

Drought Plan 2019

Annex 11: Habitats

Regulations Assessment

Non-Technical Summary

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Version 1



from
Southern
Water 



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Introduction

Under the Water Industry Act 1991 (as amended), Southern Water Services (Southern Water) is required to prepare and update a Drought Plan every four years and three months. The Drought Plan provides a comprehensive statement of the actions Southern Water will consider implementing during drought conditions to safeguard essential water supplies to customers and minimise environmental impact. It is consistent with Southern Water's Water Resources Management Plan (WRMP), the objective of which is to set the strategic plan for the delivery of water resources to balance supply and demand over the coming decades.

Drought Plans include a range of drought management measures that will only be implemented if certain conditions arise during a particular drought event. Each drought event is different in terms of its severity, season, location and duration and each combination of these factors may require a different response in terms of the measures to be implemented. In the context of Drought Planning, individual drought management options are taken to constitute alternatives. Southern Water's final Drought Plan comprises a range of demand management measures and options for temporarily augmenting water supplies, including applying for Drought Permits and Drought Orders to increase the availability of water supplies.

As an integral part of developing its final draft Drought Plan, Southern Water has carried out a Habitats Regulations Assessment (HRA) to assess the potential implications of the Plan on nature conservation sites designated under:

- the EU Habitats Directive (Special Areas of Conservation or SAC)
- the EU Birds Directive (Special Protection Areas or SPA)
- the Ramsar Convention on Wetlands of International Importance (or Ramsar sites).

For the purposes of this summary report, all sites designated under these laws are referred to collectively as "European sites" (noting that the Ramsar Convention reflects international rather than EU legislation).

Requirement for Habitats Regulations assessment

The Conservation of Habitats and Species Regulations 2017 require that any plan or project which is likely to have a significant effect on a European site (either alone or in-combination with other plans or projects) and is not directly connected with, or necessary for the management of the site, must be subject to a HRA to determine the implications for the site in view of its conservation objectives. For the purposes of this summary report, these regulations are referred to as the "Habitats Regulations".

Responsibility for undertaking the Habitats Regulations Assessment lies with Southern Water as the Plan making authority. The Environment Agency's Drought Plan Guidance¹ specifies that a water company must ensure that its Drought Plan meets the requirements of the Habitats Regulations. The Environment Agency's 2015 Drought Plan Guidance advises companies to consult the UK Water Industry Research (UKWIR) report 'Strategic Environmental Assessment and Habitat Regulations Assessment - Guidance for Water Resources Management Plans and Drought Plans'² in preparing its HRA. The UKWIR report recommends that all drought plans should be subject to the first stage of HRA, i.e. screening for potential Likely Significant Effects on European designated sites. Southern Water has followed this guidance, along with HRA best practice guidance for the appraisal of Plans³, in preparing its HRA of the final Drought Plan.

Since the publication of our draft Drought Plan for consultation, there has been an important judgment in the Court of Justice of the European Union (CJEU) in April 2018⁴ which ruled that Article 6(3) of the Habitats Directive must be interpreted as meaning that mitigation measures should be assessed within the framework of an Appropriate Assessment and that it is not permissible to take account of mitigation measures at the screening stage. In dialogue with Natural England, we reviewed the screening decisions that had been included in the draft Drought Plan in light of this judgement and determined that there were no options that relied upon mitigation measures to reach the screening decision.

Consultation

Natural England and the Environment Agency were informally consulted on the draft methodology for the HRA in August 2016. Natural England was informally consulted with on the initial outputs of the screening process in December 2016, with further informal consultation with Natural England and the Environment Agency on the HRA during January to March 2017. Comments received from both Natural England and the Environment Agency were taken into account in preparing the HRA Report for the draft Drought Plan.

This HRA Report has been updated to reflect representations made by Natural England and the Environment Agency during the consultation on Southern Water's draft Drought Plan as well as the agreements reached through the Hampshire Abstraction Licences Public Inquiry process in March-April 2018. This included a Section 20 Agreement being signed between Southern Water and the Environment Agency in relation to the Test Surface Water Drought Permit and Drought Order, Candover Augmentation Scheme Drought Order and the Lower Itchen sources Drought Order. The Section 20 Agreement includes various provisions pertaining to the HRA as discussed further in this report.

¹ Environment Agency (2015) *How to write and publish a Drought Plan*, December 2015. Available at <https://www.gov.uk/government/collections/how-to-write-and-publish-a-drought-plan>.

² UKWIR (2012) *Strategic Environmental Assessment and Habitats Regulations Assessments - Guidance for Water Resources Management Plans and Drought Plans (WR/02/A)*.

³ Tyldesley, D. & Chapman, C. (2015) *The Habitats Regulations Assessment Handbook*. DTA Publications. Version 4.

⁴ Court of Justice of the European Union Case C-323/17: *People over Wind & Sweetman v Coillte Teoranta*

The HRA has also been updated to include an Appropriate Assessment of the Darwell Drought Permit, reflecting the outcome of discussions held with the Environment Agency and Natural England in November 2018.

The HRA has also been used to inform production of the updated Strategic Environmental Assessment (SEA) of the revised draft Drought Plan as well as the Environmental Assessment Reports (EARs) for each Drought Order/Permit required by Southern Water, and vice versa.

Consultation meetings were held with both Natural England and the Environment Agency regarding the methodologies to be used in the assessments (August and September 2016 respectively), the screening for each of the assessments (November 2016 – February 2017) and to discuss queries or issues on draft versions of the EARs (March – April 2017). Subsequent meetings were held with Natural England and the Environment Agency in May 2018 to discuss their representations on the draft Drought Plan and how these would be addressed in the revised draft Drought Plan. Since publication of the revised draft Drought Plan, we received further statutory comments and non-statutory advice from Natural England which we have discussed with Natural England and which has been incorporated into this final Drought Plan HRA.

HRA approach

The Habitats Regulations and associated national HRA guidance require that a staged assessment approach is followed for the HRA. Progression through each stage is dependent on the findings of the assessment in the preceding stage.

- **Stage 1 - HRA screening:** identified whether each drought management measure (either alone or in combination with other measures or other plans or projects) is likely to have significant effects on European designated sites. Screening assessments were based on a rigorous application of the precautionary principle: where uncertainty or doubt remained as to whether an adverse impact may arise, the measure was taken forward to Stage 2 (Appropriate Assessment). The screening stage included assessment of any cumulative, in-combination effects that might result from the concurrent implementation of different drought management measures within the plan itself, or in-combination with other plans, activities and projects. The screening decisions do not take account of any mitigation measures in line with the April 2018 CJEU judgement referenced above.
- **Stage 2 - Appropriate Assessment:** where a likely significant effect could not be ruled out at the screening stage (and noting the precautionary principle), the drought management measure was further reviewed to determine whether it should continue to be included in the final Drought Plan or be rejected where feasible. Where it was decided that the measure needed to be retained to help safeguard essential water supplies in a severe drought, an Appropriate Assessment has been undertaken of the measure to determine whether it could adversely affect the integrity of the European site(s), either alone or in combination with other plans and projects, taking into account available mitigation measures.

- **Stage 3 – Consideration of alternative options** where an adverse effect on the integrity of a European site could not be ruled out, adopting the precautionary principle, at the Appropriate Assessment stage, Southern Water carefully considered whether the measure should be rejected from the final Drought Plan if it was feasible to do so without comprising the ability of the plan to meet its primary objective of ensuring essential water supplies can be maintained to customers in severe drought conditions. For the measure to be retained in the plan, Southern Water has had to demonstrate that there are no viable, reasonable alternative options as part of the Stage 3 assessment.
- **Stage 4 – Demonstration of Imperative Reasons of Overriding Public Interest and compensation measures:** this final stage of the HRA process comprises an assessment of compensatory measures for the adverse effect identified in the Appropriate Assessment, subject to a prior assessment of whether there are Imperative Reasons of Overriding Public Interest (IROPI) for the particular measure to be included in the final Drought Plan (the over-riding public interest case will need to be agreed and confirmed by the Secretary of State).

Summary findings from the HRA of the final Drought Plan

Demand management options – Stage 1 screening

The demand management options in the final Drought Plan were screened out at Stage 1 due to no likely significant effects on any European site being identified in relation to their implementation, either alone or in combination with any other measure or relevant programme or plan.

Supply augmentation options – Stage 1 screening

The tables on the following pages shows the conclusions of the HRA Stage 1 screening assessment for each supply augmentation option (Table 1 covers options that do not require a Drought Permit or Drought Order; Table 2 summarises the screening assessments for the Drought Permits and Drought Order options). Full details of the assessment are provided in the HRA report.

For the following drought management measures, it was concluded that, adopting a precautionary principle, it was not possible to rule out likely significant effects on a European site and therefore that Stage 2 Appropriate Assessments were required to assess the implications of the option on the site's conservation objectives and understand whether the site's integrity could be affected:

- Sheerness emergency desalination: Medway Estuary and Marshes SPA and Ramsar, Thames Estuary and Marshes SPA and Ramsar site
- Lower Itchen sources Drought Order: River Itchen SAC
- Candover Augmentation Scheme Drought Order: River Itchen SAC

- Caul Bourne Drought Order: Solent Maritime SAC, Solent and Southampton Water SPA and Ramsar site
- Shalcombe Drought Order: Solent Maritime SAC, Solent and Southampton Water SPA and Ramsar site
- Eastern Yar augmentation scheme Drought Order: Solent Maritime SAC, Solent and Southampton Water SPA and Ramsar site
- Darwell Drought Permits: Dungeness, Romney Marsh and Rye Bay SPA and Ramsar site, and Dungeness SAC.

Supply augmentation options – Stage 1 screening: Potential in-combination effects

An assessment was also carried out as part of the screening process to determine the potential risk of cumulative, or in-combination, likely significant effects on European sites between supply augmentation options for the final Drought Plan, as detailed in Table 3. This assessment indicated that Appropriate Assessment of potential cumulative, in-combination effects was required for the following combinations of options:

- Caul Bourne and Shalcombe Drought Orders: Solent Maritime SAC and Solent and Southampton Water SPA and Ramsar site
- Eastern Yar Augmentation Scheme, Lukely Brook, Caul Bourne and Shalcombe Drought Permits / Orders: Solent Maritime SAC and Solent and Southampton Water SPA and Ramsar
- Candover Augmentation Scheme and Lower Itchen Sources Drought Orders

Potential risks of cumulative, in-combination likely significant effects between the supply augmentation options included in the final Drought Plan and the following activities, plans and projects has also been assessed as part of the HRA screening process:

- Southern Water's revised draft WRMP 2019
- Other currently published water company draft and revised draft 2019 WRMPs and drought plans:
 - Affinity Water South East
 - Bournemouth Water (part of South West Water)
 - Cholderton and District Water
 - Portsmouth Water
 - South East Water
 - SES Water
 - Thames Water
 - Wessex Water
- Environment Agency National Drought Action Plan
- River Basin Management Plans – Thames River Basin District and South East River Basin District

- Canal & Rivers Trust *Putting Water into Waterways* Water Resources Strategy 2015-2020
- Lower Tidal River Arun Flood Management Strategy
- River Medway Flood Storage Areas project
- Medway Estuary and Swale Shoreline Management Plan

The conclusions of this screening assessment was that there are **no likely cumulative, in-combination significant effects** on European sites between any of the drought management measures in Southern Water's final Drought Plan 2019 and the above plans and projects.

Table 1 HRA screening assessment of supply augmentation options not requiring a Drought Permit or Drought Order

Supply Augmentation Option	Assessment of Likely Significant Effect (LSE) and Potential for Alteration of Measure to Avoid Effects	Further HRA Assessment Required?
Tankering of water	No LSEs to any designated sites are anticipated. Abstractions to support tankering would be from existing sources and within existing abstraction licence conditions that have previously been reviewed as part of the Environment Agency's Review of Consents process and determined not to have any likely significant effects on European sites.	No
Littlehampton emergency desalination	<p>The following European designated sites are located within 10km of the scheme components; Duncton to Bignor Escarpment SAC, Arun Valley SAC, SPA and Ramsar, and Solent and Dorset Coast pSPA.</p> <p>Impacts on Duncton to Bignor Escarpment SAC and Arun Valley SAC, SPA and Ramsar are not anticipated.</p> <p>The proposed abstraction is considered unlikely to cause any significant effects to the Solent and Dorset Coast pSPA given the small volumes of abstraction and discharge involved. A proportion of the abstraction would be returned as a waste stream via the existing Littlehampton Wastewater Treatment Works long sea outfall to the English Channel but this is unlikely to give rise to any significant effects on the pSPA given the distance between the outfall and the pSPA, the dominance of west to east currents, plus the mixing of the waste stream with the treated effluent from the Wastewater Treatment Works.</p>	No
Sheerness emergency desalination	<p>The following European designated sites are located within 10km of the scheme components; Benfleet and Southend Marshes SPA and Ramsar, The Swale SPA and Ramsar, Outer Thames Estuary SPA, Medway Estuary and Marshes SPA and Ramsar, Thames Estuary and Marshes SPA and Ramsar.</p> <p>No likely significant effects are anticipated on the Benfleet and Southend Marshes SPA and Ramsar or The Swale SPA and Ramsar site.</p> <p>The Outer Thames Estuary SPA is considered to be at a sufficient distance offshore and away from the Medway Estuary, to not be impacted.</p> <p>Depending on the location of the abstraction pipeline and sea outfall, construction impacts could arise to the Medway Estuary and Marshes SPA and Ramsar. It is assumed that there would be no habitat loss, but depending on timings for the construction there is a need to consider any impacts to breeding and wintering birds. It was unclear at the screening stage whether the waste stream would be sufficiently diffused within the estuary so as not to impact the Medway Estuary and Marshes SPA and Ramsar, and also the Thames Estuary and Marshes SPA and Ramsar.</p> <p>It could not be concluded that no LSEs will arise from the scheme, therefore further assessment (Stage 2 Appropriate Assessment) was required.</p>	Yes Stage 2 Appropriate Assessment required
Sandown emergency desalination	<p>The following European designated sites are located within 10km of the scheme components; Isle of Wight Downs SAC, Briddlesford Copse SAC, South Wight Maritime SAC, Solent and Isle of Wight Lagoons SAC, Solent and Southampton Water SPA and Ramsar.</p> <p>Assessment concluded no likely significant effects on the Solent and Southampton Water SPA and Ramsar, Briddlesford Copse SAC, Isle of Wight Downs SAC or the Solent and Isle of Wight Lagoons SAC.</p> <p>Impacts on the South Wight Maritime SAC were considered in further detail but it was concluded that given the existing Sandown wastewater treatment works outfall will be used to discharge the brine waste stream and the outfall has previously been modelled</p>	No

Supply Augmentation Option	Assessment of Likely Significant Effect (LSE) and Potential for Alteration of Measure to Avoid Effects	Further HRA Assessment Required?
	to show no significant effects on the SAC features, and given the brine will be diluted with wastewater treated effluent, no LSEs are considered likely during operation.	
Additional import from Portsmouth Water to Hampshire Southampton East and Sussex North Water Resource Zone	<p>No LSEs to any designated sites anticipated as abstractions to support these imports is from existing sources and within existing abstraction licence conditions that have previously been reviewed as part of the Environment Agency's Review of Consents process and determined not to have any likely significant effects on European sites.</p> <p>Note: The Lower Itchen drought order comprises the combined measures to temporarily reduce the hands-off flow conditions at Riverside Park gauging station for the Portsmouth Water bulk supply import to Hampshire Southampton East at the same time as a reduction to the Southern Water Lower Itchen sources hands-off flow condition at Allbrook and Highbridge gauging station.</p>	No
Changes to Existing Operations:		
Rest groundwater sources – Isle of Wight	As this is an operational change within existing licences and no construction activities are required to implement, no LSEs to any designated sites are anticipated.	No
Rest groundwater sources – Sussex Worthing	As this is an operational change within existing licences and require no construction activities to implement, no LSEs to any designated sites are anticipated.	No
Rest Weir Wood reservoir	As this is an operational change within existing licences and no construction works are required to implement, no LSEs to any designated sites are anticipated.	No

Table 2 HRA Stage 1 screening assessment of Drought Permit and Drought Order options

European Designated Sites		Drought Order/Permits															
		Western area							Central area			Eastern area					
		Lukely Brook	Caul Bourne	Shalcombe	Eastern Yar Augmentation Scheme	Test Surface Water#	Test Valley	Candover Augmentation Scheme	Lower Itchen Sources	Pulborough	Weir Wood	North Arundel	Stourmouth	North Deal	Faversham	Darwell	Powdermill
Arun Valley	SAC																
	SPA																
	Ramsar																
Ashdown Forest	SAC																
	SPA																
Bridlesford Copse	SAC																
Dungeness SAC																	
Dungeness, Romney Marsh and Rye Bay	SPA																
	Ramsar																
Ebernoe Common	SAC																
Emer Bog	SAC																
Isle of Wight Downs	SAC																
Medway Estuary and Marshes	SPA																
	Ramsar																
Mottisfont Bats	SAC																
Peter's Pit	SAC																
Porton Down	SPA																
River Itchen	SAC																
Salisbury Plain	SAC																
Solent and Isle of Wight Lagoons	SAC																
Solent and Southampton Water	SPA																
	Ramsar																
Solent Maritime	SAC																
Stodmarsh	SAC																
	SPA																
	Ramsar																
Thames Estuary and Marshes	SPA																
	Ramsar																
Thanet Coast and Sandwich Bay	SPA																
	Ramsar																
The Mens	SAC																
The Swale	SPA																
	Ramsar																

Drought Permit and Drought Order options

Key:

- No proximity or linkage between Drought Permit/Order with the European site
- No Likely Significant Effects anticipated
- Stage 2 Appropriate Assessment required



Table 3 HRA Stage 1 screening decisions for in-combination likely significant effects of supply augmentation options

Option	Cumulative With	European Site	In-Combination Likely Significant Effects?
River Medway Scheme	Weir Wood	Medway Estuary and Marshes SPA and Ramsar	No
		Peter's Pit SAC	No
		Thames Estuary and Marshes SPA and Ramsar	No
River Medway Scheme	Sheerness emergency desalination	Medway Estuary and Marshes SPA and Ramsar	No
North Arundel	East Worthing	None	No
North Arundel	Pulborough	Arun Valley SAC, SPA and Ramsar	No
Darwell	Powdermill	Dungeness SAC	No
		Dungeness, Romney Marsh and Rye Bay SPA and Ramsar	No
North Deal	Stourmouth	Stodmarsh SAC	No
		Stodmarsh SPA and Ramsar	No
		Thanet Coast and Sandwich Bay SPA and Ramsar	No
Lukely Brook	Eastern Yar	Briddlesford Copse SAC	No
		Isle of Wight Downs SAC	No
		Solent Maritime SAC	No
		Solent and Southampton Water SPA and Ramsar	No
Caul Bourne	Shalcombe	Isle of Wight Downs SAC	No
		Solent Maritime SAC	Yes
		Solent and Southampton Water SPA and Ramsar	Yes
Eastern Yar, Lukely Brook, Caul Bourne, Shalcombe		Isle of Wight Downs SAC	No
		Solent Maritime SAC	Yes
		Solent and Southampton Water SPA and Ramsar	Yes
Lower Itchen Sources, Eastern Yar, Caul Bourne, Shalcombe		Solent Maritime SAC	No
		Solent and Southampton Water SPA and Ramsar	No
Lower Itchen Sources and Candover Augmentation Scheme		River Itchen SAC	Yes
Lower Itchen Sources and Test Surface Water Drought Permit & Drought Order		River Itchen SAC	No

Table 4 summarises the overall conclusions of the Stage 1 screening assessment of supply augmentation measures, highlighting those measures that required Appropriate Assessment, either alone or in-combination with other drought management measures.

Table 4 HRA screening assessment conclusions for supply augmentation measures

Drought Management Measure	Likely significant effect on European site(s) alone?	Likely significant effect in combination with other Southern Water drought management options?	Likely significant effect in combination with other WRMPs and drought plans?	Stage 2 Appropriate Assessment (AA) required?
Tankering of water	No	No	No	No
Littlehampton emergency desalination	No	No	No	No
Sheerness emergency desalination	Yes	No	No	Yes
Sandown emergency desalination	No	No	No	No
Additional import from Portsmouth Water	No	No	No	No
Rest groundwater sources – Isle of Wight	No	No	No	No
Rest groundwater sources – Sussex Worthing	No	No	No	No
Rest Weir Wood reservoir	No	No	No	No
Lukely Brook	No	Yes	No	Yes – cumulative effects only
Caul Bourne	Yes	Yes	No	Yes
Shalcombe	Yes	Yes	No	Yes
Eastern Yar Augmentation Scheme	Yes	Yes	No	Yes
Test Valley	No	No	No	No
Test Surface Water Drought Permit and Drought Order	No	No	No	No
Candover Augmentation Scheme	Yes	Yes	No	Yes
Lower Itchen Sources	Yes	Yes	Yes	Yes
Pulborough	No	No	No	No
Weir Wood	No	No	No	No
East Worthing	No	No	No	No
North Arundel	No	No	No	No
Stourmouth	No	No	No	No
North Deal	No	No	No	No
Faversham sources	No	No	No	No
River Medway Scheme	No	No	No	No
Darwell Reservoir	Yes	No	No	Yes
Powdermill Reservoir	No	No	No	No

Supply augmentation options – Stage 2 appropriate assessment

Appropriate Assessments, either alone or in-combination with other drought management measures, have been carried out and a summary of the conclusions, taking account of mitigation measures, are provided in Table 5.

As shown in Table 5, the Appropriate Assessments of the Candover Augmentation Scheme and Lower Itchen sources Drought Orders were unable to conclude that there would be no adverse effects on the integrity of the River Itchen SAC during severe drought conditions. This conclusion reflects uncertainties in the available evidence as to the precise magnitude and duration of the effects on certain designated features of the SAC. These conclusions informed the Section 20 Agreement signed between Southern Water and the Environment Agency in March 2018 as part of the Hampshire Abstraction Licences Public Inquiry held in March 2018.

In-combination adverse effects on European site integrity have been identified only in relation to the Candover Augmentation Scheme and the Lower Itchen sources Drought Order if implemented concurrently.

Table 5 HRA Appropriate Assessment conclusions following consideration of mitigation measures

Drought Management Measure	Adverse Effect on integrity of European site(s) alone?	Adverse effect on integrity in combination with other Southern Water drought management options?
Sheerness emergency desalination	No	No
Lukely Brook	No	No
Caul Bourne	No	No
Shalcombe	No	No
Eastern Yar Augmentation Scheme	No	No
Candover Augmentation Scheme	Yes	Yes
Lower Itchen Sources	Yes	Yes

In view of the current and forecast short-term (to 2027) supply-demand deficit in the Hampshire Southampton East WRZ in severe drought conditions as set out in the revised draft WRMP19, Southern Water is not able to remove these two Drought Orders from the Drought Plan 2019. If these two Drought Orders were excluded from the Drought Plan 2019, there would be an increased risk of requiring an application to the Secretary of State for an Emergency Drought Order to authorise the rationing of water supplies using rota cuts or standpipes in a drought severity of greater than 1 in 200 years. It is not considered acceptable to plan for an emergency drought order for drought events at or less than in a 1 in 500-year severity given the major public health and safety issues, as well as social and economic impacts, arising from implementation of an Emergency Drought Order.

Competent authorities (in this case the Secretary of State, as advised by Natural England) cannot consent to plans, projects or operations (e.g. a Drought Plan and/or a Drought Order) if the HRA is unable to conclude that there will be no adverse effects on the integrity of a European site. However, Article 6(4) of the Habitats Directive provides for a derogation

process which would allow a plan or project to be approved in limited circumstances and subject to meeting three **sequential** tests:

- There must be no feasible alternative solutions to the plan or project which are less damaging to the affected European site(s)
- There must be “imperative reasons of overriding public interest” (IROPI) for the plan or project to proceed
- All necessary compensatory measures must be “secured” to ensure that the overall coherence of the network of European sites is protected.

These sequential tests form Stages 3 and 4 of the HRA process and are discussed in the following sections.

Supply augmentation options – Stage 3 consideration of alternative options

In accordance with Article 6(4) of the Habitats Directive, Stage 3 of the HRA process requires the consideration of **feasible** and reasonable alternative options which may negate or mitigate the need for the Lower Itchen sources Drought Order. The consideration of alternatives can be limited to options which are financially, legally and technically feasible.

Various drought plan measures would be implemented by Southern Water to help maintain essential water supplies to the Hampshire Southampton East WRZ in severe drought conditions (beyond “normal” operational measures) in advance of implementing the Candover Augmentation Scheme Drought Order or the Lower Itchen sources Drought Order. These measures and their order of implementation are summarised in **Table 6**. Many of these measures are specifically included in the S 20 Agreement which sets out the sequencing and actions to be taken in advance of implementing these two Drought Orders.

Table 6 Drought Plan measures that would be in place prior to implementation of the Candover Augmentation Scheme and Lower Itchen sources Drought Order in the Hampshire Southampton East WRZ

Measures that would be in place in advance of the Candover Augmentation Scheme Drought Order or Lower Itchen sources Drought Order	
1. Utilisation of Southern Water sources and existing bulk supplies	<p>Maximise use of all available sources within abstraction licence, regulatory and operational constraints</p> <p>Maximise Portsmouth Water treated water bulk supply to the WRZ (15MI/d)</p>
2. Level 1 Water Use Restrictions and demand management measures	<p>Escalate demand-side water efficiency measures including media campaigns to encourage water efficiency and to raise awareness of the impending drought</p> <p>Initiate discussions with local authorities regarding watering regimes for public parks and gardens</p> <p>Increase leakage monitoring and repair activity</p> <p>Mains pressure reduction activities to help reduce leakage and peak demand consumption</p>
3a. Level 2 Water Use Restrictions and demand management measures	<p>Implement Temporary Use Ban - Phase 1 (unless it is agreed with the Environment Agency that it is unnecessary because it will only result in minimal savings)</p> <p>Enhanced media campaign to publicise water use restrictions and further encourage water savings</p>

3b. Maximise transfers from Hampshire Rural WRZ	Transfer ~0.5Ml/d from Hampshire Rural WRZ (and, if required, supported by the Test Valley Drought Permit (if granted by the Environment Agency))
4. Test Surface Water Drought Permit	Implement Test Surface Water Drought Permit to help continue maximising treated water transfers from Hampshire Southampton West WRZ to Hampshire Southampton East WRZ
5. Level 3 Water Use Restrictions	Apply for a Drought Order to authorise partial (Phase 1) non-essential water use restrictions

Once the measures set out in Table 6 have been implemented, Southern Water will consider which Drought Orders are to be implemented to maintain supplies to the Hampshire Southampton East WRZ. In line with the drought plan principles of minimising the effects of drought management measures on the environment, Annex 1 to the Section 20 Agreement confirms that Southern Water will take into account ecological considerations when deciding the order of implementation of the Test Surface Water, Candover Augmentation Scheme and Lower Itchen sources Drought Orders. In particular, the potential vulnerability of fish seasonally because of their migration patterns will be considered. Southern Water will liaise with the Environment Agency using the most up-to-date monitoring information on macrophytes and invertebrates and having regard to its statutory supply duties, available sources and other statutory obligations (including those of the Habitats Directive), to agree which course of action is the most appropriate at that time.

The Level 3 Temporary Use Ban Phase 2 water use restrictions and Phase 1 and Phase 2 of the Non-Essential Use Ban Drought Order (subject to Secretary of State approval) would be implemented when river flows fall below 200 Ml/d at Allbrook & Highbridge, as set out in Annex 1 of the Section 20 Agreement.

With all reasonable alternative options maximised to reduce demand on the River Itchen sources or to support the Hampshire Southampton East Water Resource Zone, the Candover Augmentation Scheme Drought Order would be implemented ahead of the Lower Itchen sources Drought Order. Water resources modelling has shown that the Candover Augmentation Scheme Drought Order would only be implemented in a 1 in 60-80 year severity drought. The Lower Itchen sources Drought Order would only be implemented in a 1 in 200 to 1 in 300-year severity drought.

We have considered other alternative options to the Candover Augmentation Scheme and Lower Itchen sources Drought Orders but these were rejected as summarised below. In considering these other feasible alternative options, the option needed to be capable of further reducing demand for water or delivering some, or all, of the potential supply deficit that could arise in a severe drought in the Hampshire Southampton East Water Resource Zone.

1. "Do nothing" option – this has been rejected as it is not an acceptable alternative solution since it fails to meet the objective stated above, and would lead to the implementation of an Emergency Drought Order to ration water supplies through use of standpipes and/or rota cuts.
2. Options that were discounted on the basis that they are likely to have an equal or greater impact on the site integrity and features of a designated European site when compared to the Lower Itchen sources Drought Order are:

- Drought Order for temporary abstraction from alternative groundwater or surface water locations within the Lower River Itchen catchment (with construction of temporary pipelines to Southern Water treatment facilities)
3. Options discounted due to the timescales required for implementation are set out in Table 7 below. These include options where the expected timescale for implementation are (a) beyond the lifetime of the 5-year Drought Plan and/or (b) cannot be delivered in the timeframe of a drought once drought conditions have become apparent. Timescales have been investigated as part of the development of the Southern Water draft WRMP19.

Table 7 Alternative options rejected due to the timescales required for implementation

Alternative options where timescales constrain implementation	Reason for rejection
Permanent desalination plant to meet deficit in severe drought	Planning, design and development timescales are beyond 2023
Additional bulk water imports from neighbouring water companies	Discussions with neighbouring companies, including through the Water Resources South East group, indicate that no additional bulk supplies are available before 2023
Additional abstraction from the River Test under a second Drought Order with a pipeline to the Lower Itchen Water Supply Works	This option could not be delivered during a drought under Drought Order powers as the timescales required for construction are too long.
Engineering works to develop new water sources	Planning, design and development timescales are beyond 2023
Indirect wastewater recycling	Planning, design and development timescales are beyond 2023

4. Options discounted as being infeasible are set out in Table 8, including due to lack of reliable available supplies in drought conditions, regulatory constraints, engineering feasibility and/or physical operational constraints.

Table 8 Alternative options rejected as infeasible

Alternative Options assessed as infeasible	Reason for rejection
Reduce supplies to the Isle of Wight from the mainland to enable increased support from the Hampshire Southampton West WRZ to Hampshire Southampton East WRZ	No spare water available on Isle of Wight in a severe drought even with Drought Orders in place to increase abstraction.
Construction of new satellite boreholes at existing licensed boreholes	Reliable supplies from the existing boreholes that could support the Hampshire Southampton East WRZ are constrained by the abstraction licence limits and therefore development of satellite boreholes would not result in any increase in water supply availability.
Temporary desalination plant to supply Southampton East WRZ	Operationally infeasible due to the logistics of getting treated water from the desalination plant in Southampton Water to the Southampton East water supply network via Southampton Common service reservoir.
Water tankering	The supply deficit of 33Ml/d cannot be met by water tankering. A practical upper maximum of ~3.5Ml/d might be feasible for the WRZ.

5. Options assessed as having an unacceptable impact and that therefore should not reasonably be considered as alternative options are set out below:

- Emergency Drought Order to ration water supplies through the use of rota cuts and/or standpipes. It is considered unacceptable and unreasonable to implement an Emergency Drought Order in advance of the Candover Augmentation Scheme and Lower Itchen sources Drought Orders given the public health and safety, social and economic impacts that would arise as a consequence of water rationing.

The HRA has therefore concluded that there are **no other feasible and acceptable alternative options** which may negate or mitigate the need for the Candover Augmentation Scheme and Lower Itchen sources Drought Orders during the lifetime of the Drought Plan 2019.

Supply augmentation options – Stage 4 demonstration of imperative reasons of overriding public interest and compensation measures

Imperative Reasons of Overriding Public Interest

Best practice guidance⁵ recommends that if there are no alternative solutions and if, in exceptional circumstances, it is proposed that a Plan be adopted despite the fact that adverse effects on the integrity of a European site cannot be ruled out, the HRA needs to address and explain the Imperative Reasons of Overriding Public Interest (IROPI) which the Plan making authority considers to be sufficient to outweigh the adverse effects on the European site(s).

IROPI must be assessed on a case by case basis in light of the objective of the particular plan or project and its particular impacts on the European site(s) affected as identified in the Appropriate Assessment. For the Drought Plan 2019, the key principles that underpin the IROPI case are set out below that the Secretary of State will be asked to consider before approving the plan.

Key principles:

- Maintaining **essential** public water supplies to customers during a severe drought (up to and including a 1 in 500-year drought) without recourse to standpipes or rota cuts is of critical importance for public health and social and civil functioning, and outweighs the environmental effects of the Candover Augmentation Scheme and Lower Itchen Drought Orders.
- The costs to businesses and household customers of rota cuts and standpipes outweigh the environmental effects of the Lower Itchen sources Drought Order

These two key principles support the elements of the IROPI ‘test’ as set out below:

- A requirement to maintain human health and public safety, as well as social and economic reasons:
 - = **Imperative** – the measure is urgent due to the relatively short timescales with which river flows in the River Itchen can decline and remain below the hands-off flows at Riverside Park and Allbrook and Highbridge in a severe drought. The measure is

⁵ Tyldesley, D. & Chapman, C. (2015). The Habitats Regulations Assessment Handbook. DTA Publications. Version 4.

essential as, without its implementation in severe drought, once flows in the River Itchen fall below the hands-off flow conditions, the maintenance of essential public water supplies to customers will start to fail within the Hampshire Southampton East WRZ.

= **Overriding** – the likely harm to the public and economic impact to businesses in the Southampton East WRZ outweighs the harm to the designated site. The likely harm to the public includes risks of bacteriological contamination of water supplies and risk of water-borne disease (i.e. risks to human health) and risks involved in carrying and storing water due to rota cuts or standpipes, as well as the risks posed to water supplies for fire-fighting and other safety requirements (i.e. risks to public safety) is overriding. The economic costs to businesses of rota cuts and standpipes are also unacceptable and overriding when weighed against the harm to the designated site.

= **Public interest** - the harm is to the public not to a private interest. The public and businesses (at a local level, i.e. the public and businesses living, working or operating in the Hampshire Southampton East WRZ) will benefit by not having to collect water from standpipes in the street or be subject to rota cuts, which would be likely to lead to harm to the public and businesses.

As set out in the interim abstraction scheme of the Section 20 Agreement, the Environment Agency agrees that Southern Water has a good case that it has no alternative options to its Lower Itchen sources Drought Order to maintain public water supply until it implements its long-term water resources schemes and the Environment Agency will not argue that it is unacceptable with regard to Article 6(4) of the Habitats Directive. The Environment Agency also agrees that for the period of subsequent drought plans until implementation of the long-term solution, Southern Water has a good case that it has no alternative solutions to its Candover Drought Order scheme, in order to maintain public water supply and that the Candover Drought Order scheme satisfies the test in Article 6(4) of the Habitats Directive. For the avoidance of doubt, the Environment Agency is not fettering its discretion to come to a different view if circumstances material to the question of available alternative options and IROPI under Article 6(4) of the Habitats Directive change.

Compensation measures

Having determined there is a good case for IROPI to be applied, the final test required under the Habitats Directive requires that all necessary compensatory measures are taken to ensure the “overall coherence” of the network of European sites as a whole is protected. The competent authority has a responsibility for ensuring that suitable compensation is identified, but the appropriate authority also has a role in ensuring that compensation is “secured”.

Compensatory measures must be decided on a case by case basis and aim to offset the negative effects caused by the Drought Order. There must also be confidence that the compensatory measures will be sufficient to offset the harm and therefore measures for which there is no reasonable expectation of success should not be considered. The compensation must be “secured” before consent can be given for a proposal to proceed. Where possible, compensation measures should be complete before the adverse effect on the European site occurs. However, in some cases, damage to European sites may necessarily occur before the compensatory measures are fully functioning.

The Appropriate Assessment of the Candover Augmentation Scheme Drought Order concluded that potential adverse effects on the following habitat feature and species could not

be ruled out as a consequence of implementing the Drought Order in very low river flow conditions:

- Rivers with floating vegetation often dominated by water-crowfoot (chalk stream habitat)
- Southern damselfly
- White-clawed crayfish

The Appropriate Assessment of the Lower Itchen sources drought order concluded that risks of potential adverse effects on the following habitat feature and species could not be ruled out as a consequence of implementing the drought order in very low river flow conditions:

- Rivers with floating vegetation often dominated by water-crowfoot (chalk stream habitat)
- Atlantic salmon
- Southern damselfly

Detailed discussions have taken place with Natural England and the Environment Agency to develop compensation packages and associated implementation timetable for each Drought Order which are included as part of Annex 4 to the Section 20 Agreement and summarised in Table 9 and Table 10. The scale and technical nature of the measures constituting the compensation package expected for the Lower Itchen and Candover Drought Orders were largely agreed in draft with the Environment Agency and Natural England at the Public Inquiry in March 2018. Agreement on the nature of the measures has been reached through further discussion with the Environment Agency and Natural England during 2018-2019, and further discussions regarding the implementation of the measures have been ongoing during 2019. As the compensation measures involve habitat creation in the river or within the riparian area, it means they should be implemented before a drought starts developing. However it is also recognised that the actual risk of either of the two Drought Orders being required is remote: they should only need to be implemented if a severe drought develops. It has also been agreed this is a special case of interpretation of the pertinent law and expectations; there is no precedent. Balancing all these issues, Southern Water has committed to a ten year implementation schedule of the compensation measures package for both the Drought Orders, with periodic reviews of progress and future risks. The Environment Agency and Natural England have agreed this approach. At the time of finalising this Drought Plan, the final wording of the IROPI Compensation Package documents was being refined for final agreement and sign-off. The implementation phase will then commence.

Table 9 Compensation measures for Candover Augmentation Scheme Drought Order

Feature or Species	Compensation Measure(s)
Rivers with floating vegetation often dominated by water-crowfoot	i) Carry out feasibility studies to determine the specific locations for the compensation measures to be implemented and secure landowner consent ii) EITHER: a) Carry out chalk stream habitat restoration measures covering 6km of

Feature or Species	Compensation Measure(s)
	<p>chalkstream habitat (or as otherwise confirmed) on the River Dun tributary of the River Test.</p> <p>OR</p> <p>b) Carry out chalk stream habitat restoration measures covering 6km of chalkstream habitat (or as otherwise confirmed) on the Wallop Brook (or equivalent location) tributary of the River Test.</p> <p>OR</p> <p>c) Carry out chalk stream habitat restoration measures covering 6km of chalkstream habitat (or as otherwise confirmed) on the Bourne Rivulet tributary of the River Test.</p> <p>The specific measures implemented will be determined based on the requirements of the river as well as to fully ensure the coherence of the Natura 2000 network, and will be subject to further assessment.</p>
Southern damselfly	<p>i) Carry out feasibility studies to determine the specific locations for the compensation measures to be implemented</p> <p>ii) Secure management of land and any relevant water control structures adjacent (within 1km, but ideally within 500m) to, but not currently supporting, an existing Southern damselfly population in the River Test catchment, or to appropriate areas of floodplain wetland in the Meon.</p> <p>iii) Secure the funding for any required implementation of habitat enhancement and/or creation for the Southern damselfly.</p> <p>iv) Secure agreements for any planning permissions or flood risk permits or other permissions (e.g. Natural England consent).</p> <p>v) Create or enhance existing habitat for Southern damselfly at the sites confirmed by earlier survey and feasibility study work, covering a total of 2.5km (or as otherwise confirmed), preferably enhancing existing habitat in the Test Valley (or by species translocation), or otherwise create new habitat in the Meon Valley (through species translocation).</p>
White-clawed crayfish	<p>i) Maintain a captive brood stock of white-clawed crayfish specimens collected from the Candover Stream working with Bristol Zoological Gardens and the Hampshire & Isle of Wight Wildlife Trust</p> <p>ii) Identify and secure sites for release of white-clawed crayfish from the captive breeding programme, following implementation of any Candover Augmentation Scheme Drought Order</p> <p>iii) White-clawed crayfish release, following the implementation of any Candover Augmentation Scheme Drought Order.</p>

Table 10 Compensation measures for Lower Itchen Sources Drought Order

Feature or Species	Compensation Measure (s)
Rivers with floating	i) Carry out feasibility studies to determine the specific locations for the compensation measures to be implemented and secure landowner consent

Feature or Species	Compensation Measure (s)
vegetation often dominated by water-crowfoot	<p>ii) In the event of an application for a Lower Itchen sources Drought Order:</p> <p>EITHER:</p> <p>a) Carry out chalk stream habitat restoration measures for parts of the River Test covering 36 ha of chalkstream habitat (or as otherwise confirmed) between Wherwell and Kimbridge as identified in the Test and Itchen Restoration Strategy.</p> <p>OR</p> <p>b) Carry out chalk stream habitat restoration measures for parts of the River Meon covering 36 ha of chalkstream habitat (or as otherwise confirmed)</p> <p>The specific measures implemented will be determined based on the requirements of the river as well as to fully ensure the coherence of the Natura 2000 network, and will be subject to further assessment.</p>
Southern damselfly	<p>i) Carry out surveys to confirm the extent of the habitat that may potentially be adversely affected by the Drought Order and carry out feasibility studies to determine the specific locations for the compensation measures to be implemented</p> <p>ii) Secure management of land and any relevant water control structures adjacent (within 1km, but ideally within 500m) to, but not currently supporting, an existing Southern damselfly population in the River Test catchment, or to appropriate areas of floodplain wetland in the Meon.</p> <p>iii) Secure 'in principle' agreements for any planning permissions or flood risk permits or other permissions (e.g. Natural England consent).</p> <p>iv) SWS to provide funding for delivery of enhancements to existing habitat (or creation of new habitat) for Southern damselfly. Delivery is likely to require work at two - four sites to provide in aggregate at an appropriate spatial extent of river habitat creation or enhancement as confirmed by earlier survey and feasibility study work, preferably enhancing existing habitat in the Test Valley (or by species translocation), or otherwise create new habitat in the Meon Valley (through species translocation).</p>
Atlantic salmon	<p>i) Carry out sampling and analysis of DNA of Meon Atlantic salmon to confirm they are of the same genetic strain as Atlantic salmon in the River Itchen</p> <p>ii) EITHER</p> <p>a) Deliver habitat enhancement and salmon passage easement work on the lower River Meon providing that genetic survey work identifies a sufficiently genetically similar pool of Atlantic salmon</p> <p>OR</p> <p>b) Modify structures and/or water management practices at Titchfield Haven in order to improve the attractiveness of the River Meon to Atlantic salmon migrating up Southampton Water</p> <p>OR</p> <p>c) Modify easement of Atlantic salmon passage by removing a weir in the lower Dorset River Stour. If the weir cannot be removed, provide additional Atlantic salmon habitat around the weir.</p>

The compensatory measures proposed for the chalk stream habitat and the Southern damselfly for the Lower Itchen Sources Drought Order will be additional to those implemented

for these same designated features in respect of the Candover Augmentation Scheme Drought Order Compensation Package.

The decision on IROPI compensation is for the Secretary of State. Subject to that, it is agreed between Natural England, the Environment Agency and Southern Water that, in committing to delivering the timetable of works set out in the compensation packages, Southern Water has put in place compensation that is capable of ensuring the continuity of the ecological processes essential for maintaining the overall coherence of the Natura 2000 network, sufficient so that compensation for the Lower Itchen sources Drought Order and Candover Augmentation Scheme Drought Order elements of the Drought Plan can be considered to be in compliance with the Habitats Directive for the purpose of the Drought Plan.

A monitoring programme for each of these two Drought Orders has also been agreed with Natural England and the Environment Agency, and also incorporated into Annex 4 of the Section 20 Agreement. The monitoring will contribute to confirming the precise spatial scale and extent of the required compensation measures as well as confirming the suitability of relevant measures at the proposed implementation locations. Monitoring will also inform assessment of the implementation and post-implementation success of the compensation measures.

Role of the HRA in informing the development of the Final Drought Plan

The HRA process and findings have been used to inform production of the Strategic Environmental Assessment (SEA) of the final Drought Plan as well as the Environmental Assessment Reports (EARs) for each Drought Order / Permit, and vice versa. Outputs from the HRA have been used to inform the development of the final Drought Plan, in particular making decisions as to the drought management measures to be included in the plan and their sequencing in relation to the Drought Plan triggers such that those measures with the greatest risks to European sites are only implemented in a severe drought and only after other measures have been put in place.

The HRA process and finding have identified a number of potential risks to European sites with which has either led to:

- the drought management option being modified and/or additional mitigation measures being included to address these risks to ensure no adverse effects on the integrity of designated European sites
- the option being retained in the final Drought Plan and consideration of Imperative Reasons of Over-riding Public Interest being sought in accordance with the provisions of the Habitats Regulations after demonstrating there are no other feasible alternative options available in a severe drought. This has only applied to the Candover Augmentation Scheme and Lower Itchen Sources Drought Orders.

Additionally, the HRA process and findings (alongside those from the SEA and Water Framework Directive (WFD) assessments) has led to the phasing of some of the drought management measures in the final Drought Plan being modified, in particular for the Isle of Wight. HRA of the temporary emergency desalination measures at Sandown, Littlehampton and Sheerness was also used to determine the phasing of these measures relative to the Drought Order / Permit measures under the Severe Drought Conditions triggers taking account of the relative risks to European sites.

Conclusions

The HRA process has helped to inform decisions on the final Drought Plan, in particular the phasing of different options taking account of the risks to European sites. With the exception of two measures, the HRA has concluded that the measures contained in the final Drought Plan will have no adverse effects on the integrity of designated European sites, either alone or in-combination with other options, plans or projects.

It has not been possible to rule out adverse effects on the integrity of the River Itchen SAC from implementation of the Candover Augmentation Scheme or the Lower Itchen Sources Drought Orders, either alone or in combination.

No other in-combination adverse effects on the integrity of European sites have been identified.

In accordance with the Habitats Regulations, a review of all feasible and reasonable alternative options to the inclusion of the Candover Augmentation Scheme and the Lower Itchen Sources Drought Orders in the final Drought Plan was carried out. This review concluded that there were no feasible or reasonable alternative options available during the lifetime of the Drought Plan (2019 to 2021).

As a consequence, the HRA examined whether these two Drought Orders could be shown to be required for inclusion in the Drought Plan on the grounds of Imperative Reasons of Overriding Public Interest (IROPI). Southern Water's assessment has concluded there are substantive grounds for the Secretary of State to be able to agree that IROPI is appropriate in relation to these two Drought Orders in view of the high risk of requiring an Emergency Drought Order to ration water supplies using rota cuts or standpipes if the Drought Orders could not be implemented in a severe drought. The major adverse effects of an Emergency Drought Order on people and businesses in the Hampshire Southampton East WRZ outweigh the effects on the River Itchen SAC..

The Environment Agency agrees that Southern Water has a good case that it has no alternative options to its Lower Itchen sources Drought Order and Candover Drought Order scheme in order to maintain public water supplies until the implementation of long-term water resource solutions.

Having determined there is a good case for IROPI to be applied, the final stage of the HRA process was to assess appropriate compensation measures to ensure the "overall coherence" of the network of European sites as a whole is protected. Compensation measures and associated implementation timetables have been discussed in detail and agreed with Natural England and the Environment Agency for both the Lower Itchen Sources Drought Order and the Candover Augmentation Scheme Drought Order.