from across the business.	• Timely, consistent, comprehensive drought datasets readily available for various reporting needs including rainfall, flows, groundwater level, Distribution Input, transfers etc. • Drought dashboard, and bespoke reporting tools will aid reporting. • Need as much as possible to be prepared via water analysts. • Need to identify additional/better groundwater monitoring sites