Environmental Assessment of Test Surface Water Stage 0.1 Drought Order 2025

July 2025
V4.0

Southern Water

Version No.	Date of Issue	Changes
V1.0	Jan-18	SWS internal review
V2.0	Mar-21	Update for draft Drought Plan 2022
V3.0	Jan-22	Updated with NE/EA comments
V4.0	Jul-25	Updated for application for Stage 0.1 Drought Order

Contents

Glossary

Abstraction Licence
The authorisation granted by the Environment Agency (in England) to allow the removal of water from a source.

Biochemical Oxygen Demand (BOD)
The amount of oxygen that would be consumed if all the organic material in one litre of water were oxidised by bacteria and protozoa.

Compensation Releases
Abstractions from a reservoir may be subject to conditions whereby a specified amount of water has to be released into the watercourse downstream of the reservoir in order to compensate the river for the presence of the reservoir.

Discharge Permit
Permission granted by the Environment Agency to authorise the legal discharge of specific flows and pollutants to the aquatic environment. Discharge permits have conditions attached to them that limit the amount and concentration of specified pollutants that can be discharged to ensure that there is no threat to the water environment.

Drought
A drought is a naturally occurring event, typically characterised by prolonged periods of below average rainfall leading to low levels of groundwater and reduced river flows, resulting in a shortage of water which can affect people and wildlife. Droughts can be of differing duration and intensity, for instance a short event caused by a hot, dry summer, or a drought over several years where persistent low rainfall may result in a lack of replenishment of water resources. The spatial extent of droughts can also vary widely, from being concentrated in a few catchments, to covering wider areas, such as South East England.

For the purposes of drought management, droughts of differing severity are planned for. A drought in this instance is defined as having a return period of between 1 in 10 and 1 in 20 years.

Drought Order
An authorisation granted by the Secretary of State under legally defined drought conditions which (amongst other powers) gives a water company the power to temporarily abstract and/or impound and/or discharge water outside of the normal abstraction licence regulatory process, or to temporarily modify the conditions of any existing abstraction licence/legal authorisation.

Drought Permit
An authorisation granted by the Environment Agency under legally defined drought conditions which gives a water company the power to temporarily abstract and/or impound water outside of its normal abstraction licence permissions.

Environmental or Natural Drought
The terms used in this report to refer to the natural process of reductions in river flows and groundwater levels due to extremely dry weather conditions. In the summer, raised air temperatures and transpiration by plants can further exacerbate drought conditions. Such conditions cause physiological stress to living organisms, the degree of stress increasing with drought severity and duration.

Environmental Quality Ratio (EQR)
Environmental Quality Ratios express the current condition of a biological quality element under the Water Framework Directive (WFD), such as macroinvertebrates or fish. This is achieved by comparing the observed value of the appropriate WFD metric calculated from samples with the value of the same metric expected at WFD reference state.

Lotic-Invertebrate Index Flow Evaluation (LIFE)
LIFE is a method that allows the aquatic invertebrate community recorded at a site to be scored according to its dependence on river flow velocity. The LIFE value obtained can be compared to that predicted for the site under normal flow conditions and may show if the invertebrate community is experiencing flow related stress.

Comparing observed and predicted scores for each aquatic macroinvertebrate community gives an Environmental Quality Index (EQI) that is used as a measure of stress experienced at a site from low flow. A value of 1.0 indicates that the macroinvertebrate community has the flow sensitivity predicted for the site. A value of less than 0.975 indicates the possibility of significant stress due to low flow conditions.

Macroinvertebrates

Macroinvertebrates are small animals (but visible with the naked eye) without a backbone, for example insects, worms and larvae. Rivers and most water bodies normally contain communities of aquatic macroinvertebrates. The species composition, species diversity and abundance in a given river or water body can provide valuable information on the relative health and water quality of that river or water body.

Natural Environment and Rural Communities (NERC) Act Section 41

In England, many rare and threatened species are listed under Section 41 of the 2006 Natural Environment and Rural Communities (NERC) Act. Outcome 3 of the Government's Biodiversity 2020 strategy contains an ambition to ensure that *'By 2020, we will see an overall improvement in the status of our wildlife and will have prevented further human-induced extinctions of known threatened species.'* Protecting and enhancing England's designated Section 41 species is key to delivering this outcome.

pH

A measure of the acidity of alkalinity of a liquid based on a logarithmic scale of concentration of hydrogen ions. A pH value of <7 is acidic, >7 is alkaline.

Severe Drought

A drought is a naturally occurring event, typically characterised by prolonged periods of below average rainfall leading to low levels of groundwater and reduced river flows, resulting in a shortage of water which can affect people and wildlife. Droughts can be of differing duration and intensity, for instance a short event caused by a hot, dry summer, or a drought over several years where persistent low rainfall may result in a lack of replenishment of water resources. The spatial extent of droughts can also vary widely, from being concentrated in a few catchments, to covering wider areas, such as South East England.

For the purposes of drought management, droughts of differing severity are planned for. A severe drought in this instance is defined as having a return period of between 1 in 20 and 1 in 500 years.

Walley Hawkes Paisley Trigg (referred to as WHPT)

WHPT is a method that allows the aquatic macroinvertebrate communities recorded at a site to be scored according to their tolerance to environmental pressures such as organic pollution. WHPT can be expressed as a score (the sum of values for each taxon in a sample), as an average score per taxon (ASPT) and as the number of scoring taxa (N-taxa). WFD status is based on ASPT and N-taxa. WHPT was introduced as the basis for the UK's river macroinvertebrate status classification under the Water Framework Directive in the second River Basin Management Plans, published in 2015.

Water Framework Directive (WFD)

Water Framework Directive: Council of the European Communities 2000 Directive 2000/60/EC (OJ No L 327 22.12.2000) (establishing a framework for Community action in the field of water policy). This important European Union directive for management of the water environment and water catchment areas was transposed into national law by the Water Environment (Water Framework Directive) (England and Wales) Regulations 2003 (Statutory Instrument 2003 No. 3242).

Abbreviations

AOD	**Above Ordnance Datum**
BOD	Biochemical Oxygen Demand
CIEEM	Chartered Institute of Ecology and Environmental Management
CSO	Combined Sewer Overflow
DO	Dissolved oxygen
DPG	Environment Agency (2015) Water Company Drought Plan Guideline
EA	Environment Agency
EAR	Environmental Assessment Report
EcIA	Ecological Impact Assessment
EQI	Ecological Quality Index
EQR	Ecological Quality Ratio
EMP	Environmental Monitoring Plan
HRA	Habitat Regulations Assessment
JNCC	Joint Nature Conservation Committee
LIFE	Lotic-invertebrate Index for Flow Evaluation
MRF	Minimum Required Flow
Ml	Megalitres (1Ml is equivalent to 1,000 cubic metres or 1,000,000 litres)
NERC	Natural Environment and Rural Communities
RHS	River Habitat Survey
SAC	Special Area of Conservation
SEA	Strategic Environmental Assessment
SPA	Special Protection Area
SRP	Soluble Reactive Phosphorus
SSSI	Site of Special Scientific Interest
WFD	Water Framework Directive
WHPT	Whalley, Hawkes, Paisley, Trigg method
WRMP	Water Resource Management Plan
WRZ	Water Resources Zone
WwTW	Wastewater Treatment Works

Non-Technical Summary

Introduction and Purpose of this Report

The Southern Water Services ("Southern Water") Drought Plan 2022 provides a comprehensive statement of the actions that may be implemented during drought conditions to safeguard essential water supplies to customers and minimise environmental impact. It encompasses a number of drought management options that will only be implemented if and when required, and includes drought permit / order options. A drought permit or order is a drought management action that, if granted, can allow more flexibility to manage water resources and the impacts of drought on public water supplies and the environment.

The objective of this report is to provide an independent and robust assessment of the potential environmental impacts of implementing a Stage 0.1 drought order at Southern Water's Testwood source over and above those arising due to natural impacts of drought and those which would occur under "normal" abstraction licence conditions.

Southern Water's resources in its Western Area (Hampshire and Isle of Wight) are dominated by the abstractions on the Rivers Test and Itchen at Testwood and Otterbourne.

The assessment considers how the proposed Stage 0.1 drought order (see below) may affect the environment in combination with the impacts of other existing abstraction licences, environmental permits and other drought plan measures.

Note that this document is based on, and is largely the same as, the report prepared to support the Southern Water 2022 draft Drought Permit application. Since this was produced Southern Water, the Environment Agency and Hampshire and Isle of Wight Wildlife Trust have all undertaken extensive monitoring programmes on the Rivers Test and Itchen as agreed under the Section 20 Agreement. However at this time the vast majority of these data are still being analysed, and the findings are yet to be reported to the Environment Agency and Natural England independently of this document. Therefore it has not been possible to update the EAR with the results of these data in respect of the assessment presented. However the report has been updated to reflect the specific application in 2025 and changes in respect of the understanding of potential impacts on Internationally designated sites as reflected in the Habitats Regulations Assessment (WSP, 2025[1]) accompanying the application in 2025.

Proposed Stage 0.1 Drought Order Details

The current abstraction licence allows abstraction of up to 80 Ml/d and 29,200 Ml/year. This is subject to a Hands-off Flow (HOF) of 355 Ml/d calculated as a sum of flow at Testwood Bridge, Test Back Carrier and Conagar Bridge. This licence was revised following the agreement reached from the 2018 Public Inquiry.

Water resources modelling using Southern Water's Western Area 'Aquator' water resources model indicates that, under the current River Test abstraction licence conditions (see above) there would be a significant supply deficit in the Western Area under a range of low flow conditions. Therefore,

[1] WSP (2025). Test Surface Water Licence 11/42/18.16/54 Stage 0.1 Drought Order 2025. *Information to support an assessment under Regulations 63 and 64 of the Conservation of Habitats and Species Regulations 2017.*

there is a need for Southern Water to apply to relax the HoF from 355Ml/d to 265Ml/d, to help maintain public water supplies to the Western Area during these low flow conditions.

Under conditions where the available mitigation measures are deemed to fully off-set the potential effects of the relaxation of the HoF, Southern Water would be applying to the EA for a Drought Permit as detailed under the Section 20 Agreement. However, the HRA Stage 2 assessment for the application concludes that it is not possible to conclude there will be no adverse effect on site integrity for the River Itchen SAC and River Meon Compensatory SAC Habitat even with mitigation in place (WSP, 2025[2]). Additionally, the proposed renewal of Southampton Port's Maintenance Dredge and Disposal Licence and hence continuation of maintenance dredging activity is considered to act in-combination with the Stage 0.1 Drought Order on the salmon population of the River Itchen SAC and River Meon Compensatory SAC Habitat. Therefore, compensation is required and this level of abstraction can only be approved as a Drought Order and through an application to the Secretary of State for Environment, Food and Rural Affairs.

The Test Surface Water Stage 0.1 Drought Order seeks to reduce the licence HoF (355 Ml/d) to 265 Ml/d. The Test Surface Water Stage 0.1 Drought Order would always be applied for before the Test Surface Water Stage 1 Drought Order, as referred to in the Section 20 Agreement.

Need for the Stage 0.1 Drought Order

The recession in flows on the River Test down to the hands-off flow condition of 355 Ml/d will determine when Southern Water needs the order. However, due to the exceptionally dry spring experienced across southern England in 2025, flows in the River Test are currently falling towards the HoF and therefore Southern Water has prepared the application for the Stage 0.1 Drought Order in the expectation that, without significant rainfall in the near term, the application will need to be submitted.

The justification for the drought order sought is set out in a 'Needs Statement' that accompanies this document. This has been produced by Southern Water . Details of alternative sources considered by Southern Water are detailed in the HRA accompanying the application (WSP, 2025[3]) and provides the justification for the requested drought order.

Potential Impacts of Drought Order Implementation

The scope of the assessment has been defined by a screening and scoping exercise, the outcomes of which are summarised below.

Summary of the Hydrological, Hydrogeological and Physical Environment Assessment

The Test Surface Water Stage 0.1 Drought Order has the potential to impact upon flows in the freshwater reach of the Great Test, between the Testwood abstraction intake and the NTL at Testwood Mill. Downstream of the NTL, the hydrological impacts are anticipated to be small in comparison to the tidal control on the system, but nonetheless remain.

The assessment concluded that there could be:

[2] WSP (2025). Test Surface Water Licence 11/42/18.16/54 Stage 0.1 Drought Order 2025. *Report to inform an assessment under Regulations 63 and 64 of the Conservation of Habitats and Species Regulations 2017.*
[3] WSP (2025). Test Surface Water Licence 11/42/18.16/54 Stage 0.1 Drought Order 2025. *Information to support an assessment under Regulations 63 and 64 of the Conservation of Habitats and Species Regulations 2017.*

- **Up to minor** impacts the Test (Lower) reach between Testwood abstraction intake and the NTL at Testwood Mill.
- **Negligible** impacts in the reach downstream of Testwood Mill (Test Estuary and confluence with Southampton Water)
- **Negligible** risks to geomorphology.
- **Negligible to Low** risks to water quality.

Summary of the Environmental Features Assessment

Environmental assessment is required for features where screening has identified a potential major or moderate impact, or a minor impact in relation to designated sites or features. Screening identified that environmental assessment was required in relation to:

- Relevant designated sites;
- Water Framework Directive (WFD) status and ecological communities of fish, macroinvertebrates and macrophytes;
- Natural Environment and Rural Communities Act (NERC) relevant Section 41 species and habitats;
- Navigation on the Lower Test and Southampton Water waterbodies; and
- Angling activities in the River Test only.

A report to inform an assessment under Regulations 63 and 64 of the Conservation of Habitats and Species Regulations 2017 of the effects of the Stage 0.1 Drought Order application for the Test Surface Water abstraction at Testwood on Habitats Sites[4] (a report to inform a Habitats Regulations Assessment (HRA)) has been undertaken for the Test Surface Water Stage 0.1 Drought Order (WSP, 2025[5]).

The report to inform an HRA concluded that, of the sites considered, the following site was screened out due to there being no mechanism of effect and hence no likely significant effect was possible:

- River Test Compensatory SAC Habitat.

The report to inform an HRA determined that, for those mechanisms of effect where a likely significant effect was identified, operation of the proposed Test Surface Water Stage 0.1 Drought Order will not cause or contribute to a failure to meet the attributes of the SAC, SPA or Ramsar sites list below either alone or in combination with other plans or projects:

- Solent and Southampton Water SPA.
- Solent and Southampton Water Ramsar site.
- Solent Maritime SAC.
- Solent and Dorset Coast SPA.

[4] Habitat Sites (also known as European sites) include, Special Areas of Conservation (SACs) candidate Special Areas of Conservation (cSACs) and Special Protection Areas (SPAs). As a matter of policy, the UK Government also considers possible SACs (pSACs), potential SPAs (pSPAs), Ramsar sites and, in England, proposed Ramsar sites as European sites

[5] WSP (2025). Test Surface Water Licence 11/42/18.16/54 Stage 0.1 Drought Order 2025. *Information to support an assessment under Regulations 63 and 64 of the Conservation of Habitats and Species Regulations 2017.*

However, no adverse effect on integrity cannot be concluded for the River Itchen SAC or for the River Meon Compensatory SAC Habitat, even with mitigation in place, in respect of operation of the Test Surface Water Stage 0.1 Drought Order alone.

Additionally, the proposed renewal of Southampton Port's Maintenance Dredge and Disposal Licence and hence continuation of maintenance dredging activity is considered to act in-combination with the Stage 0.1 Drought Order on the salmon population of the River Itchen SAC and River Meon Compensatory SAC Habitat, albeit this assessment is considered precautionary and uncertain in nature. .

Therefore the report to inform the HRA was required to consider the three legal tests required to be satisfied in order for the proposed Stage 0.1 Drought Order to qualify for a derogation in respect of the potential for effects on the River Itchen SAC and River Meon Compensatory SAC Habitat alone and in combination with the proposed renewal of Southampton Port's Maintenance Dredge and Disposal Licence, and hence continuation of the routine maintenance dredge activities. It demonstrates there are no feasible alternatives to the drought order, the application for a drought order is of overriding public interest and therefore it outlined proposed compensatory measures that would take place at the Woodmill Activity Centre, specifically on the Woodmill Salmon Pool.

Furthermore the Environmental Assessment has concluded that there could be:

- **Minor to Moderate** impacts (low to medium confidence) on the River Test SSSI.
- **Minor** impacts (medium confidence) on the Lower Test Valley SSSI.
- **Minor** impacts (low confidence) on the River Itchen SSSI.
- **Minor** impacts (low confidence) on macrophytes and **low** risk of deterioration (Test (Lower) Water Body GB107042016840).
- **Minor** impacts (low confidence) on macroinvertebrates and **low** risk of deterioration (Test (Lower) Water Body GB107042016840).
- **Moderate** impacts (low confidence) on fish and **medium** risk of deterioration (Test (Lower) Water Body GB107042016840).
- **Minor** impacts (medium confidence) on macroinvertebrates and **negligible** risk of deterioration (Southampton Water Transitional Water Body GB520704202800).
- **Minor** impacts (medium confidence) on macroalgae and **negligible** risk of deterioration (Southampton Water Transitional Water Body GB520704202800).
- **Uncertain** impacts on fish and **negligible** risk of deterioration (Southampton Water Transitional Water Body GB520704202800).
- **Minor to moderate** impacts (low confidence) on NERC species.
- **Minor** impacts (medium confidence) on landscape and recreation.

Cumulative Impacts

No cumulative impacts have been identified in relation to the proposed Stage 0.1 Drought Order.

Mitigation and Monitoring

A programme of mitigation and also compensation, as also detailed in the HRA, has been discussed with the Environment Agency and Natural England in respect of the application for the Test Surface Water Surface Water Stage 0.1 Drought Order. The mitigation list only includes measures that are in place, or will be in progress, at the time of implementation of the drought order. A monitoring plan

has also been prepared and is presented in an Environmental Monitoring, Mitigation and Compensation Plan (SWS, 2025[6]) that accompanies the application for the Drought Order.

Conclusions

This EAR provides an assessment of the potential environmental impacts relating to the implementation of the Test Surface Water Stage 0.1 Drought Order. The scope of the assessment has been defined by an impact screening and scoping exercise.

It has been concluded that the environmental effects on river flows, water quality and ecology of implementing the Test Surface Water Stage 0.1 Drought Order, over and above those conditions that already exist under "normal", i.e. licensed, baseline conditions, with the onset of a natural drought, could cause **up to Moderate** likely impacts (low confidence) to designated sites and features of the River Test.

Extensive baseline monitoring has been undertaken over the last 6 years however at this time the vast majority of these data are still being analysed, and are yet to be reported independently to the Environment Agency and Natural England. Therefore it has not been possible to update the EAR with the results of these data.

A summary of the environmental assessment is provided below.

[6] SWS (2025). Test Surface Water Licence 11/42/18.16/54 Stage 0.1 Drought Order 2025. 2.2_Environmental Monitoring, Mitigation and Compensation Plan. July 2025.

Supply side action information	**Supply side action**	**Test Surface Water Stage 0.1 Drought Order**
	Deployable output of action	Up to 80.0 Ml/d
	Implementation timetable	Three months from trigger to implementation
	Permissions required and constraints	In accordance with the Water Resources Act 1991, as amended by the Environment Act 1995, the Water Act 2003 and the Water Act 2014.
	Risk associated with the application	Work closely with the EA when applying for order, during the course of the order and after the order.
Summary of environmental assessment (including mitigation measures)	**Overall environmental impact (minor, moderate, major or uncertain)**	Up to Moderate
	Level of confidence (H, M, L)	Low
	Summary of likely environmental impacts	Likely impacts on flows, water quality, designated sites, fish and NERC species.
	Summary of baseline information used	Information provided in previous reports and studies, Environment Agency, Southern Water routine monitoring data and other bespoke data.
	Summary of additional monitoring required	A programme of mitigation, compensation and monitoring has been discussed with the Environment Agency and Natural England for the Test Surface Water Stage 0.1 Drought Order application in 2025.
	Summary of mitigation measures	A programme of mitigation, compensation and monitoring has been discussed with the Environment Agency and Natural England for the Test Surface Water Stage 0.1 Drought Order application in 2025.
	Permits/approvals needs for mitigation measures	EA permission to work on the river
	Impact on other activities for example fisheries, industry	Minor impacts on angling and ferries.

1. Introduction

1.1. Purpose of the Environmental Assessment

In the event of a drought, Southern Water will need to implement a range of management measures to ensure the continued provision of essential water supplies to all of its customers. The Southern Water Drought Plan sets out the range of measures that the company will consider implementing in managing drought conditions, taking account of statutory legislation and regulatory requirements. These measures include a number of potential drought orders or drought permits that Southern Water may apply for to enable additional water to be abstracted from the water environment. Such applications are made in accordance with the Water Resources Act 1991, as amended by the Environment Act 1995, the Water Act 2003 and the Water Act 2014.

Water companies are required to prepare Environmental Assessment Reports (EARs) to accompany any applications for a drought permit or drought order. A pre-prepared "shelf copy" of the EAR should be developed outside of a drought event so that any material environmental issues can be identified and addressed in advance of any application during a drought event.

The Environment Agency published drought plan guidance[7] (DPG) and supporting technical guidance in 2020[8], including information relating to the preparation of EARs. This guidance informs preparation of this EAR[9].

This EAR identifies any potential environmental issues associated with implementation of the Test Surface Water Stage 0.1 Drought Order (throughout this document the Test Surface Water Stage 0.1 Drought Order is referred to as 'the Drought Order' unless the full name is necessary for understanding). The overall scope of the environmental assessment is intended to meet the requirements of the updated DPG. The environmental assessment, associated mitigation actions and details from the Environmental Monitoring Plan (EMP) form the basis of this EAR.

In accordance with the Environment Agency's guidance, the environmental assessment comprises the following components:

1. An assessment of the hydrological or hydrogeological impacts of the proposed drought order/permit.
2. An assessment of the environmental sensitivity of features within or linked to impacted river reaches and aquifers.
3. An assessment of the likely environmental impacts.
4. Identification of mitigation or compensation measures for impacted features.
5. Development of an environmental monitoring plan, where required.

The environmental assessment focuses on the potential changes to water availability (levels and flows) and any consequent implications for geomorphology, water quality, ecology and other relevant environmental receptors, for example, landscape, navigation, recreation and heritage.

Note that this document is based on, and is largely the same as, the report prepared to support the Southern Water 2022 draft Drought Permit application. Since this was produced

[7] Environment Agency (December 2020). Water Company Drought Plan guideline, December 2020 (Version 1.2). External guidance: LIT UNASSIGNED. December 2020.

[8] Environment Agency (July 2020). Environmental assessment for water company drought planning supplementary guidance. External guidance: LIT 55303. Published: July 2020.

[9] It is recognised that the EA published updated Drought Plan guidance on 16 June 2025. However this EAR report was substantively completed prior to this date, with limited recent updates made, and so reflects the requirements of the 2020 guidance.

Southern Water, the Environment Agency and Hampshire and Isle of Wight Wildlife Trust have all undertaken extensive monitoring programmes on the Rivers Test and Itchen as agreed under the Section 20 Agreement. However at this time the vast majority of these data are still being analysed, and the findings are yet to be reported to the Environment Agency and Natural England independently of this document. Therefore it has not been possible to update the EAR with the results of these data in respect of the assessment presented. However the report has been updated to reflect the specific application in 2025 and changes in respect of the understanding of potential impacts on Internationally designated sites as reflected in the Habitats Regulations Assessment (WSP, 2025[10]) accompanying the application in 2025.

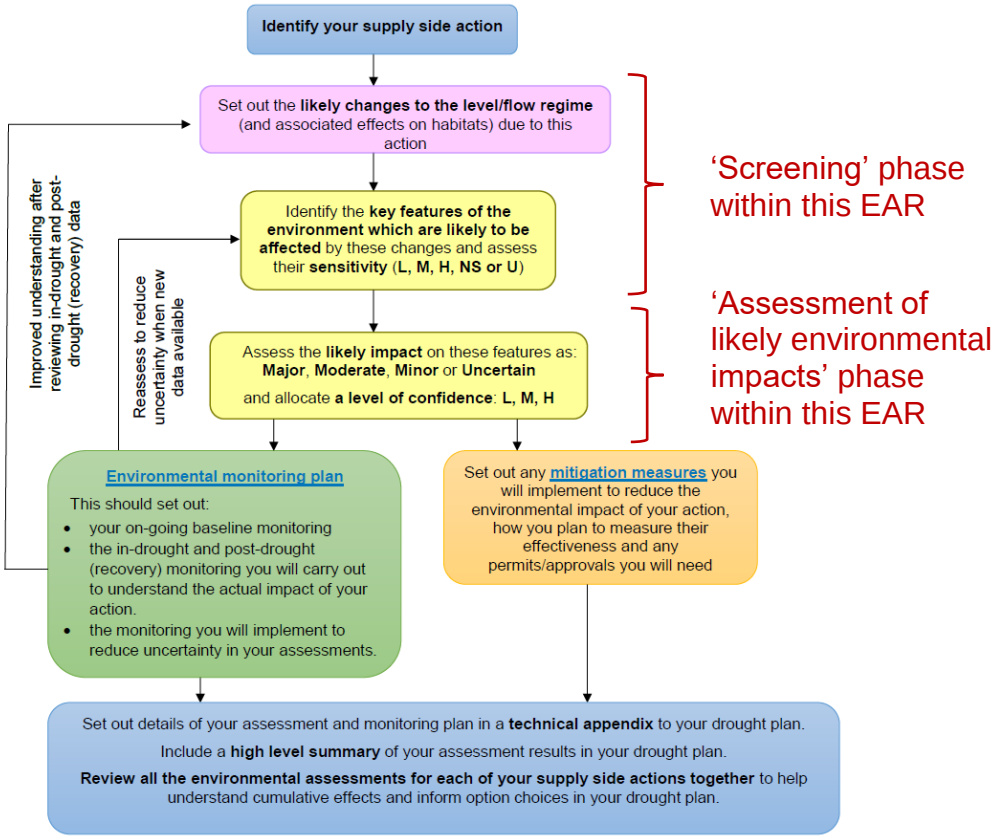
1.2. Overview of Approach

The overall approach to the environmental assessment of the Drought Order follows the process documented in the Environment Agency's DPG. A key figure from the supplementary guidance (replicated and adapted in **Figure 1.1**) identifies the required approach. Two phases have been undertaken: 'Screening' to inform the assessment required; and 'Assessment of likely environmental impacts' (see **Figure 1.1**).

The screening exercise fulfils the requirement to understand "how sensitive each environmental feature of interest is to the likely changes in hydrology (or hydrogeology) (and associated habitat changes) caused by your supply side action" and to "categorise the sensitivity of your features of interest as High, Medium, Low, Not sensitive, or Uncertain" (Environment Agency, July 2020).

[10] WSP (2025). Test Surface Water Licence 11/42/18.16/54 Stage 0.1 Drought Order 2025. *Information to support an assessment under Regulations 63 and 64 of the Conservation of Habitats and Species Regulations 2017.*

Figure 1.1 Environment Agency high level approach to developing environmental assessments for supply side drought management actions (adapted from Environment Agency, July 2020)



The outcomes of the screening phase are described in Sections 4 and 5 of this report. The screening identifies the relevant study area and a list of features which have been scoped into the environmental assessment.

The environmental assessment phase fulfils the requirement to "predict the likely impacts of your actions on the environmental features of interest" and "categorise the likely environmental impacts of your actions as either major, moderate minor or uncertain" (Environment Agency, July 2020). Furthermore, a confidence level (high, medium or low) has been identified for each assessment as required by the Environment Agency. The guidance is not prescriptive regarding the definition of confidence levels, although it does provide an example where an assessment might be low confidence because it is "based on very limited datasets". For the purpose of the current environmental assessment it is assumed that 'medium confidence' implies there are recent and adequate baseline data sets available for the assessment of impacts. It is also considered that 'high confidence' implies there are recent and adequate baseline data sets available (ideally including periods of severe drought), where models are also available to support the assessment.

Likely impacts have been assessed considering the context of the timing of drought order implementation i.e. the baseline environmental conditions are likely to be characteristic of a drought. It is important to acknowledge the basis of the assessment; i.e. the impacts of drought permit / order implementation are assessed against the baseline conditions that would occur under natural drought conditions without drought permit / order implementation.

The assessment considers the impacts of a single drought order application by Southern Water in 2025 for a six-month period (time-limited).

In addition to addressing the operational implications of implementing the drought order, consideration is also given to any potential impacts arising from any required construction activities associated with the drought permit.

The level of effort required with respect to mitigation, compensation and monitoring is based on feature value / importance and likely impacts. Efforts are focused on sites with 'moderate' and 'major' likely impacts and with international and national value, although all environmental features are considered on a case by case basis. Mitigation, compensation and monitoring measures for environmental features are provided in this EAR.

Further details regarding the approach undertaken and data used to inform the environmental assessment are provided in Section 3 of this EAR.

1.3. Consultation

Consultation is identified as an essential exercise in the preparation of the EAR and accompanying documents.

Consultation with the Environment Agency and Natural England has been an on-going process since 2018 and development of the HRA for a Test Drought Permit/Order has been iterative since then.

A mock-permit exercise was conducted by Southern Water, the Environment Agency and Natural England, between September and December 2018 and, a real application was made and granted in the summer of 2019. A draft application was also submitted in 2020 but did not need to progress. Lessons learnt activities continued with the EA following each of these occurrences. Updates of supporting documents - including the HRA - occurred during 2019 and 2020, with consultation with the Environment Agency and Natural England. There is also a statutory process in respect of periodic renewal of water company drought plans, within which 'plan level' HRA is included by Southern Water for its drought plan and reviewed by the Environment Agency and Natural England.

Consultation with the Environment Agency and Natural England has been undertaken on a number of occasions since 2022. This more recent consultation has been more focussed on the HRA, with advice received on the potential effect pathways specifically for the Atlantic salmon population of the River Itchen SAC and baseline data on the population, and the following text reflects this permit/order HRA consultation, recognising this is also relevant in informing the EAR and agreeing a position on the permit/order.

A meeting was held with Environment Agency and Natural England on 6 September 2022, where the potential effect pathways specifically for the Atlantic salmon population of the River Itchen SAC and baseline data on the population were discussed in further detail. A revised HRA was submitted to the Environment Agency and Natural England for consultation on 16th September 2022 and a further revised HRA was submitted for consultation on 6th December 2022. A meeting was then held with the EA on the 25th September 2023 to specifically discuss the salmon risk status and reassessment of potential impacts upon salmon. On the 10th November 2023 Southern Water issued a Monitoring and Mitigation Plan, to the EA, providing a high-level update on the progress of the environmental monitoring, mitigation and compensation commitments under the Section 20 agreement and more detailed update of the additional environmental monitoring, assessment and mitigation commitments included with the 2022 River Test Drought Permit HRA. Throughout this period, the Environment Agency and Natural England reviewed and provided feedback on these iterations and consistently maintained that Southern Water's case was unacceptable. Subsequently, on 23rd May 2024, the EA issued a Position Statement to Southern Water, which challenged the proposed mitigation measures set out in the HRA, as still not being sufficient to address the risks to salmon (principally) and further feedback was provided on an updated draft HRA submitted in July

2024. Following this feedback, from mid-2024 the three parties came together to resolve differences in approach and interpretation of available data and agreed a collaborative way forwards.

SWS has been working on an enhanced list of mitigation and compensation measures that will be implemented to further reduce and / or offset the potential effects of drought permits/orders that may be needed on both the Itchen and the Test. Two River Test Drought Permit specific meetings were held on the 7th May and 10th June 2025 with the EA and NE to discuss these measures, and agree the position with respect to potential for effects of the Drought Order and the available mitigation and compensation.

1.4. Structure and Content of the Report

This EAR comprises the following sections:

Section 1: ***Introduction***
Section 2: ***Background to the Drought Order***
Section 3: ***Approach***
Section 4: ***Hydrology and the Physical Environment Assessment***
Section 5: ***Environmental Features Assessment***
Section 6: ***Cumulative Impacts***
Section 7: ***Environmental Monitoring Plan (EMP)***
Section 8: ***Conclusions***
Appendix A: Physical Environment Assessment Methodology
Appendix B: Hydrology and Physical Environment Assessment
Appendix C: Ecological Assessment Methodologies
Appendix D: Environmental Features Assessment
Appendix E: Monitoring, Mitigation and Compensation Plan

Table 1.1 lists the requirements and identifies the key sections in this report as specified in the Environment Agency's drought plan guidance.

Table 0.1 What to include in environmental assessments (adapted from Environment Agency, July 2020)

Component	Required Component	Key sections to refer to in this report
Summary	Provide details of the proposed supply side action to maintain water supply.	Non-Technical Summary & Section 2
Proposal	Set out: • the high level evidence to justify the proposed action • where there is a change to an abstraction or a discharge, where it is from/to and which sites, water bodies and other abstractions will be affected • any proposed and alternative measures, such as different periods of abstraction or a lower hands-off flow (HoF)	Non-Technical Summary & Section 2
Assessing the environmental impact	Set out your assessment of the likely environmental impacts over time (short, medium and long term) of your action. This should include: • your understanding of the baseline environment	Section 3, 4, 5 and 6 supported by Appendices A to D.

	• the hydrological (and if appropriate hydrogeological) impacts of your action (including magnitude, duration and spatial extent) • what aspects of the environment you have assessed, their sensitivity to your action and the likely resulting impact • the importance of the site/feature your action is likely to affect • how you will assess the environmental impacts of your actions during and after a drought (linked to your environmental monitoring plan) • potential impacts on designated sites, priority species and habitats • likely impact on water body status or potential and risk of deterioration • the risk of spreading invasive non-native species • the likelihood of the impacts being temporary or permanent • potential for cumulative effects (for example, when combined with other actions in your plan and other abstractions likely to be taking place in that reach or area or over a period of time)	
Features to consider	You should demonstrate you have considered the elements/ features of the environment that are: • the reason for designation of a protected site, and as part of the wider environment according to your duties under the NERC Act 2006 • not included above but which may be affected by your drought actions. This may cover the natural environment and also aesthetics, recreation, navigation, archaeology and heritage. • used to determine surface water and groundwater body status and elements that could influence the status • used to determine salmon and sea trout status - see information in Salmon stocks and fisheries in England and Wales in 2014 pages 57 –65 • priority substances, priority hazardous substances and other pollutants	Section 3, 4, 5 and 6 supported by Appendices A to D.
Mitigation measures	Set out the mitigation measures you plan to implement to reduce the environmental impact of your action.	Section 7
Compliance	Provide sufficient evidence to demonstrate your compliance with all relevant legislation.	This EAR and the wider Drought Plan and annexes.
Supporting evidence	You should present the detailed evidence, datasets and technical information you have used to complete your environmental assessment in a separate technical appendix to your drought plan. You should also set out in this appendix: • the process you used to select the datasets and evidence used to complete your environmental assessment • the data analysis methods and tools you have used to complete your environmental assessment • the main sources of uncertainty in your datasets, the level of confidence in your environmental assessment and how you plan to reduce any uncertainty • reference any supporting reports or documents you have used to support your environmental assessment	Throughout this EAR and supporting appendices.
Environmental monitoring	With each of your environmental assessments you should include an environmental monitoring plan which sets out the	Section 7

	baseline, in-drought and post-drought (recovery) monitoring you will carry out.

2. Background to the Stage 0.1 Drought Order

2.1. Southern Water's Supply System

Southern Water provides water supplies to just over 2.4 million customers across an area of 4,450km^2, extending from East Kent, through parts of Sussex, to Hampshire and the Isle of Wight in the west.

Water supplies are predominantly reliant on the transmission and storage of groundwater from the widespread chalk aquifer that underlies much of the region. This extends throughout parts of Kent, Sussex, Hampshire and the Isle of Wight; and makes up 70% of the total water supply. River abstractions account for 23% of the water supplies, most notably the Eastern Yar and Medina on the Isle of Wight, the Rivers Test and Itchen in Hampshire, the Western Rother and Arun in West Sussex, the River Eastern Rother and River Brede in East Sussex, and the River Teise, River Medway and Great Stour in Kent. Four surface water impounding reservoirs provide the remaining 7% of water supplies: Bewl Water, Darwell, Powdermill and Weir Wood. The total storage capacity of these four reservoirs amounts to 42,390Ml. South East Water is entitled to 25% of the available supplies from the River Medway Scheme, which incorporates Bewl Water Reservoir.

Although the South East is one of the driest regions in the UK, rainfall is still integral to the maintenance of water supplies. During winter, when most of the effective rainfall occurs, groundwater reserves are recharged naturally through infiltration processes. Rain infiltrates through the soil to recharge the natural storage in the underlying groundwater to support river baseflows for the following year. Annual rainfall averages 730mm across the Southern Water region. Rainfall experienced outside of winter is of less value to groundwater recharge as it is mostly lost to evaporation, plant transpiration or runs off directly into rivers from the land.

The Southern Water region is divided into fourteen Water Resource Zones (WRZs) which are geographically separate and amalgamated into three larger, sub-regional areas (see Figure 2.1):

Western Area – comprising the following seven WRZs:

- Hants Kingsclere (HK)
- Hants Andover (HA)
- Isle of Wight (IW)
- Hants Rural
- Hants Winchester
- Hants Southampton East
- Hants Southampton West

Central Area – comprising the following three WRZs:

- Sussex North (SN)
- Sussex Worthing (SW)
- Sussex Brighton (SB)

Eastern Area – comprising the following four WRZs:

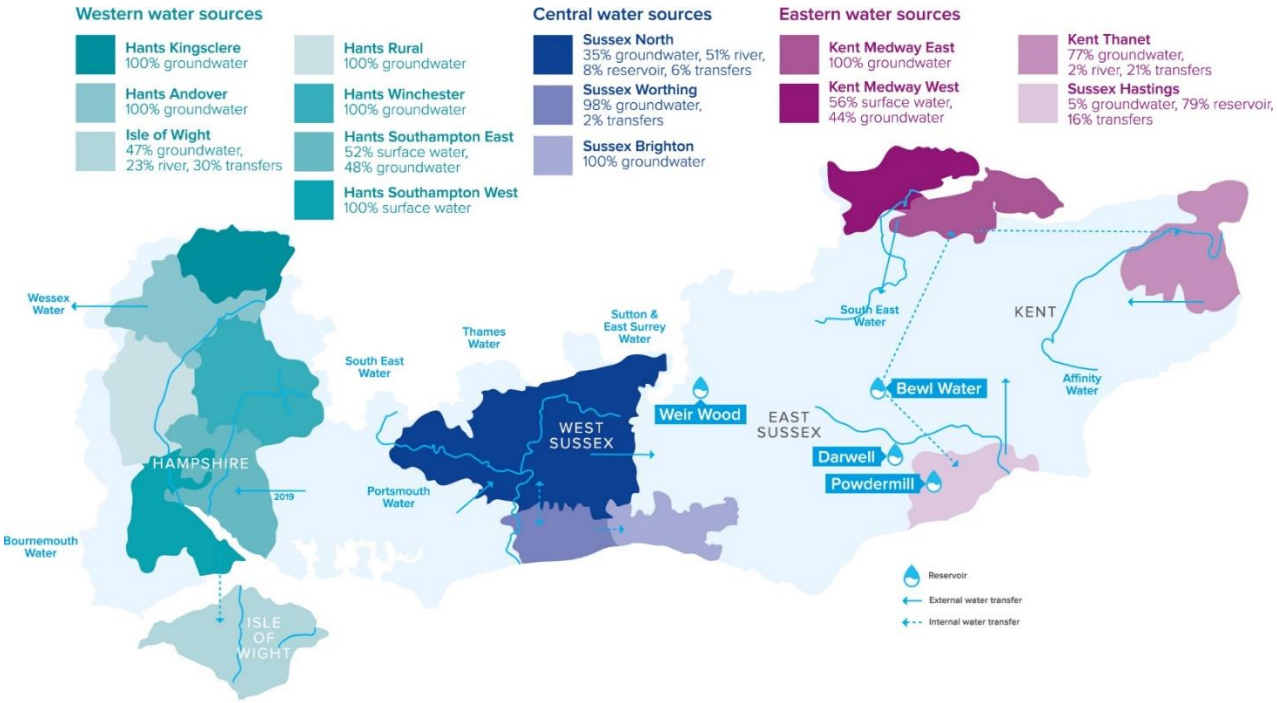
- Kent Medway East
- Kent Medway West
- Kent Thanet (KT)
- Sussex Hastings (SH)

These areas contain a number of separate WRZs, but they are managed as semi-integrated blocks because there is significant bulk water transfer capability between the WRZs. This means that an area-wide perspective is required when drought management measures are being considered.

A number of bulk water supplies are made between Southern Water and several adjacent water companies. Southern Water's supply area is bounded by eight other water companies:

- Thames Water
- Wessex Water
- Cholderton and District Water
- South East Water
- Affinity Water
- SES Water
- Bournemouth Water
- Portsmouth Water

Figure 2.1 Southern Water's Supply Area



2.2. Description of Existing Arrangements at Testwood

Southern Water abstracts from the River Test at Testwood, approximately 1.7 km upstream of the normal tidal limit (NTL) near Testwood Mill / Testwood Pool. This licence was revised following the agreement reached from the 2018 Public Inquiry and the licence conditions are detailed in Table 2.1.

As part of the revision, the location of the HoF has been moved to capture the total flows to the Test estuary. However, there is no gauging station at this location, and due to the braided nature of the river, the flow at the HoF location is estimated combining measurements from multiple flow gauges. The Environment Agency have committed to install a continuous water level recorded at Testwood Bridge[11].

Table 2.1 Test Surface Water abstraction licence details

Licence number	Daily (Ml/d)	Annual (Ml/d)	HoF (Ml/d)	HoF location / calculation
11/42/18.16/546	80	29200	355	Total Test Flow - "sum of flow at Testwood Bridge, Test Back Carrier and Conagar Bridge"

2.3. Statement of Need for Stage 0.1 Drought Order

[11] Southern Water Test Surface Water Drought Permit and Drought Order Monitoring Plan, 11 June 2018

Further details will be completed at the time of application for a drought order. A Statement of Need has been prepared and provided in the accompanying document

2.5. Review of Alternative Options

Options appraisal is a key part of developing a Water Resources Management Plan (WRMP). It is important to have a suitably large and diverse set of options to choose from when coming up with solutions to meet future water needs. This process is typically carried out every 5 years with each WRMP cycle. Southern Water has carried out several options appraisals since publication of the WRMP 2019 (WRMP19) in an effort identify suitable alternatives to a drought permit/order on the River Test at Testwood for the Western resource area as part of the Regulators' Alliance for Progressing Infrastructure Development (RAPID) gated process, through Southern Water's 'Water for Life Hampshire' (WfLH) programme.

The extended options appraisal process has also been driven by the agreement Southern Water signed with the Environment Agency in 2018 under Section 20 of Water Industry Act 1991 (Section 20 Agreement) in order to protect the River Test and River Itchen. As part of the agreement, Southern Water agreed to a reduction in abstraction licences on the rivers Test and Itchen and to use 'all best endeavours' to end our reliance of water from the rivers.

Most recently Southern Water carried out options appraisal exercise for Water Resources South East (WRSE) Regional Plan and the WRMP 2024 (WRMP24) and a targeted review of options was also undertaken following the publication of the draft WRMP24 (dWRMP24) to inform the revised draft WRMP24 (rdWRMP24) with a further refinement for the final draft WRMP24 (fdWRMP24).

The WRMP24 assessed over 1000 options in total across the whole Southern Water supply area.

However, it was already agreed and established through the Section 20 Agreement and existing Drought Plans and WWRMPs that there are no alternative supplies in the Western Resource Zone other than the Test Surface Water abstraction at Testwood that are of sufficient magnitude or deliverable in the time for a 2025 drought application.

Whilst Drought Plan 2022 (DP22) and Water Resource Management Plan 2024 (WRMP2024) are still at draft status, the underlying water resources situation remains broadly similar in these plans in that no alternative sources of water of sufficient magnitude are available until such time as the planned RAPID schemes such as the South East Strategic Resource Option (SESRO) (and the associated Thames to Southern Transfer (T2ST) pipeline) and the Hampshire transfer and recycling scheme at Havant Thicket are operational alongside the Hampshire Grid. This will not be until 2035 at the earliest.

Existing connections do exist between Hampshire Southampton East and Hampshire Southampton West. It is possible for additional abstraction to occur from the River Itchen (surface water and nearby groundwater) to reduce reliance on Testwood but this is discounted as an alternative option because:

a) the abstraction would also be from the River Itchen SAC and so no less damaging; and

b) the agreed Section 20 hierarchy is for Drought Permits/Orders on the River Test to be in place before increased abstraction from the River Itchen Sources.

It therefore remains the case that Southern Water are required to follow the published drought plan actions in terms of bulk supplies, demand management, leakage reduction etc. in order to minimise

the amount of abstraction at Testwood below the HoF of 355Ml/d. However, it can be concluded that there are no feasible alternative solutions to the Proposed Drought Order.

2.6. Proposed Stage 0.1 Drought Order Details

The current abstraction licence allows abstraction of up to 80 Ml/d and 29,200 Ml/year. This is subject to a Hands-off Flow (HOF) of 355 Ml/d calculated as a sum of flow at Testwood Bridge, Test Back Carrier and Conagar Bridge. This licence was revised following the agreement reached from the 2018 Public Inquiry.

Water resources modelling using Southern Water's Western Area 'Aquator' water resources model indicates that, under the current River Test abstraction licence conditions (see above) there would be a significant supply deficit in the Western Area under a range of low flow conditions. Therefore, there is a need for Southern Water to apply to relax the HoF from 355Ml/d to 265Ml/d, to help maintain public water supplies to the Western Area during these low flow conditions.

Under conditions where the available mitigation measures are deemed to fully off-set the potential effects of the relaxation of the HoF, Southern Water would be applying to the EA for a Drought Permit as detailed under the Section 20 Agreement. However, the HRA Stage 2 assessment for the River Itchen SAC (WSP, 2025[12]) concludes that it is not possible to conclude there will be no adverse effect on site integrity for the River Itchen SAC even with mitigation in place. Therefore, compensation is required and this level of abstraction can only be approved as a Drought Order and through an application to the Secretary of State for Environment, Food and Rural Affairs.

The Drought Order seeks to reduce the licence HoF (355 Ml/d) to 265 Ml/d (Table 2.2). The Test Surface Water Stage 0.1 Drought Order would always be applied for before the Test Surface Water Stage 1 Drought Order, as referred to in the Section 20 Agreement.

Table 2.2 Test Surface Water Stage 0.1 Drought Order summary

	Stage 0.1 Drought Order details
Receiving watercourse	River Test
Abstraction sources	Testwood
Normal HoF / licence details	355 Ml/d (licence condition)
HoF control	Flow at the Total Test Flow (TTF)
Proposed drought action	Relax HoF to 265 Ml/d Assumes Coleridge Award split is enforced – this may require specific provisions to be included in the Stage 0.1 Drought Order, along with potential additional legal provisions about the operation of other control structures. TTF is not affected by the Coleridge split, but the operation of this and other control structures do control flows between the Great and Little Test.
Permit Or Order	Order
Yield (Ml/d)	Up to 80 Ml/d for extreme drought conditions

[12] WSP (2025). Test Surface Water Licence 11/42/18.16/54 Stage 0.1 Drought Order 2025. *Information to support an assessment under Regulations 63 and 64 of the Conservation of Habitats and Species Regulations 2017.*

2.7. Drought Order Programme

The recession in flows on the River Test down to the hands-off flow condition of 355 Ml/d will determine when SWS needs the Stage 0.1.Drought Order. However, due to the exceptionally dry spring experienced across southern England in 2025, flows in the River Test are currently falling towards the HoF and therefore SWS is preparing the application for the Stage 0.1 Drought Order in the expectation that, without significant rainfall in the near term, the Drought Order will need to be implemented.

The proposed end date would be six months after the date that the order starts, or a date mutually agreed with the EA when the threat to public water supply has passed

2.8. Baseline Environment in Drought

It is important for the environmental assessment of the Drought Order to establish the environmental 'baseline' conditions that would exist in drought conditions but in the absence of the drought order being implemented. For the purposes of this assessment, the 'without drought order baseline includes operation of Testwood in accordance with the abstraction licence, with, 29,200 Ml authorised to be abstracted per annum, at a rate not exceeding 80 Ml/d and a hands off flow of 355 Ml/d as recorded at Testwood Bridge.

3. Approach

3.1. Introduction

The environmental assessment of the Stage 01. Drought Order in this report has been prepared in accordance with regulatory guidance[7,Error! Bookmark not defined.]. The approach to environmental assessment and specific assessment methodologies used is set out in Section 3.2 below.

The EAR considers the full range of seasons during which the drought order could be implemented, although it is recognised that in this case the application is being made for implementation in mid-late summer.

This EAR sets out the impacts of the Drought Order and considers the risk of any cumulative impacts with other relevant drought management measures listed in in Section 6.

Aspects of potential environmental significance have been identified through an impact screening exercise (as described in Section 1.3). The screening exercise (see Sections 4 and 5) has established a study area for the Drought Order together with identification of relevant, sensitive environmental features (based on the risk of impacts due to drought order implementation) that require environmental assessment, potentially leading to the consideration of mitigation actions.

Details of the approach and methodologies for the Hydrological Assessment and Features Assessment can be found in Appendices A and C, respectively.

3.2. Approach to Assessing Impacts, Mitigation and Monitoring

3.2.1. General Approach

The EAR has been prepared in accordance with government and regulatory guidance, including:

- The (2020) Environment Agency drought plan guideline and associated technical appendices;
- Institute of Environmental Management and Assessment (2004) Guidelines for Environmental Assessment;
- Chartered Institute of Ecology and Environmental Management (CIEEM) (2018) Guidelines for Ecological Impact Assessment.

All aspects of potential environmental significance associated with the drought order are considered in the environmental assessment.

The Environment Agency's drought plan guidance states that a water company should clearly show what evidence and data have been used in decision making, that uncertainties should be identified, and which additional data requirements are provided for through the monitoring plan.

The approach to the assessment addresses the following:

i) potential impacts on each sensitive receptor;

ii) definitions for impacts (adverse / beneficial minor, moderate or major likely impacts) following the requirements of the Drought Plan Guidance;

iii) the data requirements;

iv) assessment methodology (including the treatment of uncertainty where the complete data requirements are not available).

This EAR presents the environmental baseline, i.e. habitats, species and environmental pressures (including flow and water quality) in the identified zone of hydrological influence without the drought order in place. The baseline describes the catchment, geomorphology, anthropogenic features and water quality. Key changes to the physical environment as a result of implementing the drought order have been identified and described, and this information is used to frame and support the assessments of features which have been scoped in further to the screening exercise.

3.2.2. Baseline Data

This EAR is based on information available at the time of writing (see Note in Section 1.1), which includes information provided in previous reports and studies, Environment Agency and Southern Water routine monitoring data and other bespoke data.

Data requirements to undertake the environmental assessment of the drought order has been determined by the requirements of the Environment Agency's guidance; through knowledge of the range of Environment Agency routine monitoring data and other data available in Southern Water's operating area; together with an understanding of the appropriate level of detail required to undertake the assessment.

3.2.3. Assessment Methodologies

The aim of the Environmental Assessment is to provide:

1. A clear summary of the outcome of each assessment (per feature) to readily identify the likely impact of the drought order.

2. Identification of those predicted impacts which are to be taken forward to consider additional monitoring and mitigation actions.

The assessment considers the environmental impacts of implementing the drought order during the worst environmental conditions (i.e. a natural drought). Environmental sensitivity has been assessed considering the context of the timing of drought order implementation, i.e. the baseline environmental conditions are likely to be characteristic of severe drought. It is important to acknowledge the basis of the assessment, i.e. impacts of drought order implementation are assessed against what would occur in an actual drought without drought order implementation.

The impact assessment for sensitive features is feature specific and is dependent on the availability and resolution of available data. Where possible, quantitative assessments have been undertaken. However for some features, it is acknowledged that the assessments are qualitative and based on professional judgement, using experience of local knowledge and reference to literature. This introduces uncertainty into the impact assessment. A precautionary approach is used to assign impact categories where data are absent or found not to be robust.

The hydrological/hydrogeological assessment methodology (see **Appendix A**) incorporates the characterisation of the baseline surface water and/or groundwater conditions and considers how the drought order/permit may lead to changes in water levels or river flows, and the consequent implications for surface water features such as river channel parameters (e.g. wetted width, water depth, flow velocity) or water levels in standing water bodies or wetland features. This is supported by the physical environment characterisation which has described the baseline geomorphology and anthropogenic features, water quality and environmental pressures together with an assessment of the consequences of the hydrological/hydrogeological changes on the physical environment. Other abstractions have also been reviewed within the physical environment assessment, along with

discharges to the water environment.

The assessment of impacts on designated sites has been undertaken with reference to published conservation objectives and management targets, as well as the condition status of the habitats and species for which the site has been designated.

The ecological assessment has been undertaken recognising the CIEEM study guidelines[13]. The assessment of impacts on other environmental receptors, such as navigation and landscape, has been carried out largely by qualitative expert judgement.

Specific assessment methodologies have been developed for several key environmental features as described in **Appendix C**.

3.2.4. Mitigation and Monitoring

The Environment Agency guidance (2020) identifies requirements for mitigation of adverse impacts on the environment as a result of implementing a drought order/permit. The assessments undertaken in this EAR confirm the features requiring consideration of mitigation / compensation and appropriate monitoring triggering mitigation. Appropriate mitigation actions identified are both available and practicable.

The assessments undertaken in this EAR confirm the features requiring baseline environmental monitoring outside of a drought event along with the monitoring that would be required at the onset of a drought, during implementation of the drought order/permit and following cessation of the drought order/permit. The Environmental Monitoring, Mitigation and Compensation Plan that accompanies the Drought Order (SWS, 2025[14]) sets out the following:

- The feature(s) to be monitored.
- Responsibility, location, timing, frequency, methods of monitoring.
- Where monitoring will define and activate triggers for any mitigation measures.

The requirement for monitoring and/or mitigation / compensation has been reviewed on a case-by-case basis and informed by the HRA accompanying the application. The mitigation and monitoring proposals will act as a safeguard that respond to predicted impacts and are responsive to unpredicted impacts.

As noted earlier, Southern Water, the Environment Agency and Hampshire and Isle of Wight Wildlife Trust have all undertaken extensive monitoring programmes on the Rivers Test and Itchen as agreed under the Section 20 Agreement. However at this time the vast majority of these data is still being analysed, and to be reported independently to the Environment Agency and Natural England. Therefore it has not been possible to update the EAR with the results of these data in respect of the assessment presented for this application. However analysis of these data in the near future will assist improve confidence in the baseline situation, inform improved quantification of potential impacts where gaps in the evidence base have been identified and ensure the appropriate targeting of monitoring and mitigation response.

[13]CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
[14] SWS (2025). Test Surface Water Licence 11/42/18.16/54 Stage 0.1 Drought Order 2025. 2.2_Environmental Monitoring, Mitigation and Compensation Plan. July 2025.

3.2.5. Limitations of the Assessment and Uncertainties

Details on the quality of the data used in the assessment, limitations and any assumptions made are included in the relevant technical sections of this EAR, also recognising the constraint detailed in the Note in Section 1.1 on data availability and analysis.

4. Hydrology and the Physical Environment

4.1. Introduction

Screening of the impact of the drought order on hydrology has been undertaken to establish the extent of the hydrological zone of influence. The likely impacts of the drought order on the physical environment within the hydrological zone of influence have been assessed as set out in this section and detailed in **Appendix B**.

4.2. Summary of Impact Assessment

4.2.1. Hydrology and hydrogeology

The Drought Order seeks to relax the licence HoF (355 Ml/d) to 265 Ml/d. The Drought Order will be the first of the five drought permits/ orders for on the Lower Test and Itchen.

The results presented here are primarily based upon modelled data, which are the best available tools to predict drought flows. However, it is noted that, as set out in Appendix B, the models do have inherent uncertainty and this should not be forgotten when considering these conclusions.

Frequency and timing

- The drought order will be required during droughts with a frequency of implementation approximately 1:20.
- The drought order is more likely to be required during late summer / autumn (as in 2025) but could be needed throughout the year.

  Impacted reaches. The Drought Order has the potential to impact upon flows in the freshwater reach of the Great Test, between the Testwood abstraction intake and the NTL at Testwood Mill. Downstream of the NTL, the hydrological impacts are anticipated to be smaller due to the influence of tidal processes during high tide conditions. The assessment assumes that:

  - The Coleridge Award split at the Little Test – Great Test divide is adhered to, and therefore the drought order will not directly alter flows on the Little Test.
  - The operation of the sluice governing flow into Wirehouse Streams is unchanged (i.e. kept locked open, although there is uncertainty as to how this sluice would be operated during implementation of the drought order in a severe drought) and so there may still be some flow entering the Wirehouse Streams system at the time of implementing the order.
  - The Middle Test is entirely tidal and any impacts on this water body will be negligible.

Impact on the Great Test between Testwood abstraction intake and the NTL

- The impact on river flow is dependent on the duration and severity of the drought conditions. The maximum daily flow reduction has been estimated to be ~80 Ml/d.
- Under extreme droughts flows are predicted to fall below the drought order HoF (265 Ml/d), and the Test Surface Water Stage 1 Drought Order would be required.
- The impacts above are the maximum impact on any day for either of the two 1 in 500 year droughts. For the majority of time over which the drought order is in operation, impacts are less.

- The lower reaches of the River Test are influenced by the tidal cycle: at high tide, the tidal signal influences both velocity and depth.
- Flow, velocity and depth are affected by the drought order and the implications on aquatic ecology of these changes are assessed in Appendix D. The precise extent of these changes is uncertain due to the data quality issues identified above.

Overall, the likely impacts are considered to be **up to minor** on the Test (Lower) reach between Testwood abstraction intake and the NTL at Testwood Mill under severe drought conditions, albeit potentially extending as far as Redbridge, and a **negligible** impact in the reach downstream (Test Estuary and confluence with Southampton Water).

4.2.2. Geomorphology

Much of the River Test has been modified to some degree. This has either been through channel widening, vegetation cutting, dredging, embankments, sluices or weirs. As a result, the current river system overall is likely to be less resilient during a drought than would have been the case with a more natural form. In a naturalised form, the river cross-section would be more varied compared to the uniform trapezoidal channel that occurs in some sections of the lower River Test. The modifications to the river channel are further exacerbated by the fact that numerous cut channels exist that are connected to the main channel thread.

The reaches between the abstraction and the NTL at Testwood Mill will be less impacted by drought conditions and the drought order than many other parts of the River Test. The reach between the Testwood abstraction intake and Testwood Mill is heavily modified and water levels are maintained higher than naturally as a result of Testwood Mill. Thus, the overall change in wetted perimeter due to a drought and the drought order will be smaller than in more freely flowing sections. A small section is free-flowing upstream of the confluence of the River Blackwater and this is likely to be slightly more impacted by drought and the drought order.

The risk of impact is linked to abstraction as well as the physical modifications. Hydraulic modelling data suggest that, in the event of a 1:500 year drought event at a cross-section (CS38) between the abstraction intake location and the confluence of the River Blackwater, the abstraction of water with the drought order in place will lead to a drop in minimum water depths from 1.09 m to 1.02 m (a 6% reduction). The minimum velocities will drop from 0.17 m/s to 0.10 m/s (around 41% reduction). As a result, the impact of the drought order abstraction at Testwood is small in relation to the wetted perimeter but larger in relation to the potential for increased sediment deposition due to lower velocities. The geomorphological impact in the free-flowing section will be short lived until higher flows re-establish and mobilise finer sediment. The impacts of lower flows will be longer lasting in the impounded section as an increased risk of fine sediment deposition will add to the high amount of sediment already deposited behind the structure in the impounded section. Any sediment is less likely to be mobilised in higher flows in this section due to the impoundment.

Downstream of Testwood Mill, the river is a more natural feature as it is free-flowing and not impounded. Any reduction in water levels due to the drought order abstraction is small relative to the impact of the tidal cycle. At a cross-section downstream of Testwood Mill (GTT6), the abstraction of water under the drought order will lead to a drop in water level at minimum depths from 1.02 m to 0.94 m in the 1:500 year extreme drought event. For comparison purposes, this depth of 0.94 m rises to 2.78 m in an average tidal peak. As a result, the drop in 0.08 m water level in the main river is small (reduction of around 8%). However, the increase in water level from an average high tide more than compensates for any marginal loss, with the high tide raising water levels significantly. This reach already has more heterogeneity than the reach between the Testwood abstraction intake and Testwood Mill, with deposition on the inside of the bends and erosion on the outside. The increased complexities in the flow due to the tidal prism means that the relative effect of reduced water volumes in this reach due to the drought order will have a negligible impact on both geomorphological form and function.

The risk of deterioration in the overall hydromorphological elements of the WFD water body as a whole as a result of the implementation of the Drought Order is assessed as **negligible**, taking account of the small proportion of the WFD water body affected. Further details are provided in **Appendix B**.

4.2.3. Water quality

Assessment of the risk of water quality deterioration as a result of the Drought Order has been undertaken considering the available water quality data and the hydrological impact assessment presented earlier within the affected reaches. The findings are summarised in **Table 4.1**.

Table 4.1 Summary of water quality WFD deterioration risks and CSMG standards risks due to the Test Surface Water State 0.1 Drought Order

Reach	Target	pH and temperature	Ammonia	Dissolved oxygen	Soluble reactive phosphorus
Testwood Intake to NTL	WFD	Negligible	Negligible	Negligible	Negligible
	CSMG	Not applicable	Negligible	Low (and BOD)	Low
Test Estuary (Southampton Water)	WFD	Negligible	Negligible	Negligible	Negligible

Total ammonia and dissolved oxygen baseline data were consistently in line with the WFD standard to support good status for fish and invertebrates in the River Test. SRP concentrations are generally indicative of 'good' status but with occasional spikes being indicative of WFD 'moderate' status. However, such spikes are not linked to low flows and are probably attributed to diffuse pollution events or (when they arise at higher flows) to flushing of nutrients from the catchment.

The drought order will have negligible risk impacts on WFD water quality deterioration given the baseline water quality conditions and the localised nature of the potential impact of the drought order on water quality. However, there is a risk of a local reduction in dissolved oxygen in the reach below the abstraction intake, with implications for ecology, in particular fish species, if there is a reduction in flow and flow velocity together with the risk of die-off of macrophytes due to drought conditions and/or due to hot, sunny weather conditions.

In respect of CSMG water quality targets, there is a risk of failing the CSMG water quality standards in the wider unit 91 of the River Test SSSI (as CSMG is assessed at unit scale), for SRP, dissolved oxygen and BOD at the local level in the reach downstream of the abstraction intake, rather than at the WFD water body scale. SRP standards have not been met in the Lower Test and there is a low risk that the drought order will temporarily exacerbate the degree of failure downstream of the abstraction intake; however, as indicated above for the WFD assessment, there is not a strong relationship between low flows and SRP concentrations, with temporary increases in SRP more likely linked to diffuse pollution events and periods of high rainfall leading to flushing events from the catchment.

Given the low margin between the measured water quality and the CSMG standard for dissolved oxygen (and potentially a similar position for BOD despite initial monitoring results in 2020), the reduction in flow and the prevailing drought conditions gives rise to a low risk of a local failure of the CSMG standards in the reach downstream of the abstraction intake for the reasons already explained above in respect of WFD.

5. Environmental Features Assessment

5.1. Introduction

Screening of environmental features has been carried out to identify sensitive features where there is a potential for major or moderate impact, or a minor impact for designated features, due to implementation of the Drought Order. These features, together with "uncertain" findings from the screening exercise, are subject to more detailed assessment. Detailed assessment is neither required nor included for features where the screening has identified a low sensitivity (undesignated) or where features are 'not sensitive'. Section 5.2 lists the environmental features which have been assessed in detail in **Appendix D**.

5.2. Summary of Screening and Scoping

5.2.1. Designated Sites, NERC Section 41 Species and Habitats, Notable Species and Other Sensitive Fauna and Flora

Designated biodiversity sites, NERC section 41 species / habitats, notable species and other sensitive receptors that were screened in for further assessment (at least 'low' sensitivity) are listed below. A detailed assessment is provided in **Appendix D** and a summary of the assessment outcomes is presented in Section 5.3.

Designated sites:

- River Test SSSI
- Lower Test Valley SSSI
- River Itchen SSSI
- River Itchen SAC
- Solent and Dorset Coast SPA
- Solent and Southampton Water SPA
- Solent and Southampton Ramsar
- Solent Maritime SAC

Also, the assessment takes account of the River Test Compensatory SAC Habitat and River Meon Compensatory SAC Habitat sites. Although not formally designated at an SSSI level, paragraph 194c of Chapter 15 of the National Planning Policy Framework[15] (NPPF) states that sites identified, or required, as compensatory measures for adverse effects on habitats sites, should be given the same protection as Habitats Sites.

NERC Section 41 habitats:

- Freshwater: Rivers
- Grassland: Lowland meadows

[15] Ministry of Housing, Communities & Local Government, 2025. National Planning Policy Framework.

- Wetland: Floodplain grazing marsh
- Wetland: Reedbeds
- Wetland: Lowland Fens
- Woodland: Wet woodland
- Coastal: coastal saltmarsh

NERC Section 41 species:

- Southern damselfly *Coenagrion mercuriale*
- Fine lined pea mussel *Pisidium tenuilineatum*
- Desmoulin's whorl snail *Vertigo moulinsiana*
- Sea Trout – *Salmo trutta*
- Atlantic salmon – *Salmo salar*
- Otter – *Lutra lutra*
- Water vole – *Arvicola terrestris*
- Bittern – *Botaurus stellaris*

5.2.2. WFD Water Body Status

Table 5.1 identifies the WFD status classifications of water bodies that may be affected by the drought order as at RBMP Cycle 3, assessed in 2022. The final row of the tables identify which WFD water bodies have been screened in for further assessment, reflecting the hydrological impact assessment.

Table 5.1 WFD Status Classifications and screening decisions (surface water bodies)

Waterbody ID		GB107042016840	GB520704202800
Waterbody Name		**Test (Lower)**	**Southampton Water**
Hydrological Impact at Location: (Major, Mod, Minor, Neg)		Negligible-Minor	Negligible
RBMP Cycle 3 Status/Potential:	Overall	Good	Moderate
	Angiosperms (saltmarsh)	-	Good
	Fish	Good	Good
	Macroinvertebrates	High	Good
	Macrophytes and phytobenthos/macroalgae	High	Good
Hydro-morph designations:		not designated artificial or heavily modified	heavily modified
RBMP3 Waterbody Objective (2015):	Overall	Good	Moderate
	Angiosperms (saltmarsh)	-	Good
	Fish	Good	Good
	Macroinvertebrates	Good	Good
	Macrophytes and phytobenthos/macroalgae	Good	Good
Scoped in to Environmental Assessment		Yes	Yes

5.2.3. Landscape, Navigation, Recreation and Heritage Features

Table 5.3 identifies wider environmental features considered in determining the potential impacts of drought order implementation and sets out those features screened in for further assessment (final column).

Table 5.3 Other environmental features and screening decisions

Site/Feature/ Designation	Susceptibility to flow and level impacts	Sensitivity (uncertain, high, medium, low, not sensitive)	Scoped in to Environmental Assessment (Yes/No)
Landscape and/or Heritage– AONBs, National Character Areas, Biosphere Reserves, National Parks, Heritage Features			
South Hampshire Lowlands NCA	The South Hampshire Lowlands National Character Area (NCA) is a low-lying plain between the chalk hills of the Hampshire and South Downs and Southampton Water. Some 18 % of the land cover of the NCA is woodland, of which almost half is designated ancient woodland, a legacy of the Forest of Bere, a Royal Hunting Forest that once covered the area. Today the most significant blocks of woodland are West Walk near Wickham, Botley Wood at Swanwick and Ampfield Wood near Romsey. Although a high percentage of the area is urban, the NCA has considerable biodiversity interest. Southampton Water is internationally recognised for its importance for breeding and overwintering waterfowl and waders and for its wetland habitats such as mudflats and salt marshes. Three Natura 2000 designations cover parts of the area – Solent and Southampton Water Ramsar site, Solent and Southampton Water Special Protection Area and Solent Maritime Special Area of Conservation. Given the hydrological assessment conclusions, implementation of the drought order is unlikely to have adverse impacts on the character and setting of the NCA.	Not sensitive	**No**
New Forest National Park	The New Forest National Park is primarily located in south-west Hampshire. The National Park represents a mosaic of ancient and ornamental woodland, open heather-covered heaths, rivers and valley mires, a coastline of mudflats and saltmarshes, and historic villages. Lowland heath once covered much of southern England but the New Forest National Park is now the largest area that remains. The drought order will not adversely impact the character and setting of the National Park.	Not sensitive	**No**
Testwood Mill	This remains of this Grade II listed former water-powered corn mill is located downstream of the Testwood abstraction intake close to the normal tidal limit. The drought order will not adversely affect the remaining buildings or associated sluices and control structures.	Not sensitive	**No**
Recreation and navigation – sailing, angling, footpaths, cycle routes, tourist hotspots			
Broadlands Lake	Broadlands Lake is a coarse fishery boasting 30 acres of water set on an 82-acre estate in a wildlife rich location. Broadlands Lake is fed from the chalk stream rivers of the River Test and is now a well-established fishery, where anglers can expect to catch a variety of fish such as carp, grass carp, pike, tench, roach, bream and eels. There are special features for the disabled angler including lakeside fishing secure platforms & lakeside carpark. Implementation of the drought order will have no adverse impacts on the lake, as the lake is fed from the Broadlands Fish Farm Carrier, which splits from the Lower Test before the abstraction at Testwood.	Not sensitive (not within zone of influence)	**No**
Testwood Lakes	Testwood Lakes comprises a series of 3 lakes surrounded by grazed grasslands and meadows which are cut for hay each year to encourage wild flowers and invertebrates, wet woodland dominated by alder, hedgerows full of native species including hazel and hawthorn and a number of wildlife ponds. The reserve includes a variety of waders and waterfowl in winter and breeding birds,	Medium (beneficial impact)	**No**

	including sand martins, in summer. The reserve is owned by Southern Water and managed by Hampshire & Isle of Wight Wildlife Trust and often hosts educational activities for school children. There is coarse fishing on the Little Testwood Lake by permit from the angling club. The lake is also available for hire to youth groups who wish to partake in boating activities overseen by the Eeling Sea Scouts. Testwood Lakes also host the annual Solent Scout Regatta with Canoe and Pulling Races. Since the Little Testwood Lake is essentially a reservoir fed by the Lower Test, the reduction in HOF conditions and increased abstraction during the operation of the drought order will help to maintain water levels in the lake.		
Angling – River Test	There is a low to negligible risk of adverse impacts to the freshwater fish community in the River Test due to the drought order which may lead to adverse impacts for angling. However, the drought order will only be implemented after a period of prolonged low flow conditions which will likely already preclude angling activities.	Medium	**Yes**
Boating and navigation – lower River Test, Test Estuary and Southampton Water	The drought order is unlikely to affect any navigation or boating activities in the tidal Test Estuary or Southampton Water.	Low sensitivity	**Yes**

5.3. Features Assessment

5.3.1. Designated Sites Assessment

Habitats Sites

A report to inform an assessment under Regulations 63 and 64 of the Conservation of Habitats and Species Regulations 2017 of the effects of the Drought Order application for the Test Surface Water abstraction licence at Testwood on Habitats Sites[16] (report to inform a HRA) has been produced (reported in WSP, 2025[17]). It has been produced for the purpose of providing the competent authority, in this case the Secretary of State for Environment, Food and Rural Affairs, with the information necessary to enable compliance with its duties under the Conservation of Habitats and Species Regulations 2017 (as amended) (the 'Habitats Regulations')[18].

The report to inform a HRA details a four stage process:

- Stage 1 – Screening or 'Test of significance'
- Stage 2 – Appropriate Assessment (including the 'integrity test')
- Stage 3 – Assessment of Alternative Solutions
- Stage 4 – Assessment Where No Alternative Solutions Exist and Where Adverse Impacts Remain

There is potential for the abstraction under the Drought Order to impact Habitats Sites via two mechanisms listed below, albeit there is uncertainty and other factors may be more significant:

- Damage to habitats or species from changes in hydrology
- Damage to habitats or species from changes in water quality

The report to inform an HRA concluded that, of the sites considered, the following site was screened out due to there being no mechanism of effect and hence no likely significant effect was possible:

- River Test Compensatory SAC Habitat.

However Likely Significant Effects were identified for the following Habitats Sites:

- River Itchen SAC;
- River Meon Compensatory SAC Habitat;
- Solent and Southampton Water SPA;
- Solent and Southampton Water Ramsar site;

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[16] Habitat Sites (also known as European sites) include, Special Areas of Conservation (SACs) candidate Special Areas of Conservation (cSACs) and Special Protection Areas (SPAs). As a matter of policy, the UK Government also considers possible SACs (pSACs), potential SPAs (pSPAs), Ramsar sites and, in England, proposed Ramsar sites as European sites

[17] WSP (2025). Test Surface Water Licence 11/42/18.16/54 Stage 0.1 Drought Order 2025. *Information to support an assessment under Regulations 63 and 64 of the Conservation of Habitats and Species Regulations 2017.*

[18] The 2017 Regulations have been amended by the *Conservation of Habitats and Species (Amendment) (EU Exit) Regulations* 2019 to reflect the UK's exit from the EU, although these largely carried forward the provisions and terminology of the 2017 Regulations and do not fundamentally alter their interpretation. This report therefore primarily refers to the 2017 Regulations and (where appropriate for clarity) the relevant provisions of the Habitats Directive.

- Solent Maritime SAC; and
- Solent and Dorset Coast SPA.

The report to inform a HRA determined that, for those mechanisms of effect where a likely significant effect was identified, operation of the proposed Drought Order will not cause or contribute to a failure to meet the attributes of the SAC, SPA or Ramsar sites list below either alone or in combination with other plans or projects:

- Solent and Southampton Water SPA.
- Solent and Southampton Water Ramsar site.
- Solent Maritime SAC.
- Solent and Dorset Coast SPA.

However, no adverse effect on integrity cannot be concluded for the River Itchen SAC or the River Meon Compensatory SAC Habitat, even with mitigation in place, in respect of operation of the Drought Order alone.

Additionally, the proposed renewal of Southampton Port's Maintenance Dredge and Disposal Licence and hence continuation of maintenance dredging activity is considered to act in-combination with the Stage 0.1 Drought Order on the salmon population of the River Itchen SAC and River Meon Compensatory SAC Habitat. albeit this assessment is considered precautionary and uncertain in nature.

Therefore the report to inform the HRA was required to consider the three legal tests required to be satisfied in order for the proposed Drought Order to qualify for a derogation in respect of the potential for effects on the River Itchen SAC and the River Meon Compensatory SAC Habitat alone and in combination with the proposed renewal of Southampton Port's Maintenance Dredge and Disposal Licence, and hence continuation of the routine maintenance dredge activities. It demonstrates there are no feasible alternative to the drought order, the application for a drought order it is of overriding public interest and therefore it outlined proposed compensatory measures that would take place at the Woodmill Activity Centre, specifically on the Woodmill Salmon Pool.

River Test SSSI

A summary of the likely impacts on the River Test SSSI is provided below. Further details are provided in **Appendix D**.

Feature	Potential impact	Ecological value of feature	Likely impact	Confidence
River Test SSSI				
Type III flowing waters	A reduction in area or extent of habitat. Changes to the composition of the habitat (e.g. reduction in species structure, abundance or diversity that comprises the habitat over time). Interruption or degradation of the processes that support the habitat.	International	Minor	Medium
Salmon	Decrease in habitat as a result of changes in water levels. Decrease in the abundance/distribution of features of importance. Changes in community structure as a result of changes in water quality.	International	Moderate	Low
Sea Trout Bullhead	Decrease in habitat as a result of changes in water levels. Decrease in the abundance/distribution of features of importance. Changes in community structure as a result of changes in water quality.	National National	Moderate Minor	Low Low
Brook Lamprey	Decrease in habitat as a result of changes in water levels. Decrease in the abundance/distribution of features of importance. Changes in community structure as a result of changes in water quality.	National	Moderate	Low
Otter	Decrease in foraging and breeding habitat as a result of decreased water levels. Decrease in food sources as a result of changes in water levels and water quality. Increased competition as a result of decreased habitat availability. Increased predation as a result of decrease in habitat available as refuge.	Regional	Minor	Medium
Water Vole	Decrease in foraging and breeding habitat as a result of decreased water levels. Decrease in food sources as a result of changes in water levels and water quality. Changes in food sources as a result of changes in water quality. Increased competition as a result of decreased habitat availability Increased predation as a result of decrease in habitat available as refuge.	National	Uncertain (pending further water vole survey data)	N/A

Lower Test Valley SSSI

A summary of the likely impacts on the Lower Test Valley SSSI is provided below. Further details are provided in **Appendix D**.

Table 5.4 Summary of potential impacts on the Lower Test Valley SSSI (above the NTL)

Feature	Potential impact	Ecological value of feature	Likely Impact	Confidence
Lower Test Valley SSSI				
Breeding bird assemblages	Decrease in foraging and breeding habitat as a result of decreased water levels in Great Test, Wirehouse Streams and Little Test downstream of Wirehouse Streams confluences. Decrease in food sources as a result of changes in water levels and water quality. Changes in food sources as a result of changes in water quality. Increased competition as a result of decreased habitat availability Increased predation as a result of decrease in habitat available as refuge.	International	Minor	Medium
Lowland wet grassland and meadow	Decrease in habitat quality as a result of decreased water levels in Great Test, Wirehouse Streams and Little Test downstream of Wirehouse Streams confluences. Decrease in the extent of habitat as a result of changes in water levels. Changes in the abundance and/or occurrence of macrophyte species.	National	Minor	Medium
Fen, marsh and swamp	Decrease in habitat quality as a result of decreased water levels in Great Test, Wirehouse Streams and Little Test downstream of Wirehouse Streams confluences. Decrease in the extent of habitat as a result of changes in water levels. Changes in the abundance and/or occurrence of macrophyte species.	International	Minor	Medium
Saltmarsh	Decrease in habitat quality as a result of decreased water levels in tidal reach. Decrease in the extent of habitat as a result of changes in water levels. Changes in the abundance and/or occurrence of macrophyte species.	International	Minor (habitat downstream of NTL)	Medium

River Itchen SSSI

A summary of the likely impacts on the River Itchen SSSI is provided below. Further details are provided in **Appendix D**.

Feature	Potential impact	Ecological value of feature	Likely impact	Confidence
River Itchen SSSI				
Type III flowing waters	None	International	None	High
Otter	Decrease in foraging and breeding habitat as a result of decreased water levels.	International	Negligible	High

Feature	Potential impact	Ecological value of feature	Likely impact	Confidence
	Decrease in food sources as a result of changes in water levels and water quality. Increased competition as a result of decreased habitat availability. Increased predation as a result of decrease in habitat available as refuge			
Bullhead	None	International	None	High
Brook lamprey	None	International	None	High
White-clawed crayfish	None	International	None	High
Salmon	Reduction in habitat size Reduction in flow-related cues for movements in or out of the holding areas within the ZoI and the connectivity to allow such movements Exposure to lethal or sub-lethal water quality conditions Barriers to river entry through avoidance of poor water quality and high temperatures leading to displacement	International	Moderate	Low
Water vole	None	National	None	High
Breeding bird assemblage	None	National	None	High
Broadleaved mixed and Yew woodland communities	None	National	None	High
Neutral grassland (MG8)	None	National	None	High
Fen, marsh, swamp and fen communities	None	National	None	High
Southern damselfly	None	National	None	High
Invertebrate assemblages (W314, W410)	None	National	None	High

5.3.2. Ecological community assessment and WFD assessment

Test (Lower) Water Body (GB107042016840)

A summary of the assessment for **macrophytes** is as follows:

- WFD compliance macrophyte monitoring sites are situated upstream of the Testwood abstraction intake and therefore there is no long-term WFD monitoring baseline on which to assess status or deterioration downstream of the abstraction intake. One new monitoring site (194492, since 2018 only) is available within the vicinity of the abstraction site, although only a limited range of data are available at this site.
- Based on an assessment of the available macrophyte data, hydrological modelling and the hydraulic nature of the river downstream of the abstraction Southern Water conclude that the risk of a deterioration in the good status of the macrophyte classification in the Test (Lower) water body caused by the operation of the abstraction pursuant to a Drought Order is low in the short term for interim classification and very low within the longer-term reporting cycle of the WFD.

- Data limitations result in uncertainties in this assessment and therefore Southern Water in agreement with the Environment Agency and Natural England, with advice from Hampshire and Isle of Wight Wildlife Trust, have developed the Drought Order and Drought Order Monitoring Plan to improve information available to assess the possible environmental impacts of abstraction below 265 Ml/d pursuant to a Drought Order.
- In addition, to improve the resilience of the macrophyte communities to drought conditions in the Lower Test, a package of mitigation measures has been agreed.

Further details are provided in **Appendix D**. Overall, likely impacts are assessed to be **minor** (low confidence) and the risk of deterioration is assessed to be **low**.

A summary of the assessment for **macroinvertebrates** is as follows:

- Data for the current macroinvertebrate assessment are based on monitoring points located upstream and downstream of the abstraction intake (for LIFE scores), and included data ranging up to 2020. However, sufficient data were only available to calculate WHPT related O:E ratios, which can also be affected by flow impacts, at sites upstream of the abstraction.
- There are CAMS/water resources monitoring points immediately upstream and downstream of the abstraction intake but no monitoring points further downstream of the abstraction intake on which to base an assessment of deterioration.
- Based on an assessment of the available macroinvertebrate data, hydrological modelling and hydraulic nature of the river downstream of the abstraction Southern Water conclude that the risk of a deterioration in the good status of the macroinvertebrate classification in the Test (Lower) water body caused by the operation of the abstraction pursuant to a Drought Order is low in the short term for interim classification and very low within the longer-term reporting cycle of the WFD.
- Data limitations result in uncertainties in this assessment and therefore Southern Water in agreement with the Environment Agency and Natural England, with advice from Hampshire and Isle of Wight Wildlife Trust, have developed the Drought Order and Drought Order Monitoring Plan to improve information available to assess the possible environmental impacts of abstraction below the HoF pursuant to a Drought Order.
- In addition to improve the resilience of the macroinvertebrate communities to drought conditions in the Lower Test a package of mitigation measures has been agreed.

Further details are provided in **Appendix D**. Overall, likely impacts are assessed to be **minor** (low confidence) and the risk of deterioration is assessed to be **low**.

A summary of the assessment for **fish** is as follows:

- No routine WFD monitoring data for the water body are collected downstream of the Testwood abstraction intake but available upstream WFD monitoring data indicate that brown trout abundance in the Moorcourt Carrier and brown trout and salmon abundances in the Broadlands trout stream are less than expected, whilst the presence of other species were at expected abundances. The WFD data indicate a current WFD status of Good for the water body. The WFD status for fish in the water body has been consistently Good or High since 2009. Limited data from downstream and within the vicinity of the Testwood abstraction appear to be broadly similar to upstream sites, which are dominated with freshwater fish and have low numbers of salmon and brown trout.
- Impacts of the drought order on fish populations are addressed above in respect of key SAC and SSSI fish species and further below in respect of eel and sea lamprey, and are not repeated here.

- In view of the identified risks to salmon and other migratory fish species, leading to effects on fish populations in both the impacted reach downstream of the Testwood abstraction intake and the upstream reaches of the WFD water body, there is a medium risk of deterioration from WFD Good status due to the Drought Order. This reflects the likelihood that any impacts on migratory species will persist over several years post-implementation of the drought order before recovery.
- Southern Water acknowledges uncertainties in this risk assessment (as identified in respect of the SSSI fish species above) and in agreement with the Environment Agency and Natural England, with advice from Hampshire and Isle of Wight Wildlife Trust, have developed the Drought Order Monitoring Plan to improve information available to assess the possible impacts of the Drought Order on fish populations.
- In addition to improve the resilience of the fish communities to drought conditions in the Lower Test, a package of mitigation measures has been agreed in the Drought Order Monitoring Mitigation and Compensation Plan and compensation also outlined in the report to inform an HRA accompanying the application.

Further details are provided in **Appendix D**. Overall, likely impacts are assessed to be **moderate** (low confidence) and the risk of deterioration is assessed to be **medium**.

Southampton Water Transitional Water Body (GB520704202800)

Benthic **macroinvertebrate** species throughout the wider water body are largely unaffected by freshwater inflows from the rivers. Depth profile data collection within the upper reaches of Southampton Water carried out by Southampton University suggest that there is stratification of the water body and that freshwater entering the estuary remains in the top 20 cm of the water column during the ebb tide and mixing occurs rapidly on the rising tide. The benthic invertebrates are buffered from this by the water column and experience only full salinity water conditions at the seabed through the tidal cycle.

There is no mechanism by which the benthic macroinvertebrates would be impacted by the abstraction during implementation of the Drought Order under drought conditions (**up to minor impacts**, medium confidence) and **negligible** risk of WFD deterioration for this quality element within the Southampton Water WFD transitional water body.

Macroalgal status in Southampton Water would not be impacted by the Drought Order abstraction (**up to minor impacts**, medium confidence) and there would be **negligible** risk of WFD status deterioration for this quality element within Southampton Water transitional water body.

The principal impact on the Test estuary part of the wider Southampton Water transitional water body is the reduction of freshwater input and changes to the salinity regime, particularly in the upper part of the estuary. The **fish species** present in the estuary display a wide range of salinity tolerances and preferences; potential changes to salinity due to lower freshwater inputs may therefore lead to some changes in species distribution and abundance within the estuary. There may also be an impact on **migratory fish species** using the estuary to access or leave the freshwater River Test, due to changes to the salinity and freshwater flow “signals” that encourage migration. The precise magnitude and scale of these effects is **uncertain**.

Whilst impacts on fish due to the drought order may arise within the Test estuary, in the context of the overall Southampton Water transitional water body, the risk of deterioration to the WFD fish status due to implementation of the drought order is assessed as **negligible**. Full details are provided in Appendix D.

5.3.3. NERC Section 41 Species and Habitats

NERC species

The River Test SSSI and Lower Test Valley SSSI notified species within the hydrological zone of influence of the Drought Order have already been assessed earlier. The assessment presented encompassed the effects on species identified as being of principal importance for nature conservation under the Natural Environment and Rural Communities (NERC) Act (2006).

This section therefore presents an assessment for those NERC species not already covered in the earlier SSSI assessments:

- Southern damselfly - *Coenagrion mercuriale*
- Eel – *Anguilla anguilla*
- Sea lamprey - *Petromyzon marinus*
- Brown trout - *Salmo trutta*

There is not sufficient certainty to conclude that the drought order is not likely to adversely affect **eel** in the impacted reach. The impact assessment of **minor** (low confidence) adverse impacts on eel is therefore precautionary pending further evidence being obtained to inform the assessment.

There is not sufficient certainty to conclude that the drought order is not likely to adversely affect **sea lamprey**. The impact assessment of **moderate** (low confidence) adverse impacts on sea lamprey is therefore precautionary pending further evidence being obtained to inform the assessment.

The likely impact is assessed as **moderate** (low confidence) with respect to Brown trout, further survey evidence is required to more accurately assess the potential impact.

Full details are provided in Appendix D.

NERC habitats

Cross-referencing the Natural Environment and Rural Communities (NERC) Act 2006, Section 41 Habitats of Principal Importance in England with available data on the sensitive habitats in the Lower Test Valley (Environment Agency data, SAC designations and SSSI notified habitats) suggests the following habitats of principal importance for nature conservation under the NERC Act (2006) are present in the Lower River Test and Test Valley:

- Freshwater: Rivers
- Grassland: Lowland meadows
- Wetland: Floodplain grazing marsh
- Wetland: Reedbeds
- Wetland: Lowland Fens
- Woodland: Wet woodland
- Coastal: coastal saltmarsh

The River Test SSSI and Lower Test Valley SSSI notified habitats have already been assessed earlier. The assessment presented encompassed effects on all ecological receptors and, by definition, those habitats identified as being of principal importance for nature conservation under the Natural Environment and Rural Communities (NERC) Act (2006). This section simply identifies those habitats and species already assessed that are also of principal importance for nature conservation under the NERC Act (2006).

5.3.4. Non-native Invasive Species

No non-native invasive species have been screened in for assessment. Himalayan balsam has been observed in the reaches downstream of the abstraction, however these are largely on the embankment of the right bank above the water level and the Drought Order conditions are not considered to favour the propagation or dispersal of the balsam or any other known non-native invasive species within the hydrological zone of influence of the Drought Order. There are concerns in relation to the increase in distribution of invasive species caused by the additional foot traffic required for the monitoring and mitigation plans. Standard control of invasive species procedures including ensuring staff undertaking the check clean dry protocol to prevent spread will be employed and as detailed in the Drought Order and Drought Order Monitoring and Mitigation Plans.

Should the baseline monitoring activities identify any INNS, then their survey will be added to the updated monitoring plan so that any changes to the distribution or extent of the species can be monitored and the impact assessment updated accordingly.

5.3.5. Landscape, Recreation and Heritage

Navigation

The Southampton to Cowes ferry (Red Funnel Ferry) is located within the lower Test/ Southampton Water. It is primarily influenced by the tidal regime rather than changes in freshwater inputs due to is position on the lower Test. The potential impact is assessed as **minor (medium confidence)**.

There are no organised water sports clubs located on the lower Test, however, there is still access to the reach for sports such as kayaking and paddle boarding. Water levels are supported for navigation, impacts are likely to be **minor (medium confidence)** as these sports are less sensitive to water levels than general motor driven craft with large drafts.

Recreation

Angling activities will already have been impacted by the drought conditions preceding the implementation of the drought order, but the drought order will further exacerbate these effects. Fly fishing on the lower Test is controlled by the Testwood Fishery. Dialogue has taken place with Testwood and Nursling Fishery and the Broadlands Fishery angling stakeholders have been contacted about the proposed drought order: this dialogue will continue.

The impacts on fish identified earlier in this report will have implications for angling and the effects will continue post-cessation of the drought order due to the life-cycle of migratory fish species of angling interest (in particular, salmon and sea trout). During the drought order, low flows due to the drought would likely preclude angling taking place in the impacted reach, but the drought order may extend the period during which angling is constrained by low flow conditions (**minor impacts, medium confidence)**.

The Drought Order and Drought Order Monitoring Plan and Drought Order and Drought Order Mitigation Package include actions to help reduce the likely impact of the drought order on fish by increasing environmental drought resilience, and this in turn will help to reduce the impact on angling activities.

Amenities

Testwood Lakes nature reserve is located adjacent to the abstraction point. Impacts are likely to be **minor** (medium confidence) as the lake depth in the little lake is maintained as part of the Testwood WSW abstraction process, and the depth in larger lake is not directly impacted by abstraction rates.

5.4. Residual Impacts

A programme of mitigation, compensation (see the report to inform an HRA accompanying this application) and monitoring has been agreed with the Environment Agency and Natural England for the Drought Order as being applicable and deliverable in 2025. The mitigation defined partly reflects measures agreed as part of the Section 20 Agreement (see Appendix F), but also measures that have been defined subsequently and are deliverable in 2025.

Further detail on the routine and also emergency mitigation measures to be implemented during the Stage 0.1 Drought Order is provided in the Environmental Monitoring, Mitigation and Compensation Plan (SWS, 2025[19]) that accompanies the Drought Order application.

6. Cumulative Impacts

The Test Surface Water Stage 1 Drought Order could also be applied for in respect of the Testwood abstraction. This Stage 1 Drought Order would however only be applied for should there be a need to continue abstracting at flows below 265 Ml/d. As such the Drought Order and Stage 1 Drought Order would not be active simultaneously. The Stage 1 Drought Order would seek to allow a further reduction in the HoF from 265 Ml/d to 200 Ml/d and would need to be subject to a further environmental assessment and production of report to inform an HRA.

Furthermore a range of plans and projects has been considered in respect of whether they could act in combination with a Drought Order in 2025.

No plan or project included in this assessment is considered to result in effects that could act in combination with the potential effects arising from the proposed Drought Order.

[19] SWS (2025). Test Surface Water Licence 11/42/18.16/54 Stage 0.1 Drought Order 2025. 2.2_Environmental Monitoring, Mitigation and Compensation Plan. July 2025.

7. Environmental Monitoring, Mitigation and Compensation Plan (EMMCP)

7.1. Introduction

The overall scope of the Environmental Monitoring, Mitigation and Compensation Plan (SWS, 2025[20]) meets the requirements of the Environment Agency's drought plan guidance. The level of monitoring identified in the EMMCP is risk-based, and has been tailored to the situation in 2025. The EMMCP is tailored to the characteristics of the study area and is informed by the assessment of environmental sensitivity presented in Sections 4 and 5 of this EAR and Appendices B and D. The EMMCP fulfils several requirements, including:

- Establishing required baseline environmental monitoring and data acquisition to maintain and update the understanding of the environmental baseline conditions.
- Pre-drought order/permit monitoring describes the prevailing environmental conditions prior to drought order implementation. This will inform the implementation and management of any mitigation actions during the drought.
- During-drought order monitoring describes the environmental conditions during the implementation of the drought order. Surveillance monitoring of sensitive locations, informed by, for example, walkover surveys and pre-drought monitoring, will provide early warnings of any unpredicted environmental impacts and ensure that mitigation actions are operating as designed.
- Post-drought order monitoring describes the recovery of environmental conditions following the cessation of a drought order, and establishes whether the affected ecosystems have recovered to conditions prevailing in the pre-drought order/permit period.

The monitoring proposed in the EMMCP is summarised in Section 7.2 and mitigation measures in Section 7.3.

7.2. Basis of EMMCP

The Environmental Monitoring, Mitigation and Compensation Plan (SWS, 202521) that accompanies the Drought Order application details proposed pre-drought monitoring, monitoring during the Stage 0.1 Drought Order and post-drought recovery monitoring and so this EAR only lists the monitoring types.

Pre-drought monitoring has comprised a suite of:

- Baseline water quality monitoring including automatic continuous monitoring and spot monitoring in the Test, pollution monitoring in the River Blackwater, a key nursery habitat for salmonids, and water quality in Southampton Water.
- Baseline fish habitat monitoring in the lower River Test;

[20] SWS (2025). Test Surface Water Licence 11/42/18.16/54 Stage 0.1 Drought Order 2025. 2.2_Environmental Monitoring, Mitigation and Compensation Plan. July 2025.
[21] SWS (2025). Test Surface Water Licence 11/42/18.16/54 Stage 0.1 Drought Order 2025. 2.2_Environmental Monitoring, Mitigation and Compensation Plan. July 2025.

- Aerial survey and interpretation of the habitats in the intertidal and lower reaches of the River Test;
- Baseline hydrometric monitoring (water levels);
- Lower Test barrier monitoring (to be undertaken in August 2025); and
- Testing of the effects of river aeration, a temporary emergency mitigation measure to be implemented should adverse water quality conditions be identified during a drought.

Monitoring during a drought will comprise a suite of:

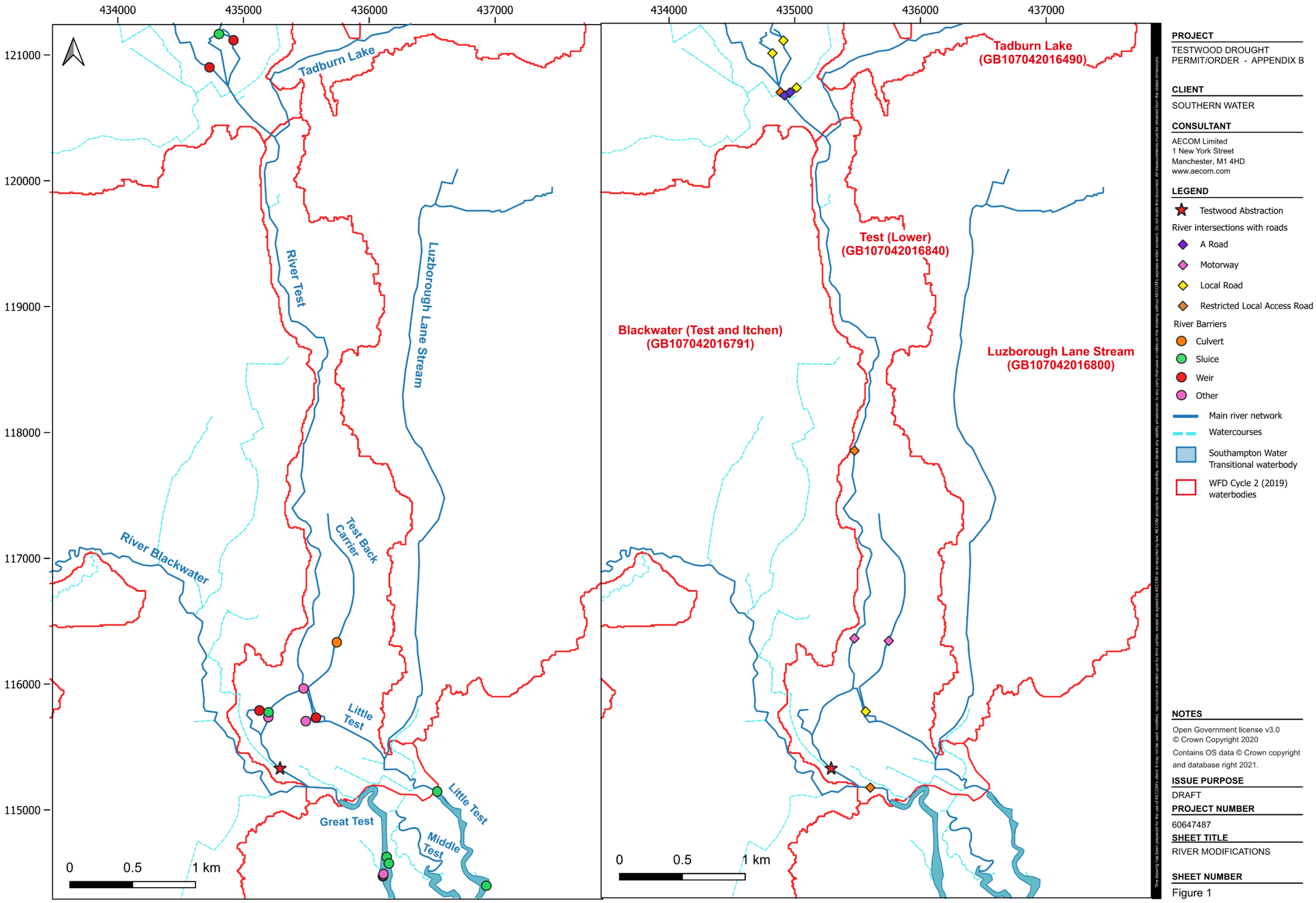
- Continuation of the on-going baseline water quality monitoring indicated above which will be used to identify failures against river water quality thresholds and trigger action.
- Monitoring of rainfall, groundwater level, river flow, and weather which can be used to trigger mitigation actions where appropriate.
- Fish distress monitoring;
- Abstraction intake fish monitoring
- Monitoring for non-native species; and
- Monitoring of physical barriers downstream.

Post-drought recovery monitoring will be the same scope as the pre-drought monitoring.

The proposals have been informed by walkover surveys undertaken during the development of the River Test Drought Permit applications between 2018-2021 and there have been a number of walkover visits undertaken during 2024 and into 2025 to develop the specific mitigation to be implemented in 2025 as discussed above.

Additionally, desk-based watercourse structure mapping using GIS datasets has been completed to inform in-drought walkovers and identification of potential mitigation e.g. locations where fish rescues might be required. The identified structures are shown on Figure 7.1.

Figure 7.1 Testwood water course structure mapping



7.3. Mitigation Measures

The report to inform an HRA accompanying the 2025 application for a Drought Order (WSP, 2025[22]) presented a programme of mitigation that has been discussed and agreed with the Environment Agency and Natural England for the 2025 situation and is repeated here for completeness.

7.3.1 Stage 0.1 Drought Order Habitat Improvement Measures

In channel Habitat enhancement – River Test (Testwood downstream)

Southern Water has identified five small scale channel enhancement schemes that can be put in place in 2025. These are summarised below:

- Habitat Improvements to Lower Wirehouse Stream, which will improve local conditions for the salmon population over approximately 700m of channel. The principle measure will be improvements to the heavily dredged channel, to improve its overall habitat. This will include the addition of gravel to the channel, as well as creating deflectors and berms.
- Fencing along the Little River Test to exclude large grazing animals from the river bank which will improve flow conditions (eliminate unwanted channel widening) and also minimise potential for diffuse pollution (sediment) release. The extent of this will be approximately 100m.
- There is existing bank erosion at Testwood WSW which will be repaired which will improve flow conditions (eliminate unwanted channel widening) and also minimise potential for diffuse pollution (sediment) release. The extent of this will be approximately 50m.
- Repair of two further areas of bank erosion (one also affected by ash dieback increasing erosion, whilst the other is eroding behind existing bank protection) which will improve flow conditions (eliminate unwanted channel widening) and also minimise potential for diffuse pollution (sediment) release. The extent of this will be approximately 175m combined.

In channel Habitat enhancement - Blackwater

Southern Water is actively working to enhance the channel conditions, in terms of habitat provided and also reduction in diffuse pollution (specifically targeting salmonid (Sea Trout are understood to favour the Blackwater) spawning habitat, and further aiming to improve habitat for salmonids), along an extensive reach of the River Blackwater. A focused fish habitat walkover survey covering >20km in the catchment was undertaken. The following measures are proposed or being implemented currently:

- Reduction in diffuse pollution sources with 250 potential water pollution sites identified along more than 20km of channel inspected, including 15 priority locations. To start to address this five farm action plans have already been delivered and a further five are being delivered in 2025.

[22] WSP (2025). Test Surface Water Licence 11/42/18.16/54 Stage 0.1 Drought Order 2025. *Information to support an assessment under Regulations 63 and 64 of the Conservation of Habitats and Species Regulations 2017.*

Pollution reduction

Since the summer of 2022, Southern Water has assessed the pollution concerns for the Little Test from the Nursling Industrial Estate outfall and has developed and is implementing a three-phase action plan to reduce the pollution risk.

Phase 1 involves routine regular inspection and change-out of the booms at the outfall; CCTV survey, sampling and jetting of 3.3 km of sewers and manholes / catchpits on the Industrial Estate. Phase 2 includes full clean out of the outfall and, weir and baffle upgrades (converting from wooden to steel); detailed clean and jet for 3 pipes of the Marshalls Mercedes Yard; Dewatering support and non-storm treatment management, including by oils separation. Phase 3 will be concurrent with phase 2 and follows up on phase 1 with a more detailed further investigation, aiming to identify further control and management options. This includes a unit-by-unit inspection for hydrocarbon sources within the contributing site.

Effectiveness of this mitigation approach is assessed through the monitoring detailed below (recognising that this is not mitigation itself). As part of the ongoing drought and wider lower Test catchment monitoring programme, analytical sampling for hydrocarbons from select accessible outfalls and locations through the Lower Test catchment has been implemented. This is to identify wider diffuse pollution pressures, and these feeding into the development of the long term Lower Test Restoration Strategy.

Southern Water, with the permission of the Lower Test Fishery, Lower River Management (LRM), has also installed two real time water quality monitoring stations in the Little Test; one (“LT2”) immediately downstream of the outfall and another (“LT3”) a further 200m downstream. These record and transmit measurement of turbidity; dissolved oxygen; temperature; conductivity, ammonium; and water level. They provide alarm messaging when low dissolved oxygen thresholds are passed and, overall, provide much improved knowledge of events and trends and means to trigger reactive response during drought order conditions.

- It is believed the measures already implemented within the three-phase plan have reduced the risk, with further aspects of the plan to follow.
- The real time water quality monitoring in the river is in place and provides information and alarms for reactive response during drought.

River Shading

Southern Water has completed (to end 2024) tree planting for river (fish) shade along two sections of the Test, in agreement with Little River Management fishery, Hampshire and Isle of Wight Wildlife Trust, Environment Agency and Natural England, using a mixture of native trees and shrubs typical of the local area. Two further areas will be planted by Southern Water in 2025, subject to Little River Management fishery, Hampshire and Isle of Wight Wildlife Trust, Environment Agency and Natural England agreement. Additional shading will be provided in the interim until the trees reach sufficient size, via shading hung over the river or river surface floated.

- Floating shading can be deployed quickly, subject to agreements with EA and LRM. Hung shading may take a little longer to ’design’, procure and implement, notably to cover holding water downstream of the storm hatches at Testwood Mill.
- Shading reduces water temperature and so can improve dissolved oxygen conditions. It also provides lower stress locations for fish to rest in.

7.3.2 Stage 0.1 Drought Order Emergency Measures

Aeration

Aeration of river water is proposed as a reactive and temporary mitigation measure which can implemented should adverse water quality conditions (specifically significantly reduced dissolved oxygen concentrations) be identified during drought order implementation. It can be implemented subject to access and environmental permissions but during drought situations Southern Water will be working to heightened communication with the EA, NE, LRM and others to ensure agreed deployment.

To optimise such operations, aeration would likely occur during night-time periods, when dissolved oxygen levels potentially sag below predetermined thresholds. However, it is expected that all parties will endorse the implementation during daytime as well should dissolved oxygen and/or river temperature indicate stress conditions for downstream fish that the aeration operation may reduce or relieve stress on fish, notably salmonids.

Southern Water have trialled and can install specialist aeration diffuser equipment at several locations in the depleted zone, and at Testwood Bridge (within the Testwood WTW plant) and can operate it to agreement with the EA. In addition, Southern Water, in 2024, restored five access platforms in the Lower Test, from which aeration equipment can be deployed. Exact locations and deployment types are to be determined based on-site conditions. This option could extend to provision of equipment to the Fishery Keepers, who with training could help deploy it. Deployment locations and timing should be flexible and directed by water quality data and observations of fish or other ecological stress.

Aeration will mitigate physico-chemical (especially dissolved oxygen) quality and potentially temperature. The benefits are potentially 20% to 50% improvement in dissolved oxygen, depending on initial saturation level and proximity of deployment.

Fish rescue

Fish rescue will be undertaken in extreme conditions should it become obvious that fish are stranded and in distress in the river. Although considered unlikely to be required, as only potentially needed in very extreme conditions, this can be implemented if required.

7.3.3 Section 20 Mitigation

A mitigation package which, if implemented in full would be considered sufficient to mitigate for the effects of a Drought Order at Testwood, based on the status of the Itchen SAC features at the time, was agreed in 2018 under Section 20. This though was to outline design for most measures, with future funding to implement to be confirmed. The measures included comprised:

- Measure 1: River restoration to improve chalk stream habitat in the River Test
- Measure 2: River restoration in the Test to improve conditions for the fish community.
- Measure 3: Increasing shading in the River Test downstream of the lower boundary of the Watercress & Winterbournes HLF Project - Hampshire's Chalk River Headwaters Landscape Partnership Scheme – to the boundary of the M27.
- Measure 4: Significant increase in support to the Watercress & Winterbournes Project - Hampshire's Chalk River Headwaters Landscape Partnership Scheme.
- Measure 5: Support to the Test & Itchen Catchment Partnership (TICP).

Southern Water can confirm that no significant progress has been made in respect of measures 1-3 but that measures 4 and 5 have been really successful in catchment engagement, and measures being delivered more widely – the premise being that environmental improvements throughout the

catchment will benefit habitat conditions lower down the valley where salmon occur. Funding for all of these measures remains committed to 2027 and implementation in on-going.

7.3.4 Southern Water Ecological Resilience Fund

Southern Water has established an Ecological Resilience Fund, to enable wider catchment stakeholders to undertake environmental improvement projects, that will provide benefit to the wider River Itchen and River Test catchments. To ensure projects provide that important benefit, a governing steering group has been established, with the Environment Agency and Natural England key members, where all project scopes are reviewed, before funding is approved and allocated.

8. Conclusions

This EAR provides an assessment of the potential environmental impacts relating to the implementation of the Drought Order. The scope of the assessment has been defined by an impact screening and scoping exercise.

It has been concluded that the environmental effects on river flows, water quality and ecology of implementing a Test Surface Water Stage 0.1 Drought Order, over and above those conditions that already exist under "normal", i.e. licensed, baseline conditions, with the onset of a natural drought, could cause **up to Moderate** likely impacts (low confidence) to designated sites and features of the River Test, with up to Low impacts on the River Itchen.

Nonetheless, there remains uncertainty in the assessment in 2025, and as such a programme of mitigation, compensation (as detailed in a report to inform an HRA) and monitoring has been agreed with the Environment Agency and Natural England. Whilst Southern Water, the Environment Agency and Hampshire and Isle of Wight Wildlife Trust have all undertaken extensive monitoring programmes on the Rivers Test and Itchen as agreed under the Section 20 Agreement, very few of the new data have been available in a form to inform the assessment at this stage. Southern Water plans to continue the analysing the data, and will be sharing this with the Environment Agency and Natural England independently. The information will also be used to inform any further applications that may be needed.